



国家电网有限公司  
**STATE GRID**  
CORPORATION OF CHINA

**2017**

**CORPORATE  
SOCIAL  
RESPONSIBILITY  
REPORT**

**Remain true to our aspiration and keep our mission firmly in mind in the new era. This CSR report is dedicated to illustrating our aspiration, action, and performance in maximizing its integrated value, promoting the sustainable development, as well as our implementation of social responsibilities in 2017 and missions, strategies and responsibilities in the new era.**

**Statement**

State Grid Corporation of China (State Grid) declares that all information within this CSR report is substantiated, balanced, and comprehensive. It systematically illustrates State Grid's aspiration, action, performance, commitment and future improvement in terms of maximizing the integrated economic, social and environmental value. We hereby ensure the authenticity, objectivity and promptness of this CSR report. We hope, by means of publishing the CSR report, to strengthen the communication with our stakeholders and the society in general, establish mutual trust and cooperation based on the same value recognition, and promote sustainable development.

February 2018



2005 – 2017

State Grid CSR Report





The 19<sup>th</sup> CPC National Congress of the Communist Party of China is a meeting of great importance taking place during the decisive stage in building a moderately prosperous society in all respects and at a critical moment as socialism with Chinese characteristics has entered a new era. The 19<sup>th</sup> CPC National Congress extensively addressed major theoretical and practical issues in sticking to and developing socialism with Chinese characteristics in the new era, launched the blueprint for securing a decisive victory in building a moderately prosperous society in all respects and striving for the great success of socialism with Chinese characteristics for a new era and set the direction for the development of the country and the Party.

The most important theoretical output and historic contribution of the 19<sup>th</sup> CPC National Congress is the official launch of the Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era. Xi Jinping Thought has been included in the Constitution of CPC as the long-term guidance of the CPC. It is of great practical and far-reaching historic significance for winning the great struggle, building the great project, promoting the great cause and realizing the great dream.

### Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era

The Thought on Socialism with Chinese Characteristics for a New Era builds on and further enriches Marxism-Leninism, Mao Zedong Thought, Deng Xiaoping Theory, the Theory of Three Represents, and the Scientific Outlook on Development. It represents the latest achievement in adapting Marxism to the Chinese context and encapsulates the practical experience and collective wisdom of the CPC and the people. It is an important component of the system of theories of socialism with Chinese characteristics, and a guide to action for all our members and all the Chinese people as we strive to achieve national rejuvenation. This Thought must be adhered to and steadily developed on a long-term basis.

#### The Thought on Socialism with Chinese Characteristics for a New Era makes the following things clear

- 1 It makes clear that the overarching goal of upholding and developing socialism with Chinese characteristics is to realize socialist modernization and national rejuvenation, and, that on the basis of finishing the building of a moderately prosperous society in all respects, a two-step approach should be taken to build China into a great modern socialist country that is prosperous, strong, democratic, culturally advanced, harmonious, and beautiful by the middle of the 21<sup>st</sup> century.
- 2 It makes clear that the principal contradiction facing Chinese society in the new era is that between unbalanced and inadequate development and the people's ever-growing needs for a better life. We must therefore continue commitment to our people-centered philosophy of development, and work to promote well-rounded human development and common prosperity for everyone.
- 3 It makes clear that the overall plan for building socialism with Chinese characteristics is the five-sphere integrated plan, and the overall strategy is the four-pronged comprehensive strategy. It highlights the importance of fostering stronger confidence in the path, theory, system, and culture of socialism with Chinese characteristics.
- 4 It makes clear that the overall goal of deepening reform in every field is to improve and develop the system of socialism with Chinese characteristics and modernize China's system and capacity for governance.
- 5 It makes clear that the overall goal of comprehensively advancing law-based governance is to establish a system of socialist rule of law with Chinese characteristics and build a country of socialist rule of law.
- 6 It makes clear that the Party's goal of building a strong military in the new era is to build the people's forces into world-class forces that obey the Party's command, can fight and win, and maintain excellent conduct.
- 7 It makes clear that major country diplomacy with Chinese characteristics aims to foster a new type of international relations and build a community with a shared future for mankind.
- 8 It makes clear that the defining feature of socialism with Chinese characteristics is the leadership of the Communist Party of China; the greatest strength of the system of socialism with Chinese characteristics is the leadership of the CPC; the Party is the highest force for political leadership. It sets forth the general requirements for Party building in the new era and underlines the importance of political work in Party building.

#### Everyone in the Party should stick to the following 14 principles

- 1 Ensuring party leadership over all work
- 2 Committing to a people-centered approach
- 3 Continuing to comprehensively deepen reform
- 4 Adopting a new vision for development
- 5 Seeing that the people run the country
- 6 Ensuring that governance is law-based
- 7 Upholding core socialist values
- 8 Ensuring and improving living standards through development
- 9 Ensuring harmony between human and nature
- 10 Pursuing a holistic approach to national security
- 11 Upholding absolute Party leadership over the people's armed forces
- 12 Upholding the principle of "one country, two systems" and promoting national reunification
- 13 Promoting the building of a community with a shared future for mankind
- 14 Exercising full and rigorous governance over the Party

Building a world-class Energy Intergrid Company under the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era



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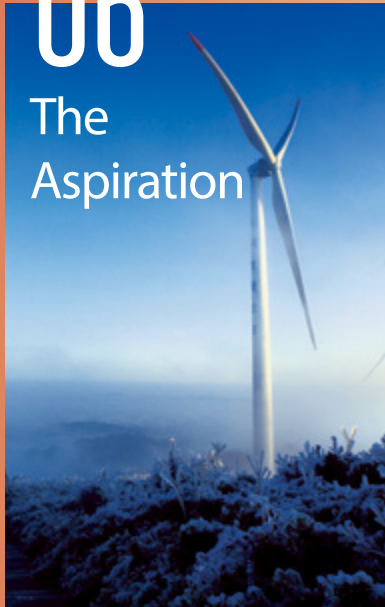
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## Report Overview

### The time frame covered by this report:

Jan. 1-Dec. 31, 2017. Certain part may go beyond this time frame.

### Reporting cycle:

State Grid's CSR Report is an annual report, usually released by the end of February the next year.

### Organizational coverage:

Sate Grid (Refer to "Corporate Profile" for organizational structure).

### Note on the data:

The data for 2017 used in this report are preliminary statistics. They may be slightly different from the final results. The data for 2016 are final statistics, part of which differs slightly from the 2016 CSR Report.

### Extended reading:

For information related to corporate governance, social responsibility management, stakeholder's participation mechanisms, indicator measurement and GRI report index, please visit the official website: [http://www.sgcc.com.cn/html/sgcc\\_main/col2017031221/column\\_2017031221\\_1.shtml](http://www.sgcc.com.cn/html/sgcc_main/col2017031221/column_2017031221_1.shtml).

### Language of the report and how to get a copy:

The CSR Reports are available in both Chinese and English, including paper and electronic versions. Please email [csr@sgcc.com.cn](mailto:csr@sgcc.com.cn) or call at 86-10-66598394 for a hard copy. Or you can download the report from our CSR website.

### Procedure for Report Preparation:

Please visit our CSR website for more details.

### References:

UN Sustainable Development Goals  
*Sustainability Reporting Guidelines* by Global Reporting Initiative

*Guidelines to the State-owned Enterprises Directly under the Central Government on Fulfilling Corporate Social Responsibilities* by SASAC

*Guidelines to State-Owned Enterprises on Better Fulfilling Corporate Social Responsibilities* by SASAC

GB/T 36001-2015 CSR Report Guide

*State Grid CSR Performance Guide*

*Guidance on Chinese Enterprises' Corporate Social Responsibility* by Research Center for Corporate Social Responsibility, Chinese Academy of Social Sciences

*CSR Guide for China's Industrial Enterprises and Industrial Associations* by China Industrial Economic Federation

*ISO 26000: Social Responsibility Guide (2010)* by International Organization for Standardization ISO

*AA 1000 Assurance Standards* by Accountability Institute, Britain

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## New Era

## New Reality

## New Action



Chairman Mr. Shu Yinbiao

邵迎彪



President Mr. Kou Wei

寇伟

## Messages from the Chairman and President

The year of 2017 has witnessed the successful 19<sup>th</sup> CPC national Congress and comprehensive implementation of the “13<sup>th</sup> Five-Year Plan”. In 2017, State Grid studied and followed the Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era and the spirit of the 19<sup>th</sup> CPC National Congress under the strong leadership of the Central Party Committee with President Xi Jinping at the core. State Grid achieved new progress and fruitful results in all aspects, successfully carried out the tasks assigned by the Central Party Committee and the State Council, demonstrating the importance of the “six forces” of state-owned enterprises and making great contribution to building a well-off society in all respects. State Grid was awarded A Class by State-owned Assets Supervision and Administration Commission (SASAC) for 13 consecutive years, and ranked 2<sup>nd</sup> on Fortune Global 500 for 2 consecutive years.

We have been loyal to the Party and kept highly consistent with the Central Party Committee with President Xi Jinping as the core. We strengthened the “four consciousness” and the “four confidence”, firmly safeguarded the authority and centralized leadership of the Central Party Committee and spared no effort to implement the strategies and instructions of the Central Party Committee and the State Council. Moreover, we integrated the leadership of the Party into corporate governance through adopting the “unified responsibility” system in which the Chairman of State Grid is also the Chairman of the Party Leadership Group to constantly improve the modern state-owned enterprise system with Chinese characteristics. We also comprehensively carried out the requirements of the central government on Party management and Party discipline to create a robust political and organizational bulwark for corporate reform and development.

We vigorously promoted reforms in energy production and consumption to provide secure and quality electric power for economic and social development. We also implemented the “four revolutions, one cooperation” energy strategy proposed by President Xi Jinping to promote the construction of power grids of all levels and improve the capability and efficiency of optimized resource allocation. State Grid successfully delivered the “four AC and four DC” UHV projects included in the National Air Pollution Prevention and Control Action Plan and Jiuquan—Hunan and Zhalute—Qingzhou UHV projects. Besides, State Grid also took multiple measures to serve the

development of renewable energy, bringing down both the volume and percentage of wind and PV curtailment and realized 100% clean energy power supply in Qinghai for 7 consecutive days, finished the “Replacement of Coal by Electricity for heating” for a total of 1.99 million households in North China, expanding the use of electricity for heating in 500 million square meters, and successfully completed the task of securing power supply for major events such as the 19<sup>th</sup> CPC National Congress and disaster-relief for the earthquake in Jiuzhaigou. Currently, our ultra-large grid has the world’s greatest transmission capacity, largest integration of renewable energy and the highest level of security.

Giving full play to the role of electric power as a driver to economic growth, State Grid has been actively facilitating efforts to fight against poverty, promote the rejuvenation of rural areas and achieve coordinated development across regions. State Grid finished the new round of rural grid augmentation three months ahead of schedule with a human-oriented approach, benefiting 160 million rural residents, including 29 million people in poverty. State Grid also vigorously implemented targeted PV poverty alleviation and explored a replicable and universally applicable path of poverty alleviation through the development of electric power that ensures targeted and accurate power services in all villages with long-term, stable benefits. Besides, State Grid also carried out President Xi Jinping’s strategy on the governance and rejuvenation of border and remote areas through the construction of the world’s highest and most complicated plateau power transmission and transformation project—Central Tibet Interconnection Project, speeding up the improvement of the 750kV backbone grid in South Xinjiang and serving the development of Xiongan New District for coordinated development of Beijing, Tianjin and Hebei.

State Grid facilitated maintenance and appreciation of state-owned assets through reform and innovation. We carried out the reform of transmission and distribution tariff on provincial levels, opened up power market and investment in incremented power distribution and established an integrated power market composed of national and provincial levels with more than 30% of power being traded, saving 73.7 billion RMB for power users on an annual basis. State Grid also carried out instructions of the Central Government on state-owned enterprise reforms and completed the enterprise restructuring, enabling vigor and vitality of institutions systems. State Grid also developed the world’s largest Smart Service Platform for Internet of Electric Vehicles (EVs) with a total of 170,000 charging piles integrated. It actively developed new business and new models, such as comprehensive energy services e-commerce and PV cloud network. State Grid was selected as one of the second batch of national pilot bases for mass innovation and entrepreneurship and led the development of “Science and Technology Innovation 2030” smart grid project. State Grid won special prize in National Award for Science

and Technology Progress and ranked on top among central state-owned enterprises in terms of the number of patents and number of patent applications for 7 consecutive years.

State Grid made full use of its resources to serve the development of the “Belt and Road” with new breakthroughs. It steadily promoted the M&A of overseas quality energy infrastructure and completed the transfer of shares of CPEL Brazil and ADMIE with an aggregated investment of 19.6 billion US Dollars and a total overseas asset of 60 billion US Dollars. State Grid also deepened international cooperation on production capacity with contract value of about 40 billion US Dollars. The operation of the first phase of Belo Monte hydropower project is a good example of “China quality” and “China speed”. Moreover, State Grid led the development of 47 international standards. With increasing international influence, State Grid became the chair of B20 China last year.

State Grid grows with its employees. We own a great team with dedication, integrity and responsibility. State Grid strengthened the development and selection of young leaders to unleash their potentials, emphasized the construction of local teams, valued the innovation of employees and cared for their well-beings. State Grid also promoted the spirit of role models and craftsmanship. In the construction of power grids, reform and innovation, safe power supply, disaster relief and other major tasks, our teams showed great quality of discipline, hard-working, diligence and faith in face of difficulties and adversities.

The 19<sup>th</sup> CPC National Congress depicted the great blueprint of realizing the Two Centenary Goals, starting a new journey in turning China into a modern strong socialist country in all respects. The Central Economic Work Conference clarified the requirements for developing clean energy and deepening the reform of state-owned enterprises to promote high-quality development. These major decisions of the Central Party Committee and the State Council pointed out the direction and provided the guidelines for State Grid to embrace the new era, demonstrate new responsibilities and achieve new progress.

The year 2018 is the start to implement the decisions of the 19<sup>th</sup> CPC National Congress. State Grid will carefully implement the decisions and policies of the 19<sup>th</sup> CPC National Congress and the Central Economic Work Conference to seek for the truth and make real progress to play a pioneering and demonstrative role in building a beautiful China and delivering real benefit for the people. In 2018, State Grid will carry on our mission to become a world-class energy intergrid company to make greater contributions for prosperous society and striving for the great success of socialism with Chinese characteristics for a new era and to write its own splendid chapter in history.

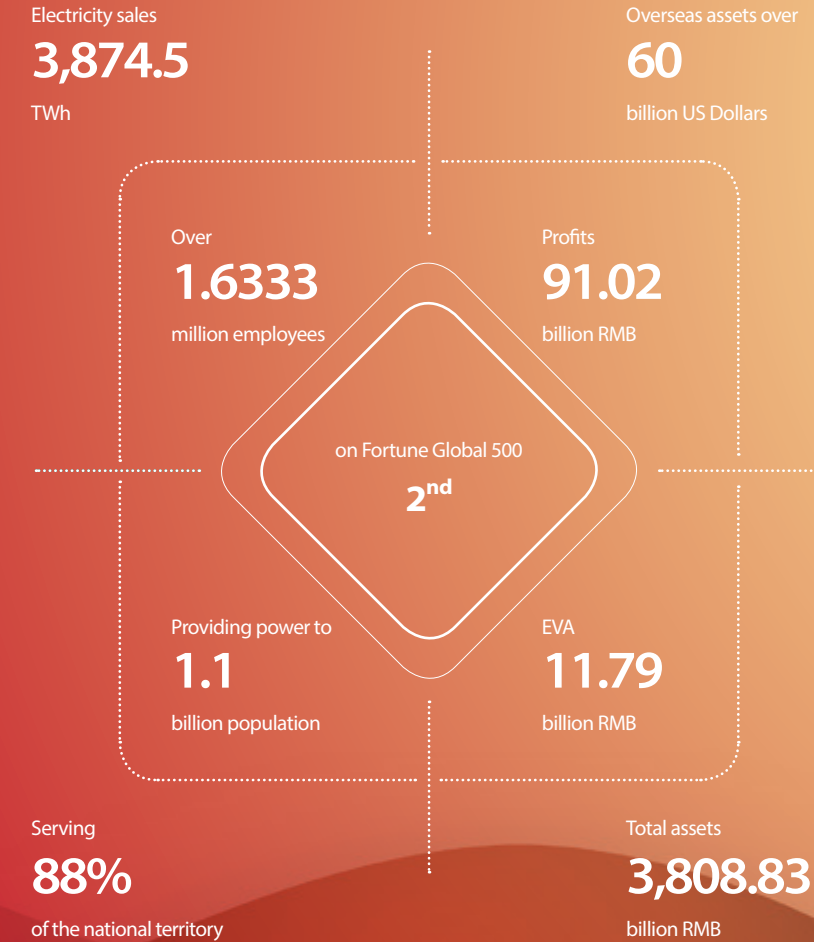


# Corporate Profile

As a state-owned company established on December 29, 2002, State Grid takes the investment, construction and operation of power grids as core business. We are committed to re-electrification and energy connectivity, meeting the power demand with clean and green alternatives. State Grid supplies power to over 1.1 billion population in 26 provinces, autonomous

regions and municipalities, covering 88% of Chinese national territory.

As the largest public utility in the world, with a registered capital of 829.5 billion RMB and assets of 3808.83 billion RMB, State Grid also owns and operates overseas assets in the Philippines, Brazil, Portugal, Australia, Italy and Greece etc.



## Honors and Prizes for CSR Fulfillment in 2017

- 2<sup>nd</sup> on Fortune Global 500
- 1<sup>st</sup> Place of Chinese Top 500 Most Valuable Brands
- 1<sup>st</sup> Place of Top 500 Chinese Service Enterprises for 13 consecutive year
- A-Class enterprise by State-owned Assets Supervision and Administration Commission (SASAC) evaluation on operation performances for 13 consecutive years
- A-class financial performance by SASAC for 7 consecutive year
- Being awarded the National Sovereign Credit Rating by three major international rating agencies for 5 consecutive years
- “UHV±800kV DC Power Transmission Project” won Special Prize of the National Award for Science and Technology Progress
- The National Wind/PV/Energy Storage and Transmission Joint Demonstration Project won Outstanding Project of China Quality Award
- 1<sup>st</sup> Prize of 2017 China Electric Power Science and Technology Progress Award
- 208 projects won 2017 Power Innovation Award
- 2 Gold Awards of the China Patent Award
- 3 projects won 1<sup>st</sup> Prize of National Corporate Governance Modernization Innovation
- Being approved to build the National Technological Standard Innovation Base
- National Model for Corporate Information Publication and Domestic Governance
- 88 subsidiaries of State Grid were selected as National Outstanding Organizations; 7 achievements were selected as National Outstanding Achievements of Corporate Culture Construction; 3 employees were selected as National Moral Models
- 3 subsidiaries of State Grid won National Labor Day Medal; 20 individual employees won National Labor Day Medal; 36 organizations won National “Labor Pioneer Award”
- State Grid Sunshine Poverty Alleviation Action won China Energy Poverty Alleviation Special Contribution Award
- 2017 China Outstanding Enterprise in the Fulfillment of CSR
- Five-star Enterprise of CSR Implementation among Chinese Industrial Companies
- Evergreen Award of GoldenBee of 2013—2016 CSR Report
- 2017 “Chinese Enterprise Best Practice”

## The Headquarters

- Administration Office (Board Office)
- General Office
- Strategic Research Office
- Dept. of Development and Planning
- Dept. of Finance & Assets
- Dept. of Safety & Quality Supervision
- Dept. of Operation & Maintenance
- Dept. of Marketing (Dept. of Rural Electrification)
- Dept. of Science and Technology (Global Energy Interconnection <GEI> Office)
- Dept. of Project Construction
- Dept. of AC Transmission Management
- Dept. of DC Transmission Management
- Dept. of Information and Communication Technology
- Dept. of Procurement (State Grid Bidding Management Center)
- Dept. of Affiliates Management
- Dept. of Public Relations (State Grid Brand Building Center)
- Dept. of International Cooperation
- Dept. of Auditing
- Dept. of Legal Affairs
- Dept. of Personnel
- Dept. of Human Resources
- Restructuring Office
- Dept. of Retirement Affairs
- Dept. of Logistics
- Dept. of Corporate Culture
- Compliance Office
- Labor Union
- National Power Dispatching & Control Center
- State Grid Operation Monitoring (Control) Center
- Association of Enterprise Management

Beijing Power Exchange Center Co., Ltd

## Branches

- |                                   |                                     |
|-----------------------------------|-------------------------------------|
| 1 State Grid North China Branch   | 4 State Grid Northeast China Branch |
| 2 State Grid East China Branch    | 5 State Grid Northwest China Branch |
| 3 State Grid Central China Branch | 6 State Grid Southeast China Branch |

## Provincial Companies

- State Grid Beijing Electric Power Company
- State Grid Tianjin Electric Power Company
- State Grid Hebei Electric Power Co.,Ltd
- State Grid Jibei Electric Power Co.,Ltd
- State Grid Shanxi Electric Power Company
- State Grid Shandong Electric Power Company
- State Grid Shanghai Electric Power Company
- State Grid Jiangsu Electric Power Co.,Ltd
- State Grid Zhejiang Electric Power Co.,Ltd
- State Grid Anhui Electric Power Co.,Ltd
- State Grid Fujian Electric Power Co.,Ltd
- State Grid Hubei Electric Power Co.,Ltd
- State Grid Hunan Electric Power Co.,Ltd
- State Grid Henan Electric Power Company
- State Grid Jiangxi Electric Power Co.,Ltd
- State Grid Sichuan Electric Power Company
- State Grid Chongqing Electric Power Company
- State Grid Liaoning Electric Power Co.,Ltd
- State Grid Jilin Electric Power Co.,Ltd
- State Grid Heilongjiang Electric Power Co.,Ltd
- State Grid East Inner Mongolia Electric Power Co.,Ltd
- State Grid Shaanxi Electric Power Company
- State Grid Gansu Electric Power Company
- State Grid Qinghai Electric Power Company
- State Grid Ningxia Electric Power Co.,Ltd
- State Grid Xinjiang Electric Power Co.,Ltd
- State Grid Tibet Electric Power Co.,Ltd

## Other Subsidiaries

- GEI Group Co.,Ltd
- State Grid International Development Co., Ltd
- Luneng Group Co., Ltd. (Duchengweiye Group Company)
- NARI Group Corporation (State Grid Electric Power Research Institute)
- State Grid Information & Telecommunication Technology Group Co., Ltd.
- State Grid Electric Vehicle Service Co., Ltd
- State Grid E-commerce Co., Ltd.
- China Electric Power Equipment and Technology Co.,Ltd(State Grid Project Management Company)
- State Grid Xin Yuan Co., Ltd. (State Grid Xin Yuan Hydropower Co., Ltd.)
- State Grid General Aviation Co., Ltd.
- State Grid Supply Chain Management Co., Ltd.
- Yingda Media Investment Group Co., Ltd.
- State Grid Energy Conservation Service Co., Ltd.
- State Grid Zhongxing Co., Ltd.
- State Grid XJ Group Corporation
- Pinggao Group Co.,Ltd
- Shandong Electric (Power Equipment and Technology )Co.,Ltd
- State Grid Operation Company
- State Grid DC Engineering Construction Company
- State Grid AC Engineering Construction Company
- State Grid Information & Telecommunication Technology Company
- State Grid Call Center
- China Electric Power Research Institute
- State Grid Economical and Technological Research Institute Co.,Ltd
- State Grid Energy Research Institute Co.,Ltd
- Global Energy Interconnection Research Institute
- State Grid Management Academy (State Grid CPC School)
- State Grid Advanced Training Center
- State Grid Institute of Technology (State Grid Youth League School)
- State Grid Yingda International Holdings Group Ltd.
- China Power Finance Co., Ltd.
- Yingda Taihe Property Insurance Co., Ltd.
- Yingda Taihe Life Insurance Co., Ltd.
- Yingda Chang'an Insurance Brokers Group Co., Ltd.
- Yingda International Trust Co., Ltd.
- Yingda Securities Corporation Ltd.
- State Grid International Finance Leasing Co., Ltd
- State Grid Overseas Investment Co., Ltd



# The Aspiration

Responsibility, Mission, Strategy

## Our Identity

Leader of global energy revolution, Pioneer in serving the people and the nation

## Our Mission

Promoting re-electrification, Building Energy Interconnection, Meeting power demand with clean and green alternatives

## Our Tenet

Power utility by the people and for the people

## Development Philosophy

Safe, quality, affordable, green and efficient

## Core Values

Customer-oriented, Professional and dedicated, Ever-improving

## Corporate Spirit

In search of excellence, in pursuit of outperformance

## Strategic Goal

Building a world-class energy intergrid company

## Strategic Steps

- 2020
- Building up a modernized corporation with “A strong power grid with excellent Assets, Services and Performance”; making major progress in building a world-class energy intergrid company
- 2025
- Basically building a world-class energy intergrid company
- 2035
- Building a world-class energy intergrid company in all respects

## Guiding Principle

### Six Commitments

- The Way to Success

Committing to the leadership of the Party, implementing the decisions and policies of the Central Party Committee and the State Council and forging an employee-oriented enterprise.
- The Action of Responsibility

Committing to re-electrification, building energy interconnection and meeting power demand with clean and green alternatives for energy production and consumption revolution.
- The Foundation of Management

Committing to conglomeration, centralization, standardization, streamlization, digitalization and internationalization development, becoming a more competitive modern state-owned enterprise.
- Original Aspiration

Committing to the tenet of power utility by the people and for the people to promote the corporate core values of being customer-oriented, professional and dedicated, Ever-improving.
- Key to a Solid Foundation

Committing to building up a strong & smart grid with UHV grid as the backbone and coordination among power grids of all levels to foster an extensive&interconnected, smart & interactive, flexible&resilient,secure&controllable new generation power system.
- An Inevitable Approach

Committing to quality development, focusing on “one core, three pillars” Strategy (grid business,manufacturing, finance and international business) to strengthen reform, innovation, service and culture .

## Strategic Thinking

### Eight Highlights

- 1quality development of power grids
- 2quality development of the company
- 3development of clean energy
- 4a customer-oriented approach
- 5serving the development of the “Belt and Road” Initiative
- 6deepening the supply-side structural reform
- 7promoting technical innovation
- 8highlighting the leadership of the Party



## The Action

# Party Building



Holding the banner high,  
to reach new peak within  
three years





Studying and implementing the Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era and the Spirit of the 19<sup>th</sup> CPC National Congress

Learning, understanding and practicing

The Party Leadership Group of State Grid regards studying, promoting and implementing the Spirit of the 19<sup>th</sup> CPC National Congress as the top political task of State Grid for the time being and the near future through emphasizing the exemplary role of leaders to carry out the Spirit on all levels. State Grid needs to make special efforts in “ten deep understanding”, “six focus” and “five full coverage” for thorough research, deep understanding and concrete action, so that we can use the Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era to equip ourselves, guide our practice and promote our work. Executives of State Grid went to local branches to communicate with local staff and leaders of different levels also organized different forms of promotion and research activities based on local circumstance. Party committees on all levels also actively promoted the Spirit of the 19<sup>th</sup> CPC National Congress in local branches, factories and stations, leading a wave of studying and promoting the implementation of the Spirit of the 19<sup>th</sup> CPC National Congress.



