This CSR report is dedicated to illustrating State Grid Corporation of China’s aspiration, action, and performance in maximizing the integrated economic, social and environmental value, as well as its implementation of social responsibilities in 2013 and the commitment for 2014.

Statement

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

February 2014
Report Overview

The time frame covered by this report:

Reporting cycle:
SGCC’s CSR Report is an annual report, usually released by the end of February the next year.

Organizational coverage:
SGCC (Refer to “Corporate Profile” for organizational structure).

Previous reports:

Note on the data:
The data for 2013 used in this report are preliminary statistics. They may be slightly different from the final results. The data for 2012 are final statistics, part of which differs slightly from the 2012 CSR Report.

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 or call at 86-10-63413454 for a hard copy. Or you can download the report from our CSR website.

How to identify the topics for 2013

Collect topics for the CSR report via:
- Suggestions from the management;
- Analysis from external and internal experts;
- Topics from other entities;
- Topics from external stakeholders;
- Topics benchmarked with CSR standards.

Identify the topics:

By applying the two-dimensional matrix of “Value Creation & Social Concerns”:
- Topics significantly affecting value creation effect;
- Topics greatly concerned by stakeholders;
- Topics about social issues of common concern;
- Topics emphasized by general standards;
- Topics of importance to a power grid enterprise.

Procedure for Report Preparation:
Please visit our CSR website for more details.

Standards followed by the report:
State Grid CSR Performance Guide

References:
- Guidelines to the State-owned Enterprises Directly under the Central Government on Fulfilling Corporate Social Responsibilities by SASAC
- SOEs’ Harmonious Development Strategy Implementation Outline During the 12th Five Year by SASAC
- 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
- G4 Sustainability Reporting Guidelines by Global Reporting Initiative
- AA 1000 Assurance Standards by Accountability Institute, Britain

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Scan the QR code with your smartphone for a direct link to the electronic content.
CSR is the fundamental expectation and requirement from all walks of life
CSR is the starting point as well as the ultimate goal of the company’s operation

1. Ensure reliable and trustworthy power supply
2. Treat each stakeholder responsibly
3. Become a model of green development
4. Develop overseas business with responsibility
5. Guarantee operation transparency and be open to public supervision
Build a responsible, reliable and trustworthy SGCC

Corporate Social Responsibilities of SGCC

1. Ensure reliable and trustworthy power supply
   (The key to create maximum integrated value)

2. Treat each stakeholder responsibly
   (Be responsible for everyone relevant to corporate operation)

3. Become a model of green development
   (Be responsible for the environmental effect caused by corporate operation)

4. Develop overseas business with responsibility
   (Social responsibility is the company’s eternal pursuit no matter where it operates)

5. Ensure transparent operation and be open to social supervision
   (Transparency and social supervision makes social responsibility trustworthy and sustainable)

Embed CSR into corporate operation

1. Provide safer, cleaner, more economical and sustainable energy supply with minimum economic, social and environment cost
   - Fulfill the responsibility on scientific development and push for optimal allocation of the national energy resources
   - Fulfill the responsibility on secure power supply and maintain public social security
   - Fulfill the responsibility on management excellence and guarantee operational efficiency
   - Fulfill the responsibility on technical innovation and lead independent industrial innovation
   - Fulfill the responsibility on global vision and deepen global resource integration

2. Operate the company in a human-oriented way
   - Responsibility on Quality Service: responsible for customers
   - Responsibility on Agriculture, Countryside and Farmers: responsible for agriculture, countryside and farmers
   - Responsibility on Employee Development: responsible for employees
   - Responsibility on Win-win Partnership: responsible for partners
   - Responsibility as Corporate Citizen: responsible for the community

3. Operate the company in a manner responsible to environment
   Responsibility on Environmental Protection and Low Carbon Emission: responsible for the environment

4. Carry out overseas business in a responsible manner.
   Implement overseas business development strategy with responsibility on global vision

5. Transparency and stakeholders’ participation ensure social responsibility trustworthy and sustainable.
   Responsibility on Communication and Cooperation: ensuring stakeholders’ right to know, to participate, and to supervise, building trust, promoting mutual understanding, and cooperating to create integrated value
The major strategic deployment for thoroughly deepening the reform made at the Third Plenary Session of 18th CPC Central Committee will further emancipate and develop China’s social productive forces and creativity. Nowadays, the third industrial revolution is being conceived with the breakthroughs from new energy technology, smart technology, information technology and the Internet technology, bringing an unprecedented historical opportunity to China's sustainable development of energy and electric power. Now, SGCC's most fundamental, important and urgent social responsibility is to thoroughly implement the spirit of the Third Plenary Session, accelerate the construction of Strong and Smart Grid, seize this opportunity in the new revolution to win competitive advantages, promote safe, clean, environmental and friendly development of energy, serve for building a moderately prosperous society and contribute to the Chinese Dream of great rejuvenation.

Smart Grid is a catalyst for the 3rd Industrial Revolution. Energy is the premise for human survival and development. For the past two centuries, the human society has already experienced two industrial revolutions. Looking at the evolution of industrial civilization, one can easily identify that the energy reform is crucial to the industrial development and exerts an overall influence to the progress of industrial civilization to the next level with more advanced evolution. Historically, the industrial revolution based on the conventional fossil fuel utilization can hardly sustain itself. The 3rd Industrial Revolution should be built on sustainable energies. It has become a strategic trend in the world to shift the energy utilization center to electric power. Future energy reforms will focus on cleaner and more economical electricity generation, safer and more efficient resource allocation, and more convenient and reliable power consumption. It’s only a matter of time for electricity fueled by renewables to replace fossil fuels.

Smart grid is the catalyst for the 3rd Industrial Revolution, able to promote its overall advance. The successes of Britain and the U.S. during the first and second industrial revolution tell us that whoever takes the initiative establishes a competitive advantage and can finally win. Faced with the 3rd Industrial Revolution, the energy and electric power industry should implement the spirit of the 3rd Plenary Session of the 18th CPC Central Committee, fully deepen the reform as an opportunity, follow the development trend, and seize the historic opportunity to accelerate the construction of smart grid. Thus, we can take the commanding heights in this new round of energy reform and enable safe, clean, green and friendly development of energy. The industry can then play an important role in building a moderately prosperous society and achieving the Chinese Dream of national rejuvenation.
Seize the strategic opportunity to promote China’s Smart Grid innovation. Smart grid is not only important infrastructure to guarantee the national energy supply, it also interconnects with various networks and infrastructures, playing a vital role in promoting a leapfrog development of China’s infrastructure. Meanwhile, smart grid integrates the new energy technology, smart technology, information technology and the Internet technology, which are the core of the 3rd Industrial Revolution. Therefore, it is significant for China to promote smart grid and thus boost strategic emerging industries as well as economic transform and upgrade. In recent years, Chinese companies have carried out fruitful work and made a series of major breakthroughs in theoretical research, technical innovation, equipment development, standard formulation, engineering construction, and test capacity building, leading the edge in the world. Many UHV AC/DC transmission projects have been put into operation, and a batch of smart grid comprehensive demonstration projects have also been built, such as the Sino-Singapore Tianjin Eco-city and the National Wind/PV/Energy Storage and Smart Transmission Demonstration Project in Zhangbei. Moreover, full-fledged and world-leading test and research system has been built. China is leading in smart grid standardization and ready for overall construction of smart grid. We have to recognize the inevitable trend of increasingly higher grid voltage, bigger integration scale and stronger allocation capability and prioritize the development of smart grid as the pioneering industry of the 3rd Industrial Revolution.

Developing smart grid can effectively solve the four major problems facing China’s energy development and realize a safe, clean, green and friendly development of energy. Safe development is to use the smart grid as the market and allocation platform, coordinating the use of domestic and foreign resources, promote large-scale intensive development of energy, large-scale optimized allocation and efficient and thorough utilization, increase total supply, lower energy intensity, reduce energy loss, prevent supply-demand imbalance, and ensure a stable and reliable energy supply. Clean development is to use smart grid to promote new energy and distributed generation, improve energy structure, protect the natural environment, and minimize dependence on fossil fuels. Green development is to fully exert the function of smart grid, coordinate the use of national environmental capacity, replace oil and coal by electricity which can be transmitted from afar, improve electrification level, and effectively mitigate the pollution to air, water and soil in Mid and East China. Friendly development is to leverage the open and interactive advantages of the smart grid to flexibly adapt to the generation from varied power resources and different consumption demands from customers, and make energy development and consumption more convenient and life more comfortable and economical.

Smart grid development requires key technology breakthroughs. First is to speed up UHV grid construction. With the “North-East-Central” synchronous UHV grids as a priority, China will build five vertical and five horizontal UHV AC grids and 27 loops of UHV DC projects by 2020, capable of allocating 450GW of electricity on a large scale and accommodating 550GW of clean energy. Second is to accelerate distribution grid upgrade. A smart distribution grid that is technically advanced, structurally distributed, efficient and flexible, self-healing under fault mode will be built to accommodate rapid development of distributed generation and micro-grids. Third is to enhance the interactivity of grids. A smart user management system and bi-directional interaction platform will be built to enable families to manage their own energy consumption through smart grid and purchase electricity through mobile terminals. This platform will also provide such services as collective water/power/gas meter reading, information inquiry, remote control of home appliances, facilitating people’s smart life conveniences. Fourth is to accelerate formation of a national power market system. It is clearly stated in the third plenary session of the 18th Communist Party of China Central Committee that market should play a decisive role in allocating resources and the modern market system should be improved. Bearing this in mind, we will target at building a unified, open, competitive and orderly national power market system, with Smart Grid as a platform, that integrates multi-functions like energy transmission, resource allocation, market transaction, customer service.

Whether we can take a firm grip of this historic opportunity brought by the third industrial revolution will determine China’s position in the future global competition to a great extent. Much different from the scenario of previous two revolutions, this time China is well on the road to revive, with new energy and smart grid standing at the forefront of the world technology edge, which in turn grants China a favorable position in the new round of energy reform. Now China is well-equipped with the necessities to pioneer and lead the third round of industrial revolution. History shouldn’t repeat this time and chances easier missed than seized. Energy utilities should embrace this historic mission and solidify and enlarge our edge. SGCC will always play an exemplary role of responsible central enterprises, accelerate the development of the smart grid, lead the transformation and innovation and actively contribute to the great rejuvenation of Chinese nation.
Corporate Profile

SGCC was established as a state-owned enterprise on December 29, 2002. It has been rated as an A-Class enterprise by SASAC evaluation on operation performances for 9 consecutive years. As the largest utility in the world, SGCC ranked 7th on Fortune Global 500.

SGCC constructs and operates power grids as its core business, to provide safer, cleaner, and more economic and sustainable power supply. As a super-large state-owned enterprise crucial to national energy security and economic lifeline, SGCC operates as a group with 200 billion registered capital and 1.87 million employees. SGCC serves 1.1 billion people in 26 provinces, autonomous regions and municipalities, covering 88% of the national territory. SGCC also operates overseas assets in the Philippines, Brazil, Portugal and Australia, etc with good performance.

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<th><strong>Organizational Structure</strong></th>
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<th><strong>Organizational Structure—Branches</strong></th>
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<td><strong>SGCC Northeast China Branch</strong></td>
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| **7th on Fortune Global 500** |
| Serving **88%** of the national territory |
| Providing power to a population of over **1.1 billion** |
| Over **1.87 million employees** |
| Length of transmission line**771,000 km** |
| Transformation capacity **3,030 GVA** |

| **Electricity sales** |
| **3522.7 TWh** |
| **Revenue RMB** |
| **2049.2 billion** |
| **Total assets RMB** |
| **2560.2 billion** |
| **Line loss** |
| **6.83%** |
| **Reliability of urban power supply** |
| **99.956%** |
| **Reliability of rural power supply** |
| **99.852%** |

*110 (66) kV and above transmission line **110 (66) kV and above transforming facilities
### Organizational Structure—Provincial Companies

<table>
<thead>
<tr>
<th>No.</th>
<th>Company Name</th>
<th>SGCC Text</th>
<th>Company Name</th>
<th>SGCC Text</th>
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<td>Beijing Electric Power Company, SGCC</td>
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<td>Anhui Electric Power Company, SGCC</td>
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<td>Tianjin Electric Power Company, SGCC</td>
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<td>Fujian Electric Power Company, SGCC</td>
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<td>Hebei Electric Power Company, SGCC</td>
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<td>Hubei Electric Power Company, SGCC</td>
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<td>Hunan Electric Power Company, SGCC</td>
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<td>Liaoning Electric Power Company, SGCC</td>
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<td>Sichuan Electric Power Company, SGCC</td>
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<td>Chongqing Electric Power Company, SGCC</td>
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<td>Liaoning Electric Power Company, SGCC</td>
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<td>Tibet Electric Power Company, SGCC</td>
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### Organizational Structure—Subsidiaries directly managed by SGCC

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<th>No.</th>
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<tr>
<td>1</td>
<td>China Electric Power Research Institute</td>
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<td>State Power Economic Research Institute</td>
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<td>3</td>
<td>State Grid Energy Research Institute</td>
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<td>4</td>
<td>State Grid Management Academy (SGCC CPC School)</td>
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<td>SGCC Advanced Training Center</td>
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<td>6</td>
<td>State Grid Institute of Technology (Youth League School)</td>
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<td>State Grid Operation Company</td>
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<td>NARI Group Corporation</td>
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<td>(State Grid Project Management Company)</td>
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<td>Luneng Group Co., Ltd.</td>
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<td>State Grid Xin Yuan Co., Ltd. (State Grid Xin Yuan Hydropower Co., Ltd.)</td>
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<td>State Grid Smart Grid Research Institute</td>
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<td>Yingda Security Corporation Ltd.</td>
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<td>33</td>
<td>State Grid Energy Conservation Service Co., Ltd.</td>
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### Honors and prizes for CSR fulfillment in 2013

- **A-Class Enterprise by SASAC Evaluation on Operation Performances for the 9th consecutive year**
  - The Qinghai-Tibet DC Demonstration Project won the National Gold Prize for Excellent Project
- **1 Grand Prize, 1 First Prizes and 3 Second Prizes of National Award for Science and Technology Progress**
  - 2 China Construction Project Luban Awards
- **2 First Prizes and 12 Second Prizes of National Management Innovation Award**
  - 10 National Prizes for Excellent Project
- **First Place of Top 500 Chinese Service Enterprises for the 9th consecutive year**
  - Special Award for Chinese Enterprises’ Social Responsibility 2013
- **67th on Top 500 World Brands**
  - Outstanding CSR Enterprise 2013
- **National Model Enterprise for Thorough Integration of Informatization and Industrialization**
  - Model Enterprise for Public Transparency 2013
- **Demonstration Base for International Standardization Innovation**
  - China Top 100 Green Companies
- **National Pilot for Patent Operation**
  - UN Global Compact China Best Practice
- **Pilot Enterprise of Smart Grid Comprehensive Standardization**
  - Advanced Central SOE for Branding
- **National IPR Model**
  - No.1 in the Chinese Top 100 CSR Development Indicator
- **Excellent Performance Prize by SASAC (2010-2012)**
  - China Charity Award (the 6th time)
- **Special Prize of Scientific and Technological Innovation by SASAC (2010-2012)**
The Aspiration

Awareness comes first in responsible development

Build a responsible, reliable, and trustworthy SGCC in the guidance of a scientific outlook on CSR.
At the 18th National Congress of CPC, the Party aimed to build an all-round well-off society by 2020 and double GDP and the per capita income of urban and rural residents compared with 2010. At the end of 2012, the Central Economic Work Conference clearly pointed out for the first time to “intensify CSR of large enterprises”.

