

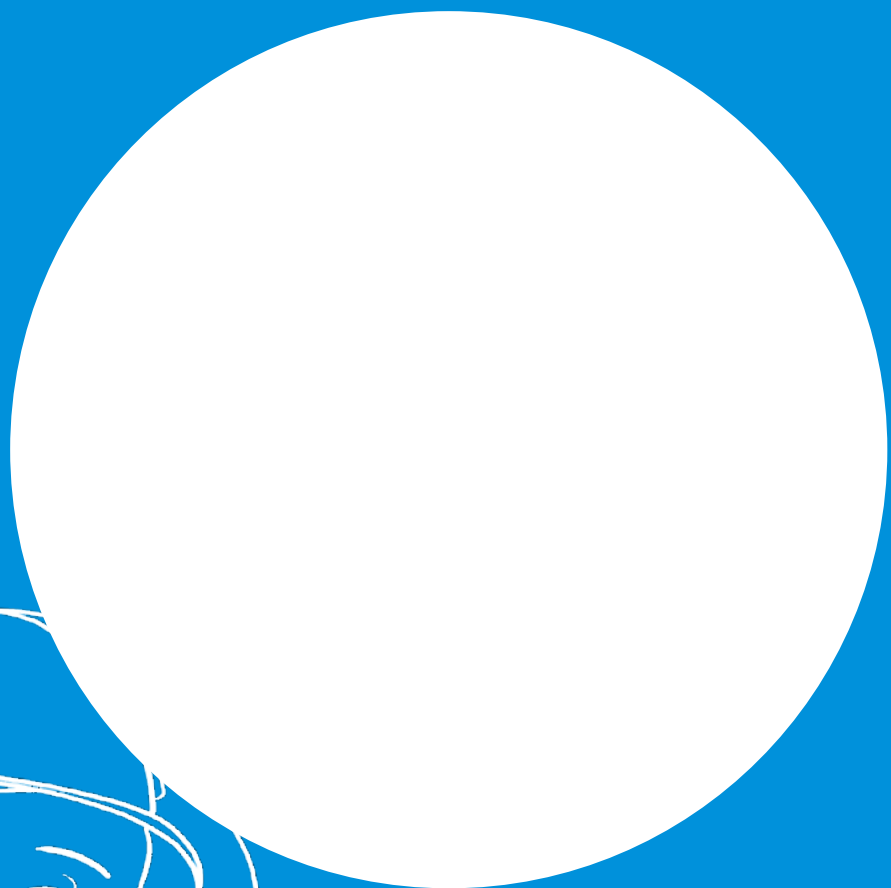
CGN Power Co., Ltd.\*

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



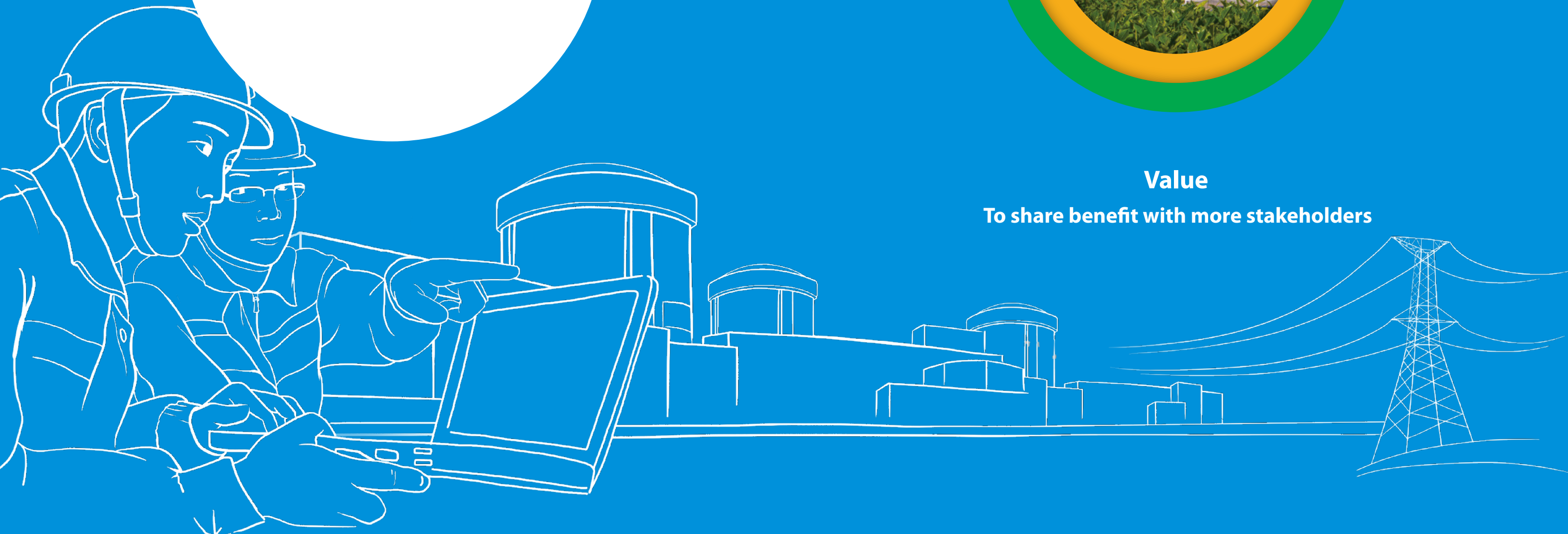
2015

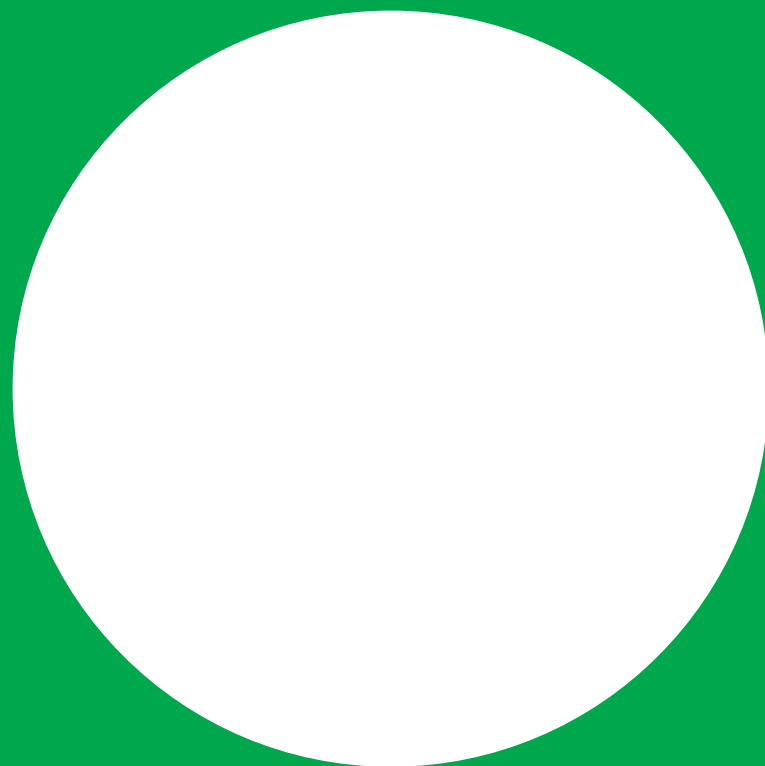
# Environmental, Social and Governance Report



## Value

To share benefit with more stakeholders





**Clean**

**To supply safer and more reliable energy  
in response to climate change**







## Focus

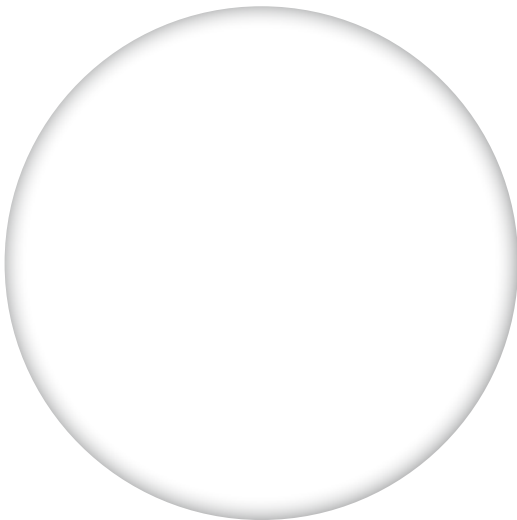
To identify and address public needs and concerns





# About this Report

This is the Company's first Environmental, Social and Governance Report which discloses our policies, management, measures and performance in relation to sustainable development. We hope that this report will enable you to understand our efforts and inform us about your expectations so as to enhance mutual trust in each other.



### Period

From January 1, 2015 to December 31, 2015, for which certain contents are retrospective to the year of 2014 or earlier so as to increase the comparability of this report.

### Name Description

For convenience, "CGN Power Co., Ltd." in this report is also expressed as "CGN Power", the "Company" or "We". Unless specifically defined otherwise in this report, the terms used in this report shall have the same meanings as defined in the 2015 Annual Report of the Company dated April 7, 2016.

### Report Scope

CGN Power Co., Ltd., and its subsidiaries, and affiliated companies.

### Report Content

This report primarily discloses the Company's environmental, social and governance practice and performance in 2015.

### Data Source

Information and cases included in this report are derived from the formal documents, statistics report or public information of the Company.

### Preparation Basis

- The Ten Principles of the UN Global contract
- ISO 26000:2010 Guidance on social responsibility of International Organization for Standardization
- G4 Sustainability Reporting Guidelines of Global Reporting Initiative
- Guidance on Social Responsibility Reporting (GB/T 36001-2015) of China Standards
- The Environmental, Social and Governance Reporting Guide of The Stock Exchange of Hong Kong Limited

### 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 of 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 to download at CGN Power's website (www.cgnp.com.cn)



Scan QR code for summary of "2015 Annual Report" of CGN Power

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## Focus in 2015

### Key performance

#### Total assets

RMB **217.8** billion

#### Operating revenue

RMB **23.26** billion

#### Installed capacity in operation

**14,918** MW

#### On-grid power generation

**88,346.94**  
GWh

#### Nuclear events above Level 2 of International Nuclear Event Scale

**0**

#### On-grid power generation equivalent to carbon dioxide emission reduction of approximately

**69.7** million tonnes

#### Total number of employees (including those of affiliates)

**11,787**

#### Visitor coverage of nuclear power base and exhibition hall

**250,000**

#### Cumulative time for public service participated by our employees is more than

**34,900** hours

### Our honors



Awarded "Best Listed Company" by *China Securities Golden Bauhinia Awards*



Awarded "Best Listed Company" by *China Financial Market*



Awarded "Best Listed Company of the Year" by *Finance Asia*

## About us

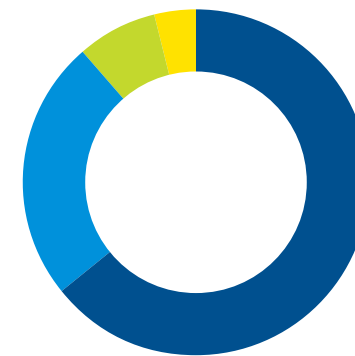
### Corporate profile

CGN Power Co., Ltd. (referred to as "CGN Power", stock code: 1816) was incorporated on March 25, 2014 and its controlling shareholder is China General Nuclear Power Corporation (中國廣核集團有限公司). The registered capital at its establishment was RMB35.3 billion. It has been listed on the Main Board of the Hong Kong Stock Exchange since December 10, 2014 and was the only listed company in the world that solely operated nuclear power generation.

The business scope of our Company includes: operation and management of nuclear power stations, sale of electricity generated by nuclear power stations and management and supervision of the construction of nuclear power stations. As of December 31, 2015, our Company managed 14 nuclear power generating units in operation with installed capacity of 14,918MW, and 10 nuclear power generating units under construction with installed capacity of 12,290MW.

### Shareholding structure and key associated companies

■ CGN	64.20%
■ Holders of H Shares	24.56%
■ Hengjian Investment <sup>1</sup>	7.54%
■ CNNC <sup>2</sup>	3.70%



**CGN Power**  
Total number of Shares  
45,448,750,000

CGN Operations	100%
Suzhou Nuclear Power Research Institute	100%
CNPRI	100%
Ling'ao Nuclear	100%
Lingdong Nuclear	93.14%
DNMC	87.5%
Yangjiang Nuclear	78.20%
GNPJVC	75%
Taishan Nuclear	51%
Hongyanhe Nuclear	38.14%
Ningde Nuclear	32.29%

1. "Hengjian Investment" refers to Guangdong Hengjian Investment Holding Co., Ltd.

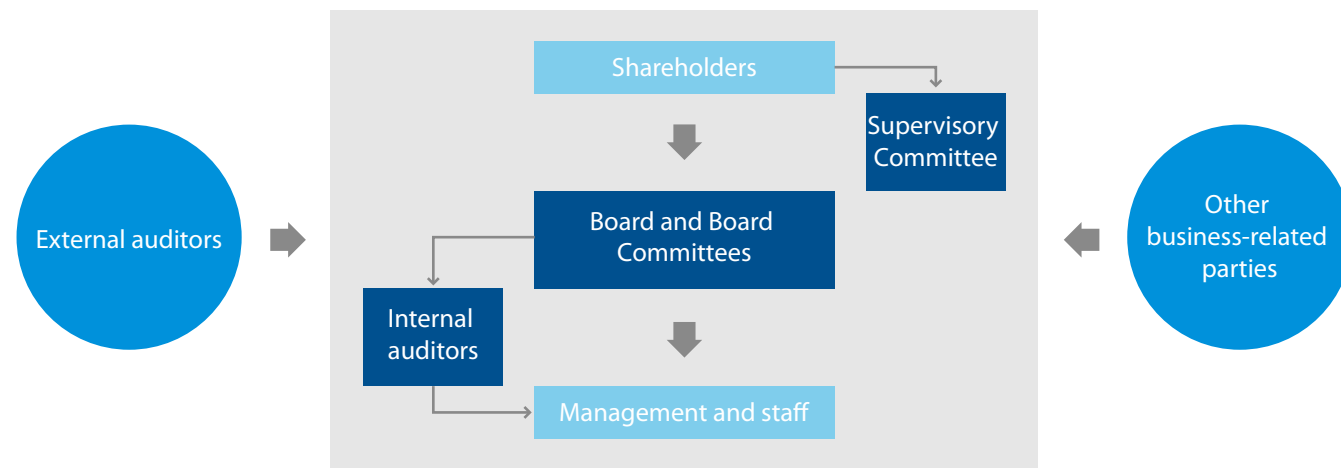
2. "CNNC" refers to China National Nuclear Corporation.

## Corporate Governance

### Structure of Corporate Governance

To ensure effective internal governance of the Company, we have constructed a structure of corporate governance with multiparties-participation. The structure of internal governance mainly consists of shareholders, the board of directors and special committees of directors, the supervisory committee, internal auditors as well as management and employees. External auditors conduct independent review of the

Company's governance to help us optimize our internal governance; meanwhile, the relationship between the Company and other business-related parties (including customers, partners and social environment and regulatory bodies, etc.) also reflect our effectiveness in terms of corporate governance.