▲ Shu Yinbiao, Chairman of State Grid elaborating the Spirit of the 19<sup>th</sup> CPC National Congress



▲ Kou Wei, President of State Grid, elaborating the Spirit of the 19<sup>th</sup> CPC National Congress



▲ The Seminar on Studying and Implementing the Xi Jinping Thought on Socialism with Chinese Characteristics and the Spirit of the 19<sup>th</sup> CPC National Congress was held in December 2017

Organizing the study on the Spirit of the 19<sup>th</sup> CPC National Congress in local branches, factories and stations

State Grid has organized more than 16,670 centralized promotions

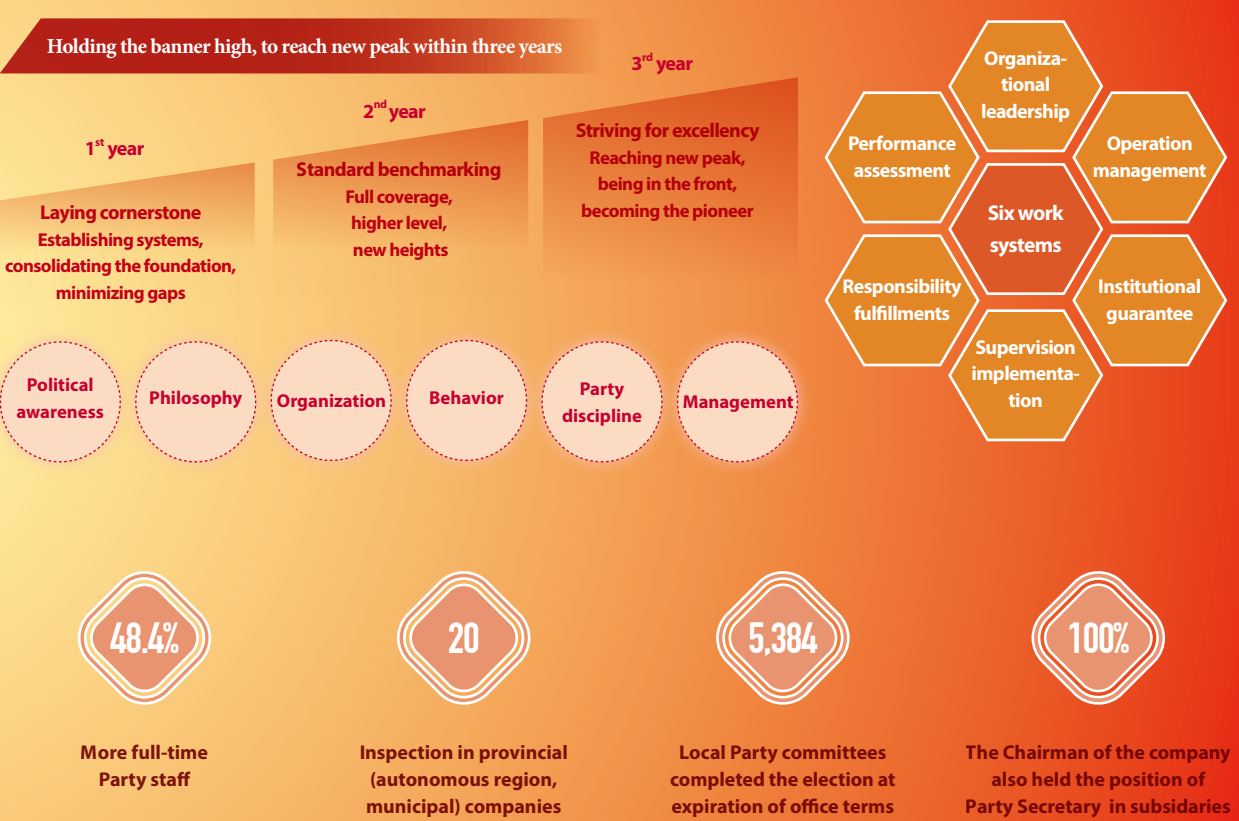
State Grid has organized 36,627 centralized study activities

State Grid has organized more than 13,370 theme Party Classes

With 100% participation rate

Comprehensively strengthening Party building

We consolidated the “Four Consciousness” and the “Four Confidence” to comprehensively promote the political, theoretical, organizational, behavior and discipline construction of the Party with institutional construction being embedded in the process. We implemented the plan to “Holding the banner high, to reach new peak within three years” in Party building and regularized and institutionalized studies on the theoretical and practical issues of Party building. We made continuous efforts to implement the eight-point guidelines to improve the management and value creation capability of Party-building, foster loyal, upright and responsible officials and constantly enhance the creativity, cohesiveness and strength of the Party.





## Strengthening the leadership of the Party

State Grid followed the requirements of seeing Party self-governance exercised fully and with rigor, attached equal importance to theoretical and institutional improvements in Party building and governance, identified and carefully implemented 60 key tasks, regularized and institutionalized studies on the theoretical and practical issues of Party building and implemented the plan to “Holding the banner high, to reach new peak within three years” in Party building to establish the “six major work mechanisms” and “Six-in-One” Party building system. We included Party building in corporate rules at all levels to clarify the duty and responsibility of the Party Committee and the Board of Directors, executives and the Board of Supervisors. The Party Committee organized research and discussion before making corporate decisions. State Grid established Party building leadership groups on all levels and realized the “Chairman of the company also held the position of Party Secretary in subsidiaries”. We carefully implemented the Party-building responsibility system and organized the first assessment work report on Party building among chairmen of Party Committees on all levels and comprehensive Party building performance assessment throughout the Corporation. We also strengthened the construction of Local Party Committees and comprehensively established the rules of Party governance and organized elections in 5384 Party Committees, replacing all unqualified officials.

## Building good conduct and political integrity

State Grid continued to fight against undesirable work styles, such as formalism, bureaucracy, hedonism and extravagance, in line with the eight-point guidelines issued by the CPC leadership and gave full play to inspection through organization internal inspection in 20 companies. During the inspections, 2101 problems were identified and solved, 2226 rectification measures were proposed and 415 systems were established. In the meantime, 60 companies also organized inspection in secondary subsidiaries. State Grid supported the State-owned Assets Supervision and Administration Commission of the State Council to organize the special action to supervise the solving of problems identified by the central discipline inspection team to ensure that concrete measures are taken to solve problems. State Grid integrated strict Party-discipline with law-based corporate governance to improve the corruption risk prevention and control mechanism and the establishment of a “zero-corruption” institution and system. We managed to ensure that Party committees of all levels take their own responsibility in building good conduct and political integrity, signed contracts with Party members to promote building good conduct and political integrity and worked out the list of responsibilities and duties. We also organized Party-building and work performance integrated assessment to hold those failing to perform their duties in building good conduct and political integrity accountable to urge related parties to carry out their duties and responsibility.

## Strengthening the construction of Local Party Committees and Party members

**We need to implement primary political task and promote the study of the spirit of the 19<sup>th</sup> CPC National Congress.** State Grid launch the Announcement and Suggestion for staying the Spirit of the 19<sup>th</sup> CPC National Congress and carry out 50 concrete measures. State Grid also needs to organize trainings for people in charge of Local Party Committees to promote comprehensive study and discussion. State Grid leaders take the lead to strengthen studies on the spirit of the 19<sup>th</sup> CPC National Congress, give lectures on Party-building, organize discussions and oversee the implementation of measures and policies. They visit Local Party Committees to promote the spirit of 19<sup>th</sup> CPC National Congress and share their understanding of Party-building with all Party members. Party Committees of all levels organized more than 3700 lectures and 30,000 centralized Party classes. More than 1 million employees participated in the online knowledge contest on the spirit of the 19<sup>th</sup> CPC National Congress, which demonstrates that Party-building has been carried out throughout State Grid.

**Strengthening accountability to safeguard the effective implementation of the accountability system of the Party-building.** State Grid worked out detailed plans on the implementation of the accountability system, launched 20 detailed rules and regulations for implementation and the *Party-building Performance Evaluation and Assessment Measures* to improve the accountability system of Party-building from top to bottom. State Grid also organized centralized inspection of the problem of marginalizing and underestimating the importance of Party-building and Party leadership and made a list concerning problems in 6 aspects. The Headquarters urged related companies to come up with concrete measures to solve their own problems. State Grid also organized evaluation of Party Committee Chairman's Report on Party-building in 62 subsidiary companies for the first time, which significantly promoted the implementation of the accountability system in Party-building.

**Improving organizational construction to ensure the implementation of Party-building measures across the Corporation.** All companies are required to include Party-building into their corporate charters and clarify the legal status of Party committees of all levels. Under the guidance of the “Super Party-building” framework, State Grid asked all subsidiary companies to establish leadership groups on Party-building and form a new work mechanism with regularized studies on Party-building, regulated and improved the institutional settings of Party Committee Office, Organizational Department and Party-building Department of all levels, which substantially improved the capability of Party-building. State Grid also promoted organizational construction and general election, transformed the Party Leadership Group to Party Committee in 57 companies and supervised 306 Party committees and 5078 Party branches (general branches) to organize elections to ensure that those who are

the most capable take the hob. In 2017, State Grid carried out election in Party committees directly under the leadership of the Headquarters to make their Party-building efforts more effective.

**Stressing institutional construction to improve the systems of Party-building.** State Grid followed the requirement of institution-based Party-building and took the lead to launch *Work Regulations for Local Party Committees* among state-owned central enterprises, which clarifies the rules of discussion and the procedures of decision-making to safeguard the effective implementation of domestic centralism. State Grid worked out a series of basic rules and regulations on Party-building to speed up the establishment, revision and abandonment of regulations on Party-building in Party committees under the direct leadership of the Headquarters, including Detailed Rules on Organizing Theoretical Studies on Party-building in Party Committees and Work regulation for Local Party Committees. The Corporation also organized trainings on organizational systems, rules and regulations to oversee the rigid execution of rules and regulations, the operation of Party committees and the development of Party members on all levels

to ensure system-based and regulation-based Party member development, education, supervision and management. Besides, a new Party-building platform has been established with the launch of the State Grid Party-building Information Management System.

**Strengthening the development of Party members.** State Grid promoted institutionalized and regularized studies on the theoretical and practical issues of party building to implement the requirements of the central government and State Grid Party Leadership Group with special emphasis on routine education and centralized training of party members to guide party members to strengthen “four awareness”, build up “four confidence” and fulfill “four qualification”. State Grid took concrete measures to ensure that Party committees and Party members of all levels take their responsibilities to play a leading role in undertaking key tasks, including ensuring power supply during the 19<sup>th</sup> CPC National Congress, the construction of major projects and cutting-edge S&T innovation. The Corporation also organized theme activities to promote Party-building, established 4202 Party Service Teams, 56,000 Party Member Responsibility Zones and 67,000 Party Member Demonstration Positions to ensure that important posts are taken

by Party members, backbone employees are Party members and the presence of Party members on crucial moments.

**Stressing the demonstrative role of Party members to form synergy.** State Grid strengthened theoretical studies and promotion through organizing the theme activity of “Five Years of Unremitting Efforts” and “Under the Leadership of the Shining Party Emblem” to strengthen the construction of spiritual civilization and corporate culture and spur the intuitiveness of Party members. State Grid also undertook major Party-building projects of the Organization Department of the Central Committee of the CPC and State-owned Assets Supervision and Administration Commission of the State Council, contributing wisdom to Party-building in central enterprises, demonstrating corporate value and improving the image of State Grid. State Grid also used Party-building to lead Youth League-building through organizing a series of skill contests among young employees and “Youth Brightness Tour” Volunteer Service and holding the 3<sup>rd</sup> Youth Innovation and Creativity Competition with 6000 innovation and creativity projects being hatched, creating an economic value of nearly 230 million RMB.





# Quality Development



Ensuring reliable, modern energy services for all; expanding infrastructure construction and providing sustainable and modern energy services for all by technical innovation.

Gradually improving the efficiency of energy use in consumption and production to disconnect economic growth and environmental degradation.

Developing quality, reliable, sustainable and resilient infrastructure; upgrading existing infrastructure to improve the efficiency of energy use.

7 Affordable and Clean Energy



8 Decent Work and Economic Growth



9 Industry, Innovation and Infrastructure





Putting transformation  
(converting) capacity  
into operation

**350**  
GVA (GW)

Putting transmission line  
over 110 (66) kV  
into operation

**55**  
thousand kilometers

In 2017

## Seizing the principle of grid development

Building a strong and smart grid with UHV grids as the backbone with coordinated development of power grids at all levels, establishing a safe, green, efficient and smart new-generation electric power system, building an energy interconnection that is flexible and integrated, interacted and extensively interconnected. State Grid has been actively promoting the safe development of power grids and has built the world's largest power grid in terms of transmission capacity, level of safety and installed capacity of renewable energy. State Grid will continue to promote the safe, green, coordinated and smart development of power grids and coordinate the development of power grids at all levels for better resource allocation, supply reliability, smart interaction and intrinsic safety.

## Building World-Class UHV Transmission Projects

**UHV power grid benefits all.** It could significantly improve the capability of resource allocation, promote the intensive development of renewable energy, address the challenge of energy scarcity, facilitate air pollution prevention and control in Eastern and Central China, build a Power Silk Road, secure power supply during peak hours in summer and aid the development of western China with significant social and economic benefits.

**Breakthroughs have been made in UHV power grids.** State Grid successfully produced the world's first  $\pm 1100\text{kV}$  UHV DC wall bushing and put into operation the world's first  $1100\text{kV}$  AC filter bank circuit breaker through independent R&D. It also promoted multiple technological breakthroughs in GIL integrated corridor, 3D digital design and UHV AC composite transverse load.

## Coordinating the Integrated Development of Power Grids on All Levels

**State Grid made comprehensive plans for the development of power grid in China.** State Grid completed rolling optimization during the "13<sup>th</sup> Five-Year Plan", made plans for grid retrofit and upgrade in small towns and improved rural and urban power distribution networks. State Grid further strengthened scientific and targeted investment supervision and control, held meetings and signed strategic cooperation agreement with 8 provinces (autonomous regions and municipalities) and steadily promoted the delivery and reception of power supply facilities of state-owned enterprises.

**State Grid promoted the coordinated development of power grids of all levels.** State Grid made detailed plans for lean management to promote the classified and stratified management of key projects, optimize, improve and build coordination systems and strengthen the application of infrastructure information system. State Grid also promoted "Dynamic Power to All Villages", "Power to All Wells", small town (central village) grid augmentation and the construction of affiliate grid for the "Replacement of Coal by Electricity for heating" in key areas of Beijing, Tianjin and Hebei.

**class power distribution networks.** State Grid promoted the construction of world class urban power distribution networks in 10 cities including Beijing and Shanghai according to the special plan of building "world-class urban power distribution networks". It is expected that by 2020, the performance of major indicator could reach advanced international standard with a safe, reliable, quality, efficient, green, low-carbon, smart and interactive world-class urban distribution networks having been basically established.

**State Grid planned the construction of power grid in Xiong'an New District.** Aiming at building green, smart and strong power grid, State Grid worked out the detailed plan on power grid construction in Xiong'an New District in a scientific and quality manner that organically integrates with the New District development plan and launched the plan on power and telecommunication networks in Xiong'an New District. State Grid also accelerated the establishment of the power supply company in Xiong'an New District according to the highest international standard with full consideration to the development of the New District.

State Grid promoted the construction of world



Coordinated development of grids at all levels

In our service area  
"8 AC and 10 DC" UHV projects into operation

- 1000 kV UHV AC projects
- Jindongnan—Nanyang—Jingmen
  - Zhebei—Fuzhou
  - Ximeng—Shandong
  - Mengxi—Tianjinnan

- Huainan—Zhebei—Shanghai
  - Huainan—Nanjing—Shanghai
  - Shengli—Ximeng
  - Yuheng—Weifang

- ±800kV UHV DC projects
- Xiangjiaba—Shanghai
  - Jinping—Sunan
  - Haminan—Zhengzhou
  - Xiluodu—Zhexi
  - Shanghaiimiao—Shandong

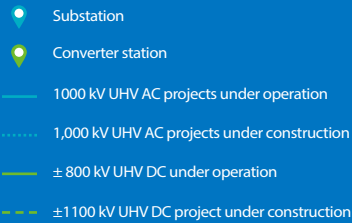
- Ningdong—Zhejiang
  - Jiuquan—Hunan
  - Jinbei—Jiangsu
  - Ximeng—Taizhou
  - Zhalute—Qingzhou

"Three AC and One DC" UHV projects approved and under construction

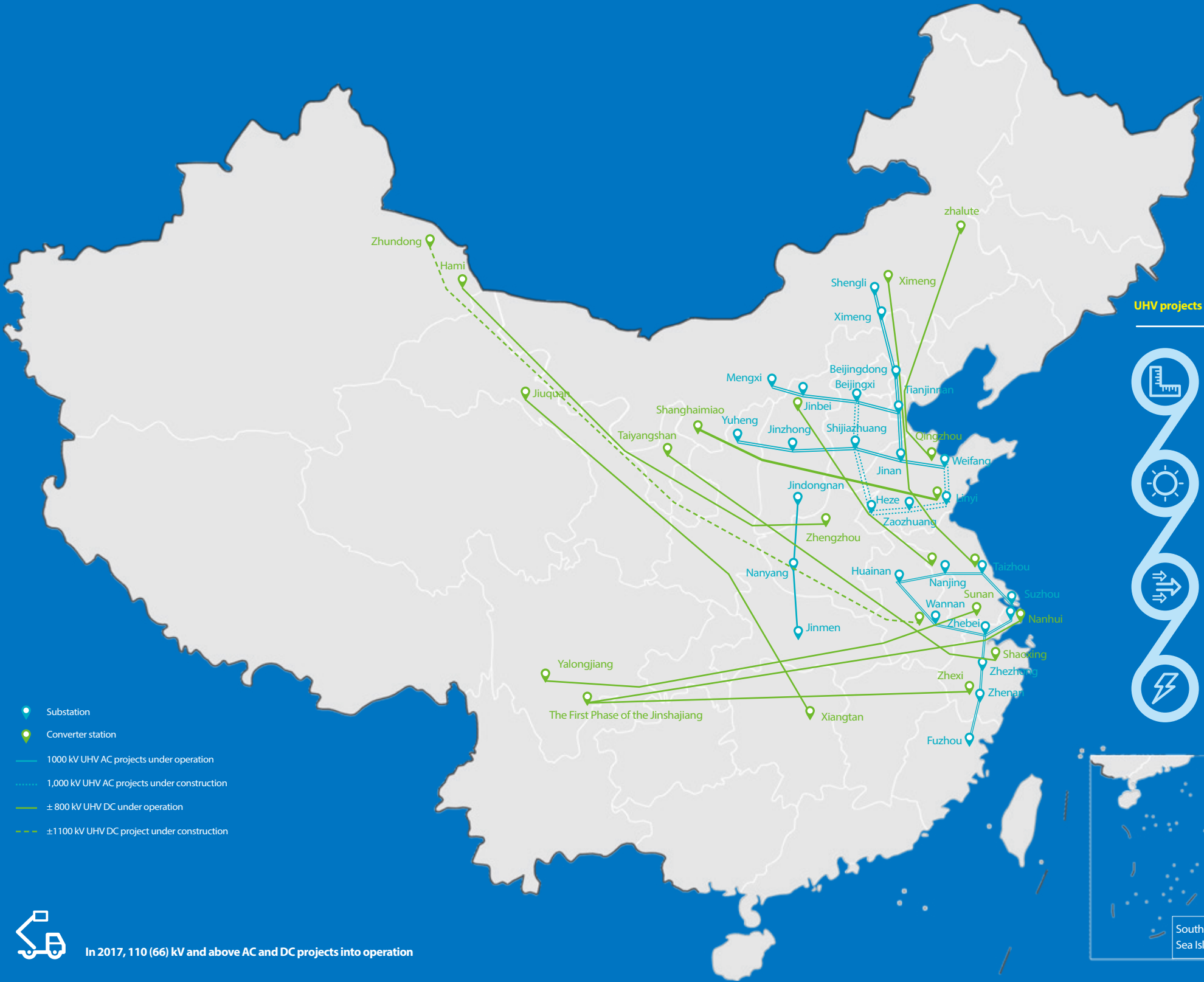
- 1000 kV Su—Tong GIL Integrated Pipeline Project
- 1000 kV Beijingxi—Shijiazhuang UHV AC Project
- 1000kV Weifang—Linyi—Zaozhuang—Heze—Shijiazhuang UHV AC Project
- ±1100kV Zhundong—Wannan UHV DC Project

Other key demonstration projects

- Accelerated the demonstration of the Haixi Wind, Solar, Thermal and Storage Multi-Energy Complementary Project, the Northwest 750kV Main Grid Structure Project and the Central Tibet Interconnection Project
- Started construction of Xinjiang Shache-Hetian 750kV transmission line project, and condenser projects in Suzhou and Zhengping Converter Stations
- Built 500 kV Red Yan River Delivery Project and Jiangsu 500kV Unified Power Flow Controller Project
- Completed and put into operation the Qinghai Yangqu hydropower delivery project and Shanghai 220 kV Unified Power Flow Controller Project
- Completed the design of Zhangjiakou-Beijing Flexible DC Project and studied and formulated plans for energy Interconnection planning and construction in Asia, Europe and Africa



In 2017, 110 (66) kV and above AC and DC projects into operation



UHV projects



The length of UHV transmission line under construction and operation is

31,000 km



Transformation (conversion) capacity is

320 GVA (GW)



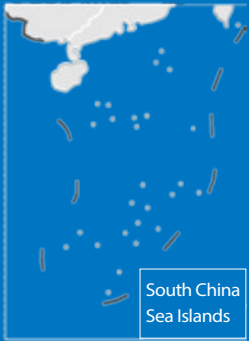
Trans-provincial and trans-regional transmission capacity reached

190 GW



The UHV power grid has accumulated delivered more than

900 TWh



were put in production

1200 projects



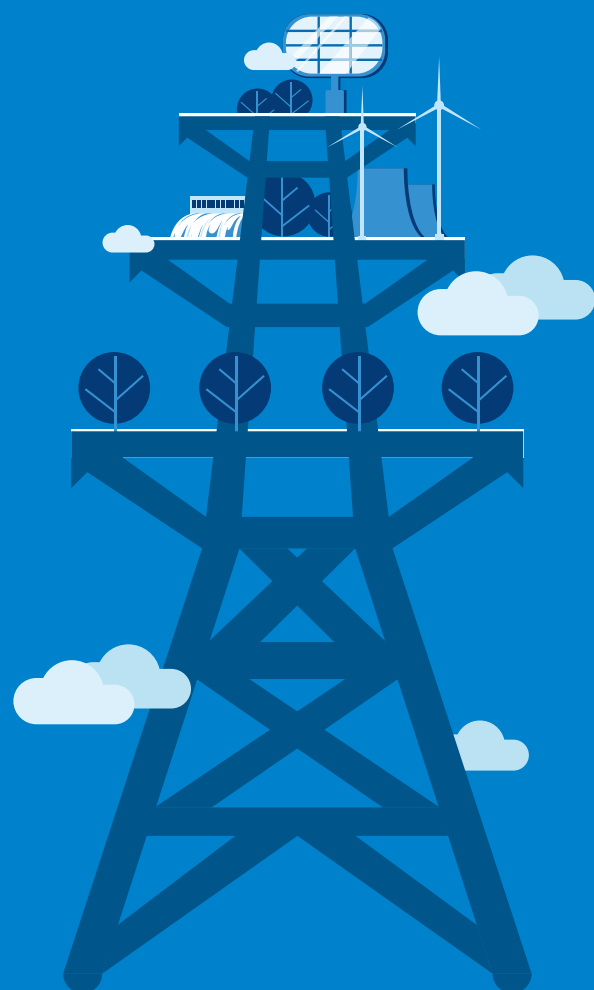
new projects were started

499 projects

35kV and above rural distribution power gird projects



# Intrinsic Safety



Protect labor rights and promote the creation of a safe and secure working environment for all workers.

Develop quality, reliable, sustainable and resilient infrastructure; provide financial, technical and technical support to promote the development of sustainable infrastructure that is resilient to disasters.

Strengthen inclusive and sustainable urban development; build cities and communities that are resilient to disasters and implement comprehensive disaster risk management.

8 Decent Work and Economic Growth



9 Industry, Innovation and Infrastructure



11 Sustainable Cities and Communities





Comprehensive voltage  
eligibility rate in urban areas

**99.994%**

In 2017

Comprehensive voltage  
eligibility rate in rural areas

**99.650%**

## Improve Intrinsic safety level of power grid

**Comprehensive investigation of security risks.** State Grid carried out the inspection of safety production, covering various levels of organizations, specialties, places and working sites; carried out targeted special inspections on construction safety; made efforts to pursue safety of distribution grids, information and affiliated businesses. Actively upgraded power consumption facilities and improved the intrinsic safety of power equipment.

Comprehensively strengthen safety quality control. Promoted quality supervision and management, established infrastructure safety daily and weekly report mechanism, strengthened construction risk management to specific jobs, and strictly carried out supervision and quantitative assessment of safety responsibilities. Improved the intrinsic safety and operational level of information communication. Achieved remarkable results on network security control.

## Ensure safe and reliable power supply

**Ensured the security of power grid during the summer load peaks.** In 2017, affected by the continuous large-scale high temperature, the load of the six regional power grids and 21 provincial-level power grids hit a record high. Abiding by the the National Safe Production Video Teleconference, State Grid analyzed the power demand and supply situation of peak hours during the summer, guaranteed the full-power operation of the three UHV DC transmission projects and ensured the safe operation of the power grid and reliable power supply.

**Effectively respond to unexpected disasters.** Faced with natural disasters that have occurred in China in 2017, State Grid launched an emergency plan to quickly implement emergency rescue, disaster protection and power supply, restored damaged grid facilities in a timely manner, spared no efforts in emergency rescue and disaster relief, timely and promptly restored power supply, and effectively responded to the 7.0 magnitude earthquake in Jiuzhaigou, Sichuan, lasting heavy rainfall in Hunan, Jiangxi, Liaoning, Jilin, and other natural disasters such as the double typhoons of Nasha and Haitang.

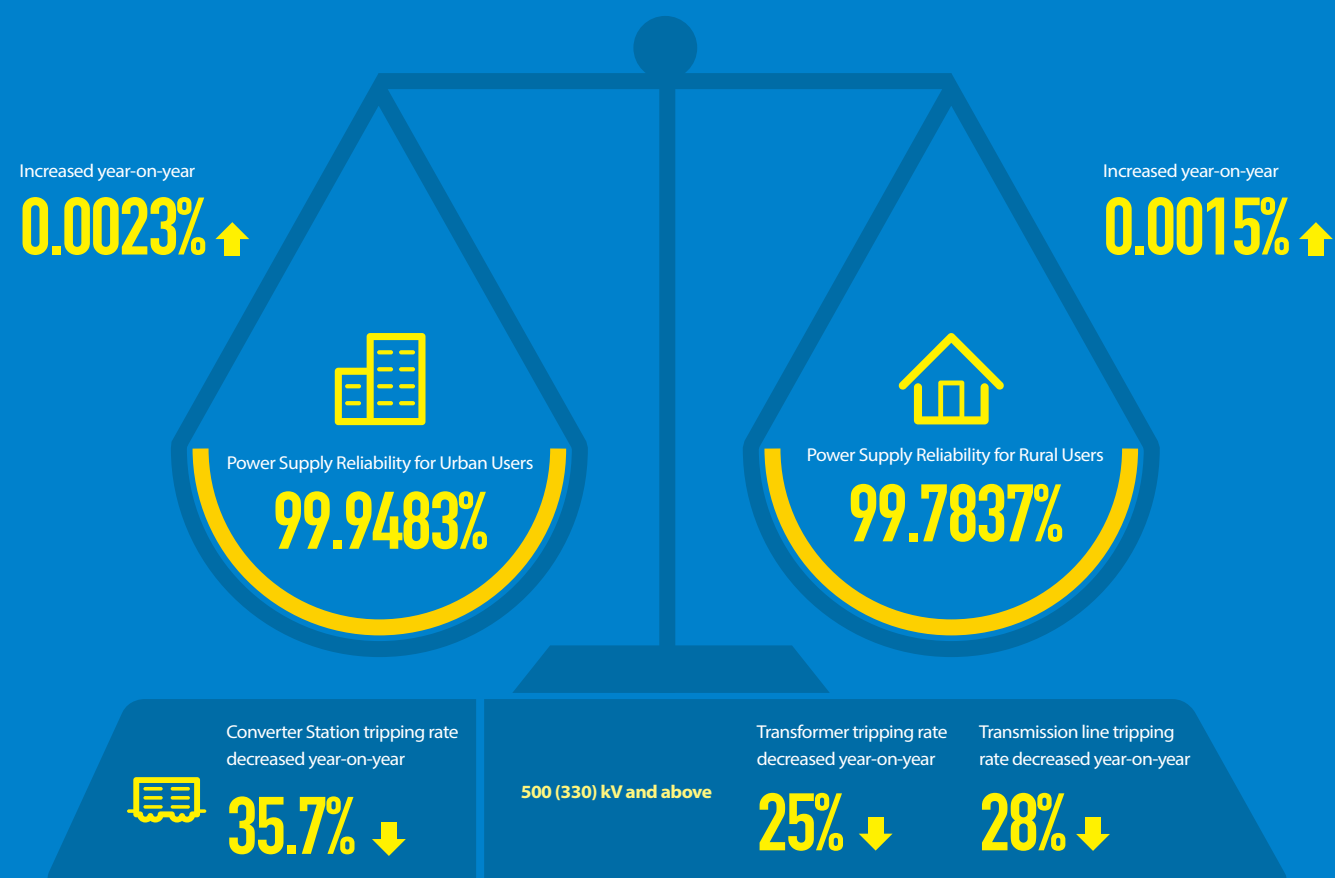
## Secure power supply for major events

**Institutional mechanism guarantee.** Strictly implemented the requirements of the Party Central Committee and the State Council, strengthened organization and leadership, and carefully formulated power supply plans; different departments and organizations gave full play to the advantages of the corporation and supported, cooperated and coordinated with each other; employees fulfilled their duties with due diligence and dedication, ensured safe power supply and made great contributions to the success of major events.

**Domestic and international major events.** State Grid carefully prepared and successfully secured with high-standard, high-quality the power supply during major events such as the 19<sup>th</sup> National Congress of the Party, the "Two Sessions", the "Belt and Road" Forum for International Cooperation, BRICS Xiamen Summit, the 13<sup>th</sup> National Games, etc.