The company speeds up the construction of a world-class grid and a world-class company, dedicated to providing safe, reliable, clean and quality electricity for the fulfillment of the great target raised in the 18th National Congress of CPC, and contributing to China’s prosperity, people’s well-being, China’s beauty, and the Chinese Dream of national rejuvenation.

The Decision on Major Issues Concerning Comprehensively Deepening Reforms was adopted on the Third Plenary Session of the Eighteenth CPC Central Committee, emphasizing on the standardization of management decision, the maintenance and appreciation in asset value, fair competition, the improvement of corporation efficiency, the promotion of corporation vitality, and the CSR in order to further deepen the reform of state-owned enterprises.

The company put the performance of “Three Responsibilities” (political, economic and social responsibilities) and the practice of “Four Services” as the foothold of everything.


The company transforms the development mode to build a world-class energy corporation with strong forces for competition, sustainability, services and soft power, and a harmonious and highly civilized enterprise to develop together with our staff and the society.

SASAC pushes central SOEs to implement the five strategies (strategy of transformation and upgrade, strategy of S&T innovation, strategy of international operation, strategy of talent pool, and strategy of harmonious development), in order to be stronger, finer, and world-class. It encourages management enhancement and identifies CSR as one of the 13 key areas.

The company focuses on the “Two Transformations”, intensifies social responsibility, promotes sustainable development, and conducts its Comprehensive CSR Management in every provincial company to promote the thorough penetration of the CSR.
Explore, Practice, Test and Improve a Scientific Outlook on CSR

Promote the economic and social development as the top priority in applying the Scientific Outlook on Development. Realize scientific, harmonious and peaceful development by reinvigorating China through science and education, blooming China by talent pools, and pursuing sustainable development.

Put people first as the core stance in applying the Scientific Outlook on Development. Stick to the realization, preservation, and development of people’s interest as the foothold of all the work. Make continued advancement in enabling people to share the fruits of development and in promoting well-rounded development of people.

Thoroughly implement the spirit of the 18th CPC National Congress and become more conscious in four aspects

Implement “Four Thorough Understandings” in light of the spirit of the Third Plenary Session of 18th CPC Central Committee

Thoroughly understand the general objectives of reform, “improve and develop the socialist system with Chinese characteristics, and drive for the modernization of national governance system and capability”.

Thoroughly understand the direction of marketization reform. Deepen economic system reform centered on the market as the decisive force in resource allocation. Adhere to and improve basic economic system, accelerate the improvement of modern market system, macro-regulation system, and open economic system. Speed up the transform of economic development mode and the construction of an innovation-oriented country. Propel a more efficient, justified economy with more sustainable development.

Thoroughly understand the requirement of SOEs’ reform and adapt to the latest trend of marketization and internationalization. Give priority to standardized operational decisions, maintenance and appreciation of asset value, fair competition, enhancement of enterprise efficiency and vitality, and social responsibility fulfillment for further SOE reform.

Thoroughly understand the reform requirement of the state-holding and state-operating natural monopoly industries. Carry forward the marketization of public resource allocation. Adhere to marketizing the power industry. Further accelerate the construction of the national power market to establish a fair, open and transparent market. Help shape a reasonable electricity tariff system. Motivate and safeguard various power generation entities and users to participate in market competition and be open to government supervision and social inspection.

Take comprehensive coordination and sustainability as the basic requirement in applying the Scientific Outlook on Development. Implement the overall plan for promoting economic, political, cultural, social, and ecological development. Expand the path of civilization that leads to increased production, affluent life and a good ecosystem.

Make holistic approach in applying the Scientific Outlook on Development. Coordinate urban and rural development, regional development, socio-economic development, relations between man and nature, and domestic development and opening to the outside world. Balance the interests of all parties, motivate them to do their best, and find their proper places in the society and live in harmony.
CSR management is an important carrier to implement the mass line policy of the Party based on the realities

Thoroughly understand the same objective of the mass line policy and the CSR management. It’s the ultimate objective for SOEs’ CSR management to maximize the integrated economic, social and environmental values for the nation and the people, which is how SOEs serve the people.

Thoroughly understand the same methods to achieve the mass line policy and CSR management. Externalize internal work and internalize external expectation. Take social expectation and shareholders’ requirement into corporate decision-making and activity planning to motivate stakeholders to participate in the integrated value creation. Protect stakeholders’ right to know, to participate, and to supervise. This is coherent with the mass line method, which entails “doing everything for the masses, with the mass, from the masses, and to the masses.”

Thoroughly understand the same requirement of the mass line policy and CSR management. CSR management emphasizes on establishing a long-term effective mechanism to ensure enterprises to pursue maximized integrated value and operation transparency. This consists with the requirement of institutionalizing educational practices and establishing a fine and long-term effective mechanism.

CSR implementation is an important content in corporate reform with innovative explorations and practices

Combine CSR implementation and enterprise reform and development enhancement. Put CSR implementation as an important content of establishing a modern enterprise system.

Lead SOEs to find a bond between their main business advantages and extensive social problems. Incorporate CSR into their corporate strategies, decisions, operation and management.

Strengthen the construction of the company’s internal system, guarantee employees’ legitimate rights, and properly solve the remaining problems left by SOEs’ reform.

Intensify the system construction and supervision and enhance the self-constraint of state-owned enterprises regarding honest operation, product and service quality enhancement, energy saving and emission reduction, environmental protection, and production safety.

Deepen CSR concept and clarify the topics.

Improve CSR system and clarify work responsibility.

Integrate CSR into management and operation and promote sustainability.

Exert the value of CSR report and improve CSR communication mechanism.

Intensify CSR benchmarking and enhance corporate management.

Implement the social responsibility on globalization and serve the strategy of “Going Global”.

Implement the strategy of harmonious development.

Intensify CSR management.

Strengthen the construction of CSR capability.
Responsibilities Originate from Mission and Arise from Strategy

**Corporate Mission**
Delivery clean energy to a harmonious society
Ensure safer, cleaner, more economical, and sustainable energy supply and push for a healthier development, more harmonious society and a better life

**Core Values**
Integrity, commitment, innovation and dedication

**Corporate Tenet**
To serve the country, customers, power generation enterprises and the socio-economic development

**Corporate Spirit**
In search of excellence
In pursuit of outperformance

**Corporate Philosophy**
Oriented to people, loyal to company and committed to serving the society

**Corporate Vision**
Build a World-class Grid and a World-class Enterprise

Promote sustainable development fixated on two transformations

Accelerate the transformation of the grid development mode by constructing the Strong and Smart Grid for the 3rd Industrial Revolution

Accelerate the transformation of the company development mode by constructing the “3ISG” system and modernizing corporate governance structure and capacity

Strategy of Sustainable Development

1. Promote energy sustainability by focusing on constructing the Strong and Smart Grid
2. Ensure reliable and trustworthy energy supply by efficient operation and S&T innovation
3. Satisfy power demand for economic development with quality service
4. Win over social recognition with transparent operation and supervision from all walks of life
5. Promote the sustainable development of the industry with the company’s industrial drive
6. Stimulate the sustainable development of the society with the company’s social influence

Goal

Maximize the integrated value
Strive for social recognition and trust
Ensure the sustainable operation of the enterprise

Highlights

Build a modernized company with “A Strong Grid, Excellent Assets, Services and Performance”
Further develop the “Two Transformations”, that is to transform the development mode of the power grid and the company
Build a world-class power grid and a world-class enterprise

Implementation

Advocate the sustainable development of the company, the industry and the society.
Be the pioneer to revitalize Liaoning province. Increase the investment on power grid to improve the power supply capacity and power quality to support regional economic development, and serve the construction of key projects, regional development strategies and coordinated development between urban and rural areas. 

Accelerate the transformation and development of Liaoning province. Enhance the ability of power grid to optimize the allocation of resources, supply power, and withstand natural disasters. And, as a result, promote the development of modern agriculture, the upgrading of traditional industries, the rise of new industries, and the development of service industry and innovation-driven development. Be a good citizen to contribute to the social construction and people’s welfare in Liaoning province. Ensure power supply’s reliability and quality, and make sure of urban and rural residents’ convenience in power consumption and satisfaction with power supply. Serve the power supply to the rural infrastructure and regional affordable housing projects to ensure safe power supply. 

Be the main force in the ecosystem construction of Liaoning province. Optimize the power grid dispatching to promote the energy efficiency of the generation side and user side, and reform energy conservation services to promote the energy conservation and reduction of pollutant emissions in Liaoning province. 

Serve the pioneering transformation and rapid development of Taiyuan. Help build demonstration areas of ecological civilization construction in Taiyuan. 

Serve to build high-end economic agglomerations in Taiyuan. Build a strong grid. Ensure grid safety and reliable power supply, achieve quality service, and implement the universal service to provide strong, efficient and clean energy for economic development. Serve to build harmonious and civilized areas in Taiyuan. 

Serve to build harmonious and cultural city construction. Contribute to building Taiyuan into a national forest city and ecological garden city, and accelerate the construction of “green Taiyuan” and “healthy Taiyuan”.

---Serve to build a rich, civilized and happy Niaoling

Each branch takes advantage of the overall function and conglomerate advantages of SGCC to serve the sustainable development of local economy, society and environment, and pursue the maximization of integrated value.
Responsibilities are Rooted in Management and Accomplished through Mechanism

Implement the management objectives of sustainable development, maximized integrated value, and erecting a responsibly SOE image in various aspects of corporate management.

CSR improves management

<table>
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<tr>
<th>Unit</th>
<th>Problem diagnosis</th>
<th>Major practices</th>
<th>Effect analysis</th>
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<tbody>
<tr>
<td>Shandong Electric Power Company, SGCC</td>
<td>Not fully consider making use of stakeholders. Not fully consider social risks and communication strategies. Not fully consider creating integrated value.</td>
<td>Insist on integrated value creation, push forward the participation of stakeholders, respond to social expectation and appealing, ensure transparent and effective operation from the source, and prevent social risks.</td>
<td>Establish a decision-making mechanism and process which intend to involve stakeholders. Promote enterprise operation transparency and comprehensive value creation capability. Exhibit a responsible and leading image of an SOE.</td>
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<tr>
<td>Shanghai Electric Power Company, SGCC</td>
<td></td>
<td>Integrate the concept of stakeholder management and social communication into Grand Planning, Construction, Operation, Maintenance, and Marketing (“5G”). Give full consideration to the influence of business decision-making on society, environment, and stakeholders. Improve standard, process, and institution. Push forward the solidification of business responsibility mechanism.</td>
<td>Enhance the implementation of “5G” and its result. Construct “5G” to better satisfy local development requirements. Intensify the recognition on interest, emotion and value recognition among various parties.</td>
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<tr>
<td>Fujian Electric Power Company, SGCC</td>
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<td>Jibai Power Grid Company, SGCC</td>
<td>Lack initiatives to involve stakeholders in business decision-making. Lack thorough consideration of the requirement on sustainable social and environmental development. Lack communication strategy design and understanding of the requirement on building a responsible SOE brand.</td>
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<td>Jiangsu Electric Power Company, SGCC</td>
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<td>Hunan Electric Power Company, SGCC</td>
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<td>Jiangxi Electric Power Company, SGCC</td>
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<td>Qinghai Electric Power Company, SGCC</td>
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<td>Tibet Electric Power Company, SGCC</td>
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</table>
| Zhejiang Electric Power Company, SGCC | The implementation of social responsibility management lacks standard and institution. CSR issues and management duties need to be further clarified. | According to the ISO 26000 and corporate requirement, the 50,000-word CSR Management Guide of Zhejiang Electric Power Company, SGCC (CSR 26000E) was compiled. | Define 14 core themes and 53 topics for discussion on social responsibility and establish. 276 CSR management indicators. We answered the questions of “What is social responsibility, who does it, what to do, how to do and how to assess it.”