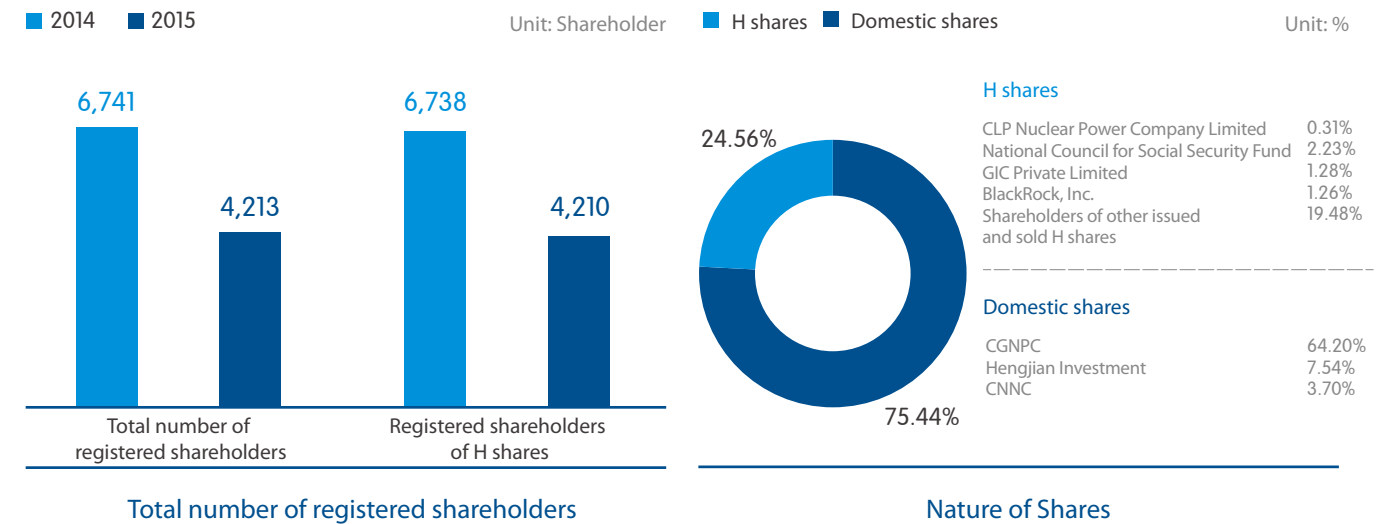


### Communication with Shareholders

The shareholders' general meeting enjoys the rights of decision-making stipulated by 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. We held one general meeting (i.e. annual general meeting) in 2015 and all resolutions thereunder had been approved.

We place great emphasis on communication with investors. Through various channels we maintain interaction and contact with investors to deliver the information of the Company and listen to opinions of investors. In 2015, the Company totally arranged 61 investors visits for 79 persons, organized for 127 persons 11 field trips to the Daya Bay Nuclear Power Base or the Yangjiang Nuclear Power Base, conducted roadshows for annual and interim results, and went to Hong Kong, Singapore, the United Kingdom, the United States and other places for reporting our performance to shareholders.

For more detailed information of corporate governance, please refer to page 88 of "2015 Annual Report of CGN Power Co., Ltd.".



### The Board of Directors

Pursuant to the Articles of Association, the board of directors of the Company shall consist of 9 members. Except for Gao Ligang who is concurrently an executive Director and the chief executive officer, all other Directors are non-executive Directors (including three independent non-executive Directors) independent from the management. Directors shall be elected at the shareholders' 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 shareholders' 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 at shareholders' general meeting.

In accordance with the Listing Rules of the Hong Kong Stock Exchange, the Company has established the audit and risk management committee (formerly the audit committee), the remuneration committee and the nomination committee under the board of directors; according to industry characteristics, we have added the nuclear safety committee on 18 March 2015. The special committees conduct studies and provide advice and recommendation on professional matters for the reference of the board of directors in decision-making.

In 2015, a total of 5 meetings of the board of directors and 9 meetings of special committees were held, and a total of 38 important resolutions were considered and approved during the whole year.

### Board members

Name	Position
Zhang Shanming	Chairman of the Board, non-executive Director and member of the Nomination Committee, Chairman of the Nuclear Safety Committee
Gao Ligang	Executive Director, President and member of the Nuclear Safety Committee
Zhang Weiqing	Non-executive Director
Shi Bing	Non-executive Director
Xiao Xue	Non-executive Director, member of the Remuneration Committee and member of the Nuclear Safety Committee
Zhuo Yuyun	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	Independent non-executive Director, Chairman of the Remuneration Committee and member of the Nomination Committee
Francis Siu Wai Keung	Independent non-executive Director, Chairman of the Audit and Risk Management Committee and member of the Remuneration Committee



## Responsibility Management

The Company performs its social responsibilities by taking management measures methodically and orderly, while considering the possible overall effects of the Company's decisions and actions on the economy, society and environment. The Company values the benefit of each stakeholder in a responsible way under the management model with the characteristics of CGN Power.



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, namely management level, organization level and execution level. 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.



## Material Issue Analysis

In order to make the report content closer to the concerns of stakeholders, we carried out assessment on the basis of material analysis process and issues concerned by the stakeholders, identified the key issues of the Company and focused on the response to such issues in the report.





No	Major topic	Materiality	Boundary					Corresponding reporting page
			Internal	External				
				Customer	Community	Government	Partner	
01	Compliant operation under regulations	B	●	●	●	●	●	P24-P25
02	Risk management	A	●	●	●	●	●	P24
03	Economic performance	A	●	●		●		P12-P13
04	Expansion of overseas operation	B	●				●	P26
05	Prevention of safety incidents	A	●	●	●	●		P14-P18
06	Emergency management	A	●		●	●		P19
07	Technological innovation	C	●			●	●	P20-P23
08	Supply chain management	B	●	●			●	P27
09	Promotion of clean energies	B	●	●	●	●		P30-P31
10	Reduction in energy consumption	B	●	●				P34
11	Waste management	C	●		●			P32-P33
12	Biological diversity	B	●		●			P36-P37
13	Occupational health and safety	B	●					P47
14	Protection of labor rights	A	●					P46-P47
15	Attraction and development of talents	A	●		●			P48-P50
16	Transparent communication	B	●		●			P40-P43
17	Community participation	C	●		●			P44
18	Public welfare activities	C	●		●			P45

Note: A indicates a subject of high materiality, B indicates a subject of medium materiality and C indicates a subject of low materiality

### Communication with stakeholders

In order to guarantee the right to know, right of supervision and right of participation for stakeholders, we have built and improved the mechanism for stakeholders to communicate and participate through various channels, such as transparent disclosure and consulting, visiting customers and community activities, aiming at responding to the expectation of stakeholders effectively, which in turn would be instrumental to the formation of mutually trustful relationship.

Interested party	Expectation and demand	Method of communication and response	Effectiveness of communication in 2015
Government	Assurance of nuclear safety Optimization of energy mix Preservation and appreciation of asset Observance of law and discipline and payment of tax according to law	Execution of national energy policies Improvement in corporate governance Undergoing of supervision review and Regular reporting of work	● Underwent 25 routine safety inspections by the National Nuclear Safety Administration ● Paid tax of RMB1,116 million
Shareholder	Constant and steady return Transparent disclosure of information Protection of shareholder's rights Enhancement of communication	Regular reporting of operating information Improvement in daily management Conducting various communicating activities from time to time	● Convened one general meeting ● Held two results roadshows ● Organized 127 people in 11 batches to make field visits to nuclear power bases ● Answered over 500 special calls from investors and replied over 1,200 letters
Customer	Stable supply of clean and economical electricity	Maintaining of close communication Active cooperation for power grid dispatching	● Carried out training activities with power grid enterprises
Partner	Performance of undertaking Fairness, impartiality and openness Share of experience	Conducting strategic cooperation Disclosure of purchasing information Conducting communicating activities regularly	● Conducting training for contractors
Employee	Competitive remuneration package Employee health and safety Fair promotion and development Care for employees	Building healthy working conditions Establishing fair promotion channel Strengthening training for employees Care for distressed employees	● Organized over 300 seminars for young employees involving over 7,500 people in the communication ● Employees received training for 122 hours each on average
Media	Transparent disclosure of information	Timely disclosure of information Regular convening of press conference Being interviewed by reporters	● Organized six press conferences
Environmental organization	Energy conservation and emission reduction Ecological protection	Development of clean energies Enhancement of environment monitoring and protection	● On-grid electricity was equivalent to reduction of emission of approximately 69.7 million tonnes of carbon dioxide
Community and general public	Service of community construction and development Assurance of safety operation	Participation in community construction Disclosure of nuclear information Education and promotion of nuclear power	● Approximately 65,000 people visited nuclear power bases ● Nuclear power exhibition halls admitted 250,000 visits per annum

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- 26 Win-win Cooperation

## Economic Responsibility

RMB **23.26** billion

Annual operating income

**56.5** %

Proportion of installed capacity of nuclear power units in operation in China

**66.1** %

Proportion of WANO indicators of nuclear power units in operation that enters the top decile (1/10)

### Performance of Economic Responsibility

The world is challenged by severe energy crisis and environmental issues. To develop clean energy and promote low-carbon energy transformation become the major subject for energy development.

We are committed to drive the development of nuclear power with safe management, innovative technology and sustainable operation so as to supply much safer, more reliable and more economical power for social and economic growth.





## Distribution of the Nuclear Power Industry

To actively propel the development of the nuclear power industry is an important energy strategy for China. As a pure nuclear power generation company, the Company actively meets the changes in energy production and continuously enhances its capabilities to operate and construct nuclear power projects.

In 2015, the Company had 14 nuclear power generating units in operation with installed capacity of 14,918 MW, which enabled the Company to maintain the position of the largest nuclear power operator in China; the Company had 10 nuclear power generating units under construction with installed capacity of 12,290 MW, thus the Company will continue to maintain the position of the largest nuclear power constructor in the world.

■ In operation  
■ Under construction



Yangjiang Nuclear Power Station Units 1 and 2

Yangjiang Nuclear Power Station Unit 3 is connected to the grid  
Yangjiang Nuclear Power Station Units 4 and 5 are in the equipment installation phase  
Yangjiang Nuclear Power Station Unit 6 is in the civil construction phase

Yangjiang Nuclear Power Base



Taishan Nuclear Power Station Unit 1 is in the commissioning phase  
Taishan Nuclear Power Station Unit 2 is in the equipment installation phase

Taishan Nuclear Power Base



Hongyanhe Nuclear Power Station Units 1, 2 and 3

Hongyanhe Nuclear Power Station Unit 4 is in the commissioning phase  
Hongyanhe Nuclear Power Station Units 5 and 6 are in the civil construction phase

Hongyanhe Nuclear Power Base



Ningde Nuclear Power Station Units 1, 2 and 3

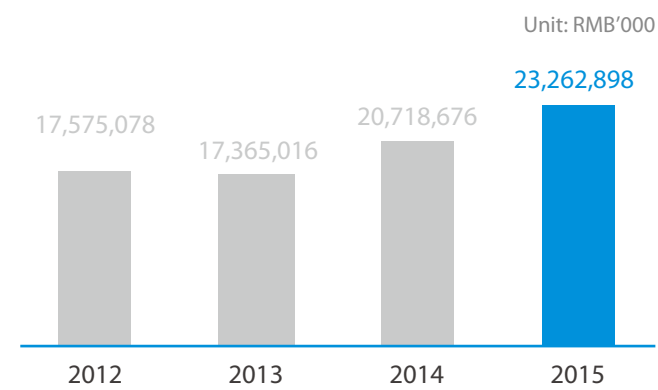
Ningde Nuclear Power Station Unit 4 is in the commissioning phase

Ningde Nuclear Power Base

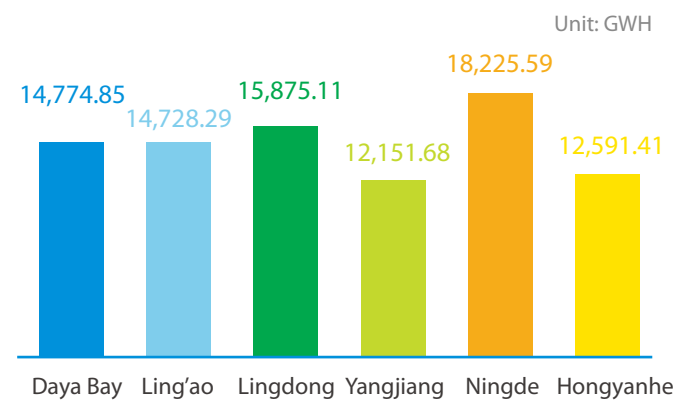


Daya Bay Nuclear Power Station Units 1 and 2  
Ling'ao Nuclear Power Station Units 1 and 2  
Lingdong Nuclear Power Station Units 1 and 2

Daya Bay Nuclear Power Base



Total revenue of the Company



On-grid power generation of the respective nuclear power stations for 2015

14

generating units in operation

14,918 MW

of total installed capacity in operation

88,346.94 GWH

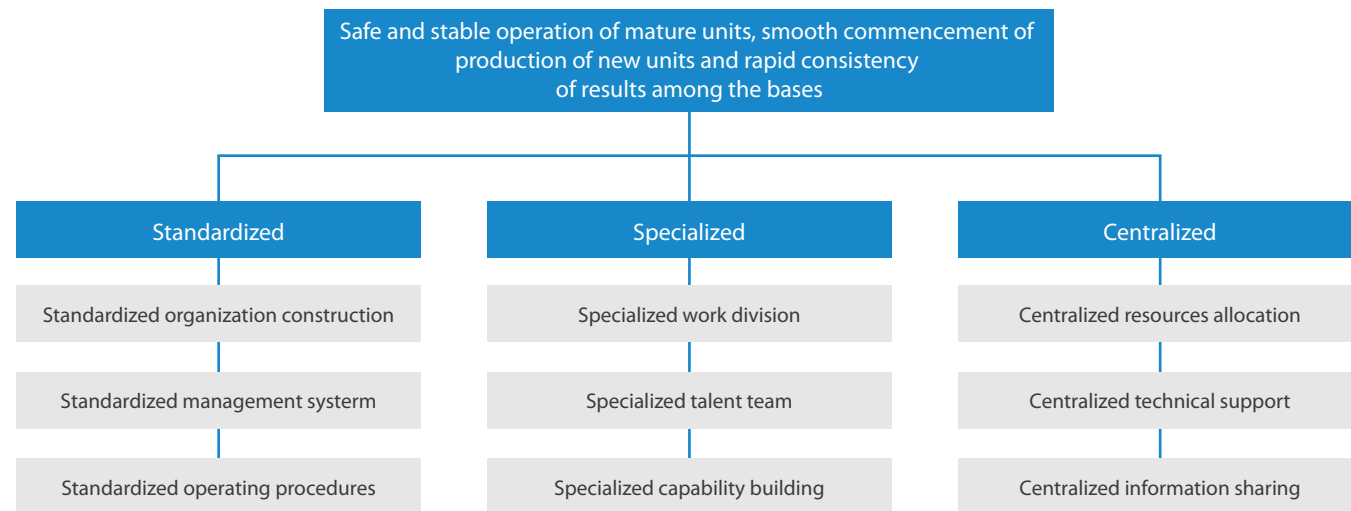
of total annual on-grid power generation

12,290 GWH

of total installed capacity under construction

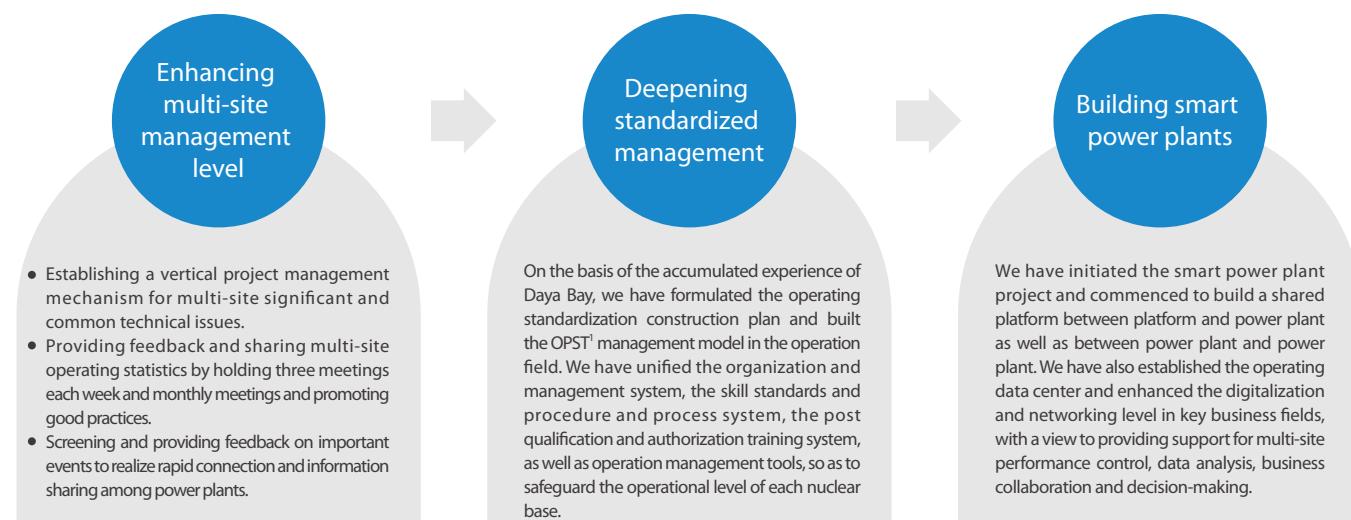
## Safety Production

As a power generation company focusing on nuclear power, nuclear safety is our lifeline. Regarding ensuring nuclear safety as our primary corporate responsibility, we consistently stick to the principles of safety first, quality foremost and pursuit of excellence. In 2015, we managed 14 nuclear power generating units in the four nuclear bases. We implement “standardized, specialized and centralized” management to maintain the safe and stable operation of mature units, ensure the safe and smooth commencement of production of new units and rapidly realize consistent operating results among the bases.