### Safety and Quality Index



### Emergency repairs

#### Emergency drills

Conducted emergency drills

**8,196**

person-times participated

**169,200**

#### Summer load peaks

Formulated and printed key measures

**30**

A total of person-times put into repairs

**185,100**

vehicle-times put into repairs

**38,000**

Company headquarters set up inspection teams

**6**

Inspected and supervised bottom level organizations

**510**

Investigated and rectified more than violations

**90,000**

### Improve intrinsic safety level

Full coverage on risk and potential hazard investigation

Inspected and supervised project sites

**469**

Inspected and supervised project offices (teams)

**1,050**

### Summer peak period Secure power supply



Maximum peak shifting and averting

**6.67** GW



Involving industrial enterprises

**26,000**

implemented

**1.18** GW

of demand side response in Jiangsu, Zhejiang, Jiangxi and Xinjiang



# Excellent Management



Expand effective supply to meet effective demand and accelerate the formation of institutional mechanisms and development methods that will lead the new normal of economic development.

Improve industrial sustainability, increase the efficiency of resource consumption, provide favorable policies to achieve industrial diversification and increase the added value.

8 Decent Work and Economic Growth



9 Industry, Innovation and Infrastructure







## Perfecting the modern state-owned enterprise system with Chinese characteristics

**Follow the right direction.** Adhering to the Party's leadership over state-owned enterprises is a major political principle and it must be followed consistently; the establishment of a modern enterprise system is the direction of state-owned enterprise reform and also it must be followed consistently. Adhering to the Party's leadership and strengthening the Party's construction is a unique advantage of the state-owned enterprise. State Grid insisted on the service, production and operation without deviating from it and examined the work and effectiveness of the party organization with the results of the enterprise's reform and development. State Grid will provide a strong guarantee for the

construction of a world-class energy intergrid company with outstanding competitiveness.

**Promote institutional development.** State Grid comprehensively strengthened Party leadership and Party building with safety based, value oriented, customer centered and team rooted principles. Taking reform-innovation as a driving force, State Grid paid more attention to development quality and efficiency, and strived to promote upgrades of Party building and power grids, management and services, put all efforts to build a world-class energy intergrid company.

## Promoting power industry reform

- Promote the release of incremental distribution services. State Grid started the operation of mixed ownership power transmission and distribution companies, explored the market-based approach to alleviate the "three-abandoned" issue; cooperated with the National Development and Reform Commission to promote trans-regional and trans-provincial power transmission price reforms, and successfully completed the provincial power grid transmission and distribution price verification work.
- Promote the construction of the electricity market. State Grid continued to standardize trading organizations, constantly enriched its trading varieties, basically established a normalized market operation mechanism, established inter- and intra-provincial medium and long-term power trading mechanisms, and established a national electricity market system with "unified market and two-level operation".
- Develop power transmission and distribution market. State Grid explored the realization of mixed ownership of incremental distribution; the rapid development of trials in the power sales side; set up power supply service organizations to quickly respond to the electricity demand of customers, and greatly improved service efficiency.

## Promoting reform of state-owned assets and state-owned enterprises

- Master the direction of reform. State Grid made overall plans for the promotion of mixed ownership, auditing systems, and reform of collective enterprises, promoted the marketization of industries and financial organizations; standardized the setting up of organizations to strengthen front-end business integration.
- Complete the company restructuring. State Grid achieved "designating one person for both the Committee Secretary and the chairman of the board in secondary organizations," establishing the Party's statutory status in corporate governance structure; researched and explored business intensive integration approach and selected 19 organizations to formulate pilot programs to conduct business integration according to local conditions.
- Strengthen institutional development. State Grid established the "1+N" leaders management system; issued the first "White Paper of Managing Enterprises According to Law" among central enterprises. The county-level subsidiaries were all re-registered to branch companies.



Accumulatively reduced  
the number of legal  
person at all levels

# 661

In 2017

Registered market players  
on power trading platforms

# 55,700



## Power industry reform



## Power trading platform

- The daily visit of power trading platform exceeds **10,000** times
- Electricity turnover exceeded **1,200** TWh



## State-owned Assets Reform and Corporate Management Reform

Clearly define the task of reform, fully deploy and implement, formulate and issue

State Grid Corporation of China's Opinions on Comprehensive Deepening Reform

Notice on Solid Concentration and Promotion of Fully Deepening Reform Work in the Second Half of 2017

Key Tasks Analysis and Implementation Measures for Reform in 2017

State Grid Corporation of China



**21** secondary organizations



**123** third-level and below organizations

Smoothly completed the task of company system reforming on schedule

Management efficiency benefits continued to be optimized

Completed categorizing subsidiary companies at all levels of the Corporate

**1,163**

Promoted "reduction" work, accumulatively reduced legal persons

**661**

Promoted business integration and selected pilot organizations

**19**

county companies were changed from subsidiary company to branch company

**594**

Cleaned non-core and inefficient investments

**67**

Management performance

"163" Excellence Management System won the first prize of the 23<sup>rd</sup> National Enterprise Management Modernization Innovation Achievement Award

Awarded as A-Class enterprise by State-owned Assets Supervision and Administration Commission (SASAC) evaluation on operation performance for 13 consecutive years



Improve corporate governance capabilities

**Clearly understand enterprise development trends.** Targeting the goal of building a world-class energy intergrid enterprise, we upheld the principles of “clarified work objectives, standardized work contents, streamlined work procedures, formatted work records, regulated work practices, and normalized work improvement”, centered by “safety, quality, efficiency and performance”, and promoted all-round transformation and upgrading of our business, built high-end industrial clusters, deepened the integration of industry and finance, and actively promoted “going global” with the entire industrial chain and value chain.

**Promote the construction of institutional mechanisms.** State Grid innovated on management concepts, focused on building institutional mechanisms that will fully deepen reforms and target market competition, fully mobilized the enthusiasm of all levels and stimulated the vitality of the bottom level. We optimized the allocation of resources and promoted the coordinated development of all organizations. By implementing big data strategy, we made full use of modern information and communication technologies such as “Big Data, Cloud Computing, Internet of Things, Mobile Internet”, and deepened the application of big data in various business areas. State Grid built a “rule by law” enterprise, improved internal control mechanisms and elevated our management according to law.

Improve internal management

**Build a special internal control system.** State Grid established a board of directors and special committees, set up comprehensive risk management committee; implemented specialized management and control, continuously improved the ability to allocate resources; established a good information and communication mechanism; comprehensively used daily supervision and special supervision, carried out monthly supervision to core business such as finance, engineering, procurement and marketing, etc.

**Practice “163” excellent management system.** State Grid comprehensively deepened excellent performance management and evaluation, promoted the scientific management of the Corporate, implemented accurate benchmarking, coordinated management innovation work, implemented quality to strengthen enterprise; promoted QC team activities, strengthened integration of systems and standards, and carried out credit system construction in pilot companies.

**Optimize the overall management level.** State Grid optimized and improved the “Three Intensives and Five Majors” system; improved the professional integration and coordination mechanism; carried out 74 special audits for the inspection of enterprises in accordance with the law, strengthened auditing, supervision, and rectification of international and financial businesses; established a digital auditing studio to explore new audit models.

State Grid Anshan Power Company performing post competency evaluation

Post competency evaluation is a revolutionary change in human resource management. It refers post as the target, according to the specific criteria of the position, and uses scientific methods to determine the key indicators that prompt employees to produce high performance, upon which to measure and assess the competency elements shown by the employees in the process of achieving his performance goals.

Through three-dimensional evaluation of “measurement, analysis and interview”, it effectively compensated for the inadequacy of previous performance evaluations focusing on the terminal of employee performance chain, increased the evaluation on generation of performance chain, and comprehensively examined the internal factors that produced high performance for employees. It has become a new “benchmark” for selecting, employing, and training people at a deeper level, and used more scientific management to create continuous driving force for high-performance corporate development.

Zhenjiang, Jiangsu Province Established the First Batch of Power Distribution Companies

Jiangsu Zhenjiang Yangzhong High-tech Industrial Development Zone is the country's first batch of incremental power distribution reform pilot areas approved by the National Development and Reform Commission and the National Energy Administration. On November 10, 2017, Yangzhong High-tech Zone Mixed-Ownership Distribution and Retailing Company was officially unveiled and established. This is one of the first batch of three power distribution companies established in the country, which is an important point in the Jiangsu power system reform of the State Grid and marks a new step of the Jiangsu incremental power distribution reform.

Yangzhong High-tech Zone Distribution Power Company is entitled to operate the power distribution business in the 2.8km<sup>2</sup> to-be-developed area in the High-tech Zone, providing power distribution, power supply, and bottom-keeping services in the region, conducting value-added services such as integrated energy management, and competition in market-based power purchases and retailing business. During the “13th Five-Year Plan” period, Yangzhong High-tech Zone Distribution Power Company will invest 20.85 million RMB to transform the regional power grid, continue to improve the grid structure, the quality of power supply and to maximize the release of reform dividends.

Xinjiang Power Market Management Committee formally established

On June 8, 2017, the Xinjiang Power Market Management Committee was officially established in Urumqi. 33 representatives from Xinjiang Uygur Autonomous Region's power generation companies, power customers, State Grid Xinjiang Power Company, and Xinjiang Power Trading Center became members of the first management committee.

The Xinjiang Power Market Management Committee, as an autonomous deliberative agency, is mainly responsible for studying the regulations of the Xinjiang Power Trading Center, proposing power market construction and operation, discussing the power market operation rules, related implementation rules and important issues involving the interests of market players, listening to the market's main appeals, putting forward reasonable opinions and suggestions, supervising the implementation of power market operations and trading rules, and promptly reporting to the Autonomous Region's Economic and Information Committee, the Development and Reform Commission, Xinjiang Energy Supervision Office and other departments.

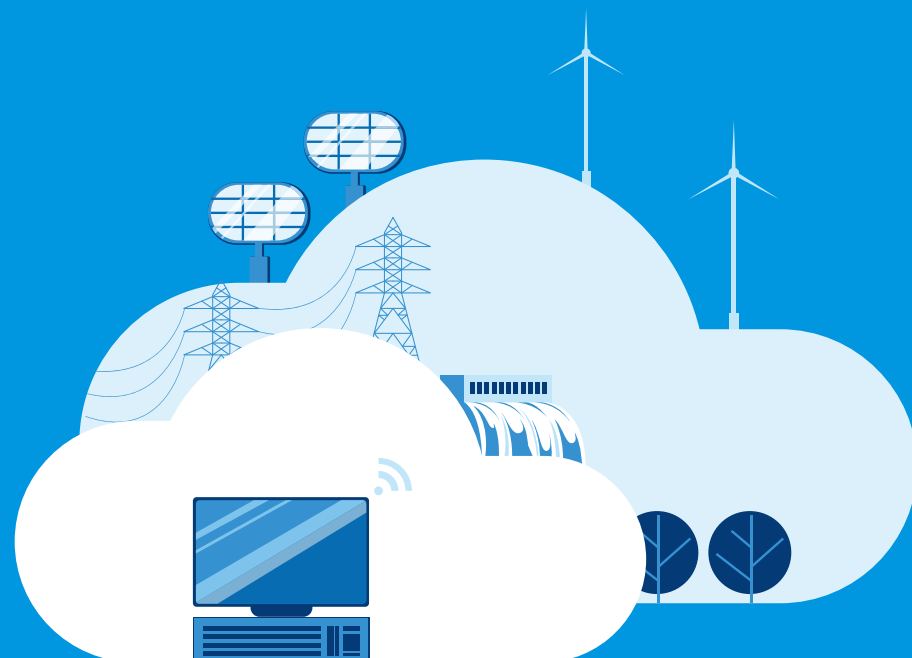
State Grid Shaanxi Electric Power Company achieved new height on “Procuratorate and Enterprise Joint Construction”

“Procuratorate and Enterprise Joint Construction” is the demand for the rapid development of power companies after the “Three Intensives and Five Majors” restructuring and it is an important safeguard measure under the new situation of comprehensive rule of enterprises by law. State Grid Xi'an Power Supply Company took the construction of “Procuratorate and Enterprise Joint Construction” as the starting point, based on education, system and supervision, continuously improved the management mechanism and connected the company supervision with the procuratorate supervision to form a new supervision mechanism which restricts and coordinates, utilizing the advantages of joint inspection platform to prevent job-related crimes. After setting up the platform of “Procuratorate and Enterprise Joint Construction”, prosecutors were invited to jointly search weak links in corruption risks, carried out prevention and legal consultations on problems encountered in the operation, management and supervision of enterprises, and seek preventive measures from the institutional and mechanism levels, deepening the construction of the punishment and prevention system and the construction of a coordinated supervision mechanism. Through annual risk prevention and control inspections and quarterly inspections, special supervision, risk prevention and control on “Three Important and One Major” decisions, key engineering areas and high-quality services have been stepped up, and the activities of “ruling enterprises by law” have gradually advanced.





# Innovation-driven Strategy



Facilitate access to clean energy research and technology, and promote investment in energy infrastructure and clean energy technology.

Enhance scientific research, upgrade the technological capabilities of industrial sectors by encouraging innovation.

7 Affordable and Clean Energy



9 Industry, Innovation and Infrastructure





Overall line loss rate

6.66%

In 2017

Total valid patents

73,350

## Major technical innovations

**Promote all-round innovation.** Innovation was integrated into all work, injecting drivers into the development of State Grid. Special attention was given to areas like renewable energy, new-generation power system and energy interconnection to get major achievements in innovation, so as to consolidate and expand its advantages in the global industry.

**Enhance its leading position in power grid and energy technologies.** State Grid took the lead to implement the “Scientific and Technological Innovation 2030” smart grid key project and completed the implementation plan; built Suzhou Energy Transition and Innovation Demonstration Zone and Zhangjiakou Renewable Energy Demonstration Zone, and established a National Technical Innovation Center for smart grid. With these efforts, the company has consolidated and enhanced its technical advantages in UHV power grids, large grid safety control and smart grids.

**Promote entrepreneurship and innovation.** In June 2017, State Grid was approved by the State Council as the National Demonstration Base for “Entrepreneurship and Innovation”. State Grid proposed the “1212” major tasks (1 object: to build a world-class energy service company, 2 methods: seeking the leading position in the industry, improving weak links and strengthening the foundation, regional cooperation, 1 development path: lean development, 2 engines: strengthening Party self-discipline, and reform and innovation) and innovative measures for the mechanism to build its brand as a “Star Company in Entrepreneurship and Innovation”. The construction plan of the base was approved by NDRC and SASAC and publicized.

**Promote standardization.** State Grid published its implementation action plan on technical standard strategy outline and orderly carried out pilot projects of good conduct on standardization in power companies. State Grid was approved to build innovative bases for national technical standards in smart grid, and the first 11 bases are under construction as planned.

## Build smarter grids

**State Grid fully implemented innovative development action plan of information and telecommunication.** Carried out 74 key projects in 3 categories of innovative application in key areas, upgrading foundation platforms and innovation in grass-roots units, and promoted the construction of demonstration projects in key areas and their business models, making innovations in smart status sensing of grid equipment.

**Follow the trends of “big data, cloud computing, Internet of Things and mobile internet”.** The MIIT (Ministry of Industry and Information Technology) 230 MHz Power Wireless Dedicated Grid Pilot Project passed quality acceptance. State Grid preliminarily built a unified data center analysis domain covering all services, connecting 32 operation systems and 394 terabytes of data. “State Grid Cloud” was officially launched to support the operation of 33 kinds of business on the cloud, and had a size of around 2,300 nodes. State Grid published its white paper on big data application and built a system of big data open trial and sharing services.

**Fully implement the Cybersecurity Law.** State Grid carried out the level-based protection “re-check” program, launched an action plan to improve the infrastructure cybersecurity of key information, built a monitoring and warn platform for cybersecurity risks to ensure the security of power-related information and guaranteed the online security during major activities like the 19th National Congress of the CPC.

## Develop new businesses

**Explore comprehensive energy services.** State Grid carried out research on comprehensive energy services and made progress; established the State Grid (Suzhou) City & Energy Research Institute to enhance research on energy transition in cities.

**Build Smart Service Platform for Internet of EVs.** State Grid built the world’s largest full functional Smart Service Platform for Internet of EVs for the development of EV industry.

**Extend presence of e-commerce.** State Grid made a plan for E-commerce eco-system, launched the online service platform, took the lead in setting up the SOE e-commerce alliance, and operated the distributed PV cloud network and cross-border E-commerce platform.

**Enter the high-end manufacturing industry.** State Grid implemented “Made in China 2025” and building a manufacturing power strategy, deepened the strategy of “Internet+ manufacturing”, and accelerated the R&D of high-end products like high-capacity VSC-HVDC converter valve and industrial main control chip.

**Seek profit growth point from various areas.** State Grid developed TCU display screen, and launched advertisement in “e-charging” APP to expand the value-added services of advertisement in charging stations, charging piles and APP.





## R&D achievements

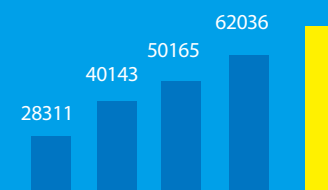
R&amp;D input

**7.828** billion RMB


Total valid patents

**73,350**

In 2013—2017



Patents for invention

**16,064**


National standards led by State Grid

**103**


Industrial standards led by State Grid

**152**


National Science and Technology Award (special award)

**1**

±800kV UHV DC transmission projects brought significant social and economic benefits, which are essential to energy production and consumption revolution, energy upgrading in China and promoting the “Belt and Road” Initiative. Such projects greatly increased the transmission capacity of hydro, wind, solar power from west and north China to load centers, and promoted the large-scale concentrated development and accommodation of clean energies, with over 60 GW of hydropower generation in west and south China and 30 GW of wind and solar power generation in west and north China.

National Science and Technology Award (second award) : **7**State Technological Innovation Award (second award) : **1**China Patent Awards (gold medal) : **2**China Patent Awards (outstanding award) : **17**

## Level of intelligence

Investment in IT

**5.324** billion RMB

Year-on-year growth

**7.5%**

Investment in communication projects

**7.046** billion RMB

Year-on-year growth

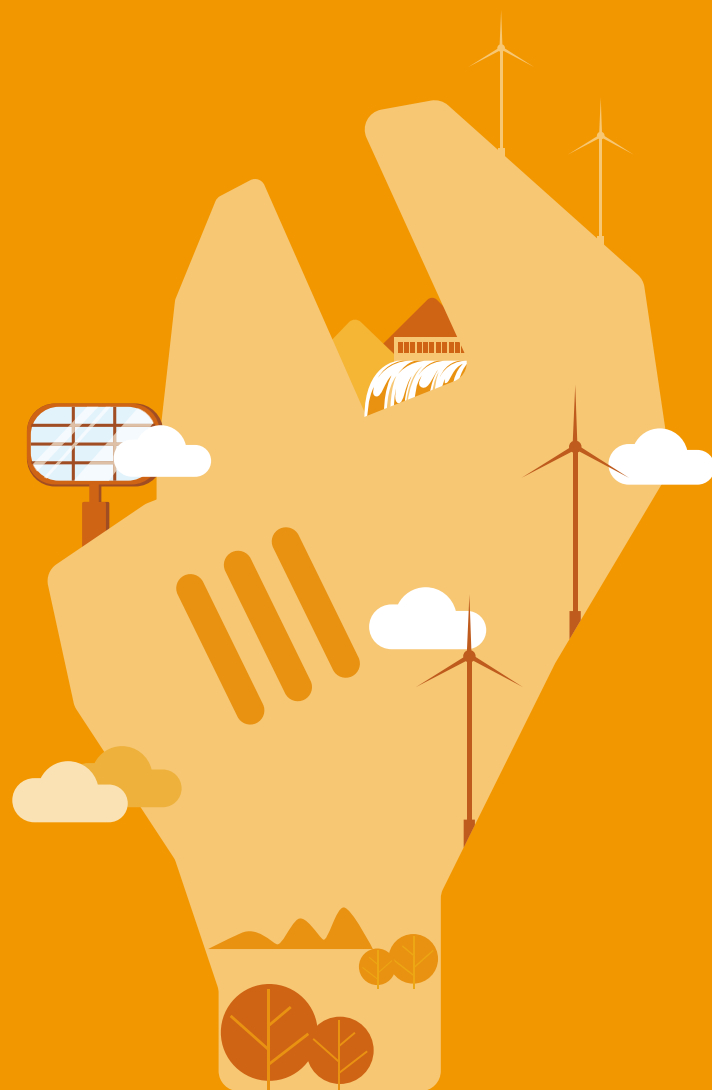
**15.13%**

Increase the level of intelligence

Information system operation rate **99.95%**, communication equipment operation rate above **99.99%**, operation and maintenance efficiency increased by **40%**Online line loss monitoring stations during the same period **3.833** million, monitoring rate **92.47%**, up by **11.99%**State Grid erected **13,000** km of cable and completed equipment installation and debugging in **4,397** transformer substations, power supply stations (outlets)State Grid orderly promoted coordinated patrol by helicopters, drones and workers. Helicopters traveled **171,000** km in total and found **17,000** faults



# Excellent Service



Ensure universal access to affordable, reliable and modern energy services and double the global improvement rate of energy efficiency.

Strengthen the scientific and technological capacity to move towards more sustainable patterns of consumption and production.

7 Affordable and Clean Energy



12 Responsible Consumption and Production





Build a modern customer-oriented service system

**Upgrade power supply service and command platform.** The 95598 service platform followed the principle of “Serving Customers with Whole Heart”, prioritized customers, and continuously promoted to offer services in a scientific, standard and precise way to send cross-discipline command, manage and control the operation and maintenance of the power distribution network, manage and control service process and quickly respond to service requests. State Grid established the enterprise culture of serving customers to provide users with quicker response and better experience, and meet people's needs for electricity. By implementing the “Ten Promises” in Power Supply Services of State Grid, the company required employees to strictly follow the proceedings of verification and calibration, and upload the test results on 95598 intelligent interactive website within 5 working days so that users could log in the website and check the test certification.

**Support public services.** State Grid provided diversified and tailored comprehensive energy services for industry parks, industrial enterprises and large-scale public buildings; checked the power device, self-owned emergency power supply equipment, power operation and management of railway, airport, government, hospital, school, large shopping mall and other high-risk stakeholders; provided power supply management services to coal mine, non-coal mine and other high-risk and important stakeholders to ensure that the power supply to public facilities is safe and reliable.

**Build a convenient bill settlement system for power sales.** State Grid optimized the regulations and proceedings of market-based electricity sales , which was applied in 27 provincial companies; improved the bill settlement process, and facilitated the interaction and collaboration of data among systems to build an efficient and user-friendly settlement system.

**Safeguard information safety for customers.** In line with the *Cybersecurity Law*, State Grid gives notices and gets users’ permission before the information system collects their information; rigorously applies level-by-level examination and internal approval before providing such information to other organizations and signs confidential agreements with them; Never provide privacy-related information to any person or organization without the users’ permission or strictly removing sensitive information, and ensures that the data is not stolen or used for malicious purposes to ensure information safety.

Enhance the new type of business of providing comprehensive energy services

**Deepen the application of “big data, cloud computing, Internet of Things and mobile internet”.** APP allowed customers to operate online and reserve door-to-door services. “95598 Pay” launched innovative functions including scanning code to pay bills, and using rewards points in other online shopping platforms. More customers chose to use e-bills, greatly reducing service cost.

**Inform customers of key links.** Functions include real time positioning of repair workers, real time inquiring of failure recovery path in, effective interaction with customers on high-frequency business, informing customers of processing progress, service booking, information inquiry and scheduled outage via APP, calls and text message, and building a real-time connection with customers and evaluation mechanism.

**All-in-one smart meters.** State Grid accelerated the information collection of power, water, gas and heating in one meter and set up 5 pilot s; explored more service channels, like WeChat platform where people could check the data of water and natural gas, electricity-water-gas bill, and collecting water and gas bills on “95598 Pay” or in business halls.

**Extend the application of smart meters.** State Grid reported the power cuts of smart meters and verified pilot projects to strongly support quick positioning of blackout areas and emergency recovery. The company found out stations and customers using low-voltage power with frequent blackout by daily monitoring to facilitate regular management of low voltage and blackout.

**Promote transition and upgrading of business halls.** The company provided smart payment services to low-voltage non-residential users and high-voltage users, upgrading of traditional operation model (read the meter, verify the number and collect bills) and grid services, cut the number of labours with efficiency increased, supported the transition of business halls, optimized mobile marketing, and provided better functions including online business, smart payment, e-bill and e-invoice etc.



Online subscribers  
of e-bill  
**3**  
million

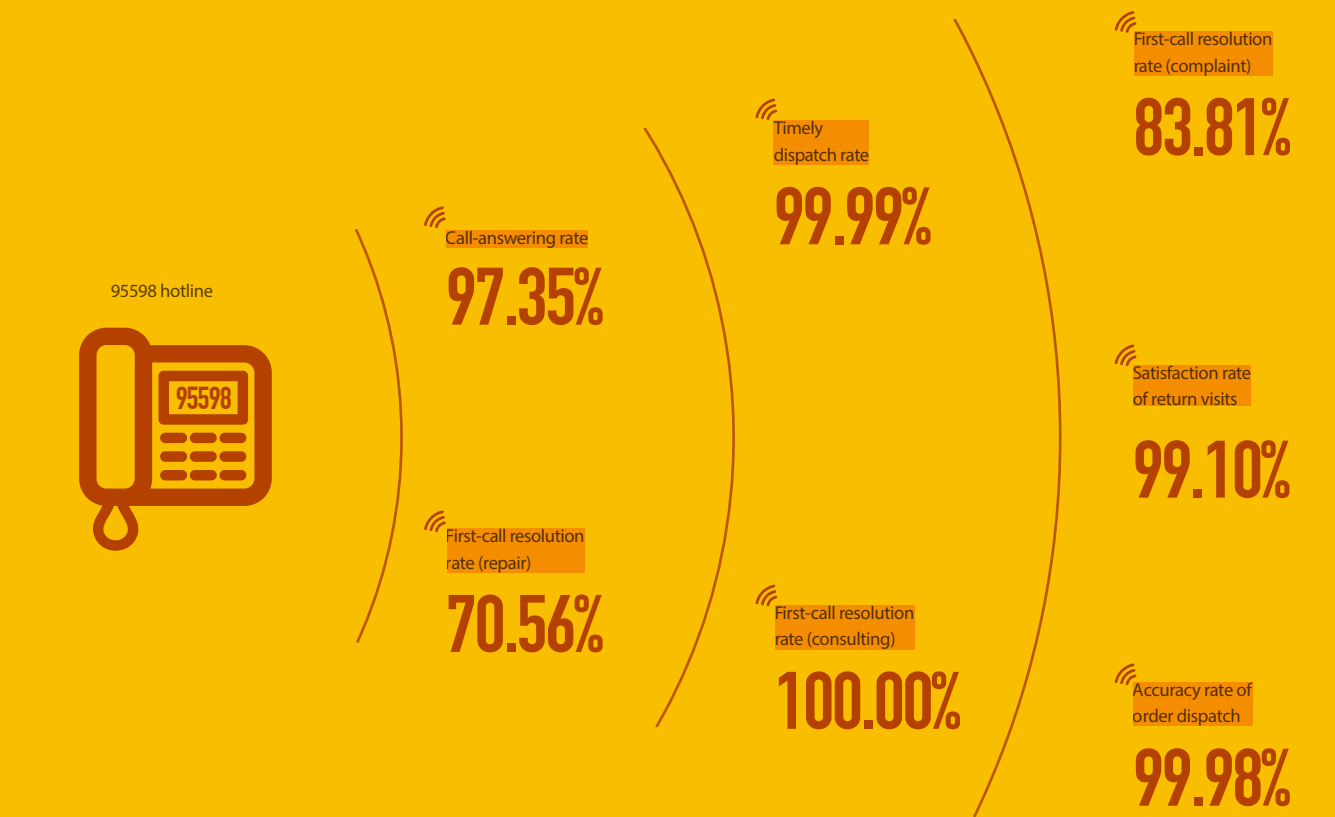
In 2017

Applications submitted for  
inspection and verification

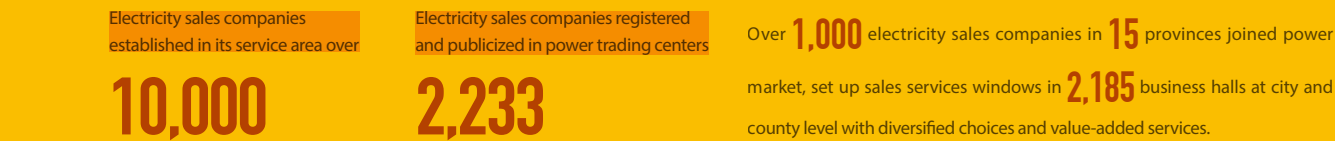
**38,000**



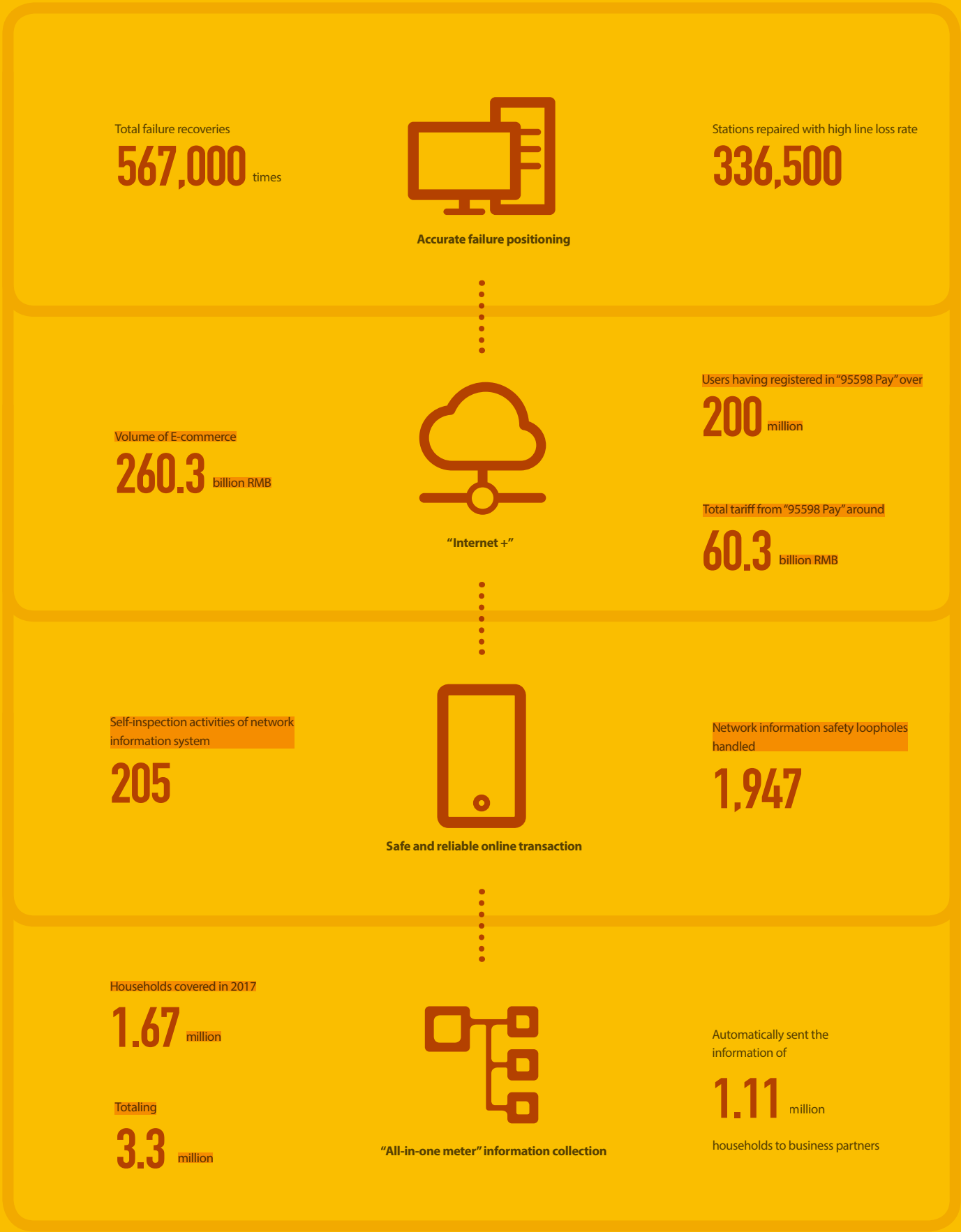
Customer-centered service system



Build a market-oriented business channel for electricity sales



New type of business: comprehensive energy services





Promote the application of “Internet +”

Deepen the application of “big data, cloud computing, Internet of Things and mobile internet”. To comply with the power sales-side reform and new situations of technical development in “Internet +”, State Grid promoted the application of “Internet+ marketing services”, made full use of Internet technologies to upgrade traditional marketing for better services in a more efficient and cost-effective way. The company built the self-owned online channels and better integrated the online and offline processes to provide online, digital and interactive sales services, and built its image as a company that “provides convenient sales services, smarter way to use electricity, and user-friendly functions”. State Grid mobile APP and “95598 Pay” were integrated and available in the APP store to meet increasing demands of online services. Besides “red packets”, the company designed featured “multiple gifts” promotions based on the local situations in different provinces (autonomous regions and municipalities). When a user completed authentication, paid the bill, signed an online agreement, authorized the platform to collect bills, a red packet with a certain amount would be offered. In 2017, State Grid held over 100 promotion activities, covering 25 provinces (autonomous regions and municipalities) and sent red packets worth over 30 million RMB, attract extensive engagements.