SGCC’s Comprehensive CSR Management Model

All employees’ participation

Leveraging the driving force from the social environment

Leveraging the driving force from stakeholders

Optimize the corporate mission

Guided by a scientific CSR outlook

Implement the strategy of sustainable development

Leverage the concept of corporate value
### CSR Implementation Mechanism

<table>
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<tr>
<th>Choose prioritized topics</th>
<th>Demonstrate comprehensive resource and capability and choose the CSR topics that contribute most to sustainable development</th>
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<tbody>
<tr>
<td>Determine implementation concept</td>
<td>Consider the factors of economy, society, and environment to ensure transparency and stakeholders’ participation</td>
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<tr>
<td>Formulate implementation strategy</td>
<td>Decide the strategic path that optimizes the integrated economic, social, and environmental value</td>
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<td>Improve institutional guarantee</td>
<td>Ensure the implementation of philosophy and strategy on prioritized topics</td>
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<tr>
<td>Plan implementation action</td>
<td>Plan and carry out major CSR action projects, ensuring sufficient resource input</td>
</tr>
<tr>
<td>Identify performance standard</td>
<td>Clarify the indicator system and effective standards for measuring and monitoring CSR performance</td>
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<tr>
<td>Regularly benchmark and feedback</td>
<td>Timely keep informed and monitor the topic progress, achievements, existing problems, and challenges</td>
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<tr>
<td>Ensure operational transparency</td>
<td>Ensure stakeholders’ right to know, participate, and supervise</td>
</tr>
<tr>
<td>Improve constantly</td>
<td>Topics that are more scientifically chosen, better implemented, and more effectively communicated</td>
</tr>
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### Demonstrations

| Implement national energy strategy and construct Anhui-to-East China UHV AC Demonstration Project. | Focus on solving the most direct and pragmatic problems that masses care most. Push forward the electric power construction in areas without electricity access in Tibet. |
| Promote the large-scale optimized allocation of energy. Turn the coal resources advantages in Anhui province to energy advantages. | Solve power service problem as much as possible within the reach of the large grid. Develop border areas, and improve the production and living conditions of farmers and herdsmen. |
| Ensure reliable and trustworthy energy supply. Meet increased electricity needs required by the economic development in Yangtze River Delta areas. | Self-innovate to promote the domestic rate of core equipment and technology. Ensure technical feasibility, economic rationality, social acceptability, environmental friendliness, and value superiority. |
| Promote the large-scale optimized allocation of energy. Turn the coal resources advantages in Anhui province to energy advantages. | Continue to expand the coverage area of main grid in Tibet. Resolve electricity problem for 439,900 people of 110,400 households in 58 counties. |
| Ensure reliable and trustworthy energy supply. Meet increased electricity needs required by the economic development in Yangtze River Delta areas. | Stipulate and improve a series of standard specifications for UHV project construction. Fine plan and examine construction plan. |
| Self-innovate to promote the domestic rate of core equipment and technology. Ensure technical feasibility, economic rationality, social acceptability, environmental friendliness, and value superiority. | Organize technical research, adopt double-circuit transmission line on the same tower, and push forward the application of standard techniques. |
| Ensure reliable and trustworthy energy supply. Meet increased electricity needs required by the economic development in Yangtze River Delta areas. | Save corridor land occupation, and minimize the environmental influence from the project. |
| Stipulate and improve a series of standard specifications for UHV project construction. Fine plan and examine construction plan. | Specify the economic, social, and environmental performance of the project. Specify the communication strategy of project construction and requirements of external communication. |
| Ensure reliable and trustworthy energy supply. Meet increased electricity needs required by the economic development in Yangtze River Delta areas. | Gradually realize the target of electricity power construction in areas without electricity access within two years. Optimize grid layout and structure in Tibet. Promote security management of Tibetan grid. |
| Self-innovate to promote the domestic rate of core equipment and technology. Ensure technical feasibility, economic rationality, social acceptability, environmental friendliness, and value superiority. | Manage and control the economic, social, and environmental performance and implementation effect of the publicity strategy. |
| Ensure reliable and trustworthy energy supply. Meet increased electricity needs required by the economic development in Yangtze River Delta areas. | Enhance the communication and cooperation with local governments, and adopt a specialized and localized construction management mode. |
| Stipulate and improve a series of standard specifications for UHV project construction. Fine plan and examine construction plan. | Disclose the progress and results of the project construction to the public. Invite stakeholders to visit on-site. Listen to various suggestions and answer the questions. |
| Ensure reliable and trustworthy energy supply. Meet increased electricity needs required by the economic development in Yangtze River Delta areas. | Invite media to interview on the electric power construction in areas without electricity access. Hold themed open day activities and accept social inspection. |
| Self-innovate to promote the domestic rate of core equipment and technology. Ensure technical feasibility, economic rationality, social acceptability, environmental friendliness, and value superiority. | Improve system process and standardization system. Constantly make breakthroughs in core technology and key equipment. Improve social communication strategy. |
| Ensure reliable and trustworthy energy supply. Meet increased electricity needs required by the economic development in Yangtze River Delta areas. | Fully complete the electric power construction task by the end of 2014. Further improve the quality of electricity supply. |
The Action

Embed in mind and actualize in action

Agglomerate synergy for sustainable development

Pursue the maximized integrated economic, social and environmental value

March Forward
The Silk Road of Electricity- Xinjiang-Northwest China 750kV grid interconnection and Phase 1 output project of Gansu 10GW-level Wind Farm were put into use.

Xiangjiaba-Shanghai ±800kV UHV DC Transmission Demonstration Project was put into use.

Jinping - Sunan ± 800kV UHV DC Transmission Project was put into use.

The first batch of 15 provincial companies have initially built the “3I5G” system.

2010

The expansion project of 1000kV Jindongnan-Nanyang-Jinmen UHV AC Demonstration Project was put into use.

UHV technology and smart grid were included in the National 12th Five-Year Plan.

The Qinghai-Tibet Interconnection Project, the world’s largest transmission and transformation project in the highest alpine region with the most construction difficulties, was put into operation.

The pilot work of “5G” system was accepted and the reform of separating the main business from auxiliary business was completed.

2011

2012

2013

UHV AC transmission project won the Grand National Award for Science and Technology Progress.

The world's first double-circuit on the same tower Anhui-to-East China UHV AC Demonstration Project was put into use.

Southern Hami-Zhengzhou ±800kV UHV DC Transmission Project was put into use.

The Second Xinjiang-Northwest Main Grid Transmission Line and Yushu-Qinghai Main Grid Interconnection was put into operation.

27 provincial companies have completed the “3I5G” construction and finished “3 centers”.

http://csr.sgcc.com.cn
Ensure Reliable, Trustworthy Power Supply

Fulfill the responsibilities of scientific development, safe power supply, management excellence and technical innovation

Maximize the integrated economic, social and environmental value

Optimize national energy allocation
- Forge a national energy strategic platform
- Promote optimized energy allocation in a larger scope
- Accelerate the transform of energy development mode

Electricity traded in the National Power Market reached

601.9 TWh in 2013

Investment in power grid in 2013 RMB

337.9 billion

Satisfy the power need for socio-economic development
- Construct the Strong and Smart Grid
- Promote coordinated development of grids at different levels
- Tap the potentials of existing grids

……
Management improves operational efficiency
- Management innovation improves corporate operation efficiency
- Informatization enhances value creation capability
- Industry extension strengthens sustainability

Current asset turnover in 2013
7.25 times

Highest load within SGCC’s service area in 2013
654 GW

Ensure safe and reliable power supply
- Formulate a reliable and long-term power supply mechanism
- Prevent massive blackouts from happening
- Upgrade emergency responding ability

Innovation drives scientific development
- Unleash the leading role of self-innovation
- Upgrade of equipment industry supports leap-frog development
- Create first-class S&T results

Patents owned by SGCC
28311
The 3rd Industrial Revolution powered by Smart Grid

- **Electricity Sales in 2013**: 3522.7 TWh
- **Annual growth rate of electricity sales**: 7.5%
- **Electricity accumulatively transmitted via UHV**: 139 TWh

- **It promotes the energy development to transform** from fossil fuels to clean energy and the production mode shifts from centralized production to a mix of centralized and distributed mode.
- **It promotes the reform of energy allocation** from on-site local balance to an overall balance with optimal allocation in a wider range.
- **It promotes the reform of energy consumption pattern** from one-way single-moded power consumption into interactive and flexible smart power consumption.
- **It promotes the change in production and lifestyle**, realizing a low-carbon production and lifestyle, conglomerate public services and smart life.
- **It promotes the development of strategic emerging industries**, giving a strong impetus to new energy, new materials, smart equipment, electric vehicles, and the new generation of information industry.
Develop UHV grids to transmit electricity to Mid and East China in a large capacity over long distances and optimize electric power resource allocation in a national scope. Implement electricity replacement strategy to increase trans-regional power transmission. Encourage coal to be replaced by electricity to reduce direct coal-burning pollution. Promote electric vehicles and electrified railway transport to reduce emission and increasingly severe smog problems in East and Central China.

Provide safer, cleaner, more economic and sustainable energy with minimum economic and social cost. Support constructing the national comprehensive energy transport system. Speed up the economic development transform into a more transparent, efficient, and sustainable way.

Replace coal and oil with electricity from a distance

**Develop UHV grids** to transmit electricity to Mid and East China in a large capacity over long distances and optimize electric power resource allocation in a national scope. **Implement electricity replacement strategy** to increase trans-regional power transmission. Encourage coal to be replaced by electricity to reduce direct coal-burning pollution. Promote electric vehicles and electrified railway transport to reduce emission and increasingly severe smog problems in East and Central China.

The lines of Xiangjiaba-Shanghai, Jinping-Sunan ±800kV UHV DC transmission projects

Group towers of the big span over the Yangze River of Anhui-to-East China UHV AC Demonstration Project
UHV optimizes national energy allocation

During the 12th Five-Year, the company planned to build three vertical and three horizontal UHV backbone network and 13 loops of UHV DC projects with a trans-regional transmission capacity of 290GW. They can deliver 1200TWh electricity to eastern and central China every year.

In 2013, UHV power grids were constructed in a large scale. Its safety, economy and environmental friendliness have been fully validated. China has now mastered UHV core technologies and is capable of producing system equipment with independent intellectual property rights.

Environmental benefits of UHV transmission (East and Central China)

- Sulfur dioxide emission reduction (thousand tons)
  - 2015: 1490
  - 2017: 1570
  - 2020: 1690

- Reduced PM2.5 pollution (compared with 2010)
  - 2015: 12%
  - 2017: 20%
  - 2020: 28%

- Reduced coal consumption (million tons)
  - 2015: 440
  - 2017: 590
  - 2020: 820

The accumulative investment in UHV projects is RMB 108.77 billion.

The annual GDP increase stimulated by UHV transmission reached RMB 320 billion.

UHV transmission shows remarkable comprehensive benefits.

- **Economic benefits.** It has brought RMB 2,500 billion power investment and increased the output value of RMB 260 billion in coal mining and washing industry and RMB 450 billion in equipment manufacturing industry. It has added the annual GDP growth of about RMB 320 billion, and increased the tax revenue of about RMB 60 billion with 700,000 more jobs.

- **Social benefits.** UHV can optimize the energy transportation system and adjust the transmission ratio of coal and electricity from the current 15:1 to 4:1 by 2020. Developing UHV will improve social energy efficiency, promote electricity replacement, increase the proportion of electricity in end energy consumption, reduce the consumed energy per GDP and enhance the large-scale development and efficient utilization of wind, solar and other clean energies. By 2020, China’s installed capacity proportion of clean energy will increase to over 34% from the current 29%. UHV can also promote the coordinated development of the East and West, increase western investment and tax revenue and stimulate the economic growth in the East and West.

- **Environmental benefits.** It can effectively solve the most pressing smog problem and synthetically control air, water and soil pollution.

Line construction of East Shore of Xiluodu-Zhejiang Jinhua ±800kV UHV DC Transmission Project.

The annual GDP increase stimulated by UHV transmission reached RMB 320 billion.
1000kV Jindongnan-Nanyang- Jingmen UHV AC Pilot Project. It is China’s first UHV project, which has been successfully operating for 5 years and delivered a total of 53.2TWh electricity.

Anhui-to-East China UHV AC Demonstration Project. It is the world’s first commercial UHV AC transmission project with double circuit towers. The annual transmission capacity is over 50TWh, equivalent to building 6 GW-level thermal power plants or delivering 16 million tons of standard coal.

1000kV Zhebei-Fuzhou UHV AC Project. Its short-term transmission capacity is 6.8GW and the long-term transmission capacity can be increased to more than 10.5GW. The project has great significance for enhancing the safety and stability of East China Power Grid and improving the emergency response capability of coastal nuclear power groups.

Ximeng-Nanjing, Huainan-Nanjing-Shanghai and Ya’an-Wuhan UHV AC projects, Ningdong-Zhejiang and Jiuan-Hunan UHV DC projects. These projects have all obtained preliminary permissions and early-stage work is under way.

Xiangjiaba-Shanghai ±800kV UHV DC Pilot Project. It has been accepted by the government and successfully completed the load test, creating a world record of delivering 7.04GW with single-circuit.

Jinping - Sunan ± 800 kV UHV DC Project. It has totally delivered 26.966TWh electricity.

Southern Hami-Zhengzhou ±800kV UHV DC Transmission Project. It is the first UHV project bundling wind, PV and thermal power in Northwest China, which can deliver 50TWh electricity to Central China every year, reducing 330 thousand tons of sulfur dioxide emission and 278 thousand tons of nitrogen oxides emission.

East Shore of Xiluodu-Zhejiang Jinhua ±800kV UHV DC Transmission Project. It can deliver 40TWh clean hydropower from Southwest China to Zhejiang, equivalent to saving 12.28 million tons of standard coal and reducing over 34 million tons of carbon dioxide emission.
Smart Grid is a catalyst for the 3rd Industrial Revolution

As breakthroughs have been made in new energy technology, smart technology, information technology and Internet technology, the 3rd Industrial Revolution is fermenting and taking shape. An energy development and utilization pattern with electric power as the center has become the strategic direction of the global energy development. Smart Grid is the only way to promote the energy reform and the 3rd Industrial Revolution. SGCC has deeply understood the inherent laws and trends of the industrial revolution and seize the historic opportunity to accelerate the construction of Strong and Smart Grid. Thus, we can take the commanding heights in this new round of energy reform and promote a safe, clean, green and friendly development of energy.

Speed up the construction of smart grid. Since 2009, the company has developed 311 smart grid projects in 32 categories. Among them, 298 projects in 29 categories have already been completed. Construction projects in 14 categories have been launched to promote the application of smart grid dispatching technology support system, distribution automation technology, and power consumption information collection devices. Comprehensive smart grid projects have been constructed and put into use in 7 cities including Shanghai and Beijing. Other comprehensive projects are being constructed in 25 places including Beijing and Shandong for a harmonious development of the city and the grid.

● Power generation. The company built the National Wind/PV/Energy Storage and Smart Transmission Demonstration Project. By the end of 2013, the project has set several world records including the most varied wind turbines, the largest installed capacity of modulated PV, and the most advanced power station for renewable energy joint operation.

● Power transmission. Smart condition monitoring is carried out on 220kV (and above) key lines via helicopter and UAV.

● Power transformation. 843 newly constructed substations at 110kV (and above) have been deployed. The safety, reliability and economy of smart substation construction has been greatly improved with pilot standard-distributed smart substations.

● Power distribution. Automatic distribution systems are constructed or deployed in 30 downtown areas within SGCC’s service area to monitor power quality online.

● Power consumption. 182 million smart meters have been accumulatively deployed. PFTTH has been applied in 268 thousand households. A broadband fiber communication network with high security has been built.

● Power dispatching. The world’s largest grid dispatching technology support system with the strongest controlling capability has been constructed and put into operation.

Historically, the industrial revolution based on the conventional fossil fuel utilization can hardly sustain itself. The 3rd Industrial Revolution should be built on sustainable energies. Smart grid is the catalyst for the 3rd Industrial Revolution, able to promote its overall advance. The future smart grid is a highly smart, open and interactive energy Internet with strong grids and extensive interconnection.
The Comprehensive Smart Grid Demonstration Project of Sino-Singapore Tianjin Eco-city

Cooperating with the Singaporean government, China has built the Sino-Singapore Tianjin Eco-City in Tianjin Binhai New Area, which is resource-saving, environmentally-friendly and socially harmonious. Its Comprehensive Smart Grid Demonstration Project was launched soon afterwards as the first of its kind in China, which has been put into actual use. The 30-square-kilometer project contains 12 sub-projects, and constructs a safe, clean, quality and efficient energy supply system and service system.