## Enhancing safety management level

We have optimized the multi-site management system, implemented safety tasks and promoted experience feedback by replicating the mature experience at Daya Bay to the management of various nuclear power stations, thus enhancing safety management level and strictly adhering to national nuclear safety standards.



OPST refers to: O: organization and management; P: skill standards and procedure and process; T: operation management tools; S: post qualification and authorization training

## Nuclear safety culture for all

The development of nuclear safety culture depends on the participation of all staff members of the Company and requires persistent efforts. We continuously enhance the nuclear safety culture attainments of all staff members and improve the overall nuclear safety culture level within the Company by conducting a series of promotion and education activities.

### Promotion activities

We organize and conduct culture promotion activities including collection of micro-videos and debate competition to promote the understanding and acceptance of nuclear power safety concept by all staff. We conduct self-assessment of safety culture each year, and the assessment results show that through these activities, we enhanced employees' safety awareness and behaviours and deepened employees' understanding on safety culture.

### Precautionary education

We carry out nuclear safety culture precautionary education every year. We carry out precautionary education activities at both corporate and departmental levels to highlight the significance of safety culture with vivid and real cases, seeking to create a corporate culture atmosphere of everyone talking about and promoting safety. In 2015, the Company and its affiliates completed their annual precautionary education activities on nuclear safety culture.

### Team building

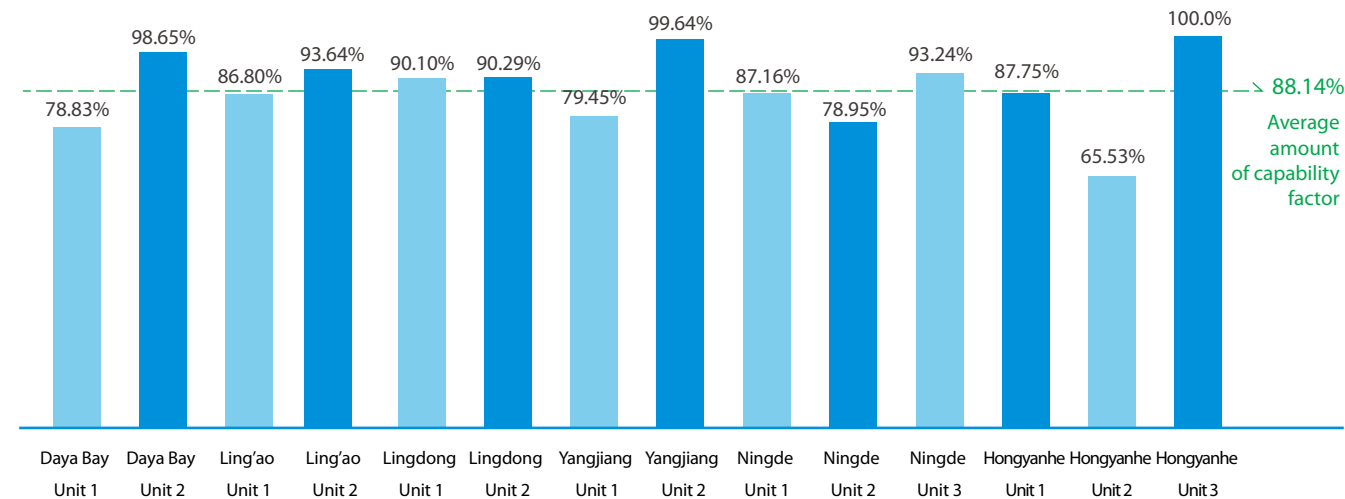
According to different natures of work, we divided the safety culture team into four groups in charge of operation, maintenance, on-site non-operational work, off-site work respectively. Each group focuses its safety quality assessment on document recording, team activities, training and promotion, hazard identification, self-assessment and experience feedback with various safety and quality performances as assessment indicators, aiming to motivate grass-root staff to play a more active and self-conscious role in safety and quality management and hence improve our safety management quality.





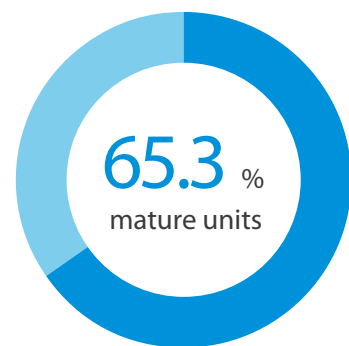
## Safety performance

In 2015, the nuclear power stations were in good operation conditions. No significant event of level 2 or above or significant human safety or equipment damage event occurred during the year.

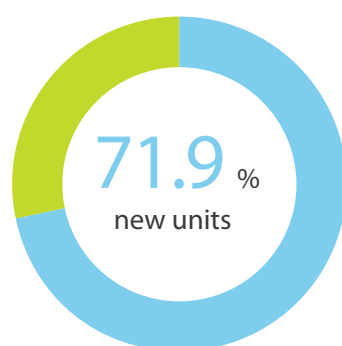


Note: Unit Capability Factor refers to the proportion of power output obtainable within a given period of time to rated power output, expressed in percentages. Unit Capability Factor is used to monitor the process in which the power station attains high power generation reliability and illustrates how much time the power station has to generate power at full capacity. It is one of the indicators for measuring the operation performance of power stations.

## WANO Indicators



Entering top  
of the world  
(6 units of Daya Bay  
Nuclear Base)



Entering top  
of the world  
(the remaining 8 units)

# 32

first prizes

Since 1999 when Daya Bay Nuclear Power Station and Ling'ao Nuclear Power Station participated in EDF safety challenge contest to 2015, the two stations have won a total of 32 first prizes in competition with more than 60 nuclear power generating units of the same type from France, China, Germany, South Africa and other countries worldwide.

# 0

No operation event of level 2 or above defined in the international nuclear event scale occurred.

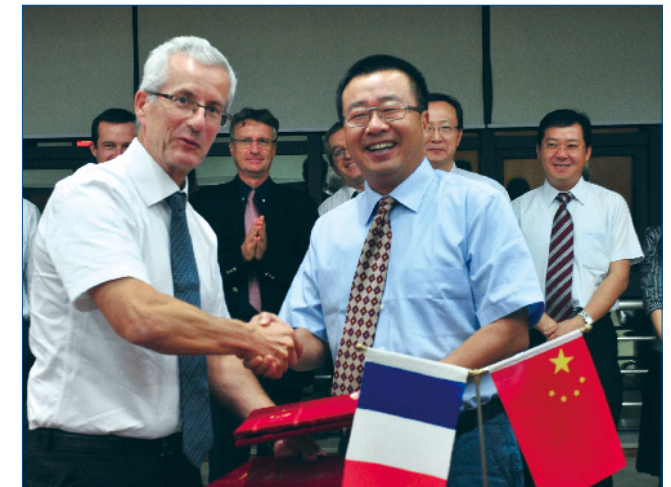
# 25

In 2015, we received 25 regular safety inspections by the National Nuclear Safety Administration.

## Equipment maintenance

Equipment reliability is closely connected with the safe operation of nuclear power stations. We deepen key sensitive equipment reliability and risk prevention system and make scientific arrangements for the outage plan and resources, so as to enhance equipment reliability.

- **Establishing technical platforms.** We develop the remote maintenance on-line support platform for multi-base major equipment, thereby gaining a timely and precise understanding of safety production status of each unit and the performance indicator status in key fields.
- **Strengthening professional support.** We have established a "customized" support model featuring "knowledge and experience sharing + expert assessment" with WANO. We have signed a strategic cooperation agreement with Electricite de France (EDF), which enables us to seek excellent peer experts worldwide to provide support for our power plants.
- **Optimizing outage repair management.** We have realized the unification of multi-base outage organization model and management schemes and complementation of advantageous resources. During the year, we completed 10 outage tasks with high quality. The total number of refueling outage days was 480, including 4 overlapping outages. During the year, the outage quality control indicators remained good overall.



Operational cooperation with Electricite de France (EDF)



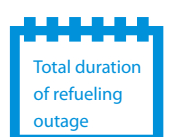
10 outages



4 overlapping outages



100,000 working tickets



Total duration of refueling outage

480 days

### Case

Advanced proprietary technologies will shorten the critical paths of outages by approximately 10 hours

At the initial cycle start-up physics test of Yangjiang Unit 3, the advanced proprietary reactivity meter, known as PSAS, jointly developed by the Reactor Engineering Center of CGN Research Institute (中廣核研究院堆工中心), Chengdu CGN Jiuyuan Company (成都中廣核久源公司) and Yangjiang Nuclear Power Station and the dynamic rod worth measurement technology successfully completed the scheduled comparison test project, which means that this technology can be officially used to operating nuclear power station.

According to test, the technical indicators of PSAS can fully meet test requirements. PSAS possesses distinct features and advantages in terms of product reliability, equipment portability and automatic information processing and reaches advanced level as similar international products. The use of PSAS can significantly save the time required for start-up. In each refueling outage, the critical paths of outages can be shortened by approximately 10 hours.



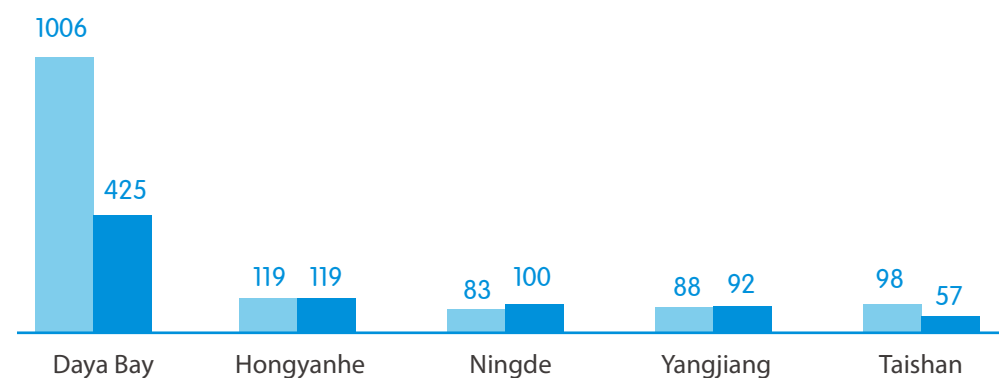


## Technician Training

In order to ensure safe operation, we have conducted training for specialized talents to enhance the professional technical capability of nuclear power operators.

- Developed technical theories and initial simulator training courses for operators, with over 900 courses of self-help training (for over 2,700 people) conducted accumulatively.
- Established and implemented joint development and operation mechanism for training courses with multiple bases to effectively include experience feedback events at each bases into various advanced courses, which was first implemented in the simulator refresher training course development.
- Completed the establishment of post training system by learning from international experience and applied it at all bases, with 14 courses of training conducted during the year.
- Established the qualification certification system for 18 types of expert-level specialized workers in servicing equipment and managers of various plants, and initially included the national certification into employee post outline and database management.

■ Operator ■ Senior operator



Note: The number of operators trained at each of the nuclear power bases as of December 31, 2015.

New additional number of operators holding valid licenses:

**138** people

New additional number of senior operators:

**106** people

## Emergency Management

We have established a comprehensive emergency preparedness and response system, and timely organized different scales of emergency drills to enhance the ability to deal with unexpected situations and ensure rapid response in any emergency to protect the safety of nuclear power plants.

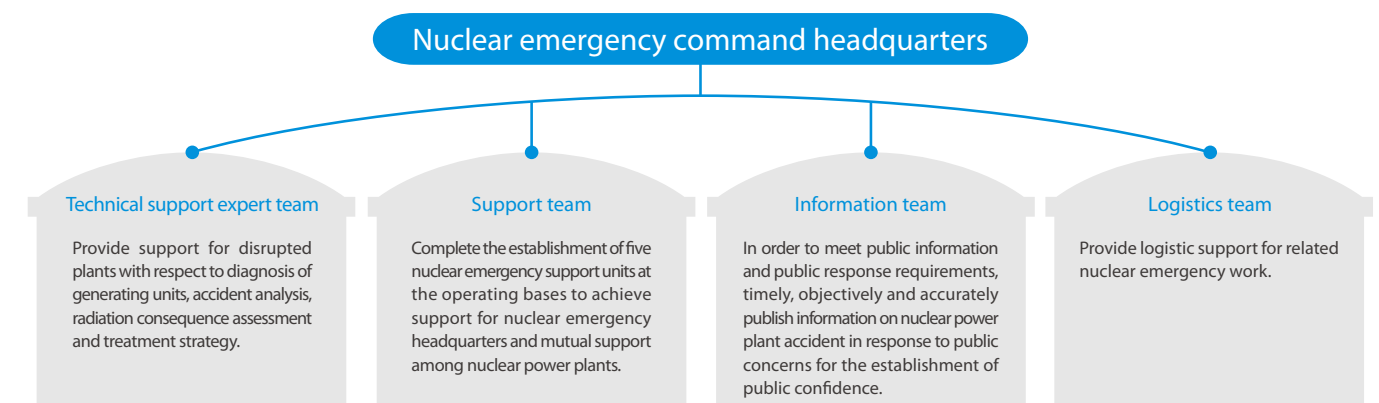
In 2015, we integrated the Company's emergency response resources, established and improved its nuclear emergency management system, and implemented overall nuclear accident emergency response strategy of "all response for accident in a plant; coordination by headquarters with unified support; member companies doing their best" to provide a full range of emergency support for the disrupted plant. At the same time, we reported accident at joint-stock company level, and conducted

various exercises on crisis and emergency disposal in relation to financial and capital market, foreign affairs, media and press releases.

Currently, the Company is actively proceeding with the construction of nuclear emergency support bases, aiming to achieve one headquarters with two support bases. The Company's emergency command center and technical support center have been completed and put into operation in December 2015, and the work on the two support bases in Daya Bay and Yangjiang is proceeding in an orderly way.

In 2015, the Company conducted two nuclear emergency on-site and off-site joint drills, 13 comprehensive emergency drills and over 100 special emergency drills.

### The Company's nuclear emergency organization system



### Case National nuclear emergency joint drill was held in Taishan nuclear base

In the morning on June 26, 2015, the "Shendun-2015" national nuclear emergency joint drill, namely the Taishan Nuclear Power Plant on-site and off-site joint drill prior to its first fuel loading at Taishan Nuclear Power Plant, was held successfully, which was a three-level joint drill participated by national, provincial, nuclear facilities operating entities by way of military-civilian collaboration with about 1,900 people participating in the combat exercise. Participating personnel had clear responsibilities and normative operation practice, which achieved anticipated goal of the drill.





# Independent Innovation

We continued to strengthen scientific research and development to promote independent innovation, so that nuclear power plants can become safer, smarter and more environmental friendly.

## Technical R&D System

We have two independent R&D institutions, namely CNPRI and Suzhou Nuclear Power Research Institute, and have established our R&D system. We own four national R&D centers and one leading international experiment platform, which can provide good R&D support for independent innovation.