Meanwhile, “95598 Pay” has enabled rewards points connectivity with Air China, China Eastern Airlines, Avic Intel, ICBC, China Mobile, China Telecom, China Unicom, womai.com, Ping'an Wanlitong, Wanda ffan.com, Jingdong and dozens of E-commerce enterprises, building a cross-industrial platform for customers with better services and experience.

Ensure information security of customers. A mechanism was built to secure the marketing network and information, and enhanced standards building on information safety. The information system would remove customers' sensitive information before using it for marketing purposes. The company strictly managed log-in passwords and accounts at its best efforts. The company backed up and removed data in the offline system to avoid information leakage at the final link, and tried its best to get rid of any safety risk that may disclose users' sensitive information. Meanwhile, it held regular training on cybersecurity to make salesperson better aware of information safety.

Provide modern services

Centralized management of services. State Grid launched smart service programs in business halls to optimize the layout of halls and increase their functions. With these efforts, customers could pay their bills within 10 minutes in urban areas, and there are outlets for each village in rural areas. Centralized operation was realized in the 95598 hotline to unify service standards, improve service efficiency and make customers more satisfied. Innovations were made in e-services by developing 95598 interactive website, State Grid mobile APP, “95598 Pay”, and “e-charging”, and opening a WeChat official account on power supply to meet individualized needs of customers so that they could enjoy quality services at home.

Provide quality and efficient power supply through business handling. State Grid comprehensively increased the quality and efficiency of metering and business installation, and carried out measures like “handling processes within the company” and “one-certificate acceptance” to build a matching mechanism featured by “less procedures, better process, coordinated work and one window for customers”, constantly streamlining the whole process and reducing the average time of power installation. State Grid provides undifferentiated services to urban and rural areas, strives to increase the capacity and quality of power supply, and secures more stable power supply for key customers.

State Grid Zaozhuang Power Supply Company sets up a management system that prioritizes customers' needs

State Grid Zaozhuang Power Supply Company analyzed the question that customers' complaints had not been quickly responded to, and put in place the “whole-process quick response mechanism that prioritizes customers' needs” which includes 6 phases: collecting complaints, analyzing information, handling questions, return visit, standard management, and wide application. Through analyzing information on the platform, the company found that customers had more questions concerning smart payment. To deal with the situation, the company printed “a picture on smart payment” and promoted it to customers paying bills at the window. Moreover, employees made door-to-door visits to introduce online payment so that more customers could experience the more convenient and quicker “smart services”.

With these efforts, the company dealt with customers' needs in a more efficient and effective way, increasing the efficiency of operation and customers' degree of satisfaction. In 2017, over 600 pieces of information on needs were collected, over 210 potential risks identified and 78 risks of complaints avoided. The number of repair requests received by hotline 95598 was down by 42% year on year, customers' comments and consulting down by 63%, complaints down by 30%. The power supply services were well applauded by customers from all walks of life.

State Grid Zhangzhou Power Supply Company presented a robot called “eBaby”

The first robot “eBaby” in Fujian Province was officially put in use in urban business halls of State Grid Zhangzhou Power Supply Company. The robot is featured with “Artificial+Interlligence”. It can effectively identify customers' needs through verbal communication, interaction on the screen and body languages. Moreover, it can automatically identify positions ,walking around the business hall and helping welcome customers, get them queue numbers, answer questions, guide to handle operations and provide information inquiries. Customers can learn the latest preferential policies on bills by watching videos on its screen. Such smart services at business halls provided more quality services to customers. The robot can learn by itself quickly. After a period of pilot operation, its functions could be upgraded through the knowledge base. By the end of 2017, the robot served over 3,000 customers with around 4,000 times of consulting services, and customers' satisfaction rate reached 100%.

State Grid Chongqing Central City Power Supply Company provides services for specific use

Clients at the core business area and sensitive customers have high requirements on the reliability of power supply, but the management of devices for specific use has disadvantages like boundary of responsibilities and low-level emergency linkage. State Grid Chongqing Central City Power Supply Company built a cooperation platform for stakeholders including enterprises, government and the public to increase the management and control of emergency risks in core business areas and lower the potential safety risks for important and sensitive customers; promoted the governance of weak links of the grid and continuous improvement of the grid structure to improve the ability to manage and control emergency risks; improved customers' emergency countermeasures to fundamentally increase the reliability of power supply; pushed the government to improve the review and approval process of power supply safety planning for major customers, further increasing the level of services; efficiently avoided any potential social and economic loss caused by blackout or delayed power resume in core business areas and sensitive customers; adopted more sophisticated measures to ensure power supply for major venues and activities; and built an image of a reliable power supply company that enjoys high-level skills and provides quality services.

State Grid Zhejiang Power Supply Company and State Grid Anhui Power Supply Company created power supply ecosystem with “Sunshine N<sup>th</sup> Power” project

To actively meet people's demands for quality and quick power supply in the new era and deal with challenges like low efficiency in installation, State Grid Zhejiang Power Supply Company joint hands with State Grid Anhui Power Supply Company and other stakeholders to implement the theory of sustainable development, further handled the issue of “absence” of stakeholders after installation, created and enriched the 2.0 version of “Sunshine N<sup>th</sup> Power” and built a community of value creation for installation ecosystem. By enriching “Sunshine 1<sup>st</sup> Power”, they launched “Letter of Undertaking of the Post-installation Alliance” activities to extend the chain of value. By enriching “Sunshine 2<sup>nd</sup> Power”, they launched the interactive system consisting of electricity replacement “big data” to expand value space. By enriching “Sunshine 3<sup>rd</sup> Power”, they launched “eManager” evaluation and decision-making system to reshape the standards of value. The 2.0 version of “Sunshine N<sup>th</sup> Power” enriched the ecosystem of installation, explored a new way to solve public problems with the theory and tools of social responsibilities, and provided a good example for social governance in public services in the whole country.





# Promoting Rural Development



Ensure that all men and women, have equal rights to economic resources, build the resilience of the poor and those in vulnerable situations to disasters.

1 No Poverty



Support positive economic, social and environmental links between urban, peri-urban and rural areas.

11 Sustainable Cities and Communities







Replacement coal by  
electricity for heating  
in North China

**1.988**  
million households

Emergency repairs

**57,631**  
person-times

In 2017

## Speed up grid augmentation in rural areas

**Implement the new-round grid augmentation in rural areas.** State Grid implemented the supply-side reform deployed by the CPC Central Committee to promote social and economic development in rural areas, and performed its social responsibilities, including “Power to All Wells”, power grid upgrading in small towns (key villages) and “Dynamic Power to All Villages” projects, which were completed on September 25, 2017, 3 months prior to the original plan.

**Create new power supply methods for irrigation and drainage in rural areas.** The company added a new power management system where a main card and several secondary cards could be used on the same meter, developed a scan-for-power system for “Power to All Wells” project where customers could scan the bar code on the meter with “95598 Pay” APP to remotely switch the power on for motor-pumped wells, calculate electric charges in real time and authorize automatic

deductions, meeting customers’ all-weather needs for irrigation power supply. Moreover, challenges like swiping card for power, keeping power use records of irrigation and drainage in the meter were solved to avoid additional fees and clarify the responsibilities of people in charge of wells and those using wells, providing better management and services.

## Promote full coverage of well-functioning township power supply stations

**Comprehensive services made significant achievements.** State Grid adopted the station manager system, appointing the station manager as the main body of grid services and owner of the equipment, to form closer relations with customers and equipment; improved managers’ abilities to provide collaborative work, cutting-edge services and all-round skills to collaborate and support each other within the grid and in inter-grid operation. For low-voltage failure at township power supply stations, the time it took to arrive at the scene and repair time reduced by 21% and 22.8% respectively.

**Integrate mobile operation terminals.** State Grid built a “three-in-one” operation mode that combined power supply service command platform, power supply station comprehensive service monitoring and control platform and station manager mobile operation terminal, integrating terminals used for marketing and checking and examination on-site operation, and promoting its application. Thanks to these efforts, the on-site operation efficiency was further increased and the managers could better manage and control the on-site services.

**Intensify efforts to standardizing rules.** State Grid began to set up rules for building well-functioning township power supply stations, optimized rules, regulations, and procedures for core business, summarized the experience in building pilot projects, and formed a system of rules and standards that could support the operation and installation of “well-functioning” township power supply stations.







# Employee Development



Significantly increasing the number of teenagers and adults with the skills needed for finding employment and a decent job; eliminating the gender difference in education and ensure equal access to vocational training for all.

Ensuring the comprehensive and effective participation of women in all levels of decision-making in political, economic and public life and equal opportunity for women to be leaders on all levels.

Realizing the full and productive employment of all men and women, including the young and the disabled with decent jobs, equal work and equal pay.

4 Quality Education



5 Gender Equality



8 Decent Work and Economic Growth





## Adopting a people-oriented approach

Employees are the pillars of an enterprise. State Grid respects and safeguards the legal rights and interests of its employee and treats employees of different nationalities, ethnic groups, religious beliefs and gender in an equal and just manner. State Grid signs labor contracts with all employees, implements an integrated payroll system, pays social security in full and on time, ensures that employees enjoy paid vacation, maternal leave/paternal leave and bans child labor and forced labor.

## Strengthening domestic management of enterprises

Employees are the masters of an enterprise. State Grid attaches great importance to the role of employees in domestic management and supervision and strengthening domestic participation. State Grid constantly improves the democratic management system with the Workers' Congress as the basic form, implements the *Outline of the Democratic Management of Workers*, sticks to enterprise information

transparency, the signing of collective contracts on the basis of equal negotiation, the inspection by workers' representatives and the Chairman's liaison system. State Grid also normalized and promoted the incentive-suggestion system to safeguard employees' rights to know, to participate, to express and to supervise.

## Ensuring employees' safety and health

Employees are invaluable assets of an enterprise and their safety and health play a key role in ensuring corporate growth. State Grid is keen to improving the level of safety and the well-being of employees through providing them with reliable safety protection and health insurance to solve safety issues and improving the safety awareness of employees from the

perspective of equipment safety and personnel safety while strengthening the management of occupational health risks, paying more attention to the psychological health of employees and setting up employees' health profiles to keep track of the health of employees and create a safe and healthy work environment.

## Helping employees with career development

Employees constitute the foundation of corporate development. State Grid regards the career development of employees as the foundation of corporate growth and provides education and training for all through organizing skill competitions and professional skill training programs. State Grid launches innovative training programs for fresh employees, expands the channel for promotion and supports diversified development. It also promotes the development of international talents to foster a team with global vision, familiarity of international rules, operational insights and outstanding management capabilities.

Annual full-time training

3.8

million persons

Training hour per person

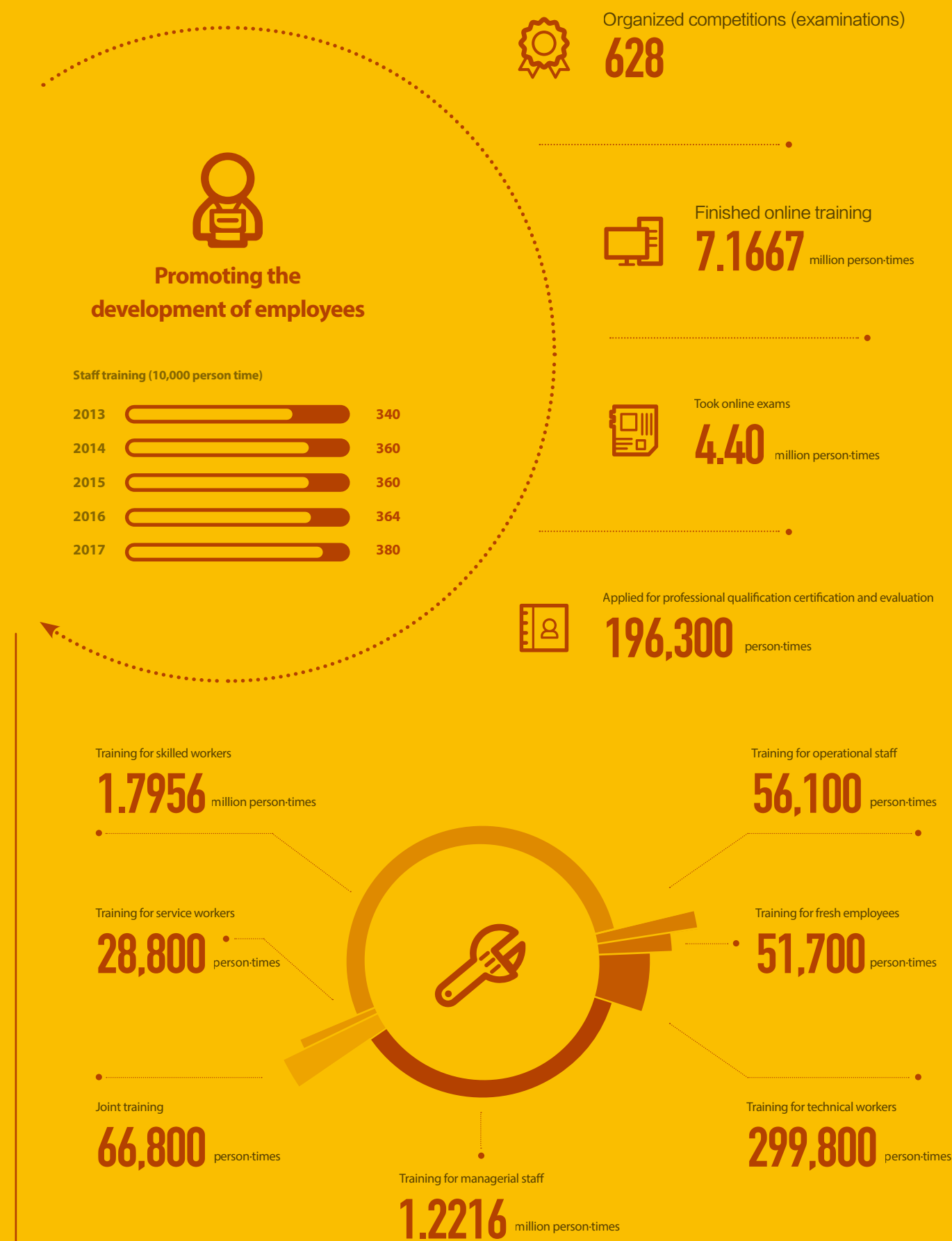
86

hours

In 2017









Safeguarding employees’ health and safety

Safeguarding employees’ safety.

- Promoting standardized production safety management and strictly control high-risk operations.
- Carrying out risk identification and capability analysis and implementing precautions measures against electricity shock, falling or mis-operation.
- Organizing regular drills to improve the capability and speed of reaction in handling emergencies.
- Establishing the equipment quality supervision and regulation work mechanism to rule out suppliers with misconduct and exert harsh punishment.
- Strengthening on-the-spot safety management and sub-contractor management to ban subcontracting against rules and replacing management with subcontracting and rectify frequent rule-breaking.
- Fixating the types of safety protection equipment to be prepared and the cycle of distribution to safeguard employees’ safety.

Deepening domestic management and supervision

Promoting the development of labor unions. Constantly promoting the construction of “State Grid Home” through innovative and enriched channels with employees at the center to improve the awareness of employees that they are the masters of the Corporation. 1559 labor unions have been established, covering all employees.

Consolidating domestic participation.

- Promoting the development of the Employees’ Conference with 256 proposals from employees being discussed and responded to, up by 100% compared with the previous year.
- Organizing representatives of employees to carry out two rounds of inspections and promoting the coordinated action of employees’ conference on four levels.
- Extensively soliciting for incentive suggestions with more than 500,000 employees proposing more than 200,000 suggestions, in which 161 were selected as contributive suggestions, significantly promoting improvement in management.
- Organizing the President’s liaison to conduct survey to learn about the ideas and wishes of employees. Five issues of *Worker Directors Paper* have been published by now, acting as a bridge between employees and leaders.

Caring about the physical and psychological well-being of employees.

- Carefully implementing the simultaneous design, construction and putting into operation of facilities for occupational disease prevention and control with the main body of the project, occupational disease report, and assessment of factors that may lead to occupational diseases to control and eliminate occupational diseases from the root.
- Developing “S365”, a fitness APP for employees, which has more than 600,000 active users to meet the diversified demand of employees.
- Organizing regular body checks for employees and establishing health records to track the health of employees.
- Carrying out surveys to learn about the troubles of employees, organizing lectures on psychological health and promoting the development of Employee Aid Program (EAP) and Employee Appeal Center.

Ensuring the development of employees

Adopting innovative models for the development of fresh employees. State Grid increased the number of employees in remote and poor areas through implementing the system of “order + targeted development” and optimized the model for the development of new employees through identifying the goals of training for different stages and emphasizing the fulfillment of responsibilities on all levels to help fresh employees to understand the corporate culture and adapt to their jobs.

Expanding the channel of promotion. State Grid improves the “four level, four type” talent structure and stresses the leading role of companies and departments that the talents work for in the selection, development and evaluation of talents through allowing those who use the talents to select, train and evaluate the talents. State Grid also adopts an innovative talent assessment and evaluation mechanism that highlights moral characters and performance to avoid the tendency of degree-oriented, position-oriented and dissertation-oriented talent evaluation.

Improving incentives for talent development. State Grid provides incentives to employees with outstanding results in evaluations and promotes the trial implementation of dividend-based incentives in technological-oriented companies focusing on the R&D of new products and the commercialization of scientific outputs through giving additional bonus and dividends to motivate R&D staff to pursue innovation. State Grid also launched the standard treatment to talents of different levels as an important factor determining their payroll to combine short-term and long-term incentives.

Promoting the development of employees’ organizations

Promoting the spirit of model workers. State Grid attaches great importance to selecting model workers and promoting artisanship through making video clips and micro movies for maximum effect. It also pushes forward the development of Model Worker Innovation Studios to form synergy, create a favorable environment for innovation and build corporate brands, so as to spark the creativity and passion of employees.

Improving the well-being of employees. State Grid launched “Warmth of the Heart” project to visit and aid employees in difficult situations and enrich the life of retirees. During the New Year holiday and the Spring Festival holiday in 2017, State Grid leaders visited 54,000 employees in difficult situations and 189 elder Party members of Party Committees under the direct leadership of the Headquarters with financial difficulties. By now, 2300 senior centers (houses and clubs) and 59 universities were built for the elderly with 8100 students. State Grid also organizes art exhibition, video-making competitions and table tennis tournaments to enrich the life of employees.

Safeguarding the rights and interests of female employees. State Grid strictly follows *Regulations on the Special Labor Protection for Female Employees* to safeguard the rights and interests of female employees from the root, improve the mechanism for female employees to protect their own rights, and include the “Collective Contract on the Protection of the Special Rights and Interests of Female Employees” as an important component of domestic management. State Grid also provides individualized services of all kinds and organizes theme activities to improve the well-being of female employees.

Tapping the potential of employees in making innovation and increasing efficiency. State Grid sticks to driving development with innovation and respects the creativity and initiative of employees, encourages employees to make innovations and increase efficiency and promote the development of a result demonstration and exchange platform. It organized the 3<sup>rd</sup> Innovation and Creativity Competition for Young Employees, Technological Innovation Contest, Model Worker Innovation Studios and QC programs to integrate online and offline platforms to spur the enthusiasm, initiative and creativity of employees.

State Grid held the 3<sup>rd</sup> Innovation and Creativity Competition for Young Employees to build a platform for young employees to demonstrate their talents

The 3<sup>rd</sup> Innovation and Creativity Competition for Young Employees, with the theme of “New Telecommunication Technologies Make Power Grid Smarter and Enterprise More Intelligent”. The event focuses on cutting edge technologies in the development of power grid. 5700 teams composed of 44,000 young employees competed in three areas: big data and cloud computing, Internet of Things and mobile connectivity, AI and VR. More than 13,000 innovation project proposals entered the competition, of which, 46 outstanding outputs have been applied and promoted, 15 projects are identified as the company’s annual key technological projects, and more than 5000 projects are being hatched and applied within the corporation. The Innovation and Creativity Competition for Young Employees integrates the innovation-driven development strategy of State Grid with the need of young employees, in demonstrating their talents to strengthen the sense of creativity, provide inspiration for creative thinking and bring out the potential of young employees in making innovation with a positive influence on promoting the transition and upgrade in power grids and corporate management.

Launching of the “State Grid Seal Carving Club”, promote seal carving art

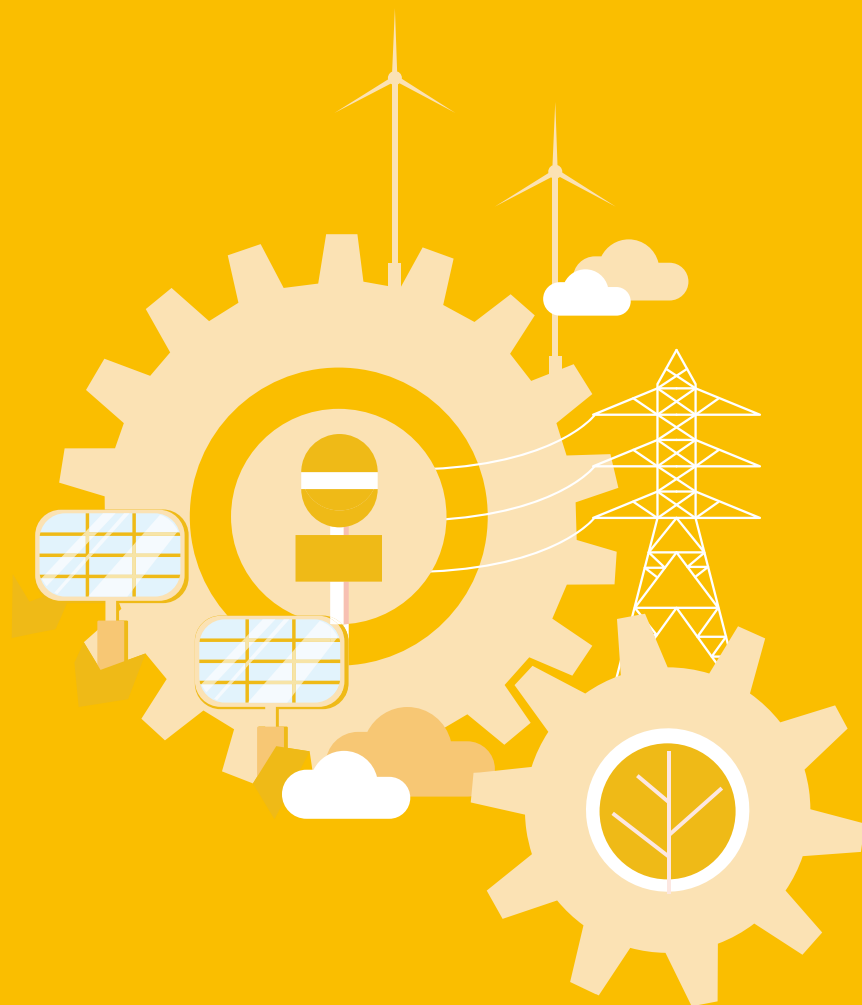
To promote traditional Chinese culture, enrich the cultural and recreational life of our employees and popularize the art of seal carving, State Grid established seal carving clubs on all levels. *The 3-Year Action Plan for Building “State Grid Seal Carving Clubs”* aims to combine traditional art with corporate culture, fully utilize the seal carving hobby to record the development and achievement of the Corporation. The program helped to spur an interest in seal carving art among employees and the general public. By the end of 2017, more than 40 “State Grid Seal Carving Clubs” have been established with several thousand members. They organized academic exchanges and competitions and visited communities and schools to hold a variety of promotion activities that not only help to promote corporate culture and build a good corporate image, but also contributes to popularize traditional seal carving art.

Organizing various activities to enrich the cultural life of employees





# Mutually-Beneficial Win-Win Cooperation



Strengthen cooperation, develop technologies to get access to clean energy and promote investment in energy infrastructure and clean energy technologies.

Deepen international industrial capacity and equipment manufacturing cooperation and assist other developing countries to improve industrial structure and realize diversified industrial production.

Encourage affiliate companies to adopt sustainable practices and set up a regular frequent reporting mechanism in areas of sustainable development; promote sustainable public procurement according to state policies and corporate priorities.

7 Affordable and Clean Energy



9 Industry, Innovation and Infrastructure



12 Responsible Consumption and Production







## Pursuing joint development with power generation companies

**Facilitating the construction of new energy power generation bases.** State Grid closely cooperates with power generation companies to carry out the planning and construction of new energy power generation bases, actively participate in the transmission and consumption of wind power and solar power ,building the largest distributed PV energy network in China.

**Optimizing coordinated grid side and generation side management.** Strengthens the interactive response level between power grid and power generation. Carry out wind power monitoring and early warning tasks as requirement by the National Energy Administration. Implements the national PV integration projects for poverty alleviation.

## Forge platforms for scientific and research cooperation

**Extensively carrying out international cooperation in scientific research.** State Grid established partnerships with more than 150 international organizations, government departments, businesses, universities and research institutions from 45 countries and regions, and organized studies on power grid planning in Asia, Africa, South America and Southeast Asia with the Feasibility Study of China-South Korea-Japan Grid Interconnection already finished.