- More than 20% of wind power and PV power has been utilized. The total installed capacity amounts to 175MW and the annual power generation reaches 390GWh, which can satisfy 130,000 households.
- By 2020, another two 220kV and four 110kV smart substations will be in place. Nearly 30 double-loop grids will also be constructed to highly integrate power distribution and consumption information. The power supply reliability rate is up to 99.999% and the annual average blackout time is less than 1 hour.
- Realize the full coverage of power fiber to integrate CATV, IP phone, and the Internet.
- The repair time of power failure is reduced from 3 hours to 1 minute.

Smart grid leads a smart life

- Smart grid is a modern grid combining advanced sensor measurement technology, information and communication technology, analysis and decision technology, automatic control technology and electric power technology, and highly integrating the grid infrastructure.
- Integrated installed Capacity: 70.37GW
- Integrated installed Capacity: 15.46GW
- 182 million Smart meters
- 400 charging and battery swapping stations
- 19000 charging poles
- 28 Smart communities
- Online monitoring of over 70% main equipment
- Construction period lessened by 40%
- Land use saved by 12% on average
- Smart substation
- Smart building
- Smart home
- Smart grid connects the future
- Strong and reliable
- Cost-efficient
- Clean and environmentally-friendly
- Open and transparent
- Friendly and interactive
- IT support
- Distributed PV power
- EV charging
- Transmission
- Distribution
- Generation
- Wind power
- Nuclear power
- Coal-fired power
- Hydropower
- Solar power
- Energy Storage

Smart grid connects the future
Coordinated development of power grids at various levels

SGCC has increased its investment in distribution grid. It has unified the technical standards for the planning and construction of distribution grid, and further improved its equipment standards. The investment in power grid of 110 kV and below accounts for 46.93% in 2013, increased from 29.74% in 2005. The grid structure of various levels has been improved.

Build key projects. Yushu-Qinghai Main Grid Interconnection Project and the Second Xinjiang-Northwest Main Grid HVDC Transmission Line have been put into use, the Sichuan-Tibet Interconnection Project has been launched. Zhoushan Multi-terminal Flexible HVDC Transmission Demonstration Project and Phase 2 of the National Wind/PV/Energy Storage and Smart Transmission Demonstration Project have been approved and began construction.

Promote the upgrade of rural and urban grid. Speed up the construction of key downtown areas, and strengthen the distribution grid construction in counties, downtowns, and industrial parks. Try to solve the problems such as weak connection between county-level grids and the main grid, supply bottleneck, and low voltage. Bolster urbanization and infrastructure construction.

Unleash the resource allocation potential of currently available power grids

The accumulated increment of transmission capacity of power grid since 2005 is 241GW. Power grid is greatly upgraded with an investment of RMB 20.8 billion. A total of 17,344 technological upgrade projects were completed, and 20,000 kilometers of lines with 48.08GVA transformation capacities were improved.

Give full play to power market in allocating resources

SGCC enabled 601.9TWh of national power transaction in the market in 2013, up by 7.94%. Cross-regional transaction amounted to 352.768TWh, increased by 9.38%.
Ensure safe and reliable power supply

Complete a long-term mechanism for reliable power supply. Promote comprehensive security check and enhance security management. Promote comprehensive check of potential dangers, strengthen security management of infrastructure construction and new energy integration, and ensure the safety and stability of the grid. There were 4 5-level power grid accidents and 0 5-level equipment accident.

Accomplish important power supply tasks. Ensure the power supply for big events, such as the NPC, the CPPCC, the Third Plenary Session of the 11th CPC Central Committee, the launch of Spacecraft Shenzhou-10, the Asian Youth Games, the 12th National Games, and the Eurasia Expo. No mistake or accident has occurred.

Further strengthen emergency management. Hold emergency skill contest, establish the internal emergency coordination and co-action mechanism and emergency response evaluation mechanism. Hold 16 emergency plan drills and connect emergency command centers of four levels. Put two training bases in Tai’an, Shandong and Chengdu, Sichuan into use, hold 30 training programs for 1,697 personnel.

Affected by the extreme high temperatures and serious natural disasters this summer, the company took full advantages of the bulk power grid, organized cross-regional long-distance and high-power transmission, avoided the peak time, strengthened the electricity demand-side management, and implemented the orderly power use for 57 days. It shaved 13.01GW of electricity in the peak time, and successfully completed the peak-shaving task during the summer.

In 2013, the Northeast, Sichuan, Shaanxi, and Gansu suffered heavy rainfalls and were affected by Typhoon “Soulik” “Utor” “Maring” and “Fitow”. A 7.0-magnitude earthquake occurred in Lushan, Sichuan, and 6.6-magnitude earthquake in Dinxi, Gansu. Landslide struck Tibet. Leak explosion occurred in Donghuang oil pipeline. Cumulatively 7,071 lines of 10kV and above levels and 134 substations were shut down and 179,000 areas and 11.634 million households were affected. The company released the disaster alarm in time, launched the emergency response mechanism immediately, and coordinated resource allocation. SGCC mobilized 245,000 man-times and 52,000 vehicles to repair the damaged facilities to restore power supply as quickly as possible.
Management improves operational efficiency

Scientific organizational structure and control system are initially established. In 2013, the company has accomplished the acceptance of the “3I5G” system construction for all 27 provincial companies. It established a new control system with vertical connection, horizontal collaboration, clearly distributed responsibility, smooth procedure and efficient management. It pushed for the mechanism construction of collaboration in economy, politics, culture, society and ecology, and released the general management system for the first batch of 48 items.

“Three centers” are put into operation. The operation monitoring (control) centers of three levels (headquarters, province and prefecture) have been put into use. It realized the online monitoring and control on main operations, core business resources and key processes. Functions of SGCC control center have been continuously improved and the operation control of the big power grid, the integration service of new energy, early warning command capability have been enhanced comprehensively. SGCC Customer Center has integrated all the businesses for 6 provincial companies and 5 main businesses for the other 21. The north and south zones have begun their constructions.

Management enhancement promotes efficient operation. To meet the requirements of management enhancement from SASAC, the company closely integrated the management enhancement into the corporate development strategy and practical business. To strengthen basic management, SGCC compiled specific work plan on 12 goals and 18 key areas. It supervised the inspection and rectification of 1,909 tasks in whole process. Owing to its innovations in system, technology, and management and its performance in profit increase and cost decrease, the company was titled as "Outstanding SEO in Management Enhancement" in 2012.
Innovation drives scientific development

Implement innovation-driven development strategy: SGCC has optimized its functional orientation and development plan for its R&D institutes to meet the requirement as being demand-driven, fully supportive and online-service available. Support capability from R&D to key business of grid has been improved dramatically. In 2013, technical R&D input reached an impressive number of RMB 5.787 billion.

Make breakthrough in important technological research. China’s UHV AC power transmission project involved the research of 180 key topics and development of over 40 kinds of key equipment in 9 categories. Through the combination of production, education, research and application, innovative breakthroughs were achieved in voltage control, external insulation configuration, electromagnetic environmental control, system equipment development, system integration and test capacity. The company obtained 96 invention patents, mastered the core technologies of UHV AC transmission, and successfully developed a full range of key equipment. It represents the highest level of HV transmission in the world.

Reinforce the construction of demonstration projects. The company has built a new generation of smart substation demonstration projects, and compiled an expansion work program in 2014. The project backboned by large-capacity optical transmission grid has been put into operation, increasing the transmission capacity by over 40 times. SGCC has sped up the construction of Zhoushan Flexible HVDC Transmission Demonstration Project. The ±1100kV/UHV DC transmission wall bushing project and other 3 projects have been successfully declared to the National “863” Program also known as the State High-Tech Development Plan. So did the SGCC’s declaration to “National Patent Operation Pilot Company”.

In 2013, 8 patents owned by the company won the 15th China Patent Award. One is awarded Gold Medal in Industrial Design and the rest were named as“Excellent Patent”. This achievement ranked 2nd nationwide and 1st in central SOEs.

Till now, the company has received 43 National Awards for Science and Technology Progress and 494 industrial awards, obtained 28,311 patents, and formed 1,028 national and industrial standards. It has built a complete UHV and smart grid standard system and compiled 20 international standards. SGCC has recruited 22 experts from the Recruitment Program of Global Experts and selected 546 professional leaders in ten areas. Those steps made great contribution to the construction of a technology research team with rational professional structure, complementary research capability, and outstanding innovation capacity.

The “UHV AC transmission key technology, system equipment and engineering application” won the 2012 National Award for S&T Progress (Special Prize) at the award ceremony on January 18, 2013, which was the highest award SGCC has received in China’s technology industry, and also the highest honor the electrical engineering industry has obtained in national technology award, realizing “Created by China” and “Led by China” in this field worldwide.
Deal With Each Stakeholder Responsibly

Responsible for agriculture, countryside and farmers
The responsibility in serving agriculture, countryside and farmers is rooted in every obligation
- Promote the urban and rural power supply integration
- Supply power to population without access to electricity
- Ensure reliable power supply and quality service in rural areas

Bring power to
700,000 people without access to electricity in 2013

The average outage time for urban users in 2013 is
3.854 hours per household

Responsible for customers
The responsibility on quality service is rooted in every business
- Reduce outage time and improve power quality
- Enhance customers’ satisfaction
- Forge a quality service brand

Implement the responsibility on quality service, the responsibility in Agriculture, Countryside and Farmers, the responsibility on win-win partnership and the responsibility as a corporate citizen.
Responsible for partners
The responsibility on win-win partnership is rooted in every co-operation
- Jointly promote the sustainable growth of the industry
- Ensure open, fair and impartial trade, dispatching and bidding activities
- Promote domestication of major power equipment and upgrade of the equipment industry

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Responsible for the community
The responsibility as corporate citizen is rooted in every good deed
- Assist the aged, the disabled, students and people in difficulties
- Assist Xinjiang and Tibet by offering employee volunteer services

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Centralized tendering volume reached RMB 334.3 billion in 2013

RMB 116 million donated in 2013
Just like the slogan says—“Your power, our care”—SGCC adheres to the idea of starting from customer demand and ending at customer satisfaction and strives to provide infinite services in limited supply commitments with safer, more convenient, more assured, more harmonious, smarter and more satisfactory power service.

**Reliability of urban power supply within SGCC’s service area**

99.956%

**The average annual outage time for urban users**

3.854 hours/household

**Voltage qualification rate for urban users**

99.949%

**Serve**

343 million households

Just like the slogan says—“Your power, our care”—SGCC adheres to the idea of starting from customer demand and ending at customer satisfaction and strives to provide infinite services in limited supply commitments with safer, more convenient, more assured, more harmonious, smarter and more satisfactory power service.
Minimize outage time

SGCC has optimized the grid structure with standardized and serialized equipment and enhanced its automation to promote the organic integration and interaction of power, grid and load. In 2013, it transformed 6,812-kilometer transmission lines of 35kV (and above) and upgraded distribution grids with an investment of RMB 4.38 billion. It kept the reliability of urban power supply at 99.956% and the average power outage time at 3.854 hour per household with a year-on-year decrease of 25.6%. The urban distribution grid’s failure and outage was decreased by 17.3% and the voltage qualification rate of urban users was up by 0.125 percentage point.

Ensure power use

The company supports the renewable energy development and implements our country’s environmental pricing policy. It implements the tiered pricing for household electricity, and free-of-charge power use policy, benefiting 18.62 million urban and rural low-income families and rural families without insurances.

Promote smart meter collection system. Accumulatively 182 million smart meters have been deployed and 191 million households have been covered by power information collection system. Those customers can check their daily electricity consumption in real time and interact with the system.

Receive supervision from all parties on power price and payment. SGCC has deepened the internal control to strengthen the meters’ quality supervision, conduct the legal and open verification of measuring instruments and build up the automated testing line. The company strengthens self-examination and welcomes all inspection and supervision from the government and the society.

Unique smart meter deployment

State Grid Daxing Power Supply Company adopted a unique communication strategy to deploy smart meters to dispel customers’ doubts, hear their demands and collect the firsthand user experience, successful completing the deployment ahead of time.

Verifying robot for meter automation

The Responsibility on quality service is rooted in every business.
Protect customer information

Protect transaction security. In order to provide a safe trading environment, SGCC has strengthened customers’ data security management and eliminated any loopholes in the trading process by process optimization, technology prevention, supervision and inspection. “Ten Prohibitions” forbid employees to release any personal information or business secrets of customers. Employees at key posts have to sign a confidentiality agreement with the company.

Reinforce the confidential system management with service providers. Strengthen supervision and prevent them from disclosing customers’ personal information by signing contracts.

Enhance employees’ sense of confidentiality. By learning Secrets Act, employees have to recognize the seriousness and necessity of confidentiality and consciously enhance confidential awareness in their daily work.

Efficiently operate 95598-service hotline

95598-hotline is a centralized operating service platform oriented by customer value and has integrated all resources to provide full-fledged businesses, 24-hour professional services, lean management and diversity development. SGCC Customer Center has integrated of all the businesses for 6 provincial companies and 5 main businesses for the other 21. The north and south zones have begun their constructions.

Unify professional service standards. 95598-hotline has unified the standards of service acceptance, business classification, order processing, quality inspection, return visits and service evaluation, responding to customers’ demands with uniform service standards and processes and all-in-one 24-hour services.

Data by the end of Dec. 2013 since the operation of 95598 call center.
Establish an interactive information service platform. SGCC headquarters directly controls the customer service status and improves service measures and methods with first-hand information.

Form an intensive service evaluation system. The system contains 65 indicators of service capability, service process and service performance, thus can provide decisions for improving service quality of power supply.

Form a centralized monitoring mechanism. The mechanism contains 116 indicators of service environment, condition, quality and performance to strengthen online monitoring and real-time control of customer demands.

Provide quality service

SGCC Jiangxi Electric Power Company guides employees to establish one-KWh service awareness: even if the customer consumes only one kWh per month, we will also show 100% passion. SGCC Guyuan Power Company strives to overcome the problems of tough topography and scattered households to provide regular on-site inspection and repair services for customers. At the end of 2013, both the urban and rural customers can pay their bills within 10 minutes in their community or village. The company has effectively fulfilled its ten commitments in power supply service, affectionately being called “electric tout” by local people.
Improve the power supply service

Build a pluralistic payment platform. The company expanded payment methods to include online payment, self-served payment terminal and electricity charge card to satisfy customers’ diversified payment demands. Urban customers can pay their electricity bills in 10 minutes wherever they are. Billing spots are available in every village in rural areas. Another 160,800 electricity bill collection spots and 6,691 self-served payment terminals were added.