R&D staff more than

2,000



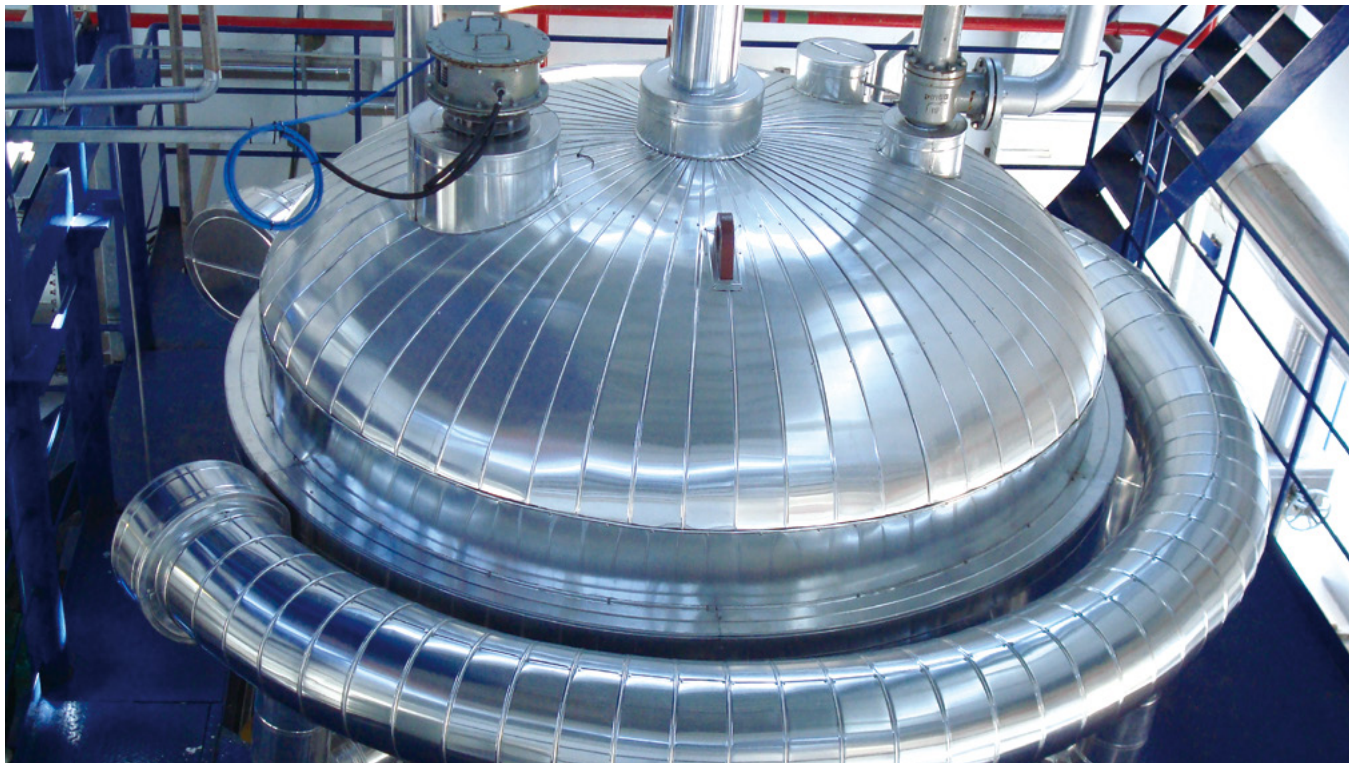
National NPP Safety and Reliability Engineering Technology R&D Center



National Energy NPP Operation and Life Management R&D Center



National Energy Advanced Nuclear Fuel Component R&D (Experiment) Center



National Energy NPP Nuclear Grade Equipment (Experiment) R&D Center

## Scientific and Technological Achievements

Technological improvement and innovation allows us to have a number of intellectual property rights, which have enhanced the operation and safety level of nuclear power plants, and strengthened our competitiveness.

Year	Patent (Item)						Authorship Registration (Item)	
	Patent Application			Patent Licensing			Software	Others
	Invention	Utility Model	Design	Invention	Utility Model	Design		
2011	68	56	1	24	49	0	46	12
2012	88	76	1	48	59	1	59	0
2013	127	124	0	35	95	1	45	1
2014	174	129	0	33	168	0	32	4
2015	167	117	0	47	133	0	73	0
Total	624	502	2	187	504	2	255	17

The Second Prize of Science and Technology Awards by China Nuclear Energy Association

Technological and innovative application of the hot function test of pressurized water reactor for nuclear power stations

Research and development and application of safety improvement technical solutions for the improved second generation nuclear power plants in operation and under construction after Fukushima nuclear accident

The Second Prize of National Power Industry Employee Technological Achievement Awards

Intelligent detection of nuclear reactor sealing surface and development and application of thermal-optical robots

China Power Innovation Award

Nuclear power station passive emergency by using high level cooling water system



## Responsibility Theme: Independent Research and Development Achievements

We have developed a number of significant achievements with independent intellectual property rights by adhering to the principles of "Introduction, Integration, Assimilation and Innovation" (「引進、消化、吸收、創新」), and have achieved the objective of "independent design, independent manufacture, independent construction and independent operation" (「自主設計、自主製造、自主建設、自主運營」) of nuclear power in China.

### Proprietary Third Generation Nuclear Power Technology HPR1000



Self-developed gigawatt-level third-generation pressurized water reactor nuclear power technology

#### Higher safety:

- Single reactor arrangement has realized better physical isolation and avoided failure of safety system under common mode.
- Safety series with three physical barriers have met the requirement of single failure criteria, and core damage frequency has dropped by an order of magnitude than the requirement of regulations, so as to cope better with internal and external disastrous accidents.
- Passive measures have been adopted, so as to use natural forces to achieve long-term cooling of power plants in the case of loss of external power.

#### Improved economy:

- Technical safety of HPR1000 has reached the international advanced level, while its economic performance is significantly better than other types of international reactor and has become our core strength for participating in the international market competition.

### Multi-function Small Pressurized Water Reactor Small Modular Reactors ACPR50S

- **Mature technology:** Compact reactor design, combined with mature marine engineering technology.
- **High safety:** "Semi-submersible deep draft" (「半潛式深吃水」) design, which makes full use of the sea as a natural shield and ultimate heat sink, and no off-site emergency plans are required.
- **Practicability and economy:** With more competitiveness as compared with conventional marine energy sources.



Self-developed multi-function small pressurized water reactor

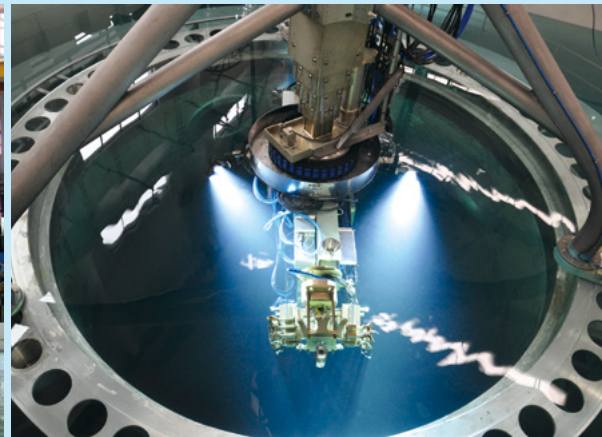
### Domestic Nuclear Power Robots



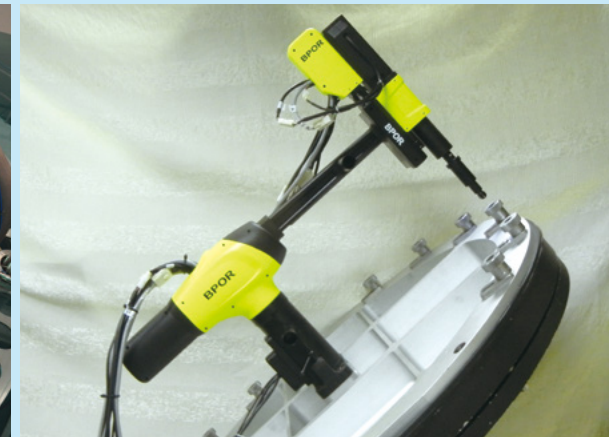
Reactor refueling machine



Stud tensioner for reactor



Robot for non-destructive examination of reactor pressure vessels



Robot for operating primary side blocking plates of steam generator



Multi-function underwater crawler for nuclear power plant



Miniature operation submarine for nuclear power plant

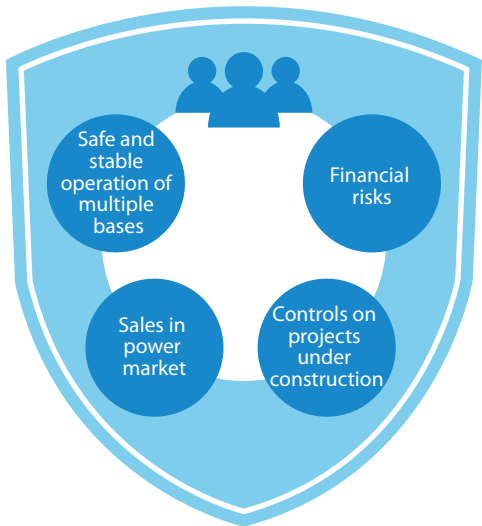


## Operation and Management Improvements

We have established an internal control system. The effectiveness and reasonableness of this system are subject to internal audit. With the help of an effective internal system, we achieved better compliance with applicable laws and internal regulations, effectively reduced the risks of corruption and non-compliance, and promoted company operation ability.

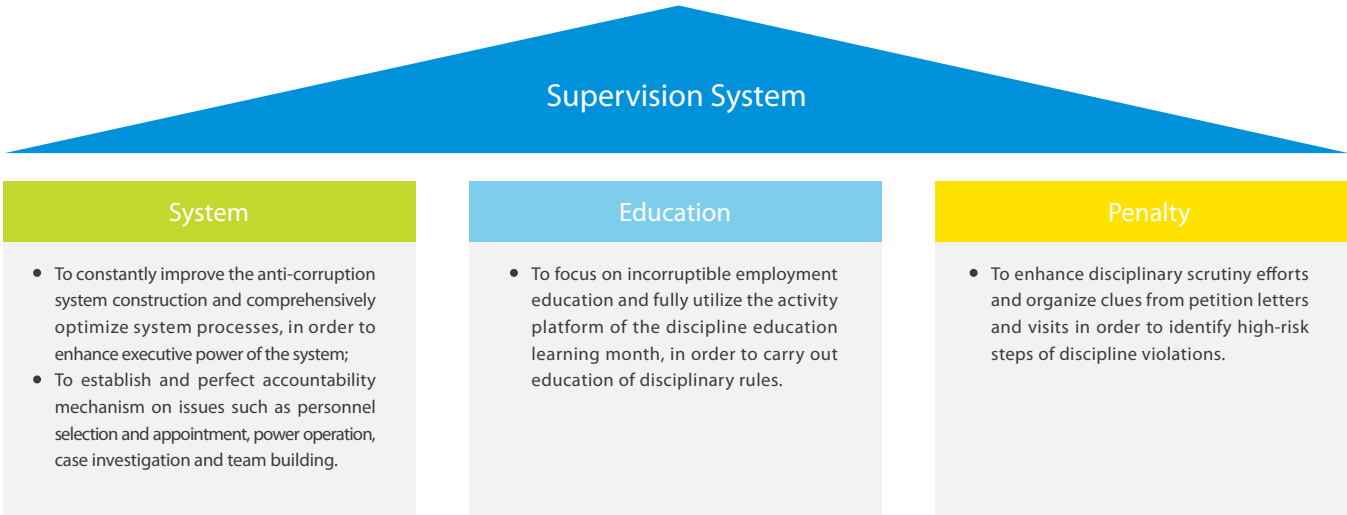
### Risk Management

We have established a sound and comprehensive risk management system of the Company, comprehensively encompassing key risks in our operation and management process, and implemented risk management throughout all aspects of our operation and management and all steps of our business process, in order to create a safe, healthy, efficient and environmentally friendly working environment for our employees and contractors.



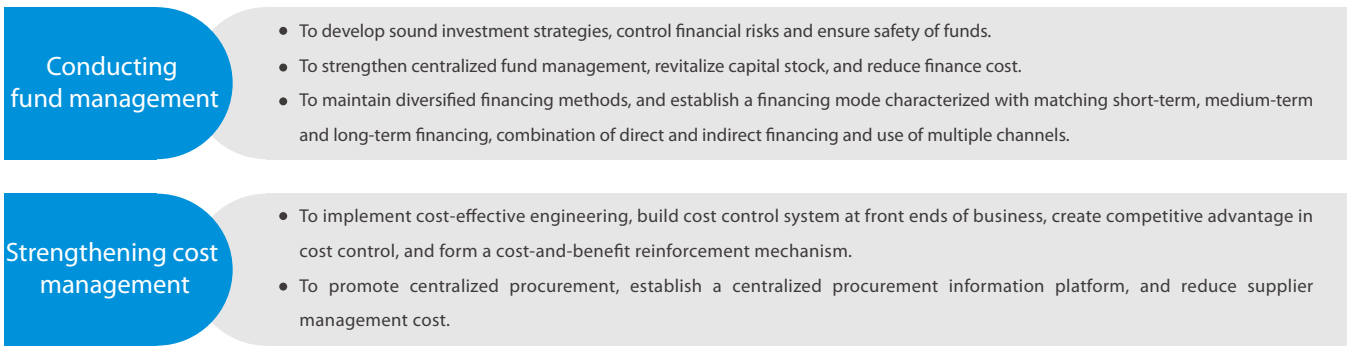
### Legal Compliance

We have firmly established the concept of legal compliance with institutional construction and cultural construction as starting points, and actively promoted legal and anti-corruption work, so as to become enterprise citizens "knowing laws, understanding laws and abiding by laws". In the year of 2015, the Company did not have any serious non-compliance incidents.



### Quality Management

We persist in benchmarking with advanced enterprises at home and abroad, deeply conduct management innovation, and carry out operations in accordance with the modernized enterprise system. Through technical means such as the Internet and big data, we explore for quality management model, deeply engage in cost-saving and profit-increasing, continuously improve operational efficiency, and enhance the Company's comprehensive management efficiency.



## Win-win Cooperation

We actively expand the cooperative channels between industries to create sound environment and atmosphere for their common development with nuclear power industry, promote the overall progress in the nuclear power industry and achieve mutual benefit.

### Building up an Alliance in the Nuclear Power Industry

We make full use of our own technology and management advantages and cooperate with the upstream and downstream in the industry chain, and optimize the cooperative communication mechanism in order to jointly build up an interdependent alliance with common development in the nuclear power industry.



### Our major partners



国家电网  
STATE GRID



中国南方电网  
CHINA SOUTHERN POWER GRID

CLP 中電



上海电气  
SHANGHAI ELECTRIC



哈电集团  
Harbin Power Plant Equipment Corporation



东方电气



中国核建  
China Nuclear E&C Group

## Supply Chain Management

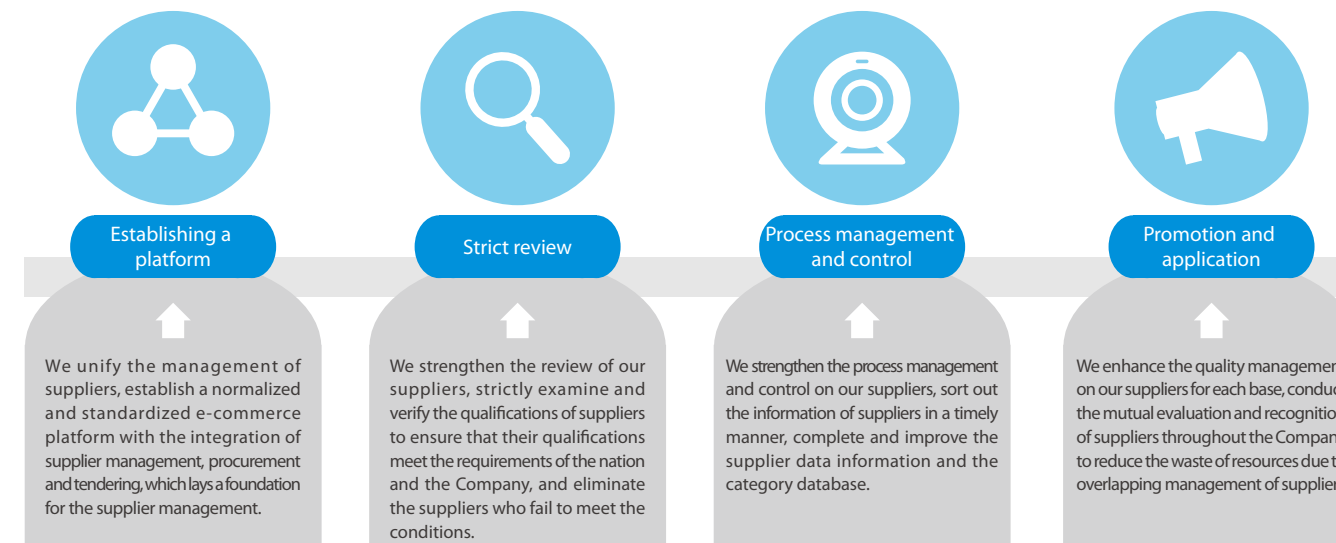
We incorporate the concept of social responsibility into the whole process management of suppliers in order to create a fair, impartial and open supply chain management system and promote the healthy and rapid development of nuclear power industry.