**Pushing forward cooperation with domestic scientific research institutions.** State Grid signed cooperation agreements with National Natural Science Foundation of China on establishing a joint fund for the development of smart grid, proposed guidelines for projects selection procedure for the joint fund in 2017 and plans for major projects in 2018.

## Pursuing win-win cooperation with financial institutions

**Expanding financing channels.** State Grid has been awarded the National Sovereign Credit Rating by three major international rating agencies for 5 consecutive years and successfully issued 5 billion USD bond with a record low interest among Chinese enterprises. State Grid also made efforts to fully tap the potential of internal capital and increased the collectively-owned capital under China Power Finance Co., Ltd.'s control to more than 100 billion RMB.

**Optimizing capital structure.** State Grid made breakthroughs in equipment manufacturing affiliates' process, successfully implemented the asset restructure of NARI Group and Guangyu Development and increased the securitization rate of companies with direct affiliation to 50%. State Grid launched reform measures for financial operations and helped Yingda International Trust Co., Ltd. to attract strategic investment from China Southern Power Grid.

## Growing together with construction companies

**Improving the management of technologies.** State Grid vigorously promotes 3D design, factory processing, modular production and mechanized construction to improve the efficiency and quality of construction and promotes coordinated planning, design, procurement, construction, operation and maintenance to foster a modern (smart) supply chain.

**Strengthening technology, economic and cost management.** State Grid improved procedures for the approval of preliminary designs and the management of the budget for the construction map and promotes project settlement during construction to ensure standard management. It also organizes research into project quota and pricing systems and make deeper analysis into project cost.

**Promoting the management of the construction and operation of hydropower projects.** State Grid carried out studies on models for the construction and management of hydropower projects and on-site inspection and supervision of flood control facilities in power stations under construction and in operation on rivers along the border areas of China and North Korea, accelerated the construction of pumped storage projects, strengthened the check and maintenance of hydropower projects and technological management to improve the quality of hydropower facilities and infrastructure construction.

**Enhancing team building of construction.** Deepening the reform of local construction teams to comprehensively promote team-building, promote the transformation and upgrade of construction teams and strengthen the professional management of collective construction groups.

## Implementing responsible procurement

**Constantly improving procurement management.** State Grid strengthens bidding and procurement supervision and management with the establishment of the headquarter-provincial-regional (municipal) three-layer e-commerce procurement system to expand the scope of e-commerce procurement. It is committed to improving the capability of securing the supply of material and capital to pull in resources for intensive management and improve the level of standardization.

**Promoting quality and green procurement.** State Grid promotes the project of "fostering green supply chains and promoting green manufacturing", strictly controls the quality of procurement, improves the management of suppliers and optimizes the stability and quality of massive production.

**Improving procurement supporting facilities.** State Grid effectively promotes the "two foundations and one modernization construction" initiative, gives full play to the role of supplier service center as the "bridge" and the "window". The State Grid material and capital service micro platform has been launched and put into operation, promoting the application of information technology in building a new-generation e-commerce platform.





## Improving the capability of suppliers in providing services

The e-commerce platform had more than

**80,000**

registered suppliers in 2017



## Supplier service centers

- Improving the closed-loop business mechanism with extended coverage
- Regulating the management communication mechanism
- Expanding the channels of service-provision and improving the on-the-spot service evaluation system
- Establishing a new self-service zone for suppliers
- Enhancing the functions of WeChat platform for supplier services
- Comprehensively providing highly-efficient, convenient and quality services for suppliers on all fronts

Companies followed the official WeChat account of State Grid

**15,500**



Answered hotline calls

**37,326**



Services

**73,900**



## Focusing on high-end equipment and smart manufacturing

16 directly-affiliated industrial companies



Revenue

**223.96**

billion RMB

Year-on-year growth

**58.4%↑**



Profit

**25.1**

billion RMB

Year-on-year growth

**10.9%↑**



Total Assets

**769.47**

billion RMB

A growth of

**191.3**

billion RMB compare to the last year end



Equity

**333.56**

billion RMB

A growth of

**60.86**

billion RMB compare to the last year end





# Corporate Citizen



Eradicate extreme poverty for all people everywhere, implement nationally appropriate social protection systems and measures for all, achieve substantial coverage for the poor and the vulnerable, ensure that the poor and the vulnerable have equal rights to economic resources as well as access to basic services.

1 No Poverty



Ensure that all girls and boys have access to free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes; provide safe and effective learning environments for all.

4 Quality Education



Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality; implement the principle of special and differential treatment for developing countries, in particular least developed countries.

10 Reduced Inequalities





## Aid to Tibet and Xinjiang

**Power grid construction.** State Grid implemented the country's policy of stabilizing and securing Xinjiang and Tibet and built a safe and high quality Central Tibet Interconnection Project; accelerated the construction of Xinjiang power grids, promoted the transformation of South Xinjiang's resource advantages into economic advantages, and increased the reliable power supply level of the power grid.

**Talent input.** To implement the East-West talents' assistance, 423 management and technical personnel were selected from 31 institutes, assisting five companies in Xinjiang and Tibet to carry out power grid construction and management upgrades.

**Cultural promotion.** State Grid implemented cultural aid measures for aiding Xinjiang and Tibet; organized the compiling of bilingual (Tibetan-Han, Uygur-Han) books of aiding enterprises; organized and carried out the delivery of cultural works for aiding Tibet and Xinjiang; distributed mobile book boxes, digital integrated reading machine and cultural activities facilities; created a number of grid theme literary works and provided a convenient and efficient reading experience and a full range of cultural services for all employees.

## Help students, the elderly and the disabled

**Creating a public welfare brand for helping students, the elderly and the disabled.** Relying on 500 public welfare programs, such as "Home for Stay-at-home Students" "House of Spring Seeding", State Grid accumulatively helped more than 900,000 underprivileged persons. The "New Great Wall" student aid program was implemented and sponsored 100 students to attend university and assisted 400 high school students from poverty-stricken families in "three counties and one district" in Hubei province. Pilot trial of "Emergency and Difficulty Rescue" was also launched.

**Awarded the 4<sup>th</sup> UHV Power Grid Scholarship.** In 2017, 180 undergraduates majoring in electrical engineering from 20 universities were granted UHV Power Grid Scholarship worth over 1.8 million RMB, which demonstrated the core values of power industry. State Grid made active efforts to enhance its cooperation with universities and other companies, consciously shouldering its due social responsibility.

## Poverty alleviation

State Grid Corporation of China insisted on the use of electricity for poverty relief as an important force in promoting the industry development and supporting the poverty alleviation, and incorporated it into the corporate development strategy. The company actively served new urbanization, agricultural modernization and beautiful countryside construction. It persisted in the overall planning of urban and rural power grid development, and strove to increase the power supply support capacity of rural power grids in remote and impoverished areas. Electricity for poverty relief drove and radiated the industry for poverty relief, being an important driving force behind accurate poverty alleviation.

**The "State Grid Sunshine Poverty Alleviation Initiatives" achieved remarkable results.** The "State Grid Sunshine Poverty Alleviation Initiatives" has become a paradigm for the central state-owned enterprises in poverty alleviation. Actively communicating with the government at various levels and project owners, State Grid had smooth access to projects through green channels, ensuring that projects connected to the grid and generated electricity in a timely manner, settled the on-grid electricity charges on time according to the agreed period and timely allocated government subsidies. State Grid also formulated *Guidelines for the Management and Evaluation of Photovoltaic Power Plants for Targeted Poverty Alleviation at Village Level*. E-commerce poverty alleviation area is operated stably. State Grid would continuously promote the assisting activities of central state-owned enterprises in tens of thousands of villages and a hundred of counties.

**State Grid wins stakeholders' recognition.** State Grid hosted the National Photovoltaic Poverty Alleviation Site Watching Exhibition, which was highly evaluated by the leadership of the State Council Poverty Alleviation Office. Using awards instead of subsidy as poverty alleviation practice were fully affirmed by the ministries and commissions of the State Council Poverty Alleviation Office and won widespread attention and recognition from all sectors of the society for the comprehensive value created by the central state-owned enterprises. The practice of poverty alleviation based on awards instead of subsidy has become a subject for State Grid to actively explore and practice.

**Created public welfare brand.** Combining with photovoltaic power plants for targeted poverty alleviation in "Three Counties and One District" (Zigui County, Changyang County, Badong County and Shennongjia Forestry District), Hubei province and Maduo County, Qinghai Province, State Grid created the public welfare brand of "State Grid Sunshine Poverty Alleviation Initiatives" and promoted the publicity of programs such as "Lighting Up Jingangtai by Heart", "Love-Red Ribbon" and "Spring Seeding Home of State Grid".



UHV Power Grid  
Scholarship

**700**  
persons

Volunteer Service  
benefit

**2**  
million persons

In 2017



## State Grid sunshine poverty alleviation initiatives

2016—2017



National photovoltaic poverty alleviation power station

The cumulative investment

= **1.97** billion RMB

The total network capacity

+ **9.542** GW

Households benefited from poverty alleviation

+ **1.551** million



Dynamic Power to All Villages

Completed investment

= **21.25** billion RMB

Natural villages with power supply

+ **26,000**

Completed electricity capacity enlargement and upgrading for

+ **52,000** villages

## Continuously launched targeted poverty alleviation



"Three counties and one district" in Hubei Province

Poverty alleviation, completed contribution of

**437** million RMB

Established file card, alleviated villages from poverty

**236**

Built bases of agricultural planting, raising and products processing

**18**

Solved drinking water safety problems and benefited

**6,800** persons

Each 200kW village-level power station generated about **190,000** RMB in benefits each year for poverty alleviation. The village-level power stations accumulated a total of **9.35** million RMB in poverty alleviation benefits, providing a stable and sustainable poverty-relief fund for **97,000** poor people.



Maduo County, Qinghai Province

Clean energy heating demonstration project, investment

**7.64** million RMB

Disbursement of photovoltaic benefits for poverty alleviation

**3.8** million RMB

Assisted students on education in pastoral area

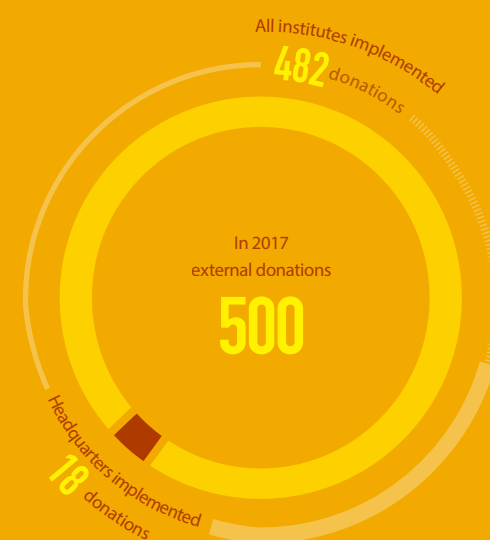
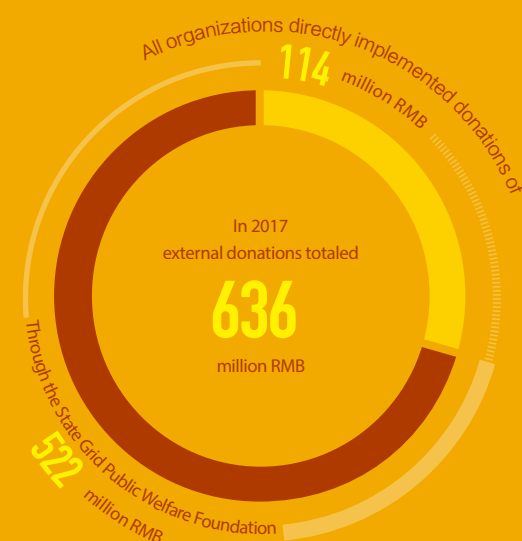
**148** persons

"Emergency and Difficulty Rescue" project relieved

**41** persons

The revenue generated by PV-powered poverty-relief power plants assisted in establishment of file card for **1,132** households, and the income of poverty-stricken people was increased by **3,357** RMB/ (household-year).

## Created a public welfare brand



## Volunteer service

A total of Communist Party Member Service Teams

**4,202**

Established youth volunteer service teams

**3,200**

Members

**107,000** people

Young volunteers registered more than

**500,000**

## Partner assistance to Tibet and Xinjiang



Tibet

During "the 13<sup>th</sup> Five Year Plan", Tibet power grid planned to invest

**51.1** billion RMB

In 2007 completed investment on power grid

**15** billion RMB

Started constructing the Central Tibet Interconnection Project with the highest altitude, the most complex environment and the most difficult construction in the world, accelerating the leap-forward development of Tibet's power grid. Hosted the rural electricity of 16 counties outside Tibet power grid to achieve the unified management of Tibet's power grid.



Xinjiang

State Grid invested in power grid in Xinjiang in 2017

**17.6** billion RMB



The **750** kV Ili—Kuchar transmission line formed the main grid of Xinjiang power grid. The amount of clean energy delivered has totaled at **820** GWh, and the photovoltaic capacity of the four prefectural states in southern Xinjiang has reached **320** GWh, equivalent to a reduction of **50,000** tons of CO<sub>2</sub> emissions and **560** tons of SO<sub>2</sub> emissions.



## Compliance with laws and regulations

### Build an internal control system.

- In accordance with the requirements of the State Council SASAC Construction Standards Board of Directors, State Grid teamed up a board of directors and a special committee, set up a comprehensive risk management committee and implemented two-level legal person and three-level management to ensure that decision, execution and supervision are independent and check and balance can be achieved in these fields.
- State Grid carried out thorough risk assessments, adopted questionnaire surveys, expert interviews and risk reports, etc. to comprehensively assess major risks at the company level. No major risk events occurred throughout the year.
- Deepened the centralized management of funds, State Grid carried out specialized management and controls on production, business activities such as capital, procurement, assets, marketing, research, development and engineering.
- Deepened the life cycle management of assets, State Grid promoted the construction of electricity market and customer service, actively promoted the “first-class and four-biggest” technology strategy, and strengthened the responsibilities of design, construction and supervision.
- Comprehensively applied daily supervision and special supervision methods, State Grid conducted monthly real-time supervision on the core business such as finance, engineering, materials and marketing, as well as internal control thematic evaluations with information projects, asset management, and “two funds” as key management and control areas.

### Strengthen the management of the Corporation according to law.

- State Grid implemented the requirements of “Three Full” (full compliance, full comprehensive coverage, and full control), strengthened “Five Law-based” (law-based governance, decision-making, operation, supervision, and rights protection), and established “Four Modernizations” (networking, integration, specialization, socialization) platform.
- Comprehensively strengthened contract management. State Grid revised the unified text of 238 contracts and continuously improved the specification, standardization and precision management of contracts. State Grid strengthened E-commerce procurement and settlement management and established a mechanism for separating the demand for purchases from the receipt of goods to prevent the risk of e-commerce procurement execution, goods receipt and fund settlement.
- Strengthened the legal representative’s authorization management. Focused on the implementation of a general system for reviewing the legitimacy of major decisions, State Grid introduced legal advice and legal review management measures, deepened the legal protection of tendering and strengthened the legalization of the company’s tendering business.

## State Grid Communist Party Member Service Team

**Set up a bridge with the people.** Kept in mind the instructions of President Xi Jinping when he visited the Communist Party Member Service Team of State Grid Sichuan Electric Power; keep in mind the purpose, be mindful of the people and become the party’s bridge with the people. The Communist Party Service Team adhered to the service concept of “Your Power, Our Care” and carried out activities such as emergency rescue, disaster relief, aid for the weak, and dedicating love, so that they could respond with aspirations and difficulties.

**Party members played an exemplary role.** During the 19<sup>th</sup> CPC National Congress, State Grid dispatched nearly 50,000 security teams to team up 95 party commandos, 79 party members’ safeguarding team, and 88 party members’ service team. State Grid organized “Party Member Pioneers-Lighting Tibetan Area” theme activity, set up 47 party members demonstration posts, 23 party member commandos, 20 party members responsibility area and 23 youth commandos; three comrades, Zhang Canhui, He Jiajian and Peng Kechang were unfortunately sacrificed in the front of anti-flood and safeguarding electricity, highlighting the noble quality of “power utility by the people and for the people”.

## Initiated “Young Volunteers Action” Volunteer service activities

Through group promotion, standardization management, project operation and typicalization guiding, the “Youth Volunteer Action” Service Program has been widely implemented in the Corporation’s system for 15 consecutive years. Among the central state-owned enterprises, State Grid established first youth volunteer service corps and set up 3,200 volunteer service units with 500,000 volunteers registered. State Grid formulated the *Youth Volunteer Service Activities Management Approaches* and established a working mechanism for volunteers’ action. The “Young Volunteers Action” service team has newly-added 2.5 million volunteers every year, dispalying the company’s brand image.



Luoyanghe Village in Shennongjia Forestry District  
The happiness reflected by the 92 fingerprints

In April 2017, all the villagers of Shenyanghe Village in Shennongjia, Hubei province, wrote a joint letter to Shu Yinbiao, Chairman and Party Secretary of the State Grid Corporation of China. At the end of the letter, there were 92 red fingerprints, from 92 families’ representatives in the village, expressing their gratitude of the villagers. The Luoyanghe Village is a poor village with 92 households (81 households are poor households) in the Shennongjia Forestry District. It is also the most remote mountain village in the forestry area. The natural environment is harsh, remote, obstructed and backward. The village in collective has no sustainable source of economic income. In February 2017, the 200kW photovoltaic power station for poverty alleviation that was donated by the company was officially started, with a total investment of more than 2 million RMB. The company was responsible for material procurement, installation and grid connection of the power station. After the power station was completed and put into operation, it could generate 150,000~180,000 RMB/year under local sunshine conditions. Chen Zuju, party secretary of Luoyang River Village, said, “If I want to do something for the people in the future, I have confidence and I can stand straight.”

State Grid Sichuan Electric Power  
“Three Co-s” boosted the construction of the beautiful Yi village

State Grid Sichuan Electric Power successfully copied the experience of precision poverty alleviation in Gaoshicun village in Mabian, Lebian and promoted it to the precision assistance on Ahou Village in Xide County, Liangshan Prefecture with the introduction of poverty alleviation model as “Party branch co-building, industrial co-development and civilization co-operation”. At the industrial demonstration base in Ahou Village, 103 mu of lilies, alfalfa, and chuanbei were planted, and 3 phases of competition for raising pheasant, sheep, and ecological pigs were carried out, which increased the income of poor villagers by 872,900 RMB. Through two years of assistance, the per capita annual income of impoverished households in Ahou Village increased from 1,500 RMB in 2015 to more than 5,500 RMB in 2017, raising the awareness of poverty-stricken villagers in their efforts to eradicate poverty and strengthening their confidence in poverty alleviation. At the same time, Sichuan Electric Power organized three levels of pairing and helping, various party committees and party branches cooperated with each other and assisted with the construction of the village branch, the establishment of the “Four Goods” family, the safe use of electricity, and cultural and educational publicity. Sichuan Electric Power carried out activities such as “be a civilized villager, cultivate a civilized habit,” and “bright baby”, actively promoted modern civilization concepts and ways of life and cultivated the good hygiene habits of villagers and children.

State Grid Beijing Electric Power  
Enabling full coverage of the “Electric Power Love Classroom”.

State Grid Beijing Electric Power has been planning and implementing the “Electric Power Love Classroom” public welfare project since 2012. It has conducted cross-border cooperation with the Board of Education, schools and charity organizations, and fully considered the expectations and demands of stakeholders. Through the standardizing “Electric Power Love Classrooms”, enriching the contents of teaching materials, upgrading curriculum settings and organizing diversified activities, etc., Beijing Electric Power continued to explore sustainable development paths for public welfare projects. By the end of 2017, the “Electric Power Love Classroom” has been set up in 100 primary schools and 118 communities, a full coverage in all districts and counties in Beijing; Beijing Electric Power established and operated five “Electric Power Love Classrooms” in Xicheng District, Haidian District, Fengtai District and Tongzhou District and Miyun District respectively. Mobile exhibition hall issued more than 5,000 promotional brochures and served customers with 16 batches of 6,502 people. The “Electric Power Love Classroom” public welfare project was honored by the State-owned Assets Supervision and Administration Commission of the State Council and the CYL Central Committee for the “Gold Case of Social Responsibility for Large State-Owned Enterprises”, the Gold Project of Capital Learning Leifeng Volunteer Service Demonstration Station (Post), and Gold Medal of Beijing Volunteer Service Project Competition.



# Green Development and Environmental Protection



Dramatically increasing the share of renewable energy in global energy mix. The global energy efficiency rate has doubled advancing the research and technology on developing of clean energy and promoting investment on energy infrastructure.

Relieving the negative impact on environment per capita in cities, including focus on air quality, management of city wastes etc.

Enhancing the education related to climate change and ability of staffs and authorities on this aspect.

7 Affordable and Clean Energy



11 Sustainable Cities and Communities



13 Climate Action





Renewable energy  
installed capacity grew by

**60.66**  
GW

In 2017

Charging piles integrated the  
Smart Service Platform for  
Internet of EVs

**170,000**

## Re-electrification

**Re-electrification is the fundamental way of energy transition.** A new clean and low-carbon energy system is required for energy transition. In terms of production, re-electrification is represented by large-scale development and utilization of renewable energy, such as wind and solar power; In term of consumption, it can be represented as deep replacement of fossil energy by electric energy.

**The large-scale development and utilization of renewable energy.** By means of establishing steering groups on promoting its accommodation, and formulating a comprehensive scenario, China has become the country producing the largest amount of wind power. Also, establish distributed PV cloud network generation, meanwhile, popularizing PV generation for highway sidewall, and plan the construction of UHV transmission channels for hydropower out-sending.

**Profound replacement of fossil energies by electric power.** Actively expanding the range and fields which can be replaced by electricity, and systematically arranging an overall layout for replaceable areas according to the principle of "covering all domain fields, energetically advancing new fields and implementing pilot scheme on creative fields". Greatly reducing the consumption of final direct fired coal and oil to boost the re-electrification in various fields.

## Boosting energy conservation and emission reduction of power grids

The EIA (Environmental Impact Assessment) rate of grid construction projects has stayed 100% for 9 consecutive years; the gas of SF<sub>6</sub> has been purified by 70 tons, which equals to CO<sub>2</sub> emission reduction of 1,675,000 tons; advancing the work on ensuring that the sealing sites of electrical facilities which contain polychlorinated biphenyl are harmless for environment; finishing the special examination on environmental and water conservation of projects on UHV DC transmission from Shanghaímiao to Shandong, from Ximeng to Taizhou, and from Zhálute to Qingzhou.

## Facilitating the energy conservation and emission reduction

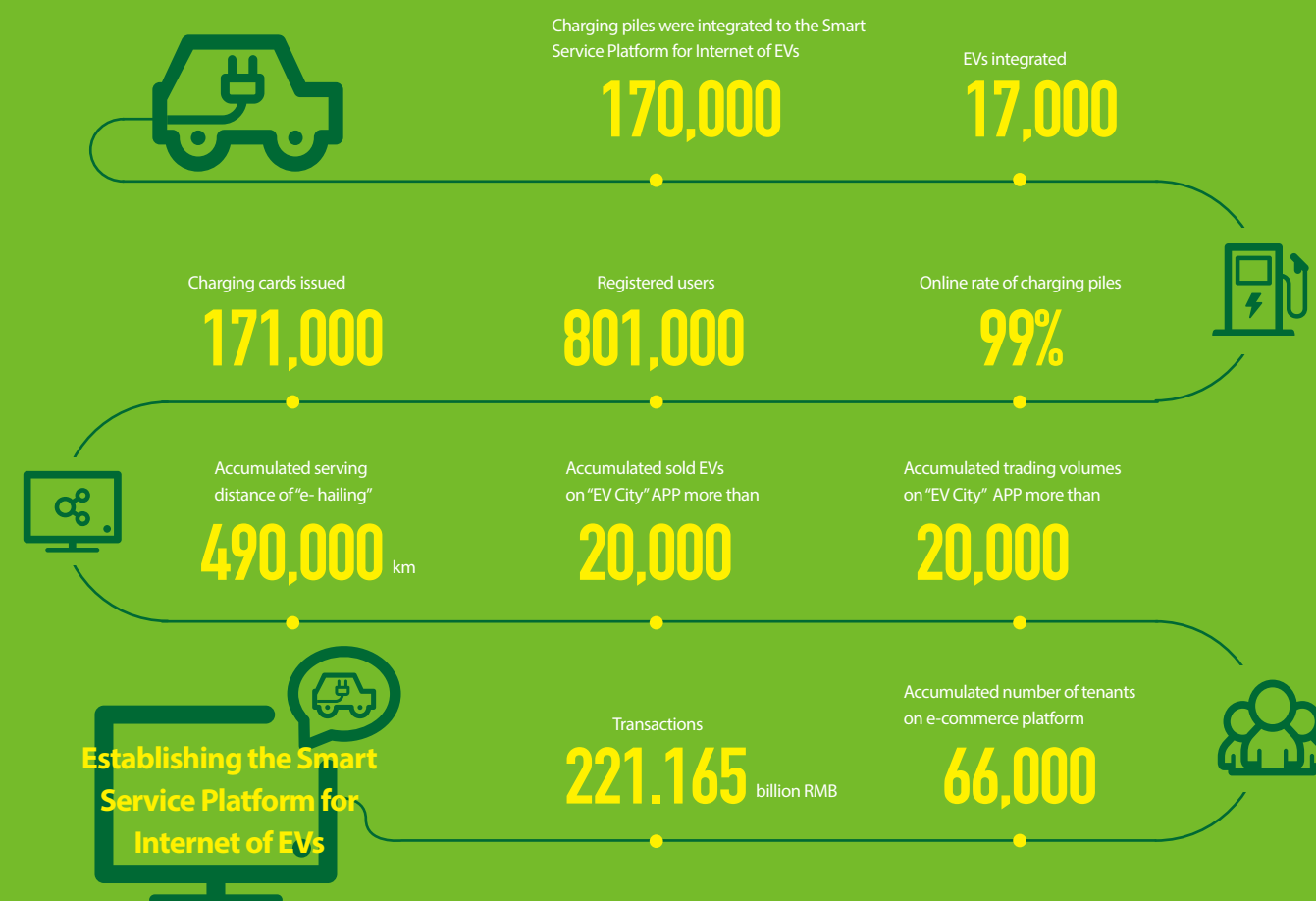
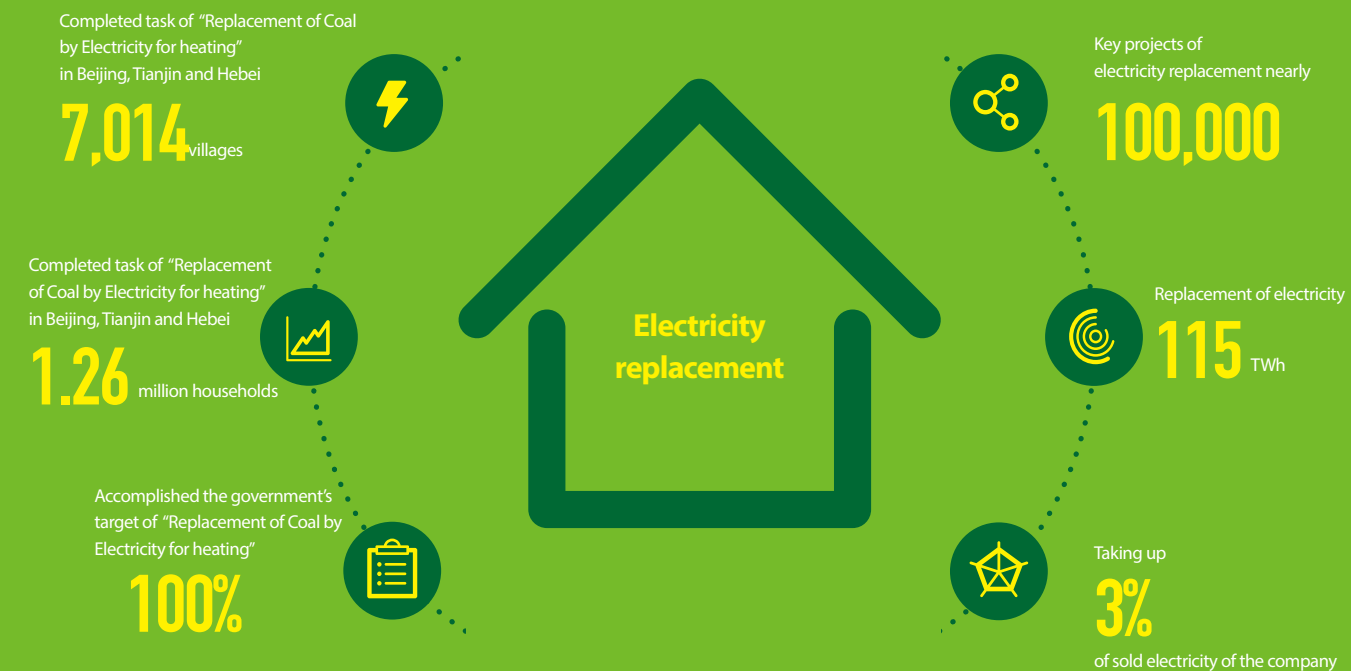
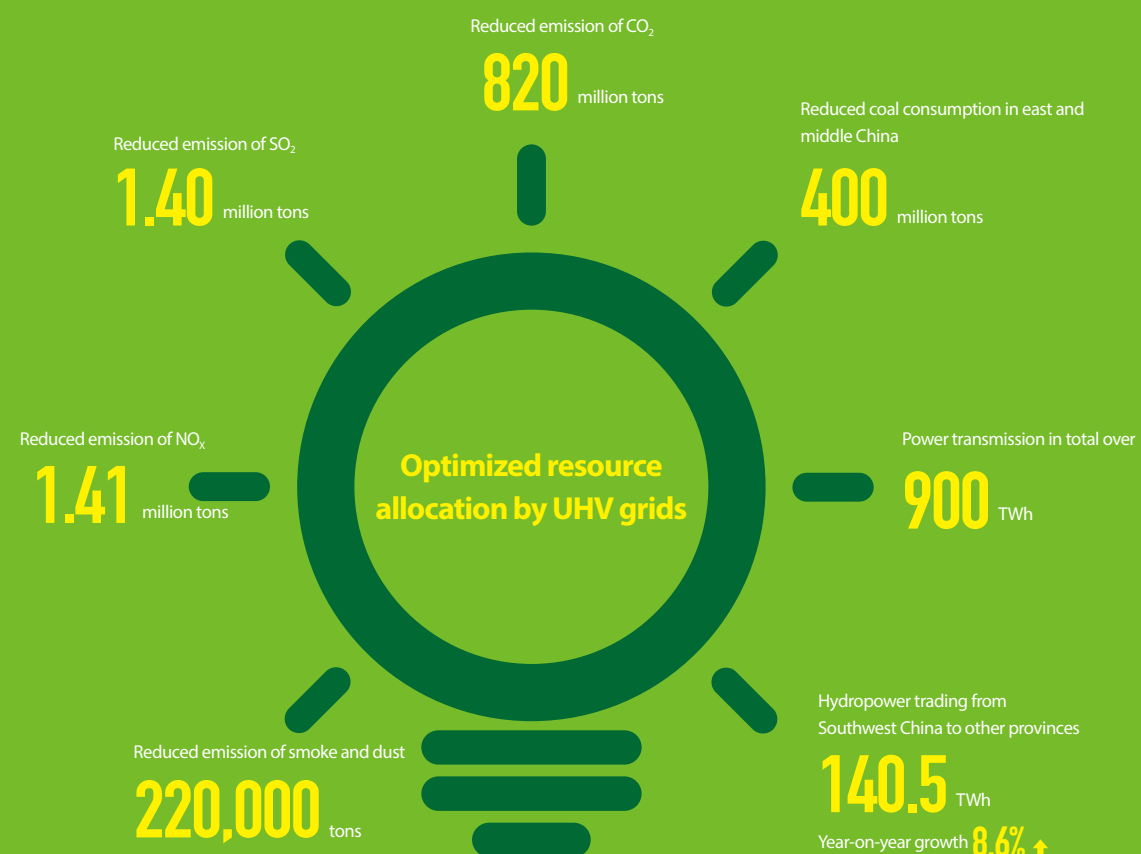
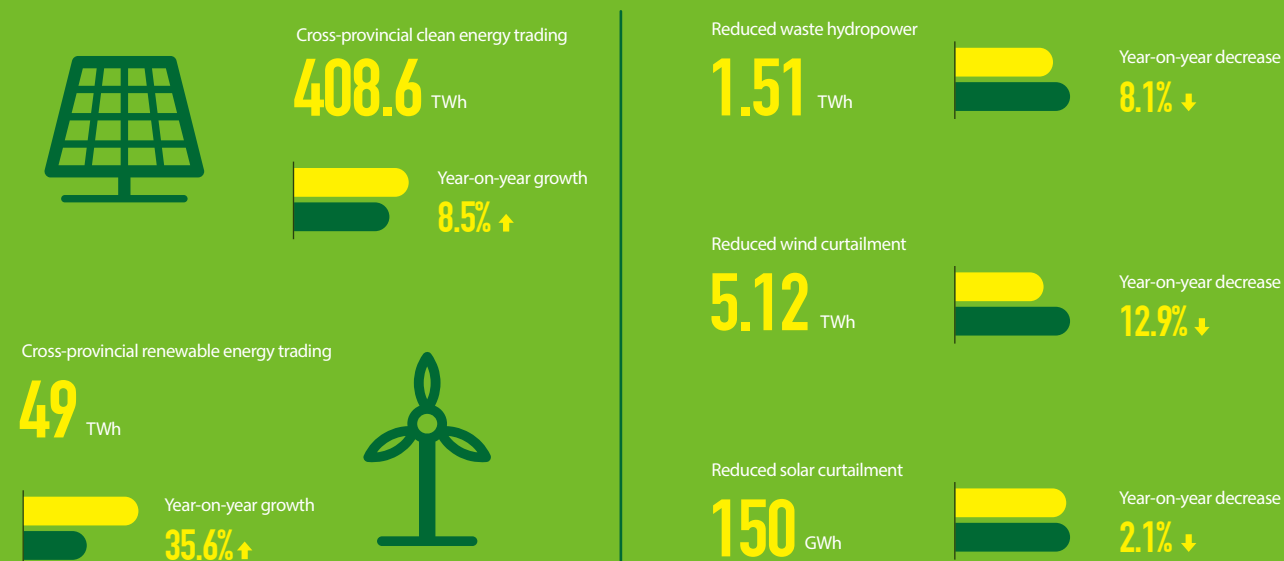
Aiming at the features like "more requirements from customers, more projects in various areas and complexity in category of techniques", State Grid took the company of comprehensive energy service as the principal part, focused on industrial parks, industrial enterprises and public architecture. We also integrated resources, planned for the technologies, including diagnosis and supervision of energy efficiency, improvement of energy conservation, combined supply system of cooling, heating and power as well as energy storage, so as to satisfy customers' demand for various energy services on electricity, gas, cooling and heating.