Implement the “Ten Commitments” for power supply. The company attached great importance to information disclosure to customers and respect customers’ needs. The official micro blog or weibo released information on accidents and emergency repairs to the society promptly. SGCC strived to eliminate services against rules, standardized power cut and supply service, fulfilled the notification obligation for planned blackouts and temporary outage, and strictly implemented the procedure of electricity cut for defaulting users and the time limit for restoration.

Normalize unannounced visits to evaluate power supply service. Investigate grass-roots power supply services in terms of power quality, power metering, business extension and application for installation, and service codes of conduct. We have paid 10,189 unannounced visits, covering 52,000 urban residential areas, 88,000 towns and villages, and 810,000 customers.

Actively respond to and follow up customer complaints. The company tracked and verified how customer complaints were handled and paid return visits. The return visit satisfaction rate was 97.84%. Typical complaints were put on the board to avoid that complaints escalated to bad service events.

Carry out customer satisfaction surveys. The company employed the 95598 customer service hotline as a platform to carry out the customer satisfaction survey at the corporate level, made 152,837 calls and completed 31,781 valid sample surveys to keep abreast of what needs to be improved and grasp customer demands.

Varied payment platforms

SGCC Jiangsu Electric Power Company has launched “Alipay” and an interactive pay business through cable TV in its province, and popularized “Funong Card” in rural areas to benefit agriculture, widely welcomed by customers. SGCC Hegang Electric Power Supply Company now sent SMS billing reminders instead of the traditional paper ones. SGCC Honghu Power Supply Company set up a special mobile “Business Office on Boat” in the lake district tailored to its own geographic situation. In the past, villagers needed to go to a town 10 kilometers away to pay their electricity bills or buy a light bulb. But now they can do those at home within one minute.
Build a SGCC Party Member Service Team

Over the past year, the SGCC Party Member Service Team offered safe and reliable power supply for 16,554 major events, carried out 620,000 emergency repairs and established 29,482 community service spots, directly serving 3,170,000 person-times, and volunteering 279,000 person-times. It has received 12,242 banners and letters of appreciation. The central and provincial leaders have inspected or instructed 264 team members.

The Party Member Service Team in Ya’an Earthquake

On April 20, 2013, after the earthquake in Lushan County, Ya’an, Sichuan province, the SGCC Party Member Service Team came forward for disaster relief despite difficulties such as water, power and food shortage, communication failure and road obstruction. 13 service teams, 52 commandos, more than 2,100 rescue team members, and over 300 emergency vehicles rushed to quake-hit area as soon as possible and successfully restored the power on the main roads in Lushan that night. Premier Li Keqiang praised, “their promises are kept and action is resolute. They fought a good fight in combating the earthquake and restoring power.”

“Copy the Model Worker” to enhance the value of services

SGCC Jilin Electric Power Company took Lv Qingsen, an electric wire worker from SGCC Huidian Electric Power Company and winner of the National Labor Medal, as an sample, and organized 168 SGCC Lv Qingsen Party Member Service Teams consisting of 3,652 members to popularize his spirit in accordance with territorial management. These teams have offered timely emergency repairs to power supply, multiplied service provider from one individual to a team, and passed on integrity, responsibility, innovation and dedication.

Think for the people and relieve their anxiety

The villages of Sharinao'er Village, Tongliao City, Inner Mongolian Autonomous Region, were scattered. The house-service lines were far with low voltage. It was hard to get water for both people and the livestock. All the lines were on wooden poles, which were easily broken in windy or stormy days, cutting the power down. The SGCC East Inner Mongolia Party Member Service Team spent 15 days on constructing new poles and upgrading 19.42km high-and-low voltage lines. 120 cement poles were erected. Two 100kVA distribution transformers were added. It has relieved the anxiety of the local people.
Responsible for Agriculture, Countryside and Farmers

Give full play to the conglomerate forces to coordinate the urban-rural auxiliary power supply construction and integrate rural and urban power supply. Urban and rural power supply can be developed and managed according to the same standards. A new type of relations between industry and agriculture and between urban and rural areas can be established in which industry promotes agriculture, urban areas support rural development, industry and agriculture reinforce each other, and urban development and rural development are integrated. It can serve the prosperity of villages, the development of agriculture and the affluence of farmers.
Advance urban-rural power supply integration

In 2013, SGCC increased human resource, money and material investment on rural power stations. The power supply capability of rural distribution grid, the facilities, personnel skills, power quality, performance indicators and services of power stations have been greatly enhanced for better integration of urban-rural power supply.

Integration of urban-rural power supply construction. SGCC has implemented the nation’s deployment for a new round of rural grids’ upgrade to construct a new type of safe, reliable, energy-saving, and environmental friendly rural grids with advanced technology and standard management. In 2003, investment reached RMB 47.82 billion.

Integration of urban-rural power supply management. SGCC has improved the management of county-level power supply companies and town-level power supply stations, investigated on management problems of town-level power supply stations, benchmarked with industrial peers of the same level and organized trainings for people in charge in county-level power supply enterprises and chiefs of town-level power supply stations. SASAC has approved the transfer of 211 power supply companies up, which further optimized the organizational structure, personnel allocation, critical position, business process and key business management and control.

In rural grids’ upgrade, 5,270 substations, 503,000 kilometers of high-and-low voltage lines, 326,900 distribution transformers were newly built or reformed. Power meters in 17,374,900 households have been transformed. By the end of 2013, the power supply reliability rate and comprehensive voltage qualification rate of rural grids reached 99.852% and 98.567% respectively, an increase of 0.237 and 1.317 percentage points compared with the beginning of 2010. 9 isolated county-level grids were integrated and the weak links between 171 county-level grids and the main grid were eliminated.

The typical design of village-level grids promotes urban-rural power supply integration

SGCC Hebei Electric Power Company has refined the categorization of village types. By cataloging 32,000 villages in Hebei south grid according to the number of households and annual electricity consumption per household, it has defined the grid objective that distribution and transformation station areas penetrate into load center and are distributed in the shape of fishbone. It has unified power grid construction standard and module-based design, and formed three typical types of power supply patterns that are in row, scattered, and in row/scattered. Since 2013, these typical designs have been successfully applied to more than 1,000 rural power grid construction projects, greatly enhancing their power supply liability and capacity.

SGCC Party Member Service Team provided electric irrigation for local farmers
To cope with early spring drought in West China, and the high-temperature drought in mid-west Huang-Huai area, most parts in Jiangsu and Anhui, mid-east Jiang-Han area, most parts in south regions of the Yangtze River, and mid Chong Qing in July and August, 2013, SGCC organized relevant units to make all efforts to ensure power supply when fighting against droughts. Throughout the year, SGCC has established 13.8 thousand teams and mobilized 446 thousand person-times for anti-drought efforts. 38.6 thousand deficiencies in irrigating equipment were eliminated. 1,052 generators of 23,398kW were provided to fight against the drought. And 5,683 irrigation transformers of 623,632kVA were installed. 4,222km-long 10kV lines and 12,765 kilometers of undervoltage lines were put up temporarily. All together RMB349 million was invested to help irrigate 62.59 thousand-square-kilometer farmland, drill 24.6 thousand wells, and solve the water problem for 13.77 million people.

Integrate urban-rural power supply service. Customers always come first. SGCC enhanced power supply quality management, reviewed the control of undervoltage in rural areas, and solved this problem for 2.03 million households. The total number accumulated to 20.708 million. To increase grain production, SGCC has provided power to 128,500 newly added pumped wells, benefiting 5,466.694-square-kilometer farmland.

Promote the “one grid, one tariff” for rural and urban power consumption. All the counties within SGCC’s service area have realized “one grid, one tariff” management for both rural and urban residents. Compared with before, the average price for lighting electricity was dropped by over RMB 0.226/kWh, saving RMB 48.7 billion for rural residents’ expenditure on electricity consumption.
The reform of rural grids in Guzhang County, Hunan province helps build a beautiful countryside

Solve the power problem for remote villages

The hydropower self-supplying region in Xia County, Yun City, Shanxi Province was founded in the 1970s, supplying electricity to remote mountainous areas and old revolutionary base areas including 49 incorporated villages and 240 unincorporated villages. With large service area and long lines, the comprehensive loss was up to 46.4%. The electricity price in some remote areas exceeded RMB 7/KWh. After thorough communication, the local government and SGCC Shanxi Electric Power Company came to an agreement to integrate the self-supplying region into the service area of SGCC. When the grid was upgraded, over 30,000 residents enjoyed the same tariff on the same grid, at a lowered price of RMB 0.477/KWh.

Strengthen the safety management of rural power consumption

In 2013, SGCC continued implementing the Campaign of “Your Power, Our Care” to consolidate the foundation of safe rural power consumption. Different activities were carried out to promote safe power consumption, expand the influence, and construct a service mechanism for safe rural power use led by the government, implemented by villages, participated by the general public, and constructed by jointed forces. SGCC also stipulated technical standards, checked on the operation status of surplus current action protection equipment installation, standardized its management, intensified training, and guarded safe rural power consumption with all efforts.

Co-action mechanism for safe rural power consumption

In Yuhang, Zhejiang Province, rural residents didn’t pay much attention to the safety of leakage protectors and randomly used irrigation power lines for their personal use. As SGCC’s pilot company to jointly construct safe rural power consumption, Yuhang Power Supply Company signed an agreement with the government to jointly construct a demonstration area. All village committees assessed and employed a village electrician in charge of safe power consumption management. Through a co-action mechanism involving the government, the village committee and the villagers, the power use order in rural areas has been established and villagers became more aware of electricity safety. No accident of human or animal electric shock occurred this year when there were usually 3 to 5 accidents in previous years. It signified a great step forward in safe rural power consumption.
Serve the development of new urbanization and rural modernization

The Third Plenary Session of the 18th CPC Central Committee proposed to adhere to a new urbanization path with Chinese characteristics, and coordinate the development of urbanization and the construction of a new countryside. Rapid urbanization poses higher requirement for the reliability of power supply in rural grids. Power grid enterprises shoulder significant responsibilities in promoting traditional agricultural production and transforming rural life to a modernized agricultural society.

Promote typical power supply patterns in small cities and new villages. Since 2011, SGCC started to promote and apply new power supply patterns in villages and typical power supply patterns in small cities. It published Notice on SGCC Typical Power Supply Patterns for Small Cities and Townships, carried out pilot projects, and strengthened the grid construction in small cities and townships. Rural grid construction and upgrade has been greatly enhanced to meet the demand for local economic and social development.
Serve the development of family farmland. No. 1 Central Document in 2013 encouraged contracted land to circulate to professional investors, family farmlands, and farmer cooperative organizations. There were nearly 10,000 family farmlands in the 33 pilot areas for land circulation standardization management and service appointed by the Ministry of Agriculture. SGCC coordinated the new round of rural grid upgrade, giving full support to family farmlands. Taking local conditions into consideration, the company also implemented comprehensive energy-saving projects of the distribution grid for a scaled, specialized and mechanized agriculture.

Construct ecological smart new rural grid. SGCC has completed the pilot construction on 25 county-level electric power communication networks. Through research on rural grid intelligentization and pilot projects construction, a typical pattern with 35kV smart substation, 35kV distribution, rural grid smart distribution station area, county-level distribution automation, rural power use information collection, rural distributed power and micro-grid integration control has been established to greatly enhance the power supply capability and quality of the rural grids, providing strong technical support for constructing new rural grids.

SGCC Chengde Power Supply Company has founded a Xinfeng “Greenhouse Club” as a social service organization together with 35 social groups and various people from all walks of life in Pingquan County. The organization is to provide power service to greenhouse farmer households in the whole county as a communication and exchange platform for family farmlands on production, supply and marketing, assisting modernized agricultural production.

Accelerate power project construction in areas without electricity access

The “Power for All” project which started at 2006 has solved electricity access problem for 6.419 million people. SGCC intends to realize universal power access in areas covered by its bulk power grid by 2015.

In 2013, door-to-door investigation on households without electricity has been carried out, covering 188 counties, 1,867 townships, and 8,319 villages. Agreement has been signed with the governments of Sichuan, Qinghai, Xinjiang, Tibet and Gansu where most population without electricity access reside to promote power project construction in areas without electricity access. The company has brought electricity access to 167,000 households and 700,000 people throughout the year.

Power construction in Tibetan areas without electricity access

Through rural grid construction and “Power for All” project, the Tibetan main grid has already covered 44 counties, 327 towns, and 2,499 villages, providing power to 397.5 thousand households of 1,915 thousand people. SGCC has intensified talent assistance and appointed 36 engineering management staff to participate in the Tibetan grid project. It has explored the construction of 35kV distribution and distributive substations, applied maintenance-free facilities or equipment with less requirement for maintenance, and enhanced the engineering level. During 2013 and 2015, the companies will provide power access for 110.4 thousand households of 439.9 thousand residents in 58 counties of Tibet.
The Action

Work together for the power industry’s sustainable development

Serve and support the development of new energy

Propel the independent innovation and upgrade of the equipment industry

Ensure fair trade, dispatching and bidding

Promote the localization of major power equipment

Protect the intellectual property rights and maintain the market order

Cooperate for key technical research

Fight against commercial bribery and corruption and operate in compliance with the law

Degree of partners’ concern

Effect on integrated value creation

Degree of partners’ concern

Fulfill the legal obligations, hold to moral standards, maintain the market order, be open, fair and just, insist on strategic mutual trust, win-win cooperation and coordinated development, promote unified planning, self-innovation and upgrade of the industry, and jointly create responsible and sustainable value chain and industrial chain.

Degree of partners’ concern

High

Low

Effect on integrated value creation

High

Low

Installed capacity within SGCC’s service area

Total on-grid electricity

Centralized procurement of goods and materials

Centralized bidding RMB

962 GW

3690 TWh

98.2 %

334.3 billion

SGCC CSR Report 2013
Jointly promote the sustainability of the industry

Serve power generation companies. SGCC has organized symposiums of dispatching service supervisors for their comments and suggestions to improve the management process and the operation brochure of open, fair and just dispatching. Meanwhile, the company has conducted the power generation capacity declaration covering all on-grid installed capacity within SGCC’s service area to combine dispatching identity management with declaration, formation, delivery, and dispatching information collection of day-ahead power generation capacity, and also to comprehensively improve the analyzing capability of dispatching management. Moreover, it has improved the operation service process for wind and PV power integration by fixating deadline to provide clear and simplified service guidance for new energy stations that are compliant with laws, regulations, and technical standards.