### Conducting responsible procurement<sup>1</sup>

On the basis of informatization and networking, we actively advocate "sunshine procurement", continuously improve the management rules and regulations in respect of procurement, and support and procure the responsible products and services.

### Strengthening the evaluation and management of suppliers

We strengthen the whole life cycle review and management on the access of suppliers, product certification, performance evaluation, classification and grading and exiting, establish a transparent and efficient mechanism for the survival of the fittest among the suppliers and enhance their ability to perform responsibility.



### Case

#### The procurement of the Company enters into the new era of "Internet+"

In March 2015, the Company's e-commerce platform was officially launched. On the basis of mobile Internet technology, the platform creates a comprehensive business management system which integrates the functions of formulating the plans, managing the tendering and bidding, signing the contracts and issuing the invoices, and can realize the seamless connection between the Company's internal procurement system and the suppliers. Through crunching and managing the big data, it can also provide the Company with new value-added procurement services, which significantly enhances the procurement efficiency and quality.

<sup>1</sup> Responsible procurement represents that an enterprise incorporates the concept and requirement of performing social responsibility into its whole procurement process to ensure that the products and services procured by such enterprise are full of "responsibility", and that its procurement transactions are also responsible.



- 30 Development of Clean Nuclear Power
- 32 Management of Radioactive Waste
- 34 Enhancement of Resource Efficiency
- 34 Protection of Ecological Environment

## Environmental Responsibility

69.70

million tons

The on-grid nuclear power generation in effect represented a reduction of approximately 69.70 million tons of CO<sub>2</sub> emissions

0.19

million hectares

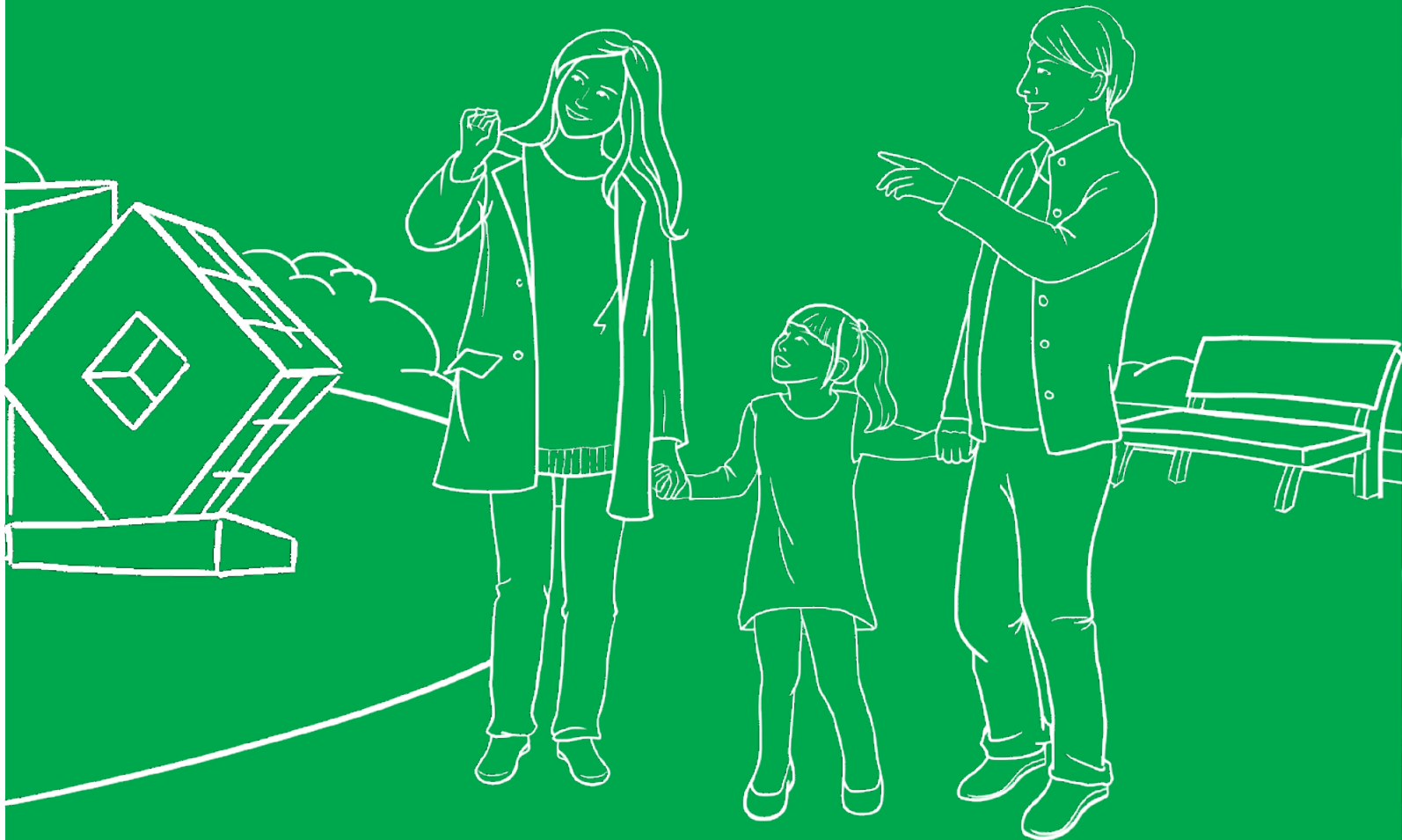
The emission reduction represented an equivalent effect of planting a forest of 0.19 million hectares

0

environmental pollution incident

## Performance of Environmental Responsibility

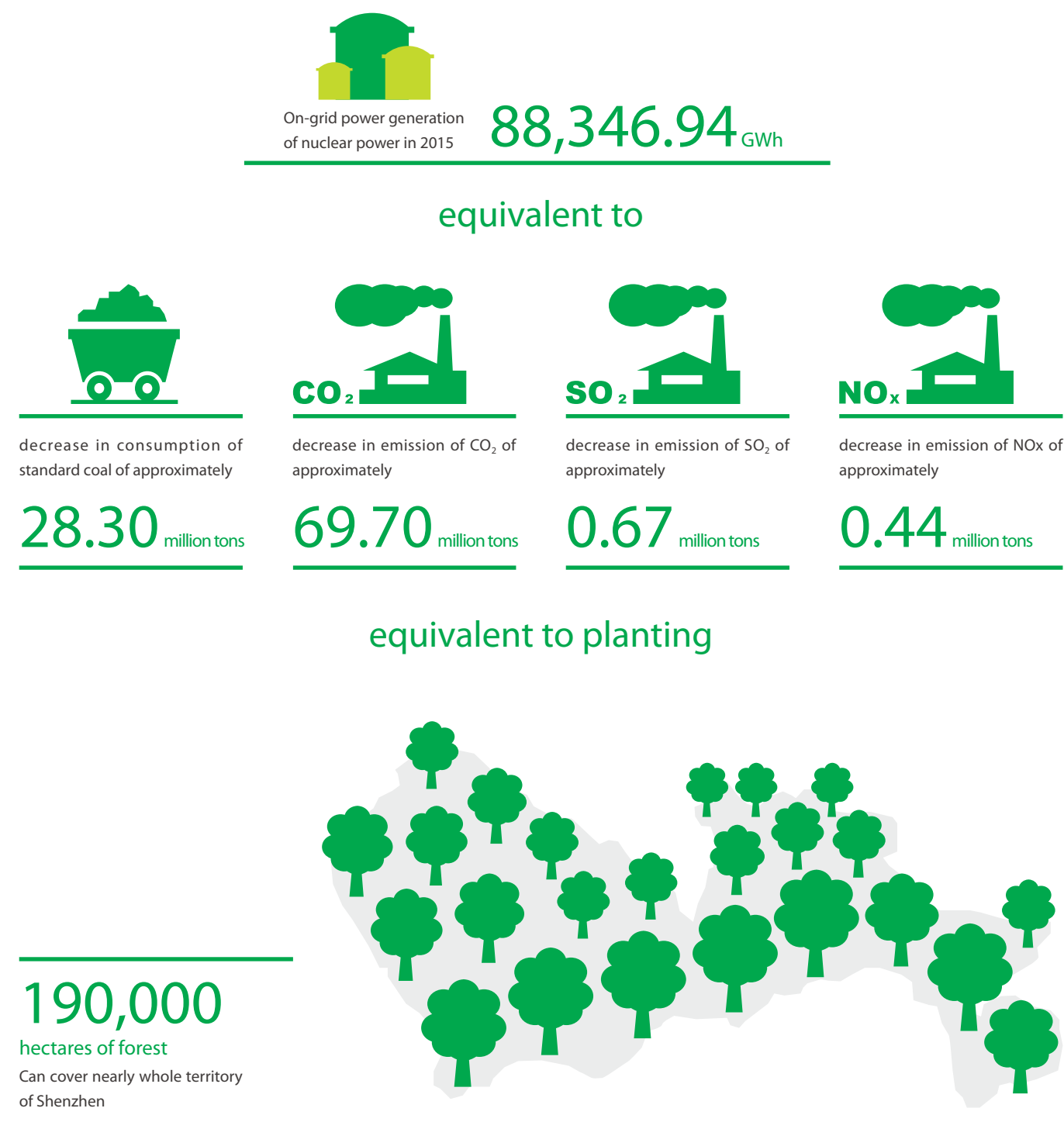
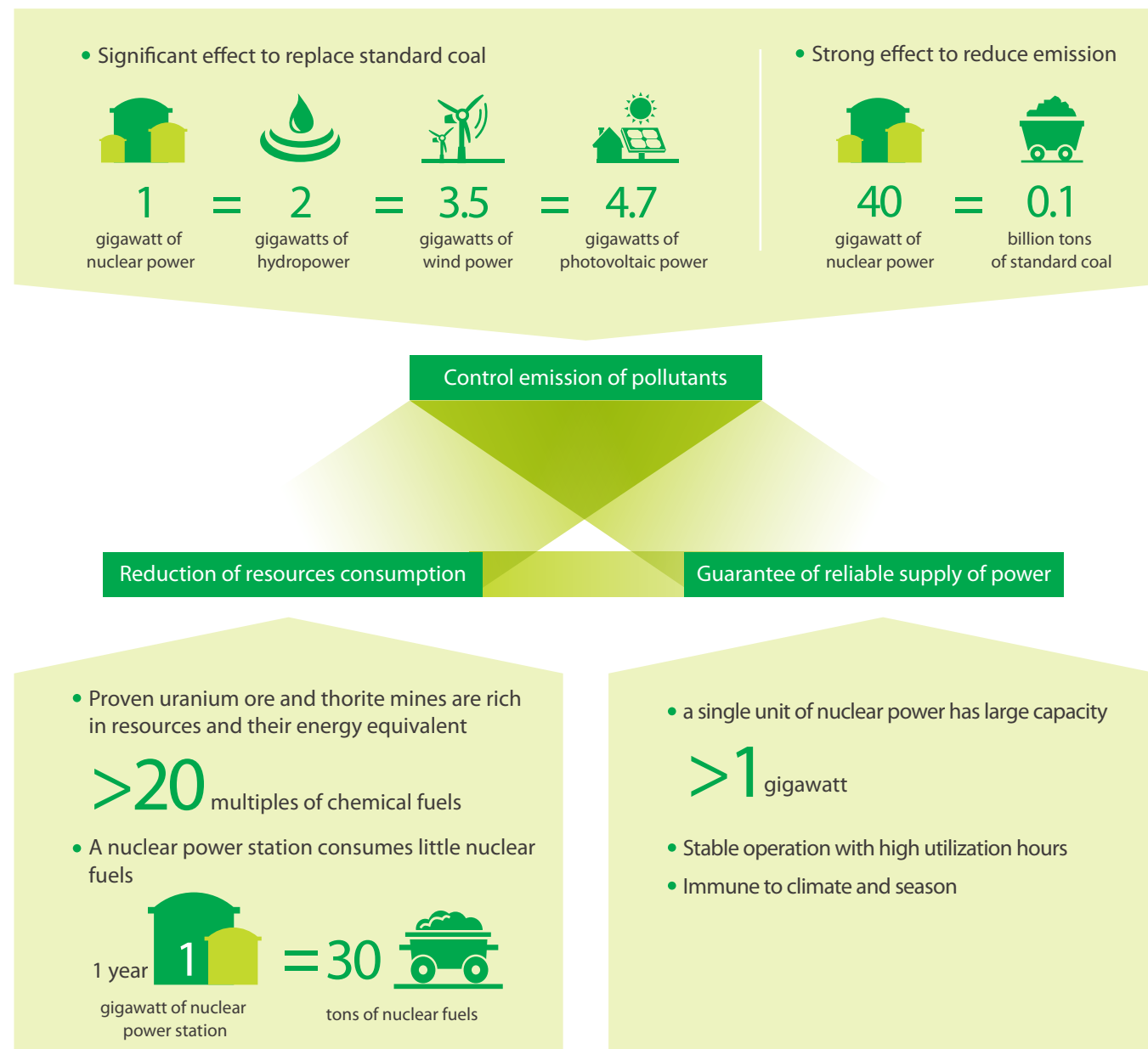
The blue earth and green environment have always been what we yearn for, thus it is our responsibility to focus on the development of clean nuclear power. We strictly implement the requirements of laws and regulations, formulate the environmental policies and rules, and continuously improve the environment management system with the emphasis on ecological protection and resource conservation during the performance of environmental responsibility so as to support the development of economy and society with low-carbon power.





## Development of Clean Nuclear Power

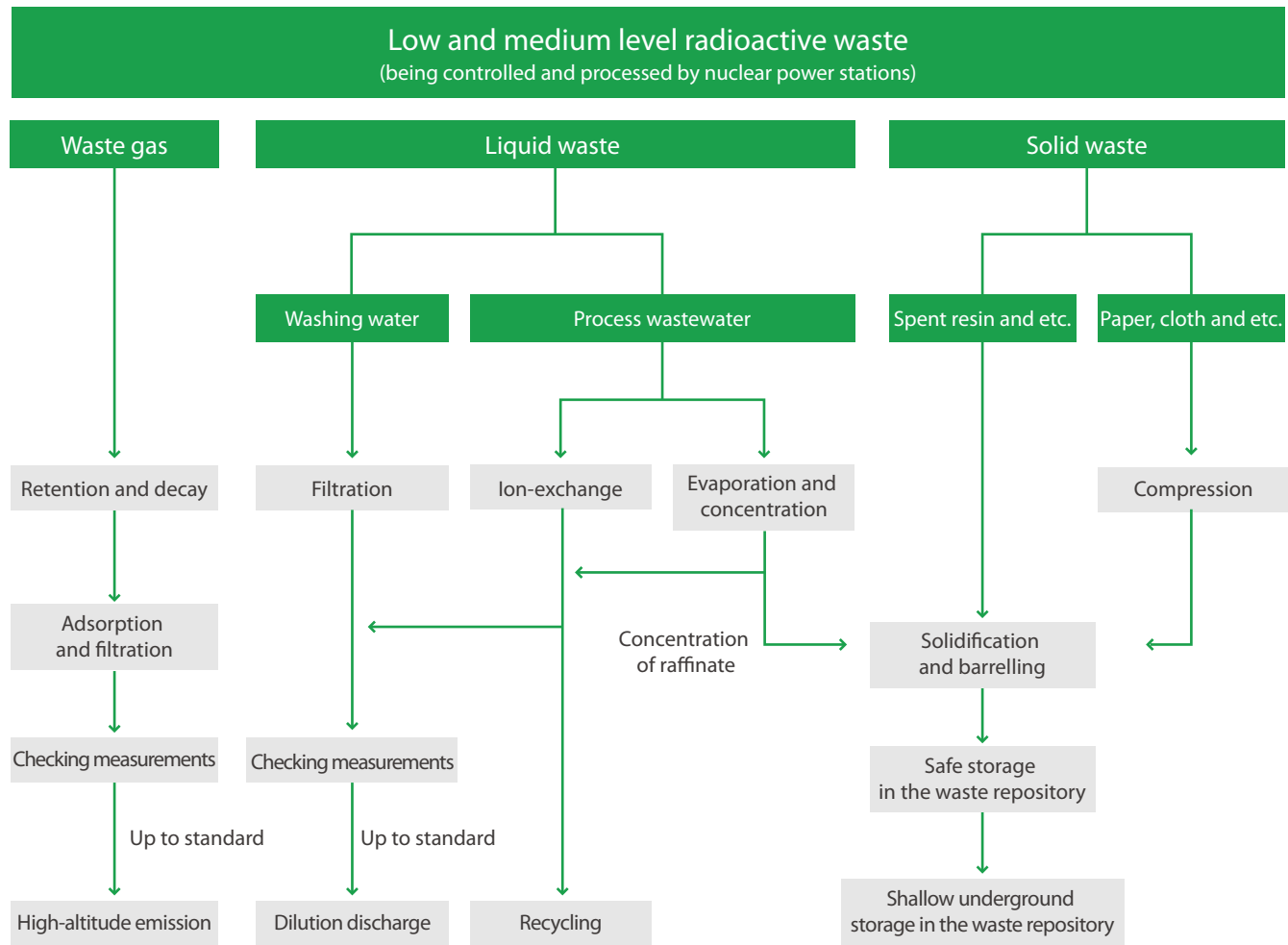
With the increasingly severe climate changes, the clean energies, such as nuclear energy, hydro energy, wind energy and solar energy, have received extensive attention in the society. Currently, the nuclear energy has been technically mature, and can be developed and utilized in large scale to provide stable power, therefore, it is a key choice to ensure reliable power supply and reduce the greenhouse gas emissions.