## Establishing Smart Service Platform for Internet of EVs

A total of 170,000 charging piles have been integrated to the Smart Service Platform for Internet of EVs. The functions of this platform were consistently renewed, including services of "e-charging", "e-taxi-hailing", and "e-cars in cities", and thus the e-service system which is advanced in the same industry has been built. The one package service system of sharing charging information, renting and selling electric cars, running and maintaining charging piles as well as car insurance has been fundamentally established.



## Accommodation of clean energy





Being the leader in green development of state-owned enterprises

Reports in the 19<sup>th</sup> CPC National Congress proposed the idea of promoting revolution on energy production and consumption as well as establishing a safe and highly efficient system of clean and low-carbon energy. As the leader in state-owned enterprises, State Grid keenly figured out the deep influence brought to power grid by new age and contradictions, and seized new opportunities to cope with new challenges. Sticking to the principle of green development, State Grid planned and promoted the construction of power grid at all levels, improved the mechanism of market-oriented transaction, carried forward the supply and consumption of green electricity to the largest extent, and tried actively to be a model in advancing the revolution of energy production and consumption.

Promoting the accommodation of renewable energy in all dimensions

- formulating the *Work Schedule of Promoting accommodation of Renewable Energy in 2017*, refining the division of work, implementing responsibility system, and solving problems of Wind and PV curtailment through combining multiple methods and comprehensive strategies.
- Organizing 11 themed researches on to come up with systematic solutions.
- Strictly following the precautionary principle of supervision on State’s investment on wind power, and meeting the requirements related to guaranteed full purchase . Strictly controlling the integration of renewable energy and newly installed capacity of wind and PV.
- Case-studying the PV integration in north Hebei province, proposing advices and realizing the integration by stages in turn.
- Carrying out *Guiding opinions on the implementation of the “13<sup>th</sup> Five-Year Plan” for renewable energy development* and *Measures for resolving curtailment of hydro, wind and PV power generation*, and providing specific working requirements.
- Organizing themed conference in the company, and arranging the goals and tasks in three years after the “13<sup>th</sup> Five-Year Plan”.

Serving the construction of a beautiful China

Based on its own advantages, State Grid held on to the principle of “focusing on electric power and two replacements (replacing coal and oil by electricity)”, accelerated the process of re-electrification, and took actions vigorously in establishing a safe and highly efficient system of clean and low-carbon energy, a green and low-carbon economic system of cyclic development as well as a creative system of green technology which is oriented by market. In this way, State Grid could promote green development, join in the construction of beautiful China with actual measures, create a good environment of production and living for Chinese people, and make contributions to global ecological security.

Actively building pumped storage stations

Investment (billion RMB)		Installed capacity (GW)
8.02	Yixian in Hebei	1.2
8.308	Zhirui in Inner Mongolia	1.2
7.95	Ninghai in Zhejiang	1.4
10.39	Jinyun in Zhejiang	1.8
8.88	Luoning in Henan	1.4
8.804	Pingjiang in Hunan	1.4

Pumped storage station is an important infrastructure and an eco-environmental project for balancing power supply. From 2013 to 2017, the construction of 21 pumped storage stations had been carried out, with installed capacity of 30.15GW; 5 pumped storage stations have been put into operation with installed capacity of 6.1 GW. The 6 stations in Yixian of Hebei and other cities have driven the growth of GDP by more than 70.7 billion RMB, genetated more than 170,000 job positions and will bring about 840 million RMB of tax after put into use.

Playing a leading role in energy conservation and emission reduction

State Grid combined the active management and advertisement so as to gradually advance the energy saving construction in buildings which have existed within the company and implemented green management in newly constructed buildings. State Grid also started the energy conservation and emission reduction in office blocks, established smart micro grid system which covered interior buildings, checked the effect of energy conservation and emission reduction in real-time, gradually weeded out energy-intensive office equipment so that the energy conservation and cost reduction in all aspects of daily office work can be realized. Besides, the cross-regional allocation of materials can be carried out by property transferring so as to utilize the value of recycling materials in a larger range; a “green channel” for wastes was opened by positively coordinating with specific departments, the incentive mechanism of assessment was optimized and scrap materials were better tackled.

Promoting the initiative on management of carbon assets

Establishing a professional company of managing carbon assets——Shanghai ZHIXIN Carbon Asset Management. Co., Ltd., which leads the development of this industry in fields including auditing, exploiting, managing and transacting carbon assets, low-carbon research and carbon finance.

- Taking the lead in the business of green supply chain within the industry, and devising the project of “forging green supply chain and promoting the green industrial production”.
- Organizing senior seminars on “carbon management and carbon finance of enterprises” together with academic institutions, including China-UK Low Carbon College of Shanghai Jiao Tong University, Business School in University of Edinburgh, Edinburgh Centre for Carbon Innovation and Hong Kong Centre for Carbon Innovation.
- Studying the method, route and MRV crucial techniques in which the company takes part in national carbon emissions trading market. State Grid also undertook the main project of new industry launched by the government of Hongkou, Shanghai: A comprehensive service platform of managing carbon emissions from enterprises.
- Having independently developed 4 methodologies about Chinese Certified Emission Reductions (CCER) and put them on records by NDRC. Among these projects, two have been assessed and approved by UN Executive Board of Clean Development Mechanism (CDM) so that they fill in the gaps in the field of accounting carbon emission reduction, which lacked the carbon trade participated by both domestic and overseas enterprises of power grid.



Popularizing the cloud network of PV generation

- The successful operation of State Grid’s cloud network of distributed PV generation has realized 5473 million RMB of trading volume.
- Fully implementing services for facilitation which covered “one-click” establishment of PV generation, intellectualized operation and management as well as online issuing subsidies for electric charge. In total, the cloud network has been connected to 742,800 households with 28.1879 GW of generation, and 276 high-quality suppliers have joined in with 652 items for sale.
- Building a public service platform of distributed PV generation which covers all industries and combines “technology + service + finance”; forming a new service model for online and offline collaboration to realize online procurement and installation as well as offline installation and access to electricity; for distributed PV owners, investors, manufacturers, operating service providers, financial institutions, and governments at all levels, State Grid provided one-stop services including information releasing, online transactions, smart management, financial services, and big data analysis in order to realize the function of an all-dimensional and three-dimensional Internet platform which is “more convenient with one-click installation, more energy-saving with the construction, more intelligent with supervision on Internet, and faster one-step settlement than ever”. Relying on the cloud network of PV generation, the “National Information System of Poverty Alleviation by PV Generation” was established to realize the full life cycle management of power stations concerning poverty alleviation.

Innovation drives the development of EV industry

- The Smart Service Platform for Internet of EVs with the largest number of charging piles, the most powerful charging function, and the most extensive service for users has been established.
- Models for charging prediction and fault monitoring were built, customized operation and maintenance as well as intellectualized repair were implemented to create the best user experience.
- Innovation on a series of operation models for platform business. Promoting the operation transformation and upgrading of charging stations, creating a “six in one” integrated service model of charging, rest, catering, Internet access, car washing, and advertising; innovating the services of charging facility inspection which cover the management and control of whole life cycle quality, and promoting value-added services such as advertisements on APPs and charging piles as well as financial services. All of these have continually improved the operational effectiveness. State Grid also built a demonstration base of “dual-innovation”, opened up data interfaces for Smart Service Platform for Internet of EVs, provided comprehensive and convenient data services for small and micro enterprises, and initiated the construction of ecosystem for Smart Service Platform for Internet of EVs.



Qinghai Province  
7 Days of green electricity only

From 00:00 on June 17 to 24:00 on June 23, 2017, Qinghai Province was fully (100%)powered by clean energy for consecutivet 7 days, namely, solar, wind power and hydropower, which leded to a reduction of 535,000 tons coal burning of and 964,000 tons CO<sub>2</sub> emission of.

The clean energy operation has set a world record. It is the first time in China and an important milestone in global energy transition. State Grid fully utilized the advantages of large-scale power grids and large market, coordinated the scheduling plans of different provinces in northwest region, flexibly used a variety of market trading categories, and promoted the consumption and absorption of renewable energy in a wider range. During the 7 days fully powered by clean energy, Qinghai signed a short-term and real-time agreement with all provinces (autonomous regions) in northwest China in advance. A total of 41 transactions were conducted, totaling 67 GWh being purchased, accounting for about 5% of power consumption in 7 days. Qinghai successfully addressed the intermittence and fluctuation of renewable energy generation.

In the future, the company will further break market barriers, optimize allocation of resources in a wider range, improve trading mechanisms, innovate trading categories, increase frequency of transactions, and rationally plan and deploy various types of power sources so as to form a complementary model of using various clean energy.

North China  
Clean Heating

In 2017, a total of 1.26 million households completed the “Replacement of Coal by Electricity for heating” in the Beijing-Tianjin-Hebei region and surrounding areas,so the coordinated development of Beijing-Tianjin-Hebei region was promoted and the targets set by government were successfully accomplished. The construction of power grid supporting the “Replacement of Coal by Electricity for heating” in Beijing, Tianjin, Hebei, and Shanxi have all been started.

The company’s leadership attached great importance to it. The chairman, Mr. Shu Yinbiao, proposed that “we must attach great importance to this extremely significant project for people’s livelihood, carry out investigations on heating facilities for the “Replacement of Coal by Electricity for heating”, strengthen operation, maintenance and safety management, ensure that there is no power outage, and provide sufficient power”. The provincial branches earnestly implemented these principles, carried out household inspections for the “Replacement of Coal by Electricity for heating” project, strengthened the identification of potential risks in equipment as well as the control of operation and maintenance, and enhanced the linkage of supervision and repairs through customer service hotline 95598. They also formulated an emergency plan for accessing generator cars in accordance with the principle of “specific plan for one line, specific plan for one village, and specific plan for one zone”. The event of theme day, “Walk into the State Grid and Clean Heating in Northern Areas”, was held to promote the concept of convenient and green life at home as well as to meet the growing needs of people for a better life.

Deeply advancing shore-side  
electricity supply

*Strategic Framework Agreement for Coordinately Promoting the Use of Shore-side Electricity by Ships at Ports* was signed with the Ministry of Transport and the National Energy Administration, which marked the establishment of a working mechanism at the national level to jointly promote the development of shore-side electricity.

In 2017, 24 sets of high-capacity shore-side electricity systems with a total capacity of 44 MW and 507 sets of low-voltage shore-side electricity systems with a total capacity of 46 MW were newly built at the ports along the “two vertical and one horizontal waters”, including the Beijing-Hangzhou Grand Canal, the eastern coast and the Yangtze River. As a result, 50% of the ports or wharfs and water service areas along the Beijing-Hangzhou Grand canal have been fully covered by the supply of low-voltage shore-side electricity.

The company innovated the “Internet+” service and built an operation and service platform of shore-side electricity for ships to realize the use of “All-in-One card” for ships in water service areas along the Beijing-Hangzhou Grand canal. The crew and passengers no longer have to smell the diesel smell every day or listen to the continuous rumblings, let alone adding water to the auxiliary diesel engine to cool it down two or three times every night. The application of shore-side electricity enables passengers to really feel the superiority of green travel and provides a new life on water for the boat owners.

Promoting cooperation with civil airports  
APU replacement of bridge loading equipment

State Grid actively strengthened the communication with Civil Aviation Administration of China, and both sides proposed to jointly promote the “oil to electricity” in fields of air transport, such as APU replacement of bridge loading equipment according to the principles of sharing resource and complementing each other’s advantages.

Provincial companies, such as State Grid Zhejiang and Sichuan Electric Power, actively conducted market surveys, positively contacted with airports in their jurisdictions, and made every effort to ensure the airport’s increasing capacity in electricity use. They also actively provided technical services and support for airports to implement “oil to electricity” projects, like APU replacement of bridge loading equipment. The full replacement of APUs for bridge loading equipment was realized in provincial capitals and main cities in the companies’ operating regions.

There are about 90,000 flights berthing by Binhai Airport of Tianjin every year. The aviation fuel saved in a year by using bridge loading equipment, APU, can allow medium-sized aircraft to fly about 1.25 million km, equivalent to more than 30 laps around the equator. The replacement of bridge loading equipment APU has improved the efficiency of transportation, optimized the structure of energy use and promoted the green development of the air transport industry.

Addressing Climate Change

China is actively involved in the actions addressing climate change. The COP23 was held in Bonn, Germany, from November 6 to 17, 2017. The General Assembly further discussed the implementation of *The Paris Agreement* and laid the foundation for negotiations for 2018. China is becoming an important participant and contributor to global ecological civilization, so its actions have become the focus of all parties.

The national trading system of carbon emissions was officially launched. On December 19, 2017, NDRC held a national initiative meeting of carbon emissions trading system, which marked the beginning of building a nationwide carbon emissions trading system. The establishment of a national market for carbon emissions trading is a significant and innovative practice, which applies market mechanisms greenhouse gas reduction as well as green and low carbon development. It will be beneficial for related industries, for establishing

a sound economic system which is green and low carbon recycling, for building a market-oriented innovation system of green technology, and for promoting green and low-carbon development with higher quality in China.

Installed capacity of renewable energy. The installed capacity of wind power and solar power in the company’s operating areas totaled **240** GW, with an increase of **33%** year-on-year. The installed capacity of new energy accounted for **18%** of total installed capacity of power sources in the company’s operating areas, going up **3%** year-on-year

Generation capacity of renwable energy. The company’s generation capacity of new energy in its operating areas reached **333.3** TWh, with an increase of **40%** year-on-year. The generation of new energy in the company’s operating areas took up **6.8%** of total power generation, with a rise of **1.6%** year-on-year

Promoting energy conservation and  
emission reduction on the power generation side

Overall line loss rate was **6.66%** with **1.33** percentage points lower than 2016

Power trading cross provinces and regions: **873.5** TWh  
Clean electricity trading among provinces: **408.6** TWh

Promoting energy conservation and  
emission reduction on grid side

Completing the noise monitoring of **5295** substations  
Treating **197** substations with excessive noise

Recycling and purifying **70** tons of SF<sub>6</sub>,  
equaling to reducing **1.675** million tons of CO<sub>2</sub> emission

Promoting energy conservation and  
emission reduction on the user side

Saving **12.8** TWh of electricity in 2017  
Saving **3.31** GW of power

Achieving **115** TWh of electricity replacement,  
equaling to reducing **64.4** million tons of scattered coal burning in final energy consumption,  
reducing **110** million tons of CO<sub>2</sub> emission,  
reducing **36** million tons of emissions from impurities like SO<sub>2</sub>, NO<sub>x</sub> and dust



# Serving and Promoting the “Belt and Road” Initiative



Enhance international cooperation to facilitate access to clean energy research and technology, and drive investment in energy infrastructure and clean energy technology.

Increase trade support for developing countries, in particular for the least developed countries.

Enhance North-South, South-South and other regional and international cooperation in areas of science, technology and innovation, and enhance knowledge sharing, improve coordination among existing mechanisms.

7 Affordable and Clean Energy



8 Decent Work and Economic Growth



17 Partnerships for the Goals







## Promoting internationalization with a global vision

**Securing a good reputation with steady and prudent investment.** State Grid received National Sovereign Credit Rating by three major international rating agencies for years.

**Promoting grid interconnection.** 10 interconnected transmission lines with neighboring countries including Russia, Mongolia and Kyrgyzstan have been built to promote exchanges and communications between locals.

**Deepening international production capacity cooperation.** State Grid undertook the construction of key grid projects in Ethiopia, Poland, Myanmar and the Lao PDR, gaining recognition and appreciation from all sides.

**Promoting technologies and standards to “going out”.** State Grid took the lead in establishing the UHV AC and DC and smart grid technology industry standard mechanism and led the development of 47 international standards.

**Building the image of a responsible international enterprise.** State Grid adopted localization policies with 97% of all employees being natives. State Grid also pursues lawful business operation and carries out its social responsibilities.

## Starting a new era for serving the development of the “Belt and Road” Initiative

State Grid successfully invested and operated national and regional backbone energy networks in the Philippines, Brazil, Portugal, Australia, Italy and Greece with a total overseas assets exceeding 60 billion USD. State Grid follows the principle of extensive consultation, joint construction and shared benefit, developed and operated backbone power grids in the “Belt and Road” countries, deepened international production capacity cooperation and improved the efficiency and safety of asset management. We gained extensive recognition from local communities and regulatory authorities, actively opening up a new era of serving the development of the “Belt and Road” Initiative.

State Grid has been promoting the development of cross-border grid interconnection projects with neighboring countries like Mongolia, Nepal and Russia, which played a positive role in addressing the challenges posed by power shortage and promoting people-to-people exchange and communication between countries.

State grid makes full use of its advantages in design, construction, technology and management to participate in international power grid interconnection projects. Currently, projects under construction include: Ethiopia-Kenya DC grid interconnection, Turkey-Iran back-to-back DC grid interconnection project, cross-border grid interconnection projects between Portugal and Morocco, between Greece and Cyprus, between Israel and Egypt, between Saudi Arabia and Egypt. The 500kV power transmission project of the Grand Ethiopian Renaissance Dam build by State Grid was identified by the Ethiopian government as a base for patriotism education for the local youth. State Grid also cooperated with Egyptian power transmission companies on the construction of 500kV power transmission lines and substations in Egypt and steadily developed the ± 660kV Matiari-Lahore DC transmission project in Pakistan.

## Promoting “going out” initiative in terms of capital, technology, standard and management.

Making full use of our own advantage, meeting the international market’s demands, State Grid took a heavy focus on electricity grid related EPC projects, established a new model for international production capacity cooperation that allows all sectors from investment, technology, equipment to design and construction to “going out”. With such efforts, China was able to export its electric and engineering equipments, control and protection equipment, automatic dispatching and control system and high-end power and electric equipment to 83 countries and regions, including developed European economies such as Germany, The Great Britain and Poland. State Grid also undertook the construction of key projects in Ethiopia, Poland, Pakistan, Myanmar, and the Lao PDR, driving the whole industrial chain and value chain to “going out”.

State Grid has been actively building international financing platforms to make full use of the international capital market, with 16.5 billion US Dollar bonds and 2 billion Euro bonds already issued, significantly strengthened the company’s financing capability.

State Grid delivered a series of world-leading innovations with independent intellectual property rights, in areas of UHV, large grid control and smart power grid, took the lead in establishing a complete UHV DC, smart grid technology industry standard mechanism. China becomes a permanent member of the IEC Standing Committee with Chairman Shu Yinbiao as the Vice President. State Grid also promotes Chinese industry standards to “going out”, turning its technological strength into global competitiveness.

### Invest, construct and operate the First and Second Phase of the Brazil Belo Monte Project

State Grid makes full use of its advantage in design, construction, technology and management to actively participate in international grid interconnection and backbone grid projects. The construction of the First Phase of Belo Monte hydropower UHV transmission project in Brazil as China’s first overseas UHV project, was completed in December, 2017, transmitting abundant hydropower in North Brazil to load centers in Southeast Brazil through long distance, in large capacity and less line loss, to meet local demand for economic and social development. The construction of the Second Phase of the Belo Monte Project already started, which will effectively serve the development of the power industry in Brazil. The project also promotes the development and use of hydropower resources in North Brazil, create more jobs and tax income for local community, contributing to the sustainable development of local economy and society.

### Supporting the development of MVIP in the Philippines

Mindanao Island is not connected to the main power grid, and relies heavily on hydropower with frequent power outages and seasonal oversupply. In recent years, Philippine generation companies have built more generators on Mindanao Island. It is expected in the next 5 years, the Island will face the challenge of power surplus. The Philippine government proposed the inclusion of MVIP in the list of China-Philippine energy cooperation project. The China National Energy Administration (NEA) established the China-Philippine expert team on energy cooperation with State Grid as technical supporter. Today, with continuous improvement in diplomatic relations, State Grid’s efforts in promoting the implementation of grid interconnection projects is of great importance to promoting the development of the “Belt and Road” Initiative.



## Responsibly operating overseas assets through joint work, benefit sharing and win-win cooperation

State Grid is operating its overseas assets in the Philippines, Brazil, Portugal, Australia, Italy and Greece etc., with a great sense of social responsibility. In the process, State Grid strictly complies with laws, respects local culture, religions and customs, and has increased employment significantly, winning the recognition and respect of local governments. State Grid also funds schools and education, supports the construction of public service facilities in poverty-stricken areas and participates in environmental protection and public well-fare activities, significantly promoting people-to-people exchange in the “Belt and Road” countries.

## Responsibly operating State Grid Brazil Holding (SGBH)

**State Grid commits to the concept of sustainable and harmonious development.** With long-term strategy of localized development, State Grid respects local religions, customs and culture, and sticks to the people-oriented approach to build inclusive and integrated international teams.

**State Grid commits to enhancing stakeholder relations.** By organizing high-level mutual visits, participating in the bidding and construction of greenfield transmission projects, we pursue long-term development in Brazil.

**State Grid commits to social welfare .** SGBH has donated 5.34 million BRL in supporting 10 public welfare projects including the “Mare Slum Orchestra” program, “Rio de Janeiro Four Seasons Long-distance Race” and “An Ode to Human” Film Exhibition.

SGBH actively participates in social welfare events , fulfilling environmental protection responsibilities and enhancing communication with the media. We helped the Mare Slum Orchestra grow from less than 10 members to 500 members, benefiting a total of 2000 students. We also organized professional training on 26 subjects in UHV technology and management. Two batches of Brazilian key managers were selected for trainings on UHV technology and management program in China. with 909 persons being trained in total. By learning from successful experiences in management, construction and operation of UHV AC and DC projects, SGBH has improved its project management capability.

## Responsibly operating Greece ADMIE

**In economic sector.** State Grid invested in the Greek national power transmission network construction and upgrading, improved the efficiency and reliability of the system, contributing to the Greek economy.

**In social sector.** State Grid shares information with local community to protect their benefits.

**In environmental sector.** State Grid designed and constructed indoor substations and underground cables with less land occupation, and laid submarine cables connecting island with onshore power grid systems to reduce the reliance on oil-fueled power generation, hence protect the natural environment.

ADMIE signed land use agreements with local communities caring for regional natural reserves (eg. Cyclades program among others). We actively participate in community welfare activities, including promoting civil defense and providing engineering equipment for public welfare programs. For smooth implementation of the project, ADMIE advocates project benefits with local communities, communicates with suppliers for products performance, and help them improve. ADMIE also actively takes part in international organizations and associations, sharing expertise and experience.

## Responsibly operating SGSPAA

By diligently carries out its responsibilities as the largest shareholder for SGSPAA, State Grid supports SGSPAA on key decisions in area of new breakthroughs in natural gas business. By improving SGSPAA's credit rating to A class, about 50 million RMB financial costs can be saved annually. SGSPAA successfully won the bid for Australian largest 5-year power grid operation and maintenance service contract; the company also successfully acquired the DDP pipeline project with a bid-winning price of 415 million Australian Dollars. ElectraNet won the bid for solar power plant grid interconnection project(unregulated) with 34.6 million Australian Dollars. The first smart community micro grid experimental project initiated by SGSPAA was granted the “2017 Innovation of the Year Award”, creating a new stream of revenue for the company.