Ensure open, fair and just power trade. SGCC has conducted power trade service satisfaction surveys among power generation companies to take their comments and suggestions on the overall power trade services of SGCC. SGCC Regulating Guidelines on Power Trade has been compiled to further optimize standard services, processes, standards and behaviors.

Develop together with the design and construction companies. SGCC has prioritize design and construction supervision companies to participate in the power grid construction projects. A motivation and restriction mechanism has been established to select the superior and eliminate the inferior. Meanwhile, the design and construction companies have been encouraged to operate by the law and improve their management. The company has also strengthened standardization construction of safety and quality to ensure the quality of construction projects as well as the safety and health of the personnel in construction companies. SGCC has insisted on “reasonable time limit for construction with reasonable cost” to guarantee the reasonable profit and development potential of the design and construction companies.

Contribute to constructing a first-class equipment industry. SGCC has furthered the research and application of the general equipment for transmission and transformation projects. By updating and releasing SGCC Application Directory for Standardization Construction Achievements (General Design and Equipment for Transmission and Transformation Project), SGCC has led the technical R&D of equipment manufacturers to optimize and innovate in technology and to continuously enhance the equipment manufacturing level of China.

Realize a win-win partnership with financial institutions. SGCC has extended its financing channels when actively dealing with the challenges caused by the monetary policy adjustment and the market-oriented reforms of interest rates. In 2013, SGCC has issued RMB 80 billion of bonds in total, and signed a strategic partnership agreement of RMB 170 billion of credit with ICBC, and achieved a strategic partnership intention of RMB 80 billion of credit with the Industrial Bank. Furthermore, SGCC has been rated as AA-, Aa3 and A+ by Standard & Poor’s, Moody and Fitch rating respectively and successfully issued uncovered bonds of 2 billion US dollars. With this, SGCC has achieved a historical breakthrough in its first international credit ratings and bond issuing outside of the country.
Promote responsible procurement

**Carry out honest procurement.** The company published *The Standard of Establishing SGCC Integrity System in Bidding and Purchasing (Trial)* and *Eight Forbids between Purchasing Employees and Suppliers for Clean Acts*, built up the integrity supervisor network and “Four Defenses” (namely, ideological defense, system defense, moral defense and punishing defense).

**Ensure an open, fair and just procurement.** SGCC hold supplier symposiums regularly to make clear the purchase requirements. In the tendering documents, qualifications, performances, price calculation methods and bid-winning principles are open and the reason will be informed one on one to abandoned tenders. The suppliers can reversely assess the purchasers in contract signing and implementation. The company has also set up hotlines and strengthened on-site supervision in centralized bidding activities.

**Efficient procurement.** The company has built up an e-commerce platform to conduct a series of bidding activities online, such as informing, inviting and bidding. It has improved information system management, supplier relationship management and quality supervision and established the supplier information database which can automatically generate the suppliers’ qualification certification. The opening and evaluation time of a bid has been reduced by 90% and 30% respectively and the time of signing a contract has been shortened from one month to one week.

**Green procurement.** The company drew up *SGCC Environmental Management Measures* to refuse purchasing technologies and equipment that could not meet our country’s environmental requirements and prioritize to buy the equipment with high resource utilization and low pollutant emission. It has further promoted the green tendering mechanism and used electronic condensed documents, which can save 150 tons of paper throughout the year. The electronic bidding process has been trialed successfully.

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Devoted procurement. The service for suppliers has become more professional and standardized by optimizing service standards and business process, such as preparing FAQs and service guides. 28 supplier service centers (and halls) have been built to carry out application, consulting, contracting, billing and other services, providing standardized, transparent and efficient “one-stop” service for suppliers. There is also an online service hall to provide online services and used as a communication platform with suppliers.

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Deepen supervision management to improve product quality

SGCC Fujian Electric Power Company continued to strengthen the product quality management and applied supervision management in every aspect of operation. The company emphasized on the supervision in plants, especially the key aspects of raw materials, inspection on module components, assembling, craft and the final test when products leaving the plant. It regularly organized relevant units of operation and inspection, capital infrastructure and safety supervision to hold work report meetings. The company listed those as adverse suppliers if they did not inform the project units witnessing the key points in order to effectively improve the product quality. In 2013, the sampling pass rate of major equipment, such as distribution transformers and cables, increased by about 10 percentage points year on year.
Develop with suppliers. *The Standards of SGCC Suppliers Qualification Verification* was released to strengthen the ability of verifying the suppliers’ qualification, promote the product life cycle assessment and urge the suppliers to improve their product quality and service. In 2013, 1,016 suppliers were informed one-on-one of total 2,063 problems. 28 suppliers were warned because of product quality and 145 suppliers were inspected of their rectification to ensure product quality.

Promote the localization of equipment. The tender terms have been standardized to avoid the restrictive conditions to domestic enterprises. The company aims to enhance the suppliers’ independent innovation capability and improve together with them to achieve “Created in China” to help upgrade domestic power transmission equipment manufacturing industry and promote domestic production capacity of whole-spectrum UHV power transmission equipment in large capacity. In 2013, the localization rate of SGCC’s UHV equipment was over 85%. And the domestic manufacturers have more opportunities with the acceleration of “Going Global” strategy to participate in the international competition and take a high stand at the international community of power technology and equipment manufacturing industry.

Build a sound industry development ecology. SGCC’s Headquarter is responsible for centralized procurement. Over 2,000 suppliers are involved in every year’s bidding which forms a united, open, competitive and orderly market, breaking the monopoly of local markets and regional protection. The company paid attention to cooperate with small and medium enterprises, support their development and increase their bid-winning chances by lowering the procurement threshold. It also participated in the construction of the national electronic bidding public service platform led by the National Development and Reform Commission, to enhance information services to the market players and the public.
The Action
Responsible for Communities

Donate RMB 8.5 million via State Grid Foundation for Public Welfare
Donate RMB 116 million
Staff’s volunteer service 713,000 person-times

Win China Charity Award for the 6th time

SGCC, as an SOE, vigorously carries forward the good morality and advocates prosperity, democracy, civilization, harmony, freedom, equality, justice, constitutionality, patriotism, dedication, integrity and kindness. It is enthusiastic on promoting public welfare and social justice and actively contributes to building a socialist harmonious society.
Point-to-point help and power assistance

Support Tibet. RMB 4.32 billion has been invested in Tibet and the growth rate far exceeded the company's average level. The company allocated RMB 25.5 million to support Coqen County, Ali Prefecture and prioritized to arrange the projects that could improve people's livelihood and the local herdsmen's working skills.

Support Xinjiang. The investment in Xinjiang was RMB 10.59 billion with an increase of 40.9% than 2012, significantly higher than SGCC's average. The rural grid upgrading project in Xinjiang's 81 counties of 13 prefectures has been accelerated and the power engineering construction in the areas without electricity has solved the power problem for 60,200 households and 206,600 people.

Support Qinghai. RMB 248.75 million has been invested in Qinghai. Power construction has been accelerated and the power problem of 12,800 households and 51,100 people in the areas without electricity has been solved. RMB 10.8 million was used to support Maduo County, Golqg Prefecture to construct model village power projects, drinking water safety projects, Heyuan New Village hospital and the agriculture and livestock market of Maduo County.

Poverty relief. SGCC has organized poverty-relief work for 19 years in Zigui County, Changyang County, Badong County, Shennongjia Forest of Hubei province and Maduo County of Qinghai province since 1995. RMB 2.185 billion has been invested in the grid construction; RMB 88.26 million has been put into a special poverty relief fund that attracted RMB 213.46 million local investment. The company has implemented 220 poverty-relief projects with an investment of RMB 41.455 million. It also keeps helping the aged, the disabled and students, conducting the “Love Collection Project” with China Foundation for Disabled Persons and investing RMB 19.812 million to support the students.

Deliver articles for daily use to people in quake-hit area in Lushan.
Care for the stay-at-home children

The Report on Rural Stay-at-home Children and Rural-Urban Migrant Children issued by All-China Women’s Federation estimates that there are 61,025,500 rural stay-at-home children, which means one child is left behind in every five children. Nearly half of the rural-urban migration children’s parents both go out. And except those who live with their grandparents or others, 3.37% of stay-at-home children live alone. They need more long-term and stable family care.

Houses of Stay-at-home Students. SGCC Sichuan Electric Power Company has invested RMB 8,353,200 to build 200 “Houses of Stay-at-home Students” since 2008, benefiting nearly 130,000 stay-at-home children. The House requires to have a talk with stay-at-home students every week, help them write a letter to parents and read a good book every month, watch a movie together and communicate face to face with other schools’ twin volunteer every three months, hold a lecture, conduct a social practice, a clinic and medical examination every half year and celebrate a group birthday together every year for the left-behind students.

Houses of Spring Seeding. SGCC Chongqing Electric Power Company has built 100 “SGCC Houses of Spring Seeding” in 40 districts and counties of Chongqing. Each House has four functions: learning and reading function that children can read books at a small reading room; family communication function that children can chat with their parents far away through telephone and the Internet; recreational function that children can watch TV, learn musical instruments, sing and dance to enjoy their extracurricular time; and psychological counseling function that children can communicate deeply with teachers or young volunteers one-on-one in the counseling room.

Bright Station. SGCC Anhui Electric Power Company established 45 Bright Stations in 16 cities of the province with a unified model, directly benefiting more than 12,000 stay-at-home children. In growth assistance program, young volunteers regularly carry out themed activities and help enhance the children’s safety awareness and physical fitness by improving knowledge and fitness together and teaching common sense about safety in classroom. In mental navigation program, children can claim “Loving Mom”, “Intimate Sister” and “Sunny Brother” to strengthen family interaction and make up for the obscene of the family. In dreaming action, excellent children can receive scholarships so that the passion for learning can be inspired. In social practice program, by organizing “In the Same Sky – Hand-in-hand”, “Sharing New Life – Go into the City”, “Public Welfare Activities with You” and other activities, children's awareness of electricity, city and community can be enhanced. The project has been included in Anhui province’s public action of ‘100 enterprises helping 100 towns’.

The Action
Acting Mother. SGCC Zaozhuang Power Supply Company prioritizes stay-at-home children problem as its CSR topic and encourages its employees to participate in "Acting Mother" project to donate for and provide support to the children. Experts on children's psychological education are invited regularly every year to train the acting mothers and cultivate their caring consciousness. The company actively seeks social supports instead of employees' donation as a single funding channel and has established "Acting Mother Fund". A lot of performance indicators such as helping efficiency, training coverage and social impact have been used to improve the employees' ability and quality on public projects. Government departments, women's federations and other enterprises have been invited as the members of Acting Mother Project Management Committee to supervise all activities.

Comprehensive CSR Management optimizes "Acting Mother" public brand

Prioritized topic
Care for stay-at-home children

Implementation concept
Make every loving heart create the most value

Implementation strategy
Strategic layout
Standardized management
Brand development

Institutional guarantee
Resource and capability guarantee

Implementation action
Carry out trainings and build up funds

Performance indicators
Helping efficiency
Training coverage
Social impact

Benchmark and feedback
Acting Mother Project Management Committee
CSR Committee

Transparent operation
Social selection and experience exchange
Constant improvement
Strengthen cooperation to expand activities

Lead by the idea and pursue the maximum integrated value

Enhance implementation capability

Strengthen management and make synergy

Emphasize on promotion to increase influence and motivation

Better management
With competent authorities, special funds, budget spending records and educational trainings

Greater social influence
Accumulatively 437 group and individual Acting Mothers have emerged. 537 poor or stay-at-home students have been supported and 8 activity stations of caring for stay-at-home children have been built in the city

More powerful motivation
Motivate other industries, volunteer alliance and citizens to participate to "Acting Mother" project

Sustainable promotion of the activities
Form a long-term mechanism with employees' active dedication and social participation
Employee Volunteer Service

“Young Volunteers Action” has been conducted for eleven consecutive years to organize young volunteers to carry out a series of themed educational practices for youth league members, such as “The Youths’ Contributions to UHV”, “Young Volunteers Action – into Bright Station”, “My Chinese Dream, the Attachment to SGCC of Youths”, and “Sunshine on the Plateau” Education Aid Plan. More than 30,000 young volunteers have carried forward volunteer services into rural areas, communities, enterprises, schools, charity houses and nursing homes. In 2013, over 260 volunteer teams have been established and over 7,000 young volunteers have contributed to the Sichuan-Tibet Interconnection Project, earthquake emergency rescue in Ya’an, Sichuan, the fight against Typhoon Fitow, and electricity supply guarantee in rare high temperatures. SGCC has had nearly 450,000 young volunteers and their activities outreached 713,000 person-times in 2013.

Small kindness and big effect

Since 2002, SGCC Shandong Electric Power Company has been constantly developing “Small Kindness” Theme Activities concentrating on the promotion and implication of socialist core values in order to guide the employees to often show kindness, cultivate morality, and continually infiltrate to the management and to the society, from the aspects of improving organizational structure, varying activity carriers, strengthening moral construction, integrating enterprise management, caring for social benefits, and building a responsible brand image. A series of activities have been organized to demonstrate “Small Kindness” in capital infrastructure, service and safety civilization, greatly enhancing the corporate’s lean management and its harmony and stability. The company has established dozens of “Small Kindness” Volunteer Service Teams of technology, environmental protection, female workers and youths, who have been devoted to social welfare activities for a long time, such as assisting vulnerable groups and removing white trash. By advocating “Caring for the small details of the big project and turning the small things into reality” and “Eyes for details to achieve great success”, employees voluntarily advocate “Small Kindness” as a good habit. SGCC provides volunteer services of 12,000 person-times and benefits more than 100,000 people on the annual average. “Small Kindness” Theme Activity has already become a brand for CSR fulfillment and a golden card of public welfare on the land of Shandong.

“Hu Zhiwen Young Volunteer Service Team” of SGCC Ningxia Electric Power Company, established in 2002 and registered in 2012, has already had over 110 members. Under the charisma and the lead of the outstanding young volunteer Hu Zhiwen, the “National Kindest Young Worker”, the winner of “National Moral Model” nomination award, and “Model Worker of SGCC”, the Service Team has worked voluntarily for more than 7,000 hours, settled more than 2,000 difficulties in people’s power use, benefited people for up to 44,000 person-times, raised audiovisual education equipment worth over RMB57,000 for schools and study supplies for the children from poor families, and donated more than 2,500 kilograms of rice, wheat and vegetables to the lonely elderly, the disabled, and poor families in the past 12 years.
Dou Zhen, retired employee of SGCC Beijing Electric Power Company, has volunteered to clean the community of “Lianxin Bridge” for 11 years. He has been awarded as “Lei Feng by Our Side” and also been selected on “the List of The Best Persons in China” in 2012. On the morning of 25th November 2013, he unfortunately passed away at the age of 87 after accidentally tumbling from the bridge, which he has cleaned heaps of times.