## Management of Radioactive Waste

During the operation of nuclear power stations, the effect on environment is mainly the emission of radioactive waste. We make efforts to minimize the generations of radioactive waste, practically implement the ALARA principle (As Low as Reasonably Achievable) on the management of radioactive waste, and continuously enhance the controlling and processing technology in respect of radioactive waste. In 2015, our total emissions were far lower than national emission standards.

### Low and medium level radioactive waste



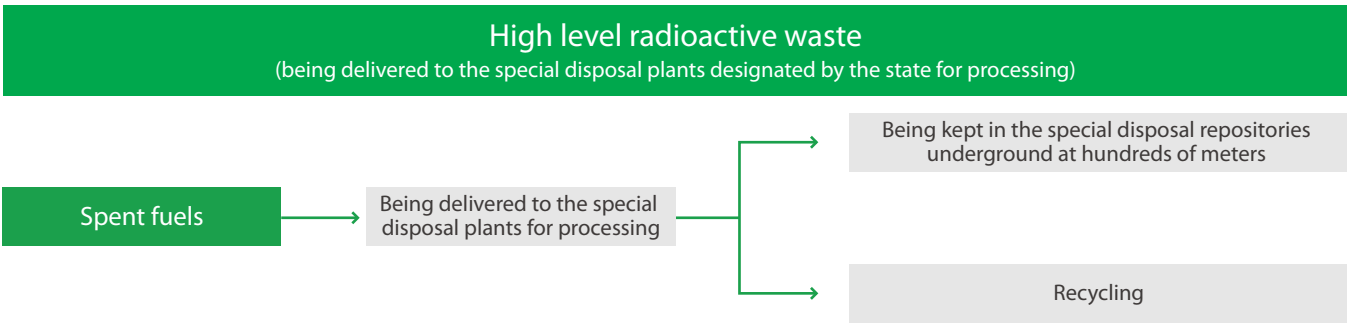
We continuously improve the management practices and technical measures. In 2015, we completed the engineering modifications on the radioactive solid waste treatment system of Daya Bay Nuclear Power Station by replacing cement barrel containers with metal barrel containers to increase the inclusive rate of radioactive solid waste. Such modifications can reduce the volume of radioactive solid waste of each generating unit by about 7 to 10m<sup>3</sup> each year.

### Emissions of low and medium level radioactive waste discharged by nuclear power bases in 2015

Project \ Name of nuclear power station	Daya Bay	Yangjiang	Ningde	Hongyanhe
Discharged liquid radioactive waste (radionuclides other than tritium) as a percentage of the national standards	0.21%	0.5%	0.24%	0.47%
Discharged gas radioactive waste (inert gases) as a percentage of the national standards	0.133%	0.18%	0.15%	0.144%
Solid radioactive waste (m <sup>3</sup> )	317.6	24.4	149.6	183.1

### High level radioactive waste

Pursuant to the national polices and international practices, the spent fuels<sup>1</sup> generated by nuclear power plant reactors shall be kept in the storage pool for certain years, and then shall be delivered to the authorized service providers for reprocessing. Many countries in the world have conducted extensive research on the processing techniques of high level radioactive waste for decades. After assessing and comparing various approaches, deep geological disposal has become the best choice, that is, to keep the high level radioactive waste in the special disposal repositories underground at hundreds of meters.



Note 1: Spent fuel is a kind of used nuclear fuel with radiation exposure, which is usually generated by nuclear power plant reactors.





## Enhancement of Resource Efficiency

We have been actively committed to improving the energy efficiency of our facilities and reducing the energy usage. We undertake to generate and transmit electric power to our customers by using fewer resources and make efforts to build a green enterprise.

### Reduction of energy consumption

Energy saving not only contributes to environmental protection and social development, but also reduces the Company's operation costs. We deeply explore the energy-saving potentiality and maximize energy savings under the safe operation of nuclear power generating units.

We have established statistical, monitoring and evaluation systems in relation to energy saving, specified some comparatively complete technical indicators for energy saving and emission reduction, as well as the statistical channels and calculation methods of such indicators, and set up sound monitoring systems for pollution discharge and energy consumption.

#### Case Using the recycled water at Yangjiang Nuclear Power Station for landscaping

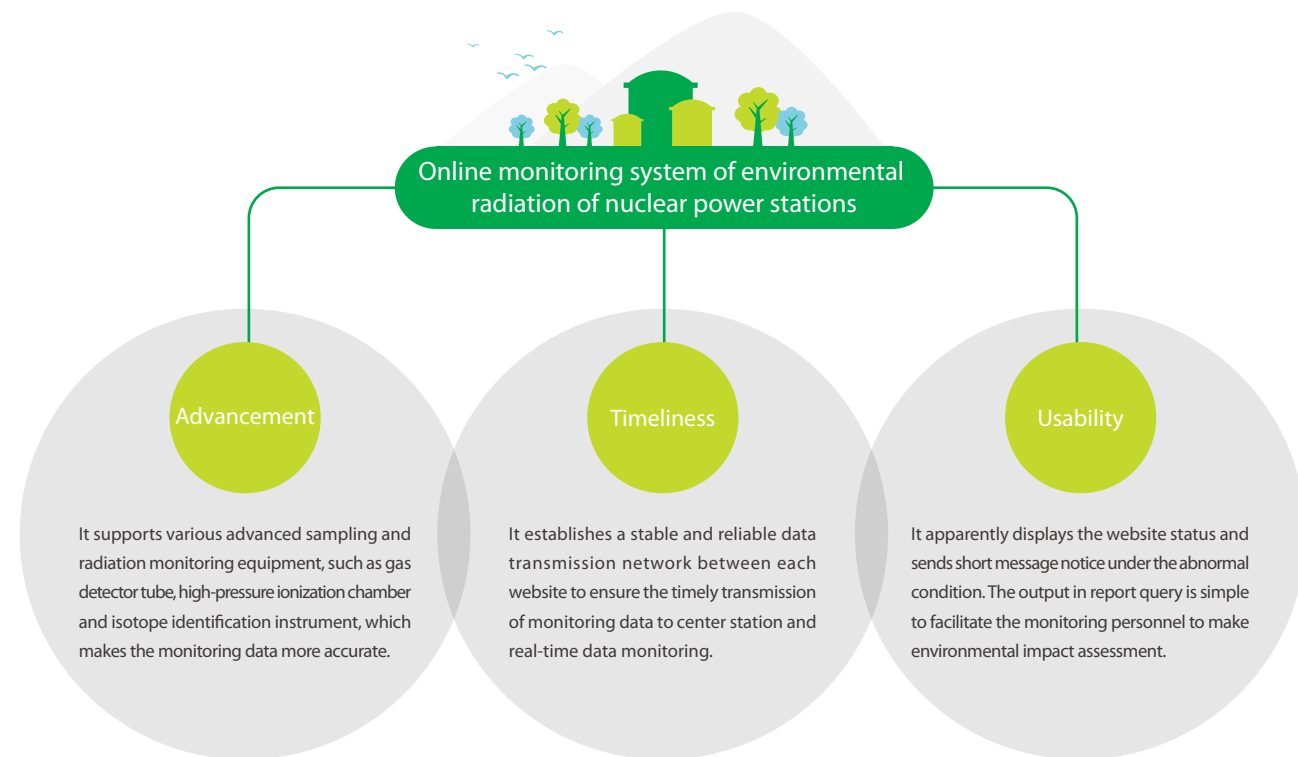
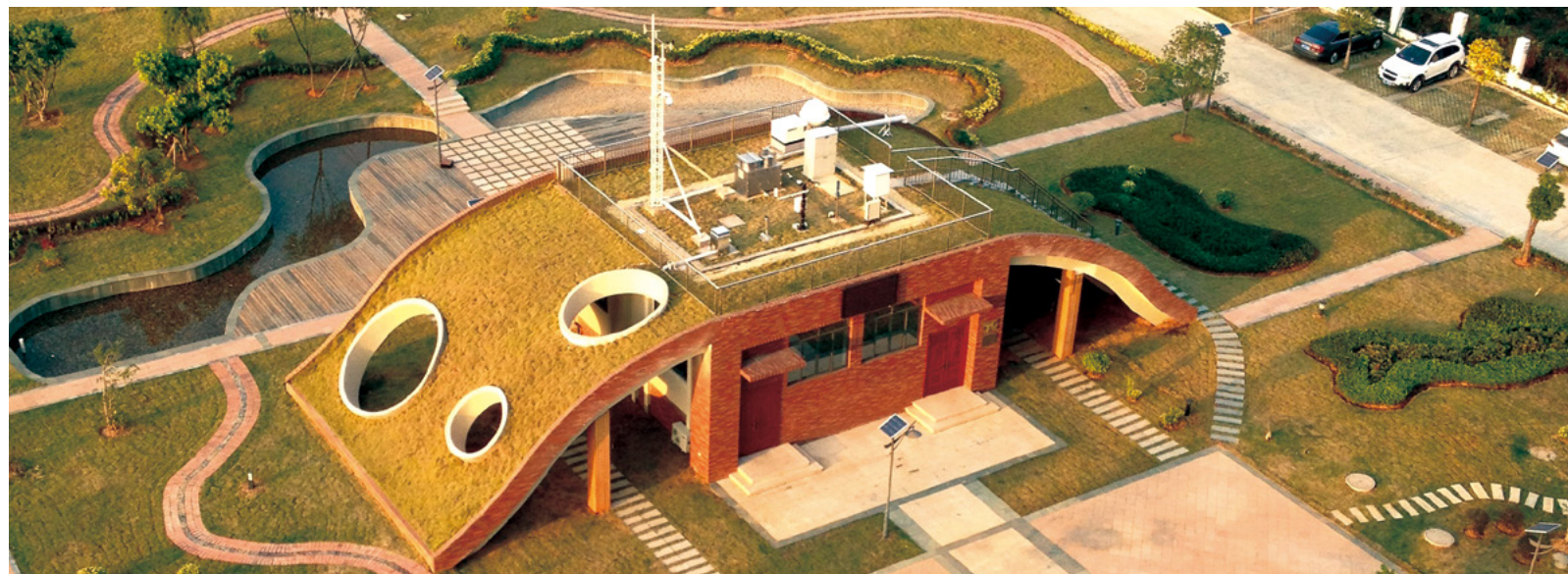
At Yangjiang Nuclear Power Station, the recycled water are primarily used for landscaping. In June 2015, the upgrade of water recycling pipelines was completed. All the water used in the upgraded spray irrigation system was derived from the recycled water of sewage treatment stations, which significantly saved the water resources. In 2015, Yangjiang Nuclear recycled more than 10,000 tons of water.

## Protection of Ecological Environment

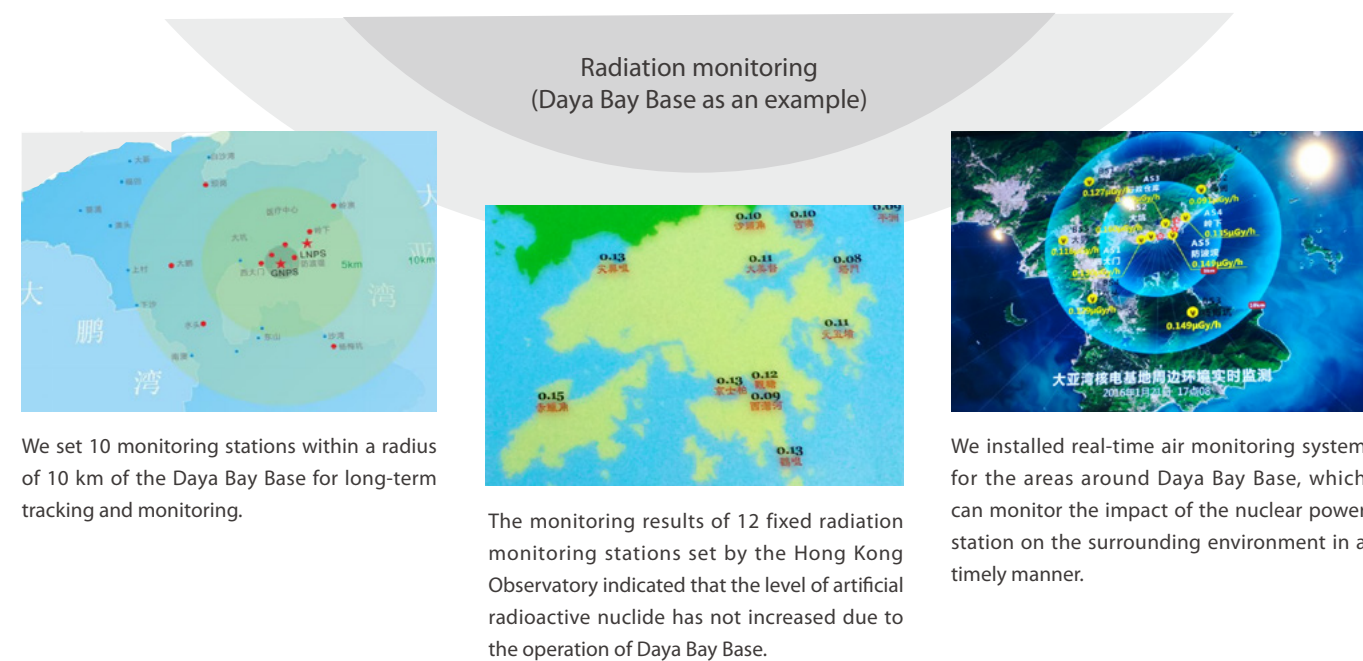
We track and monitor the surrounding environment of nuclear power bases in a long term, and adopt active protection measures to avoid and minimize the impact on environment during the production and operation of nuclear power plants.

### Environmental monitoring system

We continuously improve the environmental monitoring system and the environmental inspection and record system, and successfully developed KRS system (Environmental Radiation Monitoring System of Nuclear Power Stations) with our own intellectual property to provide more accurate and reliable monitoring. We assess the environment at and around the nuclear power stations in real time, timely release key ambient monitoring data through web portal of each station, and accept supervision of the society and the public.



According to the long-term tracking and monitoring data of each base, since its commencement of operation, the surrounding area's environmental radioactivity has not changed from that before the nuclear power station began operations, and the biological population from land and sea in the region has not changed either while there was no adverse impact to the environment.





## Special topic of responsibility: marvelous friends in the nuclear power bases

Biodiversity is the base of life resources on which the human beings depend on. Any damage to the biodiversity will eventually threaten the survival of the human beings. We continuously implement the environmental control measures, regularly carry out ecological investigation on marine organism around the nuclear power plants, and make the greatest efforts to realize our harmonious co-existence with the biology and the environment. Animals and plants under the national protection, rare native trees and plants which only live in the good environment are all the “neighbors” of the nuclear power stations, and they keep watch of this hot land together.