Overseas assets  
**60**  
billion USD

Overseas project contract  
**40**  
billion USD

Overseas investment  
**19.6**  
billion USD

In 2017







## International communications and cooperation

We promote practical communications with related international organizations, strengthening cooperation in areas of energy strategy, power transmission and distribution technologies, smart grid and renewable energy, advocating China's new development philosophy and State Grid wisdom, increasing our international influence.

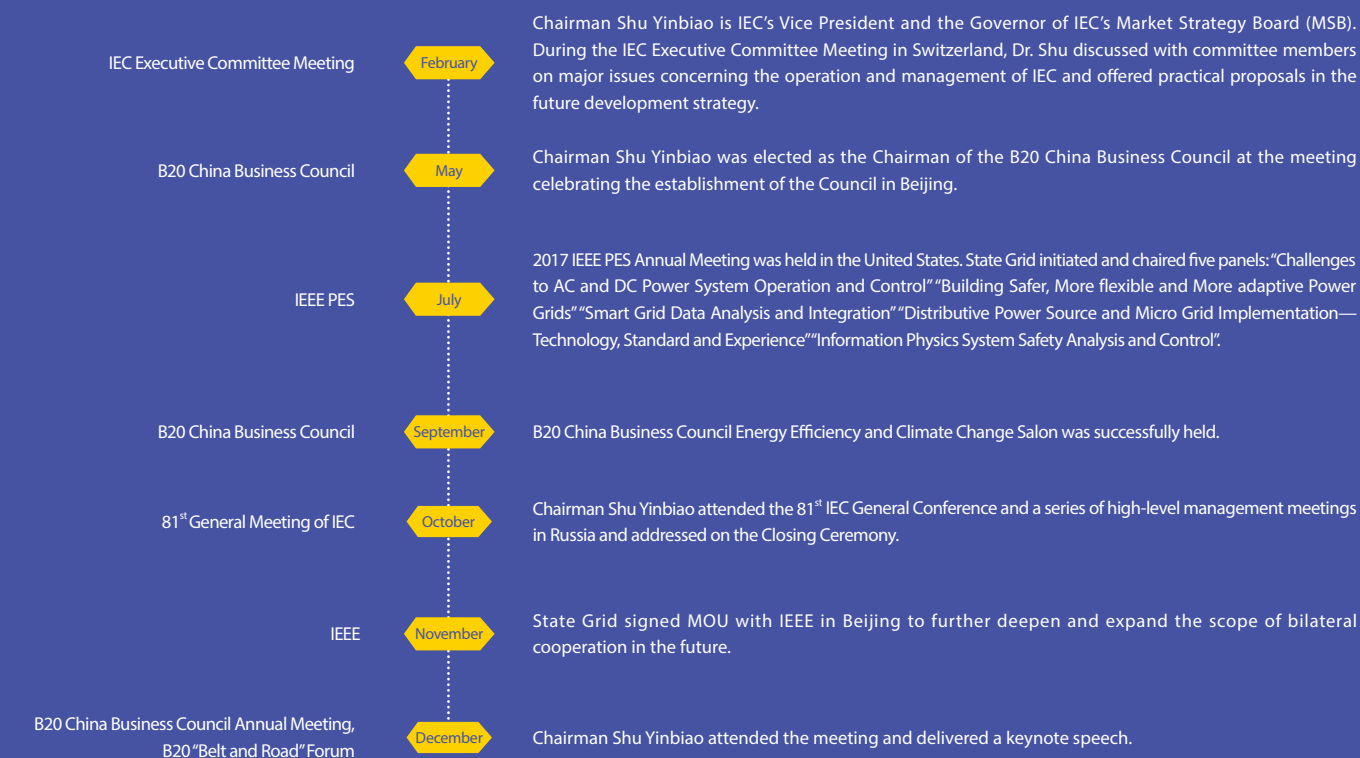
Participating major international organizations and high-level meetings:



## 2017 International Conference on Renewable Energy Development and Technology



## International academic activities



## Promoting the development of international standards

Regarding the development of international standards as an important approach to serve the development of the "Belt and Road" initiative, State Grid attaches great importance in promoting standards "going out" in electric power sector.



State Grid led the development of

**47** international standards

In 2017, 11 international standards initiated and led by State Grid were approved.

### 6 IEC standards:

*Wind and PV power station grid connection conformance assessment*  
*EV charging roaming information exchange*  
*UHV AC voltage regulation and insulation design*  
*UHV AC substation design*  
*UHV AC equipment on-the-spot experiment*  
*Unconventional power distribution network/micro grid*

### 5 IEEE standards:

*Smart Hydropower Station Technical Guideline*  
*Guidelines for site Measurement of Overvoltage in Power System Ultra-Fast Wave and Fast Wave Heads*  
*Guideline of Arc Angle Parameter Configuration of DC Grounding Electrode*  
*Guidelines for Evaluation of Geological Stability of Transmission Channels*  
*Insulation Piercing Connectors*



# Transparent Operation



State Grid ensures that the public has access to all kinds of information to guarantee its basic freedom; establishes effective, accountable and transparent institutions; and substantially reduces all forms of corruption and bribery.





## Cooperation in power grid construction

In-depth research on development of power grid development, construction and other major issues. Consulting with governments at all levels on power grid construction, State Grid completed the “13<sup>th</sup> Five-Year” power grid development plan and company development plan, actively seek government support, signed strategic cooperation agreements and jointly promoted power grid construction. By strengthening report and communication to the National Development and Reform Commission, the National Energy Administration and other higher authorities, State Grid formed reports on accelerating the development and reforming related work of the power grid and received extensive attention.

## Strengthen social communication

State Grid took the lead in releasing the social responsibility report for 12 consecutive years, strengthening the disclosure of social responsibility information, fully demonstrating the exemplary image of the responsible central enterprise, and relying on the news spokesman team to continuously publish information concerned by society and enhance enterprise transparent operation in the form of press conferences and other forms. Focusing on important issues, State Grid carried out all-round multi-dimensional communication and interaction to enhance the sense of participation and recognition of stakeholders.

State Grid participated in the launch of the “Global CSR2030 Initiative”, joining hands with China’s CSR pioneers, contributed to China’s implementation of the United Nations’ sustainable development agenda country program and helped the ultimate realization of the UN’s sustainable development goals.

## Responsibility information disclosure

Participated in the China Electricity Industry Transparency Forum and discussed new methods of transparency management with representatives from associations, universities and the electric power industry to help the power industry develop healthily and sustainably.

## Accept supervision and inspection

Consciously accepting supervision and inspection is a responsibility carrying. State Grid didn’t evade supervision from all sectors of society and consciously accepted all sectors’ inspections. Moreover, State Grid actively cooperated with supervisory inspections at higher levels, improved and perfected the mechanism for inspections; met the public’s requirement of “openness, justice and fairness” for power supply services, consciously accepted public supervision, and relied on the 95598 business system of customer service centers to extensively listen to opinions from all parties.

## Promote stakeholder participation

Adhering to the full implementation of social responsibility, State Grid established a sound social responsibility communication mechanism to improve the external information disclosure mechanism, comprehensively promoted stakeholder participation mechanisms and strengthened effective communication with stakeholders. The “Going into the State Grid” activity was launched in theme, and nearly 150 domestic and foreign groups were visited. Through aspects of institutional arrangement, resource guarantee and operational deployment, State Grid ensured stakeholders right to know, to supervise and to participate in order to give full rein to stakeholders’ potentiality in creating comprehensive value.



The company had a total of

**2,405**  
spokespersons

Organization news released

**3,182**  
times

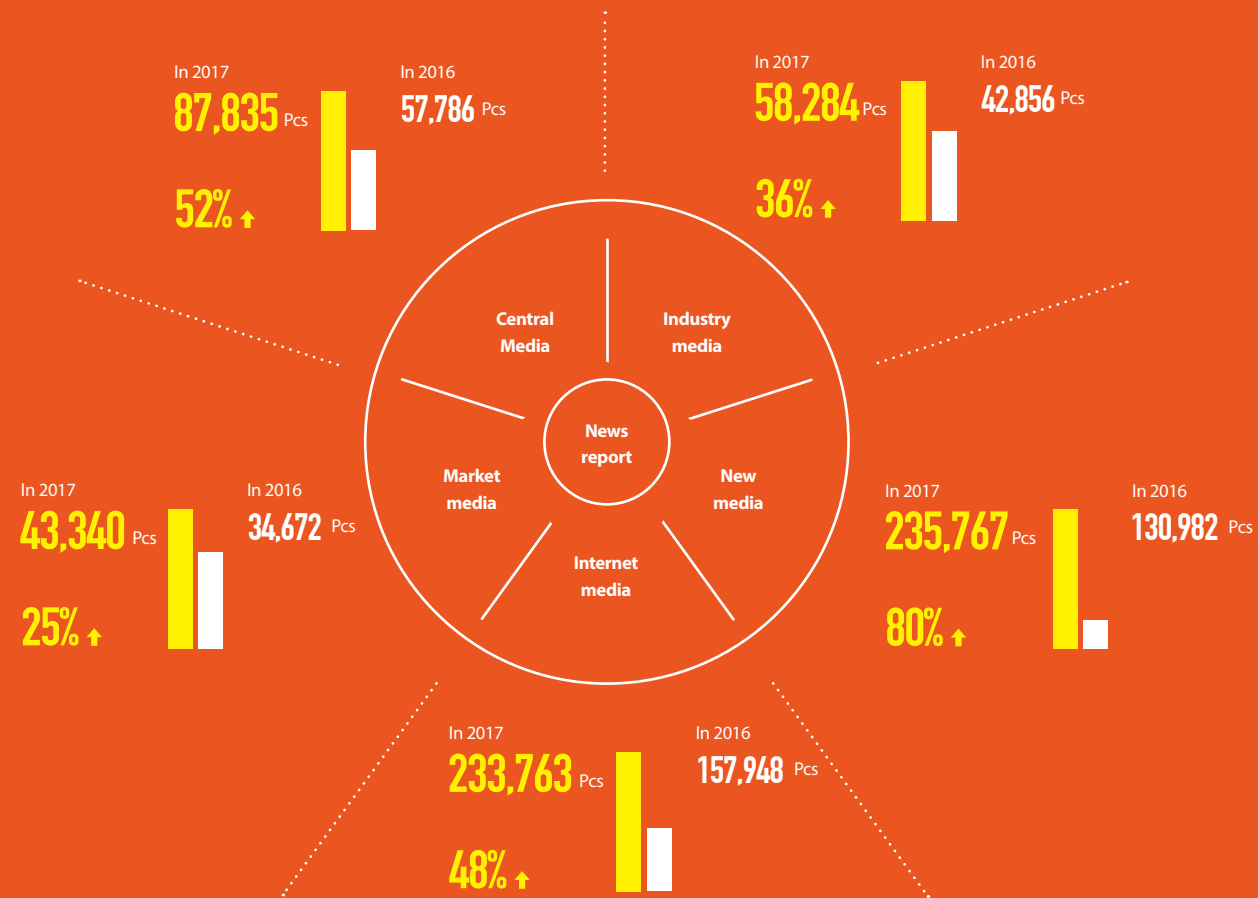
Published more than

**100,000**  
pieces of information

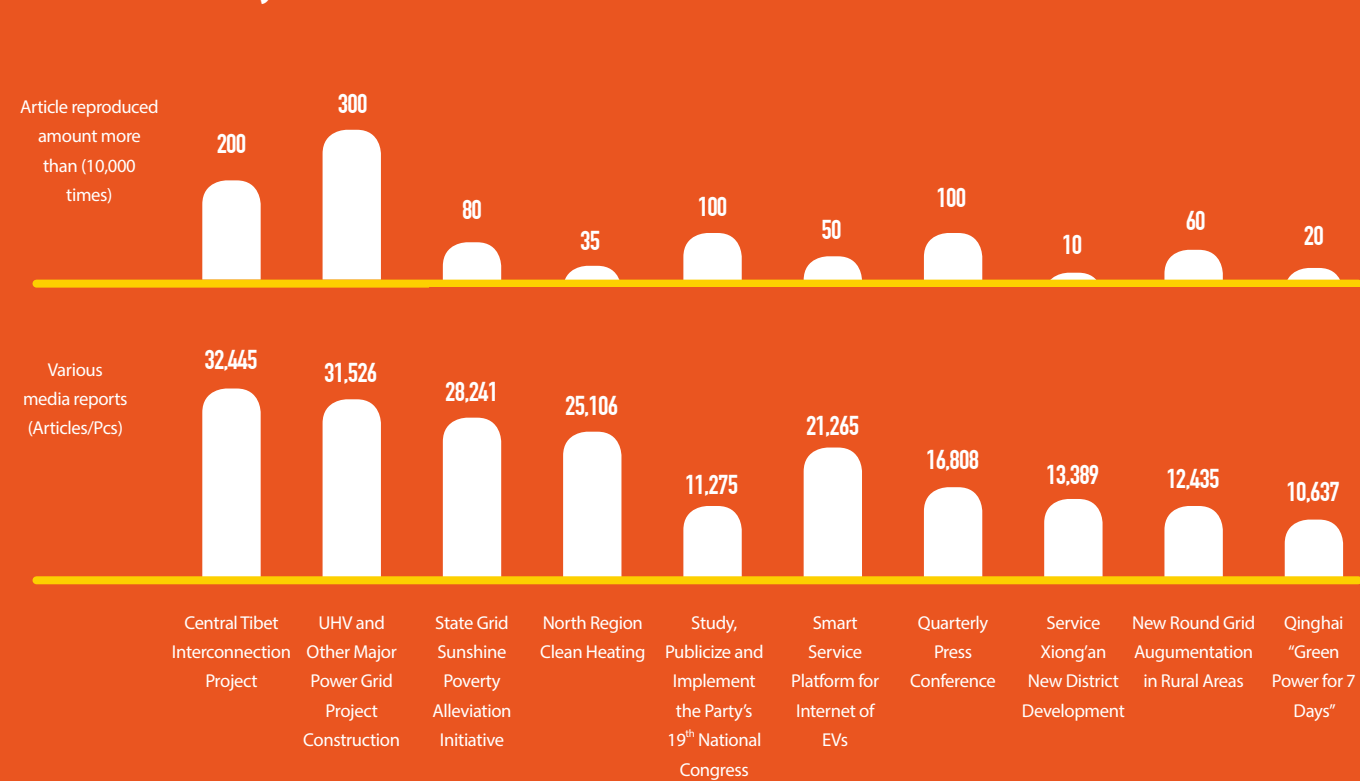
2013-2017 accumulated



## Media attention



## Media focus on key issues



## A Matrix of New Media



Built a new media matrix with the headquarters official Weibo, official WeChat account, "Power Grid Headline", official Weibo and WeChat accounts of each unit as the core. There are a total of **735** official Weibo in the company's system, a total of **1,045** official WeChat accounts, and **9** news clients.

Among the TOP10 influential new media of the central enterprises' secondary account in 2017, new media accounts under State Grid system occupied **6** seats, of which "State Grid Jiangsu Power" ranked first.



The official WeChat account of State Grid Stories has cumulatively released **427** issues of **1,843** articles, and the number of fans has reached **420,000**. The total reading volume exceeded **40.82** million.



The "Power Grid Headline" was selected as the top 10 influential news media account of central enterprise in 2017. The WeChat public account cumulatively released **1,222** articles in **700** sessions, with nearly **1.5** million subscribers and a total reading of more than **94.87** million, among which there are **322** articles was read more than 100,000 plus.

## Responsibility management and communication



Release social responsibility management tool series for power supply companies

In order to assist power supply companies and other companies to fully understand, systematically grasp, and proficiently apply social responsibility concepts, methods and tools, State Grid has carefully compiled and published the series of company social responsibility management tools for power supply companies. This series of books select the areas of electricity supply and consumption that are closely related to social development and people's lives. Through five dimensions of social responsibility boundary, social responsibility issue, stakeholder communication, public welfare project management and compiling social responsibility information disclosure report, the social responsibility theory and methods are logically, structurally, and graphically interpreted, and a new perspective is used to define and analyze the key issues of company social responsibility. The compilation of this series of books will certainly play an important role in promoting the development of China's company social responsibility theory and practice, and will have an important and far-reaching impact on the sustainable development of China's economy and society and the better fulfillment of company social responsibility.



Hold a comprehensive social responsibility management exchange meeting

State Grid held a comprehensive social responsibility management exchange meeting in Jiashan, Zhejiang Province, and invited the leaders of the State-owned Assets Supervision and Administration Commission of the State Council, external experts, and representatives of provincial company, municipal company and county company to attend the meeting. Participants visited the pilot unit set up by the well-functioning township power supply station driven by social responsibility — the Xitang Power Supply Station, the Jiashan County Power Supply Company's overhaul (construction) area assembly and delivery package plant, the public power experience hall, and the "responsibility road" — Overall Social Responsibility Management Achievements Exhibition. The meeting also held the "National Grid Corporation Social Responsibility Demonstration Base Standard Research" project review meeting, and conducted exchange talks on social responsibility management work. During the visits and exchanges, the leaders of the State-owned Assets Supervision and Administration Commission of the State Council and external experts spoke highly of the achievements of the company's social responsibility management and put forward constructive opinions.



Select social responsibility demonstration bases and rooting demonstration projects

After more than 10 years of exploration, practice and accumulation, State Grid innovatively proposed the "two-way drive and demonstration lead" means of social responsibility work promotion model that promotes comprehensive social responsibility management from top to bottom and promotes integration of social responsibility from bottom to top. In order to further deepen companies' social responsibility management, solidify the rooting results, promote and apply typical experiences, State Grid organized and selected 11 outstanding demonstration bases such as State Grid Taixing Power Supply Company and 35 influential rooting demonstration projects such as "Green Coast Power Alliance". These demonstration bases and rooting projects represented the Corporate's level of social responsibility management and accountability, demonstrated the results of Corporate's social responsibility theory research and practical exploration, publicized the Corporate's scientific social responsibility concept, and shaped the Corporate's brand image of "responsible central enterprise".



Enhance report and communication

- Held talks and meetings with government leaders from 16 provinces (autonomous regions, municipalities) including Xinjiang, Beijing, and Jiangxi, and one district in Yan'an. Focused on the construction of UHV and power grids at all levels, the smart grid and the power equipment industry during the “13<sup>th</sup> Five-Year Plan” period. Major consensus have been reached in the transformation and upgrades of rural power grids, the development of new energy sources and the delivery of power and the reform of the power system.
- The “13<sup>th</sup> Five-Year” Power Grid Development Strategic Cooperation Agreement was signed with eight provinces (autonomous regions, municipalities) including Inner Mongolia, Hebei and Shanghai, which provided a good external environment for accelerating power grid development, promoting quality services, and economic and social development.
- To study and implement the Party's spirit of the 19<sup>th</sup> CPC National Congress, the series of issues including vivid practice and typical deeds, research on synchronous grid pattern and medium and long-term power grid planning, adjustment of the “13<sup>th</sup> Five-Year Plan” on power grid planning and major issues, southwestern hydropower development and delivery, new energy consumption, electricity distribution reforms, implementation of electrical energy substitution, the work related to major national projects of smart grids, and the promotion of electric vehicle development have been actively reported to the National Development and Reform Commission, the National Energy Administration and other higher authorities, and the information submitted has received extensive attention.

Strengthen information disclosure

**Strengthen social responsibility information disclosure.** We deepened social responsibility communication and cooperation, carried out public transparency activities for power grid companies, promoted the integration of social responsibility into international operations, and compiled and published reports on overseas social responsibility of State Grid Brazil Holding Corporation and Nuri Group.

**Continue to release important information.** Focusing on important information such as promoting reforms and serving the people's livelihood, State Grid launched regular quarterly release and joint release. The Corporate's image with clear-cut views, positive actions, and openness and transparency was highly evaluated.

**Important topics spread far-reaching.** Focusing on the key issues of the Corporate's key work and social concerns, State Grid promoted further the publicity of topics and invited various media at all levels for in-depth report to popularize the Corporate's values and create a strong influence.

**Extensive exchanges and interactions.** In addition to use traditional media such as newspaper, magazine and television, State Grid advanced with the times, establishing a new media matrix, strengthening the publicity of new media and using various expressions such as stories, pictures, animation, micro-video, and H5, to conduct interactions with targeting employees and the general public.

Government Regulation

State Grid actively cooperated with the State-owned Assets Supervision and Administration Commission of the State Council to carry out deep inspection and rectification and special inspections, resolutely put the problems found in the central inspections into full implementation; actively implemented the auditing and cooperation of auditing major policy measures, cooperated with the rural grid transformation and upgrades project and other audit investigations, and effectively rectified problems. State Grid's accurate poverty alleviation and auditing system reforms were fully recognized in the audit report; actively cooperated with the special inspection of electricity prices, and assisted the National Energy Administration in completing 11 special inspections of key transmission passages for atmospheric pollution prevention and control.

Social supervision

State Grid strengthened the supervision of the professional ethics by openly hiring the supervisory staff from all society sectors. State Grid relied on the customer service center 95598 business system to regulate allegations transfer, ruling out, investigation and handling, and received a total of 593 allegations on the professional ethics, while 581 cases were concluded, of which 205 cases were true, partially truthful or other problems were discovered, 518 related persons were punished; conducted supervision of power supply services; widely listened to opinions from all parties; conducted direct investigation, quick solution and full supervision on events with strong reactions and frequent complaints from society.

Self-check and self-correction

Conducting solid internal inspections, the Corporate's Party Committee sent 5 inspection teams, highlighted political inspections, adhered to problem-oriented orientation, completed 4 batches of 20 provincial-level companies inspections, pushed forward 20 units to formulate 2,226 rectification measures and rectified 1,173 issues, establishing and improving 415 items in the system; adhered to quarterly and annual inspections and pre-control of anti-corruption risks, and systematically investigated, hierarchically managed, proactively prevented, and effectively controlled on all types of corruption risks, 115 warnings and risks were disposed throughout the year; increased supervision on bidding, procurement and professional ethics, and conducted surprise inspections and supervised rectification in response to the problem-prone areas.



Major State-Level Organizations that the Corporate Participates:

Associations/Organizations	State Grid's Role
China Enterprise Federation	Vice Chairman
China Industrial Economics Federation	Chairman
China Association for Quality	Vice Chairman
China Standards Association	Vice Chairman
China Business Council of Sustainable	Director
China Association of Work Safety	Vice Chairman
China Internal Audit Association Standing	Executive Director
China Bidding Association	Executive Director
China Equipment Supervision Association	Vice Chairman
China Power Development Promotion Association	Vice Chairman

Establish a “multiple in one” cooperation mechanism  
Solve the problem of selecting substation site in urban areas

The pressure on power supply in the central area of the city has become increasingly severe, and new substations are urgently needed. However, due to urban planning and negative public opinion, selecting location of substations is difficult. State Grid Hunan Power Company and Hubei Power Company innovated to integrate the concept and methods of social responsibility into the process of selecting substation site, and incorporated stakeholders such as government, customers, plant substation companies, and media to establish a “multiple in one” cooperation mechanism through using overcapacity plant substations' original site to build new public substations, and the intended plant substations for customer were incorporated into public substations to break through the substation location problem and achieved remarkable results.

Strengthen communication and polymerize force  
Carry out the separation and handover of “three supplies and one industry”

In order to promote the smooth development of the separation and handover of “three supplies and one industry,” the State Grid Power Companies of Henan, Hunan, Shaanxi, Mengdong, and Gansu innovated ideas and methods of social responsibility, actively built communication platform with local government, state-owned enterprises of water supply and heat supply, community properties, media, residents and other sectors, actively visited, in-depth researched, focused on analysis of stakeholder appeals, and actively publicized and attracted all parties to participate. The use of innovative methods has realized the contribution of increasing social responsibility values in a wider range, and also provided new methods and paths for the separation and transfer of “three supplies and one industry”.

Commercial powerdemand response  
Make sustainable use of social resources

In response to the enforcing implementation of administrative order at current demand management and large user influence, State Grid Jiangsu Power Company adapted to local conditions and adapted to the needs of the time, and promoted innovation through smart technologies such as intelligent power management and air conditioning load control. Jiang Power Company innovated the peak pricing mechanism, interruptible load incentives and other commercialization models, attracting customers and promoting the commercialization of demand response. This method has been promoted in Jiangsu and Shanghai, giving priority to the flexible adjustment of power load through commercial power demand response, alleviating the contradiction between supply and demand, maximizing social and economic stability, and achieved full savings of social resources.



# The Performance

## Economic Performance

### Financial Performance

	Unit	2013	2014	2015	2016	2017
Revenue	billion RMB	2,049.8	2,091.4	2,071.35	2,093.97	2,323.65
Total assets	billion RMB	2,570.1	2,892.9	3,107.44	3,404.13	3,808.83
Total profits	billion RMB	70.58	81.21	86.52	86.62	91.02
Pre-tax profits	billion RMB	173.96	197.17	203.57	211.64	241.59
Return on equity	%	4.72	5.18	4.97	4.56	4.32
Asset-liability ratio	%	57.00	56.1	55.3	55.9	57.6
SASAC Evaluation on Operation Performances	Class	A	A	A	A	A

### Grid Capability

	Unit	2013	2014	2015	2016	2017
Investment in power grid	billion RMB	303.482	385.504	451.8	496.41	485.36
Length of transmission lines*	km	1,045,300	843,600	890,000	932,000	987,000
Transformation (converting) capacity **	TVA/TW	3.24	3.365	3.6	4.0	4.35
Integrated generation capacity	GW	962	1,049	1,161	1,271	1,379
On-grid electricity of integrated capacity	TWh	3,690	3,650	3,620	3,830	4,100
Technical R&D Expenditure	billion RMB	5.787	7.080	7.376	6.921	7.828
Total patents		28,311	40,143	50,165	62,036	73,350
Total National Science and Technology Awards		43	46	51	60	69
Trans-regional and trans-provincial UHV transmission	TWh	72.788	136.7	160.518	180.7	232.6
National and industrial standards led and development by State Grid		206	144	185	236	255

\*Transmission lines of 110 (66) kV and above levels. \*\*Transformation /converting capacity of 110 (66) kV and above levels.

Note: Data in this report for 2016 may differ from the ones in the 2016 CSR Report, please note the data in this report is the final count.  
The Financial performance figures for 2017 are from the express reports, which may also differ from the final statistics.

### Operational Efficiency

	Unit	2013	2014	2015	2016	2017
Overall productivity	RMB/(person-year)	609,000	643,500	653,000	709,000	771,100
Total asset turnover period	Day	439	474	521.7	570.3	566.5
Comprehensive line loss rate	%	6.83	6.81	6.78	6.75	6.66
Number of equipment accidents		0	0	0	1	0
Number of power grid accidents		0	0	0	0	0

### Power Supply Performance

	Unit	2013	2014	2015	2016	2017
Electricity sales	TWh	3,522.7	3,469.4	3,450.6	3,605.1	3,874.5
Maximum load within State Grid's service area	GW	654	631	649	702	762
Number of customers	million	343	378	420	430	447
Reliability rate of urban power supply	%	99.956	99.967	99.957	99.946	99.948
Average blackout duration for urban users	Hour/ household	3.854	2.891	3.74	4.73	4.529
Voltage qualification rate of urban users	%	99.949	99.982	99.989	99.993	99.994
Reliability rate of rural grid power supply	%	99.852	99.878	99.844	99.782	99.784
Average blackout duration for rural users	Hour/ household	12.965	10.64	13.71	19.14	18.944
Voltage qualification rate for rural users (%)	%	98.567	98.808	99.065	99.491	99.650
Inter-provincial Electricity Trading Volume	TWh	601.9	678.9	722.1	774.4	873.5
Fulfillment rate for the "Ten Commitments" on power supply service	%	99.999	99.999	99.999	99.999	99.999



Social Performance

General Service

	Unit	2013	2014	2015	2016	2017
Investment in the rural grid	Billion RMB	50.73	46.45	125.799	180.0	147.4
The average gap between urban and rural annual blackout time	Hour/household	9.11	7.8	9.97	14.41	14.41

Note: After two years of hard work, State Grid had comprehensively solved the long term low voltage problems on our grid. At the moment, the low voltage problem is under constant surveillance and will be dealt with, as soon as being identified.