Zuo Guangman, a metering worker of Guangshui Yingshan Power Supply Station, SGCC Hubei Suizhou Electric Power Company, has made a promise to his customers: “If you have any difficulty in power use, please contact me.” By “treating customers as families and taking service as housework, he hasn’t got a single complaint in 14 years. His persistence and innovative service has deeply touched his customers, and thus he has been awarded as “People’s Electrician”.

Adhere to the law and operate business with integrity

Promote the establishment of a penalty and prevention system and fulfill roundly the accountability for the construction of a clean government. Compile Handbook for the Establishment of a Unique Corporate Penalty and Prevention System with the Feature of Enterprise, Responsibility and Operation by Specific Prevention Method, Effective Supervision and Powerful Penalty. Impel the standardization of the corporate penalty and prevention system. Conduct self-inspection and random check on the all-level implementation of The Enforcement Regulations on Implementing the Eight Provisions on Improving Work Style and Tying with the Public Closely by the 18th Political Bureau of the CPC Central Committee, and make rectification in time. Conduct supervision on rearranging vehicles, govern the enterprise by law, and rectify issues. Inspect and give suggestions on all-level electricity supply and inventory via the efficiency supervision information platform. SGCC has proposed 11,807 suggestions, made 281 decisions, and abolished, reformed, and established 3,983 provisions. SGCC launched a campaign to return membership cards so that all of the corporate in-service discipline inspection managers and other executives have no such cards.

Strengthen whole process management of contracts. Standardize and unify contract management system, reduce the quantity and improve the quality. Reinforce contract risk management on the processes of consultation, conclusion and implementation. Firmly combine contract management with financial control by means of information technology to achieve closed-loop management. Coordinate on the standardization of contract text, and gradually establish a contract text library with well-regulated system, complete causes, legally accuracy and unified coordination, to protect the legitimate rights of all related parties.

Complete the establishment of internal control system. Follow the Basic Standard for Enterprise Internal Control issued by Ministry of Finance and other related regulations. Formulate internal control standards with the internal logic consistency in terms of strategy, risk, process, control, duty, and mechanism. Actively promote the “Four Mechanisms” of information communication, execution responsibility, evaluation improvement, and collaborative supervision, as well as the “Three Supports” of information system, professional personnel, and corporate culture, in order to establish a thorough internal control system covering the whole enterprise in all levels.
Become a Model of Green Development

Urge for a resource-conserving and environmental-friendly development
- Boost the EV industry development
- Promote comprehensive environmental management
- Popularize energy-saving and environmental-friendly equipment, technology, and technique

400 EV charging & battery swapping stations have been built

19000 AC charging spots have been erected

Responsibility on Environmental Protection and Low Carbon Emission

Promote green, economic, clean and low-carbon development. Contribute to building a beautiful China

Accommodate 835.1 TWh of clean energy in 2013

Promote the development of clean energy
- Support new energy development
- Promote the orderly development of distributed power
- Promote bulk hydropower and bulk nuclear power
Boost energy conservation in an all-round way
- Establish energy conservation service companies to promote energy conservation among customers.
- Conduct generation rights transaction to save energy
- Encourage scientific, efficient power consumption

Organize 139 environmental training sessions in 2013

8331400 tons of standard coal saved by generation rights transaction in 2013

Popularize ecological civilization
- Jointly establish a green industrial chain
- Appeal for green office and lifestyle
- Participate in environmental public welfare projects

Combat global climate change
- Promote energy conservation and emission reduction from the company
- Encourage industrial energy conservation and emission reduction
- Promote social energy conservation and emission reduction

Promote carbon dioxide emission reduction of 700 million tons from the industry and the society in 2013
Build Strong & Smart Grid as the strategic stronghold for the green development of energy

Promote energy structure adjustment. Realize the large-scale and intensive development of clean energy. Make efforts to increase the proportion of clean energy in China’s energy supply.

Promote the large-scale energy optimization. Construct an integrated transportation system transmitting both coal and electricity to fundamentally ease the tension of transporting coal, electricity and oil.

Promote energy-saving in energy production and consumption chain. Provide “the fifth energy” in addition to oil, coal, hydropower and nuclear energy.

Promote ecological improvement and low-carbon development. Build more energy bases in the West and coordinate the overall capacity throughout the country. Serve the transformation of low-carbon development.
Promote green, circular, economical and low-carbon development. Vigorously develop clean energy. Adhere to the sustainable use of resources. Maintain environmentally friendly operation, actively respond to climate change, and promote ecological civilization so as to build a beautiful China.

<table>
<thead>
<tr>
<th>Customers' degree of concern</th>
<th>Topics choices on environmental protection and low carbon emission</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Support clean energy development</td>
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<tr>
<td></td>
<td>Support the development of distributed energy resources</td>
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<tr>
<td></td>
<td>Boost the EV industry development</td>
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<tr>
<td></td>
<td>Carry out energy-saving service</td>
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<tr>
<td></td>
<td>Promote electricity replacement</td>
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<tr>
<td></td>
<td>Pursue R&amp;D on green technology and popularize energy-saving and environmentally-friendly equipment, technology, and technique</td>
</tr>
<tr>
<td>Low</td>
<td>Promote emission reduction</td>
</tr>
<tr>
<td>High</td>
<td>Effect on integrated value creation</td>
</tr>
</tbody>
</table>

Promote green development of industry and society by green management

**Implement green production.** Construct and operate Strong & Smart Grid at the lowest cost of resource and environment. Ensure a safer, cleaner, more economical and sustainable energy supply.

**Build a green industry.** Further form a consensus and unite efforts to build green chains of electricity production, consumption and equipment.

**Advocate green civilization** and play the exemplary role as a central SOE. Popularize green development concept to the whole society. Build a social publicity platform to serve the construction of ecological civilization.

The first individual distributed PV generation project in Chengde
More than half of the installed capacity came from clean energy in Gansu province

By implementing the regulation requirements of National Renewable Energy Law, SGCC Gansu Electric Power Company prioritized the dispatching of new energies such as wind power and PV power, strengthened new energy dispatching management, and promoted the coordinated development of power source and grid. Thus its on-grid new energy reached record high. In 2013, the total installed capacity in Gansu province amounted to 34.8932GW, of which, 18.8794GW or 54.11% was clean energy fueled by hydropower, wind power and PV power. Meanwhile, clean energy generation reached 49.408TWh, accounting for 41.34% of the total power generating capacity and 46.04% of the total on-grid power in Gansu province, saving 6,072,200 tons of standard coal and reducing carbon dioxide emission by 46,443,500 tons.

Promote the development of clean energy

Fully support clean energy. In 2013, SGCC integrated 70.37GW of wind power and 15.46GW of PV power, which made SGCC the grid with the largest scale of wind power integration and the fastest growth of PV power generation all over the world. Within SGCC’s service area, the wind power generation reached 129TWh, up by 37.4%, and the PV power generation reached 8.35TWh, up by 146%. Meanwhile, the daily wind power generation capacity of eastern Inner Mongolia and Gansu province respectively accounted for 94% and 33% of daily consumption at most. All these indicators were equal to Demark and Germany where wind power industry is relatively developed.

Operate 1052 distributed generation projects

PV generation projects 1045

<table>
<thead>
<tr>
<th>Year</th>
<th>Integrated capacity of wind power (GW)</th>
<th>Integrated capacity of PV power (GW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>70.37</td>
<td>15.46</td>
</tr>
<tr>
<td>2013</td>
<td>70.77</td>
<td>15.46</td>
</tr>
</tbody>
</table>

Early morning sunshine on the rotating wind turbines in Heilongjiang
Spare no effort in addressing the issue of clean energy integration. Make every effort to conquer the difficulties such as inconsistent approval procedures and construction schedules between clean energy (wind power, PV power, etc.) projects and grid projects. In 2013, a total of RMB 49.7 billion was invested in wind power integration projects and the construction of 29,400-kilometer-long lines. A solar power collection station with a capacity of 6.21GVA and 1000-kilometer-long lines for PV power integration has been built.

Use UHV synchronous grids as a platform. In the summer flood season of 2013, the maximum output power from Sichuan reached 17.19GW, exceeding the maximum of 5.69GW in the previous year, three-quarters of which was transmitted by UHV grids. In 2013, the annual amount of surplus hydropower transmitted from Sichuan to other areas was 6.85GW, up by 101%.

By 2020, China’s trans-regional grids will transmit and allocate about 2100TWh of electricity generated by non-fossil energy, equivalent to 0.67 billion tons of standard coal.

Prioritize dispatching to guarantee new energy accommodation.

- Maximize the wind power accommodation by focusing on electric power, arranging operation mode efficiently, and coordinating the operation of thermal power generators and hydropower generators. Maximize the inter-provincial wind power accommodation.
- Take full advantage of bulk power grid and the wind power automatic control systems in the Northwest and the Northeast grids, which dynamically adjust the wind power scheduling every 5 minutes to maximize wind power transmission across inter-provincial lines. The Northeast grid implemented a tie-line schedule with real-time adjustment according to the wind difference among provinces. In 2013, the accumulative adjustments reached 763 times, increasing on-grid wind power by 526GWh.
- The company has established an integrated real-time wind power dispatching and monitoring network at national, regional and provincial level, covering 32 dispatching institutions at the provincial level or above as well as 810 wind farms to integrate the farms with the power grids.

Strengthen S&T development and standardization system construction.

- SGCC has invested RMB 4 billion in clean energy R&D for 357 programs, achieving a series of innovative results with independent intellectual property rights.
- At the same time, the company has also established a cutting-edge Digital Simulation Platform of PV Power Integration, International Center for Wind Power Technology and Testing, National Energy Solar Centre (NESC), and New Energy Analysis Platform.
- The company has also accomplished the Study on China’s Wind Power Development Layout and Market Accommodation, led the development and release of more than 15 corporate standards such as Standard System Framework for the Wind Power Farm Interconnection, formulated 15 industrial standards and 6 national standards and led the development of 2 international standards such as Standard System Framework for User-side Power Grid Integration, which has effectively filled up the gap left by the absence of standards for new energy construction (eg. wind power) and grid integration.
Support the development of distributed power generation

Distributed generation, generating power near users for local use, is the power generation project integrated into the power grid at 10kV or below with maximum installed power capacity of 6MW for an individual spot. The types of distributed generation include solar, natural gas, biomass, wind power, geothermal, and ocean energy and the power generated by integrated utilization of various resources. By the end of 2013, the distributed generation from 1,052 households has been integrated with a total installed capacity of 0.7359GW, and accumulated power generation of 0.205TWh, 73.86% of which was for self-consumption. The PV power generation from 1,045 households has been integrated with an installed capacity of 0.7237GW, and accumulated PV power generation has achieved 201.6162GW, 74.86% of which was for self-consumption.

Strengthen the grid construction to meet the needs for distributed generation integration.

- **Follow the needs for distributed generation development.** SGCC took the initiative to figure out the scope and construction sequence of various distributed generation plans, such as distributed PV power application demonstration areas and demonstration villages. Fully considering the grid's integration capacity, SGCC has been actively cooperating with governments at all levels to plan for the development of distributed generation, and include auxiliary grid construction and renovating projects into the distribution grid planning.

- **Improve the planning for distribution grid.** SGCC implemented the requirements of Technical Guidelines for Distribution Grid Planning and Design, practiced the concept of feasible planning, optimized the grid structure, and used standardized and serialized equipment to improve distribution automation and promote the organic integration and interaction of power, grid, and load. The company also strengthened the simulation calculation analysis on distributed power grid integration to meet the needs for the plug-and-play and efficient utilization of distributed generation at different penetration levels.

- **Guarantee synchronized operation of auxiliary grids.** Despite inconsistent planning of distributed generation and power grid, conflicting construction periods, small project capacity and diversified types of users, SGCC still managed to conduct preliminary work, increase grid investment, speed up the grid integration construction project, and accelerate the construction of distributed power integration by all means.

Serve the integration of distributed generation

- **Fulfill the commitment on quality service.** SGSS has established Provisional Suggestions on Carrying Out Integration Service for Distributed Generation and the Provisional Suggestions on the Management of Distributed Generation Integration to provide all-in-one services and one-stop services, and streamlined the process, procedures and technical requirements for grid integration. The company has also provided the integration plans, installed electric meters and carried out integration acceptance and commissioning tests for free. It executes every procedure within the time limit to enhance efficiency.

- **Ensure full accommodation of electricity.** SGCC has implemented the guaranteeing the purchase of electricity fueled by distributed generation in full amount. The company prioritizes the integration and full accommodation of distributed generation on the condition of the safe and stable grid operation and reliable power supply. It has also regulated management on distributed power integration and dispatching, built up a distributed power dispatching operation managing mechanism emphasizing prefecture-level dispatching, and sorted out the separating boundaries for prefecture-level dispatching and county-level dispatching in distributed power management.

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Micro grid lights up the border areas

Due to the serious grassland desertification, the government prohibits animal husbandry to stabilize sands. As a result, 104 households of herdsmen, mainly living on nomadic herding in Harjantugacha of Chenba'erhu Manchu in Hulunbeier City, Inner Mongolia, have moved to the new migrant village in Heerhongde. In order to solve the power supply problem in the new village, SGSS has launched a supplementary Wind/PV/Energy Storage power generation pilot project since 2012, taking full advantage of the adequate solar power and wind power locally so that wind, solar and storage can supplement one another. By the end of 2013, the constructed grid-integrated power stations have accumulatively generated 140MWh of power, of which 7,220kWh was fueled by wind power and over 130MWh was by PV power. The new migrant village in Heerhongde has changed significantly and the herding families are now living a modern life in general.

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Distributed Generation Integration

- Proceed business extension and application for installation for **2721 households**

Integrate **735.9 MW** of power from 1,052 households
Serve residential customers to integrate distributed PV power

Xu Pengfei, a resident of Jialinggou Community, located in No.82 Tongde Road in Shibei District, Qingdao, has applied for distributed PV power integration, which officially marked the first domestic integration of distributed PV generation from a residential customer into the grid. Located on the roof of the residential building where Xu Pengfei lives, the project had a total installed power capacity of 2kV, a grid-connected voltage of 220V, and an annual power generation of 2,600kWh. It took less than 20 days to complete all the relevant procedures including the application, equipment installation, commissioning test and grid integration. The power generated was for their own use, and the surplus was integrated to the grid. The equipment package was bought by households. The design and construction from the grid to the power source was done by SGCC Shandong Electric Power Company for free. “I cannot believe that we can have our own power station on our rooftop,” Xu Pengfei said happily.