**Egret**

Ecological environment  
barometer

**Tympania fish**

Warm and tropical fish  
closer to sea bottom  
layer



**Lizard**

National class II  
protected animal



**Lycopodon bovista**

Only suitable for survival  
in mountains with good  
environments



**White tea**

One of the six famous  
teas



**Chinese  
white dolphin**

National class I key  
protected wild animal



**Sterculia lanceolata**

Precious native tree



**Harbour seal**

National class II  
protected animal



## Social Responsibility

40 Harmonious Community

44 Contribution to Society

46 Employee development

11,787

people

Total number of employees

250,000

visits

Visitors admitted to nuclear power popularization of science exhibition hall

More than

34,900

hours

Employees' participation in public welfare services

### Fulfillment of Social Responsibility

CGN Power's achievements are all attributable to the dedications of all staff and the strong supports from the community where we operate.

Believing in "The Will of People is Power", by building transparent communication channel, we provide our staff with broad platform for development and good working environment and bring energetic changes and ardent integrity for the community, aiming to create a promising future together with all sectors of the community.





## Harmonious Community

When developing our nuclear power business, we actively adapt ourselves to the community where our business is located, enhance our communication, take root in the community and assume our enterprise obligation to promote the harmony and mutual prosperity between us and the community.

### Transparent Communication with the Public

To enhance the public understanding and trust on nuclear power, it is our obligation to disseminate nuclear power knowledge to the public. We build a multi-channel communication platform in an “open, transparent, credible” attitude to continuously strengthen our ability of “Transparent Communication”.

#### Promoting Information Disclosure

Information disclosure is the basis of transparent communication. For the purpose of ensuring the public rights to know nuclear safety, we disclose safety information and monitoring data of nuclear power to the public in a timely manner through various channels such as website, social media and brief meeting. In 2015, we voluntarily disclosed nine operation incidents.



#### Disclosure of information

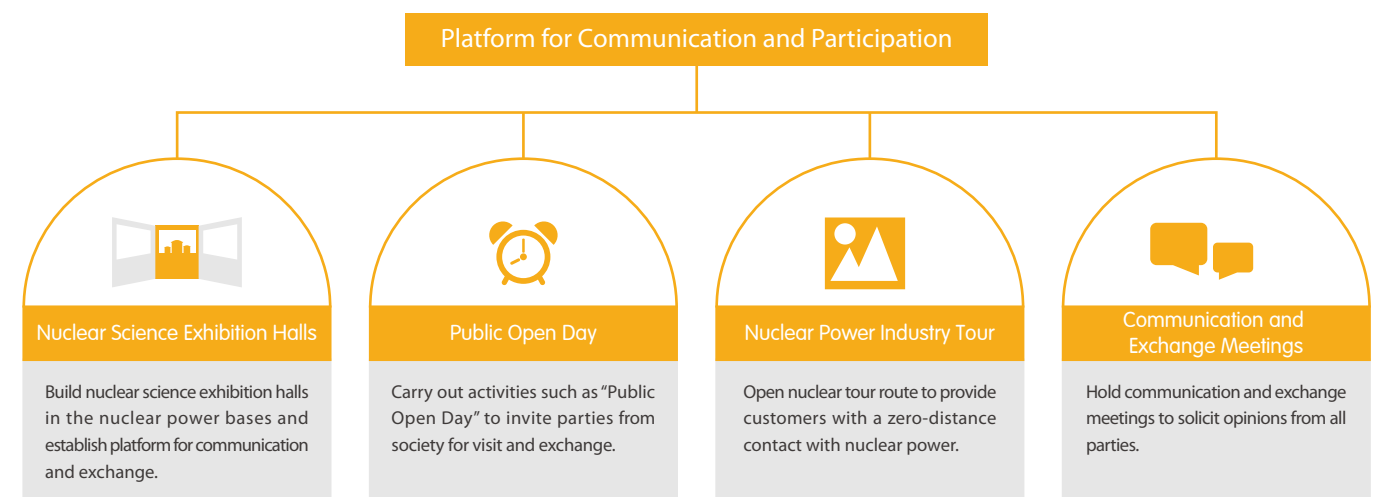
- Capability factor
- Radiation protection
- Industrial safety
- Level 1 fire risk incidents
- Operation incidents of nuclear power station
- "Three wastes"<sup>1</sup> control
- Monitor of the environment

For details, please see the websites of bases at Daya Bay, Hongyanhe, Ningde and Yangjiang.

Note 1: "Three wastes" represents solid, liquid and gaseous wastes produced during the operation of nuclear power stations, collectively referred to as "Three wastes".

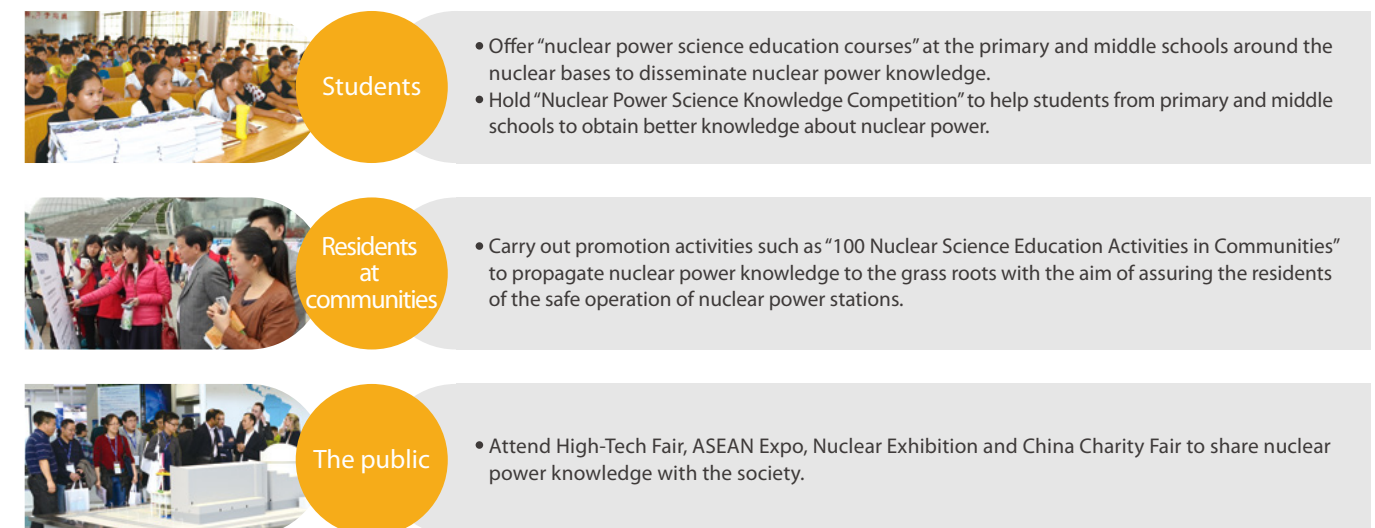
#### Promote Public Participation

By establishing the platform for public communication and participation, we continue to upgrade public communication mechanism so as to build public relationships on mutual trust, interaction and harmony. In 2015, our nuclear science exhibition halls in the nuclear power bases and their surrounding cities across the country received more than 250,000 visits.



#### Disseminate Nuclear Power Knowledge

We try different methods for different communities to disseminate nuclear power knowledge in a more specific and lively way so as to promote the public understanding on nuclear power and help the public have a rational knowledge about nuclear power.





## Responsibility Theme: Public Open Day

We encourage the public to conduct onsite visits as “seeing is believing” is our long-term philosophy in communicating with the public. To enhance the transparency of nuclear power and communication with the public, since 2013, we took August 7, the commencement date of Daya Bay Nuclear Power Station in 1987, as our “8.7 Public Open Day”. On each August 7, featured activities with clear themes were carried out in each of our nuclear power bases to communicate with the public in a transparent manner through diverse channels and create a bilateral communication platform between the enterprise and the public.



2013: Transparent Responsibilities



2014: Transparency-Integration



2015: Transparent Nuclear Power Station  
Transparent Nuclear Power Industry

### Featured Activities

On each 8.7 Public Open Day, forum events relevant to the theme were arranged on the main venue to communicate face to face with representatives of the public, representatives of communities and representatives of the media invited to the forums on issues concerned by the public. Meanwhile, featured activities were synchronized in the nuclear power bases in Daya Bay and Taishan to show “Transparent Nuclear Power Station, Transparent Nuclear Power Industry” to the public.



Ningde Nuclear Power Station:  
Testing the Radiation Levels on Site

Representatives of the public conducted environmental monitoring experiment on site in Ningde Nuclear Power Station. They tested the radiation levels in the nuclear power station with professional instrument and found out that the radiation levels in the nuclear power station were not different from that in other places.



Daya Bay Nuclear Power Station:  
The Pursuit of Nuclear Friends

With “I am a nuclear friend and I speak for nuclear science as the theme, more than 100 nuclear friends were invited to the site to communicate with the public and speak for nuclear science together.



Taishan Nuclear Power Station:  
Satisfactory Effect of Interactive  
Experience

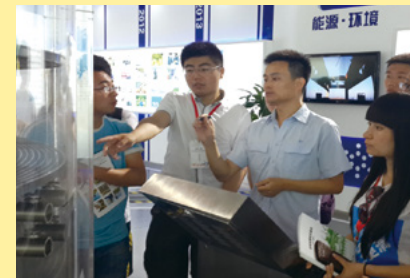
A female employee of the nuclear power station on her protective shoes (as our standard equipment) asked one netizen weighing 105kg to step on one of her feet with single foot and her foot stand perfectly well. We conducted interactive communication with more than 140 visitors in a vivid form in Taishan Nuclear Power Station.

## Discovery into Nuclear Power

One look is worth a thousand words. We invited the public to visit our nuclear stations and places where we usually work and conduct training and communicate with our operators face to face, enabling them to learn about and understand nuclear power first-hand.



A super master in nuclear explaining the strictness  
of our training in the training center



An employee of the nuclear power station  
explaining the theory of nuclear power



### Voices

“For our country, it is a necessary choice to actively develop nuclear power, which demands understanding and cares from the public”

—Director of the General Office of the  
Nuclear Division of the National Energy  
Administration  
Li Ze

“Transparency is one of our corporate responsibilities and the foundation for nuclear safety”

—Chief Financial Officer of CGN Power Co.,  
Ltd.  
Yue Linkang

“It might be a good idea to show the health conditions of staff working in a nuclear power plant to the public”

—Researcher of the Institute of Sociology  
of the Chinese Academy of Social Sciences  
Shan Guangnai

“The Public Open Day will facilitate the sound and sustainable development of the entire industry”

—Director of the Public and Environmental  
Research Center  
Ma Jun

The public try on radiation protective clothing



## Contribution to Society

The society and enterprises are symbiotic like the relationship between the root and leaves of a tree and between the origin and branches of a river. The Company, while achieving its own development, also supported the development and advancement of communities and actively participated in public welfare activities to make contribution to the society through its actions and benevolence.

### Serving for Development of Communities

Based on the provision of energy and power for the economic development of the regions where it operates, the Company adhered to the concept of “Safely, Friendly, Warmly” for the development of 3N communities and actively got involved in the construction of communities and understood the development aspirations of communities to make contribution to the establishment of harmonious communities.



#### Contributing to the Construction of Infrastructure



With concerns on people's livelihood, we increased investment in the infrastructures for communities surrounding our nuclear power bases and took an active part in the construction of transportation, water conservation and environment infrastructures for local communities, in order to improve the living conditions of those communities.

#### Enhancing the Employability of Communities



We actively created employment opportunities for the local community to increase the employment rate of local residents; provided special employability skills training to enhance employment skills of community residents, effectively promoting the employment of local residents.

#### Facilitating the Economic Development of Communities



We promoted and implemented industrial tourism projects at each of our major bases, further increased efforts on localized procurement to increase community income, and strived to improve employment driven by nuclear power, thus benefiting people's livelihood projects and jointly promoting the development of community economy.

### Enthusiastic about Public Welfare Activities

The Company have devoted itself to the public welfare undertakings, and supported its employees to engage in volunteer service activities to help social vulnerable groups.

#### Daya Bay Nuclear Power Base

Organized the “beach cleanup and environmental protection activity” to protect the ocean environment.

#### Taishan Nuclear Power Base

Its care for special groups by donating goods to old people and children in welfare houses and giving them warmth and blessings.



#### Hongyanhe Nuclear Power Base

Donated 3 happy school buses to Hongyanhe Town Kindergarten to improve the traffic safety for children when they go to school and leave school.

#### Yangjiang Nuclear Power Base

Supported the development of local education by establishing the “Eyas Scholarship” to finance the schooling of excellent students.

#### Ningde Nuclear Power Base

Conducted the themed public benefit activity of “practicing green life and sharing bright future” to pass on the green concept.

More than **4,600** people  
Number of employee volunteer

RMB **130** million  
Payment of education Surcharge

More than **10,000** people  
Voluntary participation in activities

### Case

#### The “dream tutor” program of Yangjiang Nuclear Power Station flies children's dreams

Growing with community residents and sharing the future are the pursuits of nuclear power workers. In 2015, more than 40 volunteers from Yangjiang Nuclear Power Station initiated the “taking you to see the world” support teaching activity for over 100 students of Caiyuanpei Primary School. The activity was themed by dream and included various courses such as Chinese geography, using both hands to create life, interesting English and small scientific experiments. Besides passing knowledge to school-age children in the community, this activity also flew hope and created dreams for them.





## Development of Employees

Employees are the most dynamic elements of an enterprise and a key driver for its sustainable development. We have always adhered to the philosophy of "Putting talent in the priority place for an enterprise's development" and are committed to creating a fair working environment for all employees to give maximized play to their own values and sweet harmonious atmosphere like a big family.

### Equality and diversity

We respect and safeguard employees' labour rights and development needs and preclude discrimination arising from religion, gender, cultural background and other factors. We provide equitable opportunities in respect of employee recruitment, employee benefits and employee training and promotion to enable every employee to realize their own potentials on their respective posts.

Total number of employees

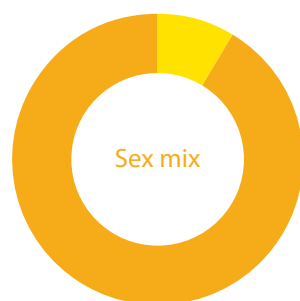
**11,787** people

Newly recruited employees

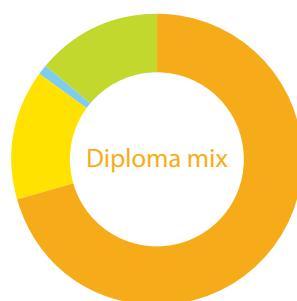
**1,014** people

The employee turnover in 2015 was approximately

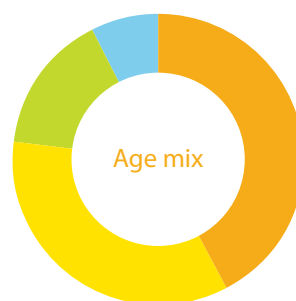
**2.04**%



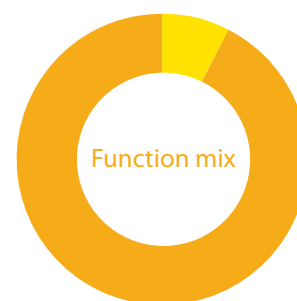
■ 8.67% Female employees  
■ 91.33% Male employees



■ 13.84% College and below  
■ 70.83% Undergraduate  
■ 14.35% Master  
■ 0.98% Doctor



■ 42.26% Age 28 and below  
■ 34.88% Age 29 to 35  
■ 15.57% Age 36 to 45  
■ 7.29% Age 46 and above



■ 7.76% Administrative staff  
■ 92.24% Technical staff



Transparent recruitment

- In recruiting an employee, we are in strict compliance with the relevant law and regulation, and focus on his/her abilities other than his/her personal background in order to continuously improve the transparency and equality of recruitment. In 2015, we recruited 1,014 new employees.



Diversified workforce

- We actively recruit employees of different ages, genders and regions to develop a diversified workforce. As of the end of 2015, the Company had 11,787 employees.
- We focus on female employees' career development and help them to grow rapidly. The percentage of middle and above level female management is 7.17%.



Equitable treatment

- We sign labour contracts with all employees and safeguard employees' interests through strict performance of contracts.
- We provide competitive remuneration and put emphasis on treating male and female employees on an equitable basis by adopting the same level of remuneration and structure, including, among other things, ensuring consistent salaries, workhours and benefits.

### Safeguard of employees' interests

CGN Power complies with national laws and regulations such as the Company Law of the People's Republic of China and the Labour Law of the People's Republic of China and respect human rights and standardise labour and employment management. We have established a competitive remuneration system. We also established a multi-level security system to improve occupational health management. In addition, we actively establish a smooth employee communication channel to implement democratic management.