Public Donations

	Unit	2013	2014	2015	2016	2017
Donations	million RMB	116	114	128	136	636
Via State Grid Foundation for Public Welfare	million RMB	8.5	10.6	15	18	522
Staff's volunteer service	Thousand person-time	713	2200	2000	2500	2000

Win-win Partnership

	Unit	2013	2014	2015	2016	2017
Centralized tendering volume	Billion RMB	334.3	369.0	507.7	468.9	422.0
Luban Awards in total		20	22	23	27	28

Transparent Operation

	Unit	2013	2014	2015	2016	2017
State Grid website's browse statistics	Visits	8,664,000	12,810,000	17,919,000	14,384,000	25,829,000
Information reported to governments from State Grid Headquarters	Piece	203	198	215	180	203

Employee Development

	Unit	2013	2014	2015	2016	2017
Training coverage rate	%	94	94.3	94.55	94.6	94.64
Employee training	Thousand person-time	3,400	3,600	3,600	3,640	3,800
The proportion of female employees	%	26.9	27.2	27.3	27.5	27.49
Labor unions		1,936	1,303	1,522	1,535	1,559

Environmental Performance

Serve Clean Energy Development

	Unit	2013	2014	2015	2016	2017
Integrated capacity from clean energy generator units	GW	274.26	331.83	372.9501	430.79	503.06
Including: integrated capacity of hydropower	GW	185.37	198.82	207.8246	215.89	224.14
Integrated capacity of nuclear power	MW	8,490	12,750	17,019	20,670	21,760
Integrated capacity from renewable energy generator units	MW	92,470	120,260	148,106.5	194,230	257,160
Including: integrated capacity of wind power	MW	59,590	87,900	102,757	116,540	128,900
Integrated capacity of PV power	MW	14,290	24,450	35,975	66,760	115,060
On-grid power from clean energy generator units	TWh	767.9	921.8	980.569	1,134.7	1,262.6
Including: on-grid hydropower	TWh	568.3	651.1	669.799	737.5	744.6
On-grid nuclear power	TWh	60.6	73	101.948	117.3	138
On-grid power from renewable energy generator units	TWh	139	197.742	208.822	279.9	380

Comprehensive Power Conservation

	Unit	2013	2014	2015	2016	2017
Power saved by lowering the line loss	TWh	1.89	17.1	10.36	1.16	3.74
Generation rights transactions	TWh	113.848	116.785	113.154	122.1	121.4
Electricity replacement capacity	TWh	14	50.3	76	103	115

EV Development



	Unit	2013	2014	2015	2016	2017
Total EV charging piles		19,700	24,000	29,600	44,000	56,000

Carbon Dioxide Emission Reduction

	Unit	2013	2014	2015	2016	2017
Emission reduced by clean energy accommodation	Thousand tons	668,291.3	741,620	810,000	880,000	980,000
Emission reduced by lowering the line loss	Thousand tons	1,500	13,700	8,200	910	2,890



# The Commitment

Note:  accomplished  
 unaccomplished

## Commitment for 2017

### Economic Performance

- Invested 587.1 billion RMB in corporate development
- Invested 484.8 billion RMB in fixed assets
- Invested 465.7 billion RMB in power grid
- Started the construction of 67,000 km 110(66)kV and above power lines with a transformation /converting capacity of 420 GVA(GW)
- Commissioned 60,000 km 110(66)kV and above lines with a transformation /converting capacity of 380 GVA(GW)
- Electricity sales: 3,767 TWh
- Inter-provincial power trade: 823 TWh
- Revenue: 2,170 billion RMB
- Profits: 79.04 billion RMB
- Added economic value: 10.8 billion RMB
- Total assets: 3.7 trillion RMB
- Asset-liability ratio: 58%
- Overall productivity: 746,000 RMB/(person-year)

### Social Performance

- Finish the grid upgrade in small town (central village) and in irrigation systems. Replace oil by electricity for rural motor-pumped wells
- The value of e-commerce deals reached 160 billion RMB
- Closed the deal for Brazilian CPFL acquisition and Greek Transmission network acquisition
- Completed 2 AC and 5 DC UHV projects in a quality and efficient manner
- Completed key projects such as the Sichuan—Chongqing Third channel

### Environmental Performance






- Accomplished 113TWh of electricity replacement
- Put into operaton 54 key projects replacing coal by electricity in Beijing,Tianjin,Hebei region
- Newly integrate 26,000 charging piles and the total number of charging piles reach 160,000
- Build 9 vertical, 9 horizontal and 2 ring highway quick charging networks
- Put the 4 AC and 4 DC UHV projects into operation, where the projects have already been included in the National Action Plan for Air Pollution Prevention and Control

## Fulfillment in 2017






### Economic Performance

-  Invested 608.1 billion RMB in corporate development
-  Invested 506.6 billion RMB in fixed assets
-  Invested 485.4 billion RMB in power grid
-  Started the construction of 49,000 km 110(66)kV and above power lines with a transformation /converting capacity of 260 GVA(GW)
-  Put 55,000 km 110(66)kV and above lines into operation with a transformation /converting capacity of 350 GVA(GW)
-  Electricity sales: 3,874.5 TWh
-  Inter-provincial power trade: 873.5 TWh
-  Revenue: 2,320 billion RMB
-  Profits: 91.02 billion RMB
-  Added economic value: 11.79 billion RMB
-  Total assets: 3.81 trillion RMB
-  Asset-liability ratio: 57.6%
-  Overall productivity: 771,100 RMB/(person-year)

### Social Performance









-  Finished the grid upgrade in small town (central village) and in irrigation systems. Replace oil by electricity for rural motor-pumped wells
-  The value of e-commerce deals reaches 260.3 billion RMB
-  Closed the deal for Brazilian CPFL acquisition and Greek Transmission network acquisition
-  Completed 2 AC and 5 DC UHV projects in a quality and efficient manner
-  Completed key projects such as the Sichuan—Chongqing Third channel

### Environmental Performance












-  Accomplished 115TWh of electricity replacement
-  Put into operaton 53 key projects replacing coal by electricity in Beijing,Tianjin,Hebei region
-  Newly integrate 63,000 charging piles and the total number of charging piles reach 170,000
-  Build 9 vertical, 9 horizontal and 2 ring highway quick charging networks
-  Put the 4 AC and 4 DC UHV projects into operation, where the projects have already been included in the National Action Plan for Air Pollution Prevention and Contro

## Commitment for 2018





### Economic Performance

-  Invested 581.9 billion RMB in corporate development
-  Invested 522.8 billion RMB in fixed assets
-  Invested 498.9 billion RMB in power grid
-  Started the construction of 61,000 km 110(66)kV and above power lines with a transformation /converting capacity of 380 GVA(GW)
-  Put 52,000 km 110(66)kV and above lines into operation with a transformation /converting capacity of 300 GVA(GW)
-  Electricity sales: 4,070 TWh
-  Inter-provincial power trade: 952.8 TWh
-  Revenue: 2,460 billion RMB
-  Profits: 95.5 billion RMB
-  Added economic value: 12 billion RMB
-  Total assets: 4.13 trillion RMB
-  Asset-liability ratio: 57.7%
-  Overall productivity: 812,000 RMB/(person-year)

### Social Performance

-  One stop service for bill settlement, power access and energy related services etc.
-  Realize 30% reduction in the cost of electricity connection
-  Reduce the average time for 10kV and 400V non-residential electricity connection to 80 and 30 days respectively
-  Get approval for the construction of six UHV projects, including: Yazhong—Nanchang, Qinghai—Henan, Mengxi—Jinzhong, Baihetan—Jiangsu UHV projects
-  Start the construction of the VSC DC power grid project in Zhangbei and the 35kV superconducting cable experimental and demonstration project
-  Put into operation the Central Tibet Interconnect Project, Chongqing—Hubei back-to-back, Shanxi Yu County Power Plant and other key projects.
-  Implement the new round of rural grid upgrade, and build 75 outstanding electricity access demonstration towns
-  Market traded electricity exceeds 1,400TWh
-  Assit the transfer of water, electricity, heat supply services and property management to professional service providers
-  Implement the development of power grid in poverty areas , including Tibet Autonomous Region, Tibetan inhabited areas in Sichuan, Gansu, Qinghai and four regions in South Xinjiang and build 11 village-level PV power stations in Maduo, Qinghai
-  Accelerate the application of the new-generation of power distribution automation system, with a 60% coverage ratio

### Environmental Performance

-  Reduce both the volume and rate of wind/PV curtailment by year end
-  Build and put into operation auxiliary projects to replace coal by electricity in key areas in Beijing, Tianjin and Hebei
-  Vigorously promote electricty replacement and realize 130TWh of electricity replacement by year end
-  Build 30,000 charging piles, connect 50,000 charging piles and attract 500,000 more users to the company's service platform



Featured CSR commitments from State Grid provincial companies in 2018

The commitments by the subsidiaries managed by State Grid have been included in the commitment of the company.

Fulfillments in 2017 Commitments for 2018

Increase the proportion of clean energy heating during winter in Beijing, the “Replacement of Coal by Electricity in heating” in 407,700 rural households in 904 villages	State Grid Beijing Electric Power Company	Complete the grounding of 80km overhead power lines in 62 streets in the central areas of the capital city
Promote clean energy heating during winter in North China and the construction of “zero-coal area” in Wuqing District; the “Replacement of Coal by Electricity for heating” in 169,000 households	State Grid Tianjin Electric Power Company	Build 301 EV charging and swapping stations and 4,417 charging piles, forming a 3km radius charging service circle in downtown area and a 5km radius charging service circle in other areas.
Ensure no wind/PV curtailment all around the year, total installed generation capacity of the renewables reach 4.59 GW	State Grid Hebei Electric Power Company	Ensure no wind/ PV curtailment all around the year, total installed capacity of the renewables reached 6 GW
Support the development of renewable energy; accommodate over 15.2 GW of installed capacity of renewable energy into the grid	State Grid Jibei Electric Power Company	Support the development of renewable energy; accommodate over 16 GW of installed capacity of renewable energy into the grid, where renewable energy taking up more than 51% of the total generation mix
Upgrade and the grids in 1,951 small town (central village); electrify or reconstruct 45,400 pumped wells	State Grid Shanxi Electric Power Company	Build 5 outstanding electricity access demonstration towns; upgrade and reconstruct all power grids for high-speed railways
Upgrade the power grid in 2,119 small town (central village) and electrify 420,000 pumped wells, benefiting 14.01 million farmers and reduce annual irrigation cost by 2.5 billion RMB	State Grid Shandong Electric Power Company	The “Replacement of Coal by Electricity for heating” and realize clean heating during winter in 300,000 households; realize electricity replacement of 11.7 TWh. Create smart meter information collection demonstration zones with 800,000 households
Continue speeding up the construction of urban bus quick charging network and realize an average 2 km radius charging service circle in downtown	State Grid Shanghai Electric Power Company	Continue to promote grid development, speed up the construction of grids with an investment of 16 billion RMB

Fulfillments in 2017 Commitments for 2018

Promote electricity replacement and realize 13 TWh of electricity replacement	State Grid Jiangsu Electric Power Company	Promote electricity replacement and realize 13.9 TWh of electricity replacement and a productivity reach 1.7934 million RMB (person • year)
All clean energy is accommodated; implement “two replacements” and accomplish 6.5TWh of electricity replacement	State Grid Zhejiang Electric Power Company	Implement “two replacements” and accomplish 7.0TWh of electricity replacement
Build 158 quick charging stations with 1,289 DC charging piles in highway services areas	State Grid Anhui Electric Power Company	Build 54 new quick charging stations
Installed capacity of clean energy in the province accounts for more than 50%; realize 6TWh of electricity replacement	State Grid Fujian Electric Power Company	All clean energy is accommodated; promote electricity replacement and realize 6TWh of electricity replacement
Invest 437 million RMB to build 47.2 MW PV power stations in villages, benefiting 33,200 households and 102,800 registered poverty-stricken population	State Grid Hubei Electric Power Company	Invest at least 8 billion RMB in rural grid projects; comprehensively promote electricity replacement, realize 5.16TWh of electricity replacement
Promote electricity replacement and accomplish 4.78TWh of electricity replacement; deploy 6,275,000 smart meters	State Grid Hunan Electric Power Company	Upgrade rural grids in 1,259 poverty-stricken villages; promote electricity replacement, accomplish 5TWh of electricity replacement
Upgrade the rural grids in 1,900 key villages; help 3,943 impoverished villages out of electricity shortage	State Grid Henan Electric Power Company	Upgrade the rural grids in 4 deeply impoverished counties and 1,235 deeply impoverished villages

Fulfillments in 2017 Commitments for 2018

Invest 1.29 billion RMB on upgrading the power grids for 47 towns; save industrial power consumption cost by 100 million RMB in the whole province	State Grid Jiangxi Electric Power Company	Help 143 places to get out of poverty; help 2,112 households to get out of poverty by the end of 2018
Promote the export of electricity generated in Sichuan; deliver over 132TWh of hydropower out of the province	State Grid Sichuan Electric power Company	Promote the export of electricity generated in Sichuan; deliver over 140TWh of hydropower out of the province
Upgrade the grids in 922 small town (central village) and dynamic power in 317 villages	State Grid Chongqing Electric Power Company	Build 323.8km of supporting lines for electrified railways to ensure power demand of railways in Chongqing and Guizhou
The “Replacement of Coal by Electricity for heating” in 465 companies; the heating area reached 3,840,000 m²; annual electricity replacement reaches 298GWh	State Grid Liaoning Electric Power Company	43.4TWh of clean energy is accommodated, accounting for 24% of total electricity sales
Invest 5.29 billion RMB in rural power grid and electrify 93,300 wells	State Grid Jilin Electric Power Company	Invest 488 million RMB in rural power grid; realize electric heating in 36,000 households; realize 2.6TWh of electricity replacement
Accommodate 10.8TWh of wind power, accounting for 14.94% of the total electricity sales	State Grid Heilongjiang Electric Power Company	Accommodate 13.4TWh of clean energy; import 3.3TWh of electricity from Russia
Accommodate 18TWh wind power, accounting for 61.43% of the total electricity sales	State Grid East Inner Mongolia Electric Power Company	Accommodate 18.2TWh wind power, accounting for 59.67% of the total electricity sales

Fulfillments in 2017 Commitments for 2018

Implement point-to-point poverty alleviation projects in 29 impoverished villages; solve the problem of undervoltage for 280,000 rural households within the province	State Grid Shaanxi Electric Power Company	Construct 52 charging stations and 1,000 charging piles; implement more than 180 point-to-point poverty alleviation projects with a total investment of more than 10 million RMB in poverty alleviation
Upgrade power grid in 782 key villages in the province, benefiting 2.66 million people	State Grid Gansu Electric Power Company	Construct supporting power grids in 349 poverty alleviation relocation destinations, benefiting 17,900 impoverished households
Help 500 villages in 11 impoverished counties out of poverty; realize 2TWh of electricity replacement	State Grid Qinghai Electric Power Company	Realize 2.1TWh of electricity replacement
Complete all supporting grid projects for poverty-relief program and projects of “Dynamic Power to All Villages”	State Grid Ningxia Electric Power Company	Upgrade power supply facilities for 99,200 households; all power supply facilities included in the plan are delivered
Invest 3.402 billion RMB in rural power grid upgrade in 748 small town (central village); realize electrification and upgrade of 1,594 pumped wells	State Grid Xinjiang Electric Power Company	Invest 16.4 billion RMB in fixed assets; invest a total of 82.6 billion RMB in Xinjiang Grid during the “13 <sup>th</sup> Five-Year Plan” Period
Upgrade the rural grids in 2,797 small town (central village); solve or ease the power shortage for 1.6 million people	State Grid Tibet Electric Power Company	Realize 200GWh of electricity replacement; 67 towns will realize power supply by the main power grid



# Benchmarking

## Analysis on Substantive Topics in the 2017 Report

### Identify Topics

We continue collecting topics via:

- Suggestions from the management team;
  - Analysis from external and internal experts;
  - Topics from subsidiaries;
- Topics from external stakeholders;
  - Topics benchmarked with CSR standards.

### Analyze Topics

We invited stakeholders to vote on their top concerns regarding the CSR topics through official WeChat accounts of “Power Grid Headline” and the provincial companies, with reference to media analysis reports, including central media, industrial media, new media, cyber media and marketing media to further

understand these concerns. Practical analysis were done to the topics included in the topic pool according to their weighted contribution to the company’s economic, environmental and social value creation with reference to internal media reports including State Grid News, State Grid Magazine and Liang Bao.

### Order of Topics

According to State Grid CSR Guide, we continue applying the “value creation- social concern” two-dimensional matrix to sort out the importance of topics.

**Value Creation Dimension:** assess the relevance, importance, and feasibility of specific topics to integrated value creation.

**Social Concern Dimension:** assess the degree of concern on specific topics by the stakeholders and the public in general.





1

No Poverty



- **Corporate Citizen.** State Grid had 500 donations totaling 636 million RMB. It electrified 1,535,000 pumped wells, upgraded and reconstructed 66,000 small town (central village) and realized dynamic power supply to 78,000 villages, benefiting 160 million rural people. State Grid implemented Sunshine Action for Poverty Alleviation, invested 1.97 billion RMB in poverty-relief PV stations from 2016 to 2017, with an installed capacity of 9.542GW, benefiting 1,551,000 poverty-stricken households. State Grid invested 437 million RMB in poverty relief in “three counties and one region” in Hubei and 7.64 million RMB in clean energy-fueled heating demonstration project at Maduo County, Qinghai Province.

2

Zero Hunger



- **Promoting Rural Development.** State Grid adopted new models of agricultural irrigation power services to promote the development of agricultural and sideline products. An average of 4 businesses in agricultural and sideline product processing and animal husbandry have been established in each village, with an additional revenue of 51.4 billion RMB from agriculture and tourism. In 2016 and 2017, State Grid invested 21.25 billion RMB in “Dynamic Power to All Villages”, giving dynamic power to 26,000 villages and expanding the installed capacity in 52,000 villages.
- **Corporate Citizen.** State Grid helped more than 900,000 vulnerable people through developing more than 500 social charity programs including “Home for Left-Behind-Students” and “House of Spring Seeding”.

3

Good Health and Well-being



- **Employee Development.** State Grid developed the employee fitness APP “S365”, organized regular body checks and established health records to safeguard the health of employees. It also regulated the types of safety protection equipment to be prepared and the cycle of distribution and carried out surveys to learn about the troubles of employees, organized lectures on psychological health and promoted the development of Employee Aid Program (EAP) and Employee Appeal Center.

4

Quality Education



- **Employee Development.** State Grid provided 3.80 million person-times of training, including 1,221,600 person-times training for managerial staff, 1,795,600 person-times training for skilled workers, 28,800 person-times training for service workers, 56,100 person-times training for marketing staff, 51,700 person-times training for new employees, 299,800 person-times training for technical staff and 66,800 person-times joint training. It also organized 628 competitions (examinations), 7,166,700 person-times online training and 4,400,000 person-times online exams and provided 196,300 person-times employee evaluation and professional qualification certification.
- **Corporate Citizen.** State Grid granted 1.8 million RMB “UHV Grid Scholarship” to 180 undergraduate students majoring in electrical engineering in 20 universities, implemented “New Great Wall” Grant Program to sponsor 100 students to go to college and help 400 high school students from impoverished families in the “three counties and one region” in Hubei and 148 students from herdsman families in Maduo, Qinghai.

5

Gender Equality



- **Employee Development.** State Grid is determined to prevent all forms of gender discrimination and safeguard employees’ right of taking paid leave, maternal and paternal leave. It followed *Regulations on the Special Labor Protection for Female Employees* to include the “Collective Contract on the Protection of the Special Rights and Interests of Female Employees” as an important component of domestic management. State Grid also organized theme activities to improve the well-being of female employees.

6

Clean Water and Sanitation



- **Corporate Citizen.** State Grid continued to implement point-to-point poverty alleviation projects in “three counties and one region” in Hubei, solving the problems of the shortage of drinking water for 6,800 people.

7

Affordable and Clean Energy



- **Quality Development.** State Grid has built “eight AC and ten DC” UHV projects with “three AC and one DC” UHV projects under construction or being approved
- **Intrinsic Safety.** In 2017, State Grid achieved an urban power supply reliability rate of 99.9483%, a year-on-year growth of 0.0023% and a rural power supply reliability rate of 99.7837%, a year-on-year growth of 0.0015%.
- **Innovation-driven Strategy.** State Grid built Suzhou Energy Transition and Innovation Demonstration Zone and Zhangjiakou Renewable Energy Demonstration Zone and consolidated and enhanced its technical advantages in UHV and smart grids.
- **Promoting Rural Development.** State Grid promoted the full coverage of well-functioning township power supply stations, increased the average capacity of a distribution transformer in a rural household to 2.64 kVA and reduced the annual average interruption hours of customers in rural areas to 18.944 hours.
- **Green Development and Environmental Protection.** State Grid established the cloud network of distributed photovoltaic generation, realized 5.473 billion RMB of trading volume. The cloud network has been connected to 742,800 households with 20.1879 GW of capacity.

8

Decent Work and Economic Growth



- **Quality Development.** State Grid promoted the development of world first-class urban power distribution networks in 10 cities including Beijing and Shanghai.
- **Employee Development.** State Grid respects and safeguards the legal rights and interests of employees, signs labor contracts with all employees, implements an integrated payroll system, pays social security in full and on time, bans forced labor and ensures decent work. It has 1,633,300 employees in total and a productivity of 771,100 RMB/(person·year).
- **Serving and Promoting the “Belt and Road” Initiative.** State Grid has been actively building international financing platforms to make full use of the international capital market, with 16.5 billion bond in US Dollar and 2 billion bond in Euro having been issued, significantly promoting international financing.

9

Industry, Innovation and Infrastructure



- **Quality Development.** State Grid successfully produced the world’s first ±1100 kV UHV DC wall bushing and put into operation the world’s first 1100kV AC filter resistive circuit breaker.
- **Intrinsic Safety.** State Grid improved essential safety and organized comprehensive safety risk inspection, with more than 90,000 safety violations being identified and rectified.
- **Innovation-driven Strategy.** State Grid took the lead to develop 103 national standards and 152 industrial standards, won 1 special prize and 7 2<sup>nd</sup> prize of National Science and Technology Award, 1 2<sup>nd</sup> prize of National Technology Innovation Award and 2 National Patent Gold Medal. It has 73,350 valid patents, including 16,064 invention patents.
- **Green Development and Environmental Protection.** State Grid constructed the Smart Service Platform for Internet of EVs, integrating a total of 170,000 charging piles and 17,000 vehicles.

10

Reduced Inequalities



- **Excellent Management.** State grid continued to improve efficiency and effectiveness of management, categorized 1,163 subsidiaries of all levels, reduced 661 redundant entities and promoted business operation integration in 19 trial companies.
- **Corporate Citizen.** State Grid organized talent exchange between East China and West China, selected 423 managerial staff and technical workers to work in 5 companies in Xinjiang and Tibet to aid grid construction and governance improvement.
- **Serving and Promoting the “Belt and Road” Initiative.** State Grid adopted localization policies with 97% of all employees being local and successfully invested and operated national and regional backbone energy networks in The Philippines, Brazil, Portugal, Australia, Italy and Greece with a total overseas asset exceeding 60 billion USD, an overseas project contract value of 40 billion USD and an overseas investment of 19.6 billion USD.

11

Sustainable Cities and Communities



- **Intrinsic Safety.** State Grid organized 8,196 emergency drills participated by 169,200 person time and effectively secured power supply during the Earthquake in Jiuzhaigou, Sichuan, the continuous strong rain in Hunan, Jiangxi, Liaoning and Jilin as well as Typhoon Nesat and Tropical Storm Haitang and other national disasters.
- **Innovation-driven strategy.** State Grid invested 7,828 million RMB in technological R&D, 5,324 million RMB in information technology and 7,046 million RMB in telecommunication projects.
- **Green Development and Environmental Protection.** State Grid promoted energy conservation and emission reduction on the customer side, saved 12.8TWh of electricity and 3.31GW of power, replaced 115TWh of electricity replacement and reduced 110 million tons of carbon emission, 36 million ton emission from impurities like sulfur dioxide, nitrogen oxides and dust.

12

Responsible Consumption and Production



- **Excellent Service.** State Grid promoted the application of smart meters, with 37,487 million smart meters being installed, fulfilling 192.2% of the annual plan.
- **Mutually-Beneficial Win-Win Cooperation.** State Grid promoted the project of “building green supply chains and promoting green manufacturing” and implementing quality and green procurement.
- **Green Development and Environmental Protection.** State Grid built the world’s largest multi-functional Smart Service Platform for Internet of EVs to promote the development of the EV industry.

13

Climate Action



- **Green Development and Environmental Protection.** Completed task of the “Replacement of Coal by Electricity for heating” for 1.26 million households in 7,014 villages in Beijing, Tianjin and Hebei, promoted the initiative on management of carbon assets, devised the project of “building green supply chains and promoting green manufacturing ” and independently developed 4 methodologies about Chinese Certified Emission Reductions (CCER) which were all documented by National Development and Reform Commission. Among these projects, two have been assessed and approved by UN Executive Board of Clean Development Mechanism (CDM) so that they fill in the gaps in the field of accounting carbon emission reduction in carbon trade both domestically and overseas. State grid also organized seminars on “carbon management and carbon finance of enterprises” together with academic institutions, including China-UK Low Carbon College of Shanghai Jiao Tong University, Business School in University of Edinburgh, Edinburgh Centre for Carbon Innovation and Hong Kong Centre for Carbon Innovation and undertook the main project of new industry launched by the government of Hongkou, Shanghai: A comprehensive service platform of managing carbon emissions from enterprises.

14

Life below water



- **Green Development and Environmental Protection.** State Grid invested 140 million RMB to build more than 600 sets of shore power systems at the ports along the “two vertical and one horizontal waters”, including the Beijing—Hangzhou Grand Canal, the eastern coast and the Yangtze River, reduced air pollution and noise pollution in ports and built “green ports”.

15

Life on Land



- **Corporate Citizen.** State Grid established a special fund to protect the natural and ecological environment along the Central Tibet Interconnection Project to avoid causing harm to the stratum, swamps and bushes of the area and protected the ecological system and biodiversity.

16

Justice, Peace and Strong Institutions



- **Excellent Management.** State Grid carried out 74 special audits on law-based corporate governance, strengthened the supervision and management of audits on international and financial business and established a digital audit studio to explore for new models of auditing.
- **Corporate Citizen.** State grid revised 238 contract templates to constantly improve regulated, standard and lean management, established the mechanism separating procurement demand and order reception to prevent risks in procurement execution, order reception and financial settlement and launched legal consulting and legal approval management systems to strengthen the legal support for bidding.
- **Transparent Operation.** State Grid conducted inspection in 20 provincial companies in four batches, promoted 20 companies to launch 2,226 improvement measures, solve 1,173 problems and establish 415 systems for improvement. State Grid also facilitated the special inspection of tariff and helped the National Energy Administration to carry out special inspection on 11 key power transmission projects for air pollution prevention and control.

17

Partnerships for the Goals



- **Serving and Promoting the “Belt and Road” Initiative.** State Grid helped China to export its electric and engineering equipment, control and protection equipment, automatic dispatching and control system and high-end power electronics equipment to 83 countries and regions including developed European economies such as Germany, The Great Britain and Poland and promoted Chinese product chain and value chain to go global. State Grid also took the lead to establish a comprehensive UHV AC, UHV DC and smart grid technological standard system and initiated the development of 47 international standards. State Grid built 10 transnational power transmission lines between China and Russia, China and Mongolia and China and Kyrgyzstan.





GRI Index

GRI Index could help readers to understand how our report conforms to Sustainability Reporting Guidelines by Global Reporting Initiative. The indicators we have chosen, including all the key indicators and some additional indicators are closely related to our business. Our internal evaluation shows that we fully conform to GRI standards. Please refer to the GRI official website for more information.

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\*Electric utility supplement

Initiatives and Performance of UN Global Compact



Ten Principles of the UN Global Compact	Action Performance
<p><b>Human Rights</b></p> <p>1. Businesses should support and respect the protection of internationally proclaimed human rights; and</p> <p>2. take no part in human rights abuses</p>	<ul style="list-style-type: none"><li>○ Respect and safeguard the legal rights and interests of employees and treat employees of different nationalities, races, religious beliefs and gender equally and fairly.</li><li>○ State Grid signs labor contracts with all employees, implements an integrated payroll system and bans child labor and forced labor</li></ul>
<p><b>Labor</b></p> <p>3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;</p> <p>4. the elimination of all forms of forced and compulsory labor;</p> <p>5. the abolition of child labor; and</p> <p>6. the elimination of discrimination in respect of employment and occupation</p>	<ul style="list-style-type: none"><li>○ Promoting the development of the Labor Union and domestic participation; responding to and handling proposals from workers’ representatives and extensively soliciting for rationalization suggestions.</li><li>○ Prevent all forms of discrimination, increase the percentage of foreign employees by 1.81% and that of ethnic minorities by 5.57%</li></ul>
<p><b>Environment</b></p> <p>7. Businesses should support a precautionary approach to environmental challenges;</p> <p>8. undertake initiatives to promote greater environmental responsibility; and</p> <p>9. encourage the development and diffusion of environmentally friendly technologies</p>	<ul style="list-style-type: none"><li>○ Organize and implement 11 researches on renewable energy accommodation.</li><li>○ Establish a clean, low-carbon, safe and efficient energy system, green, low-carbon circular economic system and market-oriented green technological innovation system to serve the building of a beautiful China and contribute to global ecological safety.</li><li>○ Vigorously promote carbon asset management and device the project of “forging green supply chain and promoting the green industrial production”</li></ul>
<p><b>Anti-Corruption</b></p> <p>10. Businesses should work against corruption, extortion and bribery in all forms</p>	<ul style="list-style-type: none"><li>○ State Grid carried out 74 special audits on law-based corporate governance; organized internal inspection, established five inspection teams and finished 4 batches of inspections to 20 provincial companies. It promoted 20 companies to come up with 2,226 measures to effectively correct bad practices, solved 1,173 problems and established 415 mechanisms for improvement</li></ul>



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