Serve integration of distributed PV power

The 1000kV PV power station of Shaanxi Zhongtianjiayang New Energy Development Co. Ltd. was the first distributed PV power generation project in Shaanxi Province. The project, taking advantage of factory roofs, walls and floors to install the solar panels, has a total installed capacity of 6MW. With an estimated annual power generating capacity of 5.45GWh, the project has annual power sales revenue of RMB 2.5 million, saving 49,000 tons of standard coal, reducing carbon dioxide emission by 32,800 tons and sulfur dioxide emission by 809.2 tons. The generated power was sold to SGCC Shangluo Power Supply Company in full amount, who was responsible to develop free integration solutions for customers, set up green passage, arrange personnel for follow-up service and ensure safe integration to the grid according to relevant grid integration service standards.

Back up the development of distributed generation.

- Advance the construction of standardization system. In order to guarantee reliable distributed power integration and a safe and stable operation of the power system after massive integration of distributed generation, SGCC has successively formulated 16 corporate standards, 8 industrial standards, and 8 national standards, targeting at the prominent problems of lagged-behind distributed power standards in China.

- Improve S&T support. The operating National Wind Power Integration Research and Test Center (NWIC) and National Energy Solar Centre (NESC) are capable of doing full-fledged tests for PV and wind power integration. They are important testing platforms for China to grasp the core technology for PV and solar integration and improve domestically produced key equipment. Moreover, SGCC has also established a world-class digital simulation platform of distributed power integration, which has already conducted basic researches in various aspects such as distributed generation analysis and modeling, planning and design, operational control, power prediction, and grid accommodation. The company spares no effort to master the key technologies to tackle the bottleneck for the development of distributed energy resources.

- Build major demonstration projects. The company has built the Smart Grid Demonstration Project of Sino-Singapore Tianjin Eco-city featuring PV generation and distributed power source, the Smart Grid Demonstration Project of Shanghai World Expo Garden, and the Smart Grid Demonstration Project in Henan. These projects offer experience, lay a technical foundation and enhance the operational management for the intensive development of various new energies and distributed power sources in China.
SGCC CSR Report 2013
The Action

Promote electricity replacement

Burning coal and oil is the main source for PM2.5 in the cities of China. About 50% to 60% of PM2.5 pollution is from coal-burning emissions and about 20% is from vehicle emissions. The Air Pollution Prevention and Control Action Plan issued by the State Council of China proposed that by 2017 the national concentration of PM10 would have been reduced by 10%, and the concentration of PM2.5 in the regions of Beijing-Tianjin-Hebei, Yangtze River Delta Area and Pearl River Delta Area would have been reduced by 25%, 20% and 15%, respectively. It also stated a definite requirement to regulate small coal-fired boilers, promote centralized heating, and construct projects to replace coal by electricity.

Launch the overall electricity substitution program. SGCC has distributed the SGCC Implementation Plan of Electricity Substitution, actively advocated the new energy consumption mode of “replacing coal and oil with electricity coming from afar”, established special leading groups and working groups in every province to realize 100TWh of electricity substitution in total by 2015. The company also held the “Safe, Efficient, Clean—2013 China Green Electricity Summit” to gather social resources to work on electricity substitution together.

Advance energy replacement projects. SGCC has actively promoted technologies such as heat pump, electric heating, electric energy-storage, electric irrigation and drainage, electric heating on ceramic kilns, and pilot applications of electric vehicles. From 2008 to 2012, SGCC accumulatively promoted 3,681 heat pump projects, 19,900 electric heating projects, 1,548 electric energy-storage projects, 18,100 electric irrigation projects, 205 electric heating on ceramic kilns projects, and 6,302 electric vehicles. In 2013, the electricity replacement has reached 14TWh.

Main area, equipment and potential of electricity replacement in China (Unit: TWh)

<table>
<thead>
<tr>
<th>Methods</th>
<th>Equipment</th>
<th>Main Industry</th>
<th>Purpose</th>
<th>Potential in 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replace coal with electricity</td>
<td>Replace coal-fired boilers with electric heating</td>
<td>Architecture</td>
<td>Heating</td>
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</tr>
<tr>
<td></td>
<td>Replace coal-fired boilers with heat pumps</td>
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<td>Heating, water heating</td>
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<td>Replace coal-fired boilers with regenerative electric boilers</td>
<td>Industry, commerce, public building</td>
<td>Heating, water heating</td>
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<td>Replace coal-fired boilers with electric cookers</td>
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</tr>
<tr>
<td>Replace oil with electricity</td>
<td>Replace oil-fueled automobiles with electric vehicles</td>
<td>Traffic</td>
<td>Transport</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>Replace diesel railway with electric railway</td>
<td>Traffic</td>
<td>Transport</td>
<td>9.9</td>
</tr>
<tr>
<td></td>
<td>Replace public transport with urban rail transit</td>
<td>Traffic</td>
<td>Transport</td>
<td>3.5</td>
</tr>
<tr>
<td></td>
<td>Replace oil-fired furnace with electric furnace</td>
<td>Production of china and glass</td>
<td>Heating</td>
<td>0.4</td>
</tr>
<tr>
<td></td>
<td>Replace oil-fired pump with electric water pump</td>
<td>Agriculture</td>
<td>Irrigation</td>
<td>4.0</td>
</tr>
<tr>
<td>Replace gas with electricity</td>
<td>Replace gas stove with electric cooker</td>
<td>Commerce, resident</td>
<td>Cooking</td>
<td>18.1</td>
</tr>
<tr>
<td></td>
<td>Replace gas water heater with electric water heater</td>
<td>Resident</td>
<td>Water heating</td>
<td>16.0</td>
</tr>
<tr>
<td></td>
<td>Replace gas heating with regenerative electric heater</td>
<td>Resident</td>
<td>Heating</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>Replace gas boiler with regenerative electric boiler</td>
<td>Industry, commerce</td>
<td>Heating, water heating</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>Replace gas heating with electric heating</td>
<td>Architecture</td>
<td>Heating</td>
<td>4.3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>146.9</td>
</tr>
</tbody>
</table>
Conserve energy in a comprehensive way

**Improve energy conservation service system.** SGCC has released *Guidelines to the Energy Conservation Service in 2013* to strengthen the specific requirement on energy-saving companies’ operation management. State Grid Energy Conservation Service Co., Ltd. has been established. A total of 27 energy conservation companies of SGCC (except in Tibet) have been filed up in the National Development and Reform Commission and the Ministry of Finance.

**Develop energy conservation service market.** Optimize the industrial benchmarking and the evaluation index of corporate officials, increase assessment efforts on market development of energy conservation service companies, encourage the companies to tap the potential and expand the market, and actively explore new modes like energy management service and energy-saving supermarket. The company accumulatively signed 1,232 energy-saving contracts and 1,526 energy conservation projects, saving 4.3GW of power capacity and 17.9TWh of power, exceeding the national targets by 145% and 142% respectively.

**Standardize approval management of energy conservation projects.** *Suggestions on Strengthening Approval Management of Energy Conservation Projects* has been distributed, which has developed the approval mechanism of energy-saving projects from nothing, accelerating approval procedures, and enhancing the market competitiveness and risk control capability of the energy conservation companies.

**Accelerate the construction of power service management platform.** Accomplish the standardized design for business demand, platform function and UE and the deployment bidding to launch the platforms for the headquarters and 20 provinces.

**Actively participate in the construction of urban pilots for demand-side power management.** SGCC will play a leading role to undertake the construction task of “National Demand-side Power Management Platform” assigned by NDRC, and accomplish feasibility study and standardization design.
Bolster the development of electric vehicles (EV)

Improve the organizational management system. Nine provincial-level and 22 prefecture-level electric vehicles service companies have been founded. The company's development plan for smart charging and battery swapping service network during the 12th Five-Year Period was formulated and constantly updated.

Construct smart charging & battery swapping service network. SGCC has established several demonstration projects, such as the Zhejiang EV smart charging & battery swapping service network project, Suzhou-Shanghai-Hangzhou Intercity Demonstration Project, Qingdao Xuejiadao Charging/ Swapping/Storage/Discharge Demonstration Project., and Beijing Gaoantun Demonstration Charging & Battery Swapping Station. A total of 400 stations and 19,000 charging spots have been built, making SGCC the company with the most extensive charging and battery swapping infrastructure currently in operation in the world. These projects have cumulatively charged and swapped batteries for 2,753,600 times, reducing oil consumption by 48,800 tons and carbon dioxide emissions by 125,500 tons.

Develop the standardized system of EV charging and battery swapping. SGCC has accomplished 13 national standards, 18 industrial standards, 3 alliance standards, and 39 corporate standards. It has constructed a relatively complete standard system for charging and battery swapping facilities to stimulate the infrastructure standardization construction as well as the regulated development of the industry.

Actively strive for support policy. SGCC has been promoting four ministries such as the Ministry of Finance to introduce policies requiring local governments to fund for the charging and battery swapping infrastructure construction. The central government has announced battery subsidy of RMB 300,000 for every electric bus and RMB 60,000 for every electric passenger vehicle. Many local governments including Beijing have introduced subsidies on charging and battery swapping infrastructure construction and supporting policies on construction land use. Qingdao and some other local governments have implemented price policy on charging and battery swapping services, providing a good policy environment for the construction and operation of charging and battery swapping infrastructure.

Popularize ecological civilization

Construct a resource-conserving and environmentally-friendly power grid. SGCC has made an acceptance plan of environmental test for 300kV (and above) grid construction projects. The EIA rate and the environmental protection acceptance rate of all power construction projects are qualified. The company has also introduced modular construction pilot for smart substations, enhancing their quality and the efficiency. Energy-saving conductors were widely used. It is preliminarily estimated that 450 projects using energy-saving conductors can save 0.23TWh of power annually, equivalent to saving 95,000 tons of standard coal and reducing carbon dioxide emissions by 237,000 tons.

Orderly advance CDM projects. A total of 25,086 distribution transformers in the CDM project were replaced in advance with an annual decrease of 75,000 tons carbon dioxide emission. The first batch of reduced emission was issued by the UN. Besides, 11 CDM projects were successfully registered in the UN, which would reduce annual carbon dioxide emission by 1,883 million tons in total.

Advocate green and low-carbon office. The conferences were simplified into teleconferences, which do not require people to be at the same venue at the same time. Meanwhile, documents, mails and faxes were used via the Internet in order to use less office facilities and consume less paper.

Reinforce the publicity and training on environmental protection. SGCC has edited and published publicity brochures to popularize the knowledge on grids’ environmental protection. Themed activities were organized to spread the knowledge on electromagnetic environment. In 2013, SGCC organized 139 training sessions for environmental protection management for 5,971 person-times.
Combat the global climate change

According to incomplete statistics, SGCC promoted carbon dioxide emission reduction of 700 million tons from the industry and the society in 2013.

Serve clean energy development. Accommodate 835.1TWh of clean energy, equivalent to 268.0671 million tons of standard coal, and reduce carbon dioxide emission by 668.2913 million tons.

Encourage energy conservation and emission reduction on the generation side

Higher the line loss rate to save 1.89TWh of power, equivalent to 610,000 tons of standard coal and reducing carbon dioxide emission by 1.51 million tons.

Boost cross-regional and inter-provincial power transaction. The cross-regional and inter-provincial power transaction amounted to 647.345TWh, of which 66.97TWh was transmitted by UHV projects.

Encourage grid-side energy conservation and emission reduction

Push for standardized construction. The typical energy-saving and environmentally-friendly line design with new technologies, materials and techniques saved 235 thousand tons of steel, equivalent to 141 thousand tons of standard coal, reducing carbon dioxide emission by 352 thousand tons.

Recycle resources. A total of 33.2 tons of SF$_6$ gas was purified and recycled, which equals a reduction on emission of 793 thousand tons of carbon dioxide.

Encourage user-side energy conservation and emission reduction

Construct an energy-saving service system, which has saved 17.9TWh of power, equivalent to 5.91 million tons of standard coal, and reduced carbon dioxide emission by 14.77 million tons.

Implement electricity replacement strategy. Substitute 14TWh of power, equivalent to 4.494 million tons of standard coal and reduce carbon dioxide emission by 11.2035 million tons.
Develop Overseas Business with Responsibility

Operate State Grid Brazil Holding Co. (SGBH) with responsibility
- Stick to sustainable development
- Guarantee staff’s safety, health and occupational development
- Contribute to local socio-economic development

SGBH operated 34 substations in 2013

Establish a global vision
Let the vision of sustainable development spread its wings with shared responsibilities

SGCC’s overseas transmission lines in operation are 46705 km

Develop overseas business with responsibility
- Respect international common practice and local culture
- Create comprehensive economic, social and environmental value for operation
- Promote localization of overseas business

……
Operate grid assets in the Philippines, Portugal and Australia with responsibility

- Promote NGCP’s sustainable development
- Support the sustainable development of REN
- Support the sustainable development of ElectraNet

...}

Cope with the global challenge of sustainable development

- Participate in international standard formulation
- Address the global energy challenge with joint efforts
- Deepen international cooperation for sustainable development

...}

NGCP invested PHP 9.4863 million in community projects in 2013

Participate in the formulation of 20 international standards in total
Energy is the premise of socio-economic development. Global resource shortage and deteriorating climate change are putting increasing constraints on energy development. Accelerating the strategic transformation of energy as well as ensuring the supply of safer, cleaner and more efficient energy is a common challenge faced by all. SGCC sticks to the “Macro Energy Perspective”, which would bring about a global vision, a sustainable perception, strategic initiatives, and innovative technologies. We must put every effort in transforming the pattern of energy development, as well as plan for the coordinated development of energy, economy, society and environment. We must shift the high-carbon energy structure to a low-carbon one, change extensive energy consumption to intensive energy consumption, extend local energy allocation to a global scale, and upgrade one-way energy supply to smart and interactive services. The goal of the modern energy security system we are about to build is the provision of safe, efficient, clean and sustainable energy development.
Advance global energy cooperation and overseas operation with mutual respect, trust and win-win partnership. Protect the ecological environment of the operating locations. Strengthen the communication with the communities and strive for a harmonious development with local society and environment. Combat the global challenge for sustainable development with the international community.

Adhere to operating overseas business with responsibility

Enhance the value creation capability and sustainability of the industrial chain on the basis of the technological and management advantages. Strengthen communication to win the understanding, trust and support from stakeholders. Promote a harmonious development with the community and the environment.
Develop overseas business with responsibility

Insist on serving local socio-economic development and environmental harmony. Respect international practice and local cultural traditions, conduct social responsibility risk assessments for overseas projects, and establish a solid partnership with global leading power companies to jointly promote local sustainable development.

Major overseas projects SGCC conducted in 2013:

**Russia**
Sign an EPC agreement with the INTER