Remuneration system

- We establish a competitive remuneration system according to the principle of "Determining salaries depending on duties and receiving remuneration based on performance";
- The average paid leave per employee amounts to 12 days;
- We purchase social insurance, supplementary medical insurance and enterprise annuity for our employees with the coverage rate of social insurance amounting to 100%;
- The employees' medical mutual aid money provided by Fujian Ningde Nuclear Power Company Limited safeguards employees who suffer from critical and severe illness;



Democratic management

- All material matters related to employees' own interests must be considered at the employee representative meeting;
- Taishan Nuclear Power Joint Venture Company was recognized as "Model Unit for Democratic Management" in the 2nd Guangdong Factory Affairs Openness Activity.



Occupational health

- Protection equipment is provided in places with occupational health hazard factors, including ear protectors, protective suits and protective shoes;
- We entrust a professional institution every year to conduct occupational health monitoring on employees of certain posts (including radioactivity, noise, high temperature, chemical toxicant and high atmospheric pressure and other posts) and generate personal health record;
- No recurrence of employee occupational diseases or fatal accidents occurred throughout the year.

## Promoting the development of employees

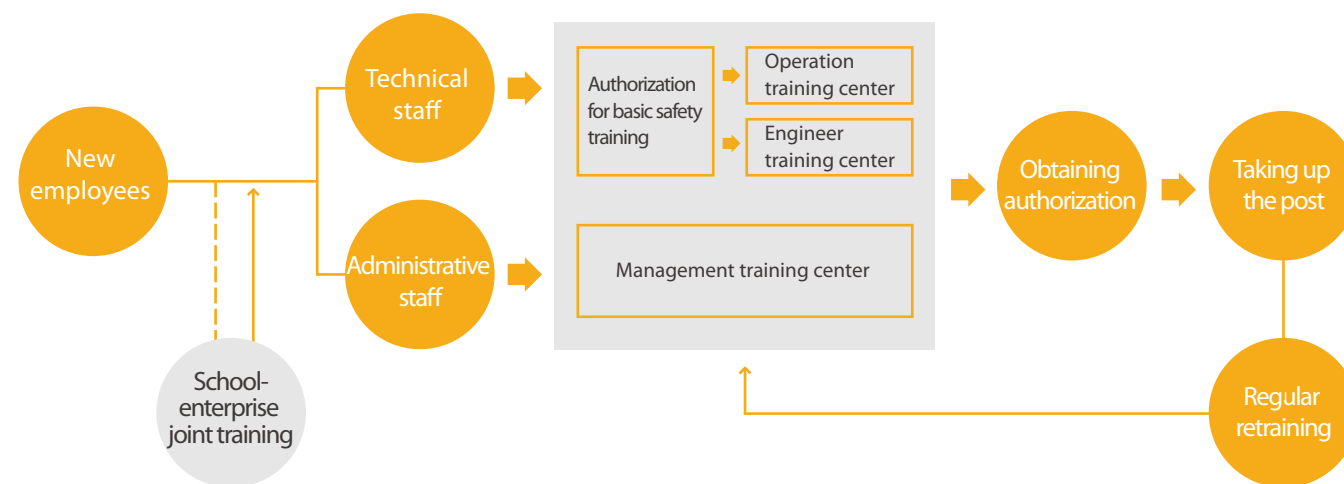
We have implemented international advanced experience in personnel training, established and improved the cultivation and promotion mechanisms suitable for different functions and cultural backgrounds with the combination of our development characteristics, so as to help the employees to achieve their personal values in all aspects.

### Developing the professional skills of employees

Adhering to the core concept of “entire staff training, authorized employment and life-long education”, insisting on the systematic training approach of “training, assessment, authorization, appointment”, and through implementing international advanced experience in personnel training, combined with our development characteristics, we have developed our personnel training system as well as standardized and efficient training management system.

#### • Training system for all employees

We advocate life-long learning, and promote new employees to rapidly improve their abilities and ensure the consolidation and enhancement of the working skills of the Company's existing employees. In 2015, the Company increased the training hours of employees, with the average training hours per employee increasing by 8.37% as compared with 2014.



#### • Innovative means of training

With the development of our business, we also continuously explore the innovative training forms and improve the training system to help the employees to rapidly enhance their knowledge and abilities. As of the end of 2015, the Company had a total of more than 7,000 face-to-face training courses and more than 1,500 web-based training courses.

Yangjiang Nuclear	Taishan Nuclear	Hongyanhe Nuclear
It developed an authorized management information system of training, realized standardized authorization process and convenient authorized enquiry, which significantly enhanced the management efficiency.	It implemented the training method in “three patterns” of “sharing, experiencing and enlightening”, introduced the fragmented extracurricular experience in class, facilitated the rapid conclusion and abstraction of practical experience and enhanced the employees’ abilities of “fast learning”.	In order to enhance the management ability of shift supervisors, the authorized management training on shift supervisors was taken as a required course for their enhancement and for the back-up operation and management personnel.

### Smoothing the development path

We value the contribution made by each employee, and place great emphasis on the career development of employees. The Company has two career development paths of management and professional and has established switching mechanisms of “dual-channel”, to break barriers between professional and management with aims to better cater to the employees’ wishes for career development. As of December 31, 2015, a total of 424 employees shifted to more suitable positions through internal market competition or by our deployment.





## Emphasizing on humanistic care

In order to encourage our employees to live healthily, love life and develop extensive interests, we conducted diversified activities to enrich our employees' lives and pass happy energy to them.

Cultural and sports activities boost team morale



All-staff exercises promote team coherence



Skill competitions help young people grow



Group wedding ceremonies show our care for the happiness of employees



### Case

#### Family photos taken in nuclear power stations

During the Spring Festival, many employees still stick to their posts in the nuclear bases as usual. In order to let those employees who stick to their posts and their family members feel the warmth, the united photography associations of the trade unions of Daya Bay Nuclear Base and Taishan Nuclear Base took New Year's family photos for employees and their family members and sent finished photos to every family which joined the picture-taking. Over the past two years, the two nuclear bases have taken New Year's family photos for over 200 families in CGN.



## Outlook

The year of 2016 is the starting year of the "Thirteenth Five-Year Plan". We will proactively adapt to the "new normal" for the economic development, continuously improve and promote the safe operation level of units, as well as expand the business scale according to the actual conditions, aiming to be a domestically leading nuclear power enterprise with strong international competitiveness.

### Economic Responsibility

- To ensure safe and stable operation of units under operation, continue to promote the management of nuclear power plants and comply with the requirements of "specialization, centralization and standardization".
- To act positively in response to energy structure adjustment and power system reform, improve the quality of nuclear engineering construction, and expand nuclear power installed capacity in China.
- To strengthen operation management and improve operation efficiency of the Company.
- To enhance allied cooperation of nuclear power industry and build a sustainable ecosphere of nuclear power industry.

### Environmental Responsibility

- To promote the lasting development of the clean energy of nuclear power and strive to increase the generation of power.
- To improve energy efficiency of the facilities and resources utilization rate in response to climate change.
- To act in compliance with environmental protection regulations, control pollutant emission and mitigate the effects on environment.
- To carry forward the sophisticated conservation policy and protect surrounding biology diversity of nuclear power plants.

### Social Responsibility

- To enhance the cultivation of talents at all levels, optimize employees' performance appraisal and promotion system, and draw out their potential capacities.
- To carry on various forms of aiding and assisting as well as entertainments and activities, produce a happy and caring environment where employees can work alternately with rest and recreation.
- To enlarge disclosure of information, innovate ways of public communication and education, increase the public recognition and acceptance of nuclear power.
- To diversify operation forms in communication development, drive the development in various fields, including those in science, education, culture and health.
- To further integrate public resources at each base, develop brand welfare projects, and pass on positive energy in the communication.

## Indicators Index

This indicators index illustrates the Company’s compliance, during the reporting period, with provisions of each indicator of “comply or explain” and with disclosure requirement of indicators regarding “recommended disclosures” set out in Environmental, Social and Governance Reporting Guide.

Aspects	Key Performance Indicators	Disclosures	Pages	Explanation
A. Environmental				
General Disclosure	Information on the policies and 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 nonhazardous waste.	●	P29-33	
A1.1	The types of emissions and respective emissions data.	●	P32-33	
A1.2	Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity.	●	P31	Clean electricity power equivalent to greenhouse gas emission
A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity.	●	P32-33	
A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity.	○	NA	It is about to collect relevant information
A1.5	Description of measures to mitigate emissions and results achieved.	●	P32-34	
A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	●	P32-33,P35	
General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials.	●	P34	
A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total and intensity.	○	NA	It is about to collect relevant information
A2.2	Water consumption in total and intensity.	○	NA	It is about to collect relevant information
A2.3	Description of energy use efficiency initiatives and results achieved.	○	NA	It is about to collect relevant information
A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.	○	NA	It is about to collect relevant information
A2.5	Total packaging material used for finished products and with reference to per unit produced.	○	NA	NA
General Disclosure	Policies on minimising the issuer’s significant impact on the environment and natural resources.	●	P32-33 P36-37	
A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	●	P34-35	
B. Social				
Employment and Labour Practices				
General Disclosure	Information on the policies and 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.	●	P46-47	
B1.1	Total work force by gender, employment type, age group and geographical region.	●	P46	
B1.2	Employee turnover rate by gender, age group and geographical region.	◐	P46	Total employee turnover rate of the Company
General Disclosure	Information on the policies and 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.	●	P47	
B2.1	Number and rate of work-related fatalities.	●	P47	

B2.2	Lost days due to work injury.	○	NA	Recommended Disclosure Indicators
B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored.	○	NA	Recommended Disclosure Indicators
General Disclosure	Policies on improving employees’ knowledge and skills for discharging duties at work. Description of training activities.	●	P48-49	
B3.1	The percentage of employees trained by gender and employee category (e.g. seniormanagement, middle management).	○	NA	Recommended Disclosure Indicators, it is about to collect relevant information.
B3.2	The average training hours completed per employee by gender and employee category.	◐	P48	Average training hours of the employees
General Disclosure	Information on the policies and compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	●	P46-47	
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.	○	NA	Recommended Disclosure Indicators

Operating Practices				
General Disclosure	Policies on managing environmental and social risks of the supply chain.	●	P27	
B5.1	Number of suppliers by geographical region.	○	NA	Recommended Disclosure Indicators
B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.	●	P27	
General Disclosure	Information on the policies and 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.	●	P14-23	
B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	○	NA	NA
B6.2	Number of products and service related complaints received and how they are dealt with.	○	NA	Recommended Disclosure Indicators
B6.3	Description of practices relating to observing and protecting intellectual property rights.	○	NA	Recommended Disclosure Indicators
B6.4	Description of quality assurance process and recall procedures.	○	NA	Recommended Disclosure Indicators
B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored.	○	NA	Recommended Disclosure Indicators
General Disclosure	Information on the policies and compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	●	P24-25	
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.	○	NA	Recommended Disclosure Indicators
B7.2	Description of preventive measures and whistleblowing procedures, how they are implemented and monitored.	●	P24-25	

Community				
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.	●	P40-45	
B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	●	P44-45	
B8.2	Resources allocated (e.g. money or time) to the focus area.	●	P44-45	

Note: ● represents disclosure in the report, ◐ represents partial disclosure in the report and ○ represents no disclosure in the report.

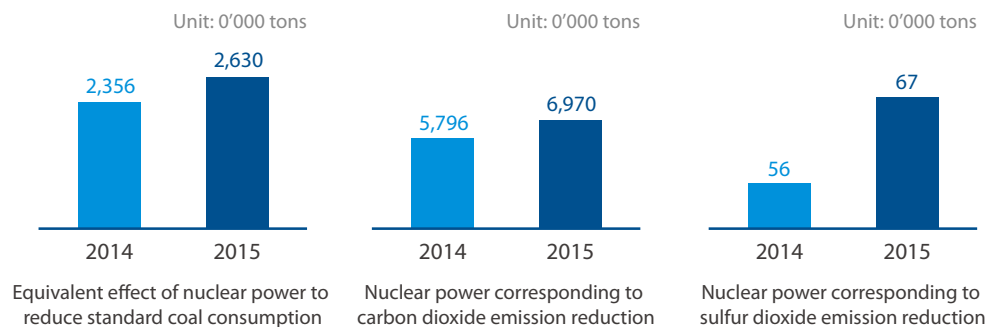


## Critical Performance Form

### Economic Responsibility

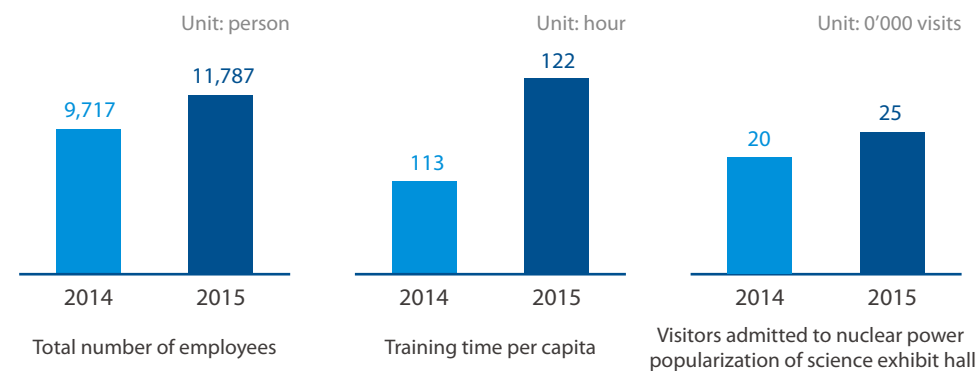
Project	Indicator	Performance comparison	
		2014	2015
Economic Value	On-grid power generation (GWh)	73,401.6	88,346.94
	Total assets (RMB'000)	220,888,499	217,801,358
	Total tax payment (RMB'000)	1,228,041	1,116,185
	Nuclear power plants in operation(MW)	11,624	14,918
Nuclear Safety	Nuclear power generating units in operation (unit)	11	14
	Percentage of advanced value achieved for WANO indicators of mature units	62.6%	65.3%
	unplanned reactor shutdown	0	0
	level 2 or above nuclear events (time)	0	0
	External operation accident (time)	0	0
		11	9
Personal Safety	Death (person)	2	0
	Serious injury (person)	2	0
Fire Safety	Fire hazards (case)	0	0
Radiation Protection	Accidental overexposure (case)	0	0
	Loss of radioactive sources (case)	0	0
	Internal contamination accident (case)	0	0

### Environmental Responsibility



Three Wastes Discharge								
Indicator	Daya Bay Base (including Daya Bay Nuclear Power Station, Ling'ao Nuclear Power Station and Lingdong Nuclear Power Station)		Yangjiang Nuclear Power Station		Ningde Nuclear Power Station		Hongyanhe Nuclear Power Station	
	2014	2015	2014	2015	2014	2015	2014	2015
Discharged liquid radioactive waste (radionuclides other than tritium) as a percentage of the national standards	0.162%	0.21%	0.068%	0.5%	0.55%	0.24%	0.84%	0.47%
Discharged gas radioactive waste (inert gases) as a percentage of the national standards	0.133%	0.133%	0.127%	0.18%	0.15%	0.53%	0.176%	0.144%
Solid radioactive waste (m <sup>3</sup> )	367.2	317.6	0	24.4	100	149.6	125.8	183.1
Results of environmental monitoring	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal

### Social Responsibility



Project	Indicator	2014	2015
Employee Care	Total employees (number)	9,717	11,787
	Percentage of female employees	8.64%	8.67%
	Training time per employee (hour)	113	122
	New employees (number)	1,324	1,014
Harmonious Community	Education surcharge payment (in RMB one hundred million)	1	1.3
	Volunteer service (times)	Approximately 15,000	Approximately 10,000
	Visitors received in nuclear science exhibition halls (in one thousand visits)	Approximately 20	Approximately 25

# Feedback Form

Dear readers,

Thanks for reading the Environmental, Social and Governance Report of CGN Power Co., Ltd. for 2015 during your busy time. In order to better meet your needs and 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 advices on this report. You can mail, e-mail after scanning or fax the completed feedback form back to us, or directly call us to express your opinions. Thank you!

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

	Very good	Good	Fair	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 Report?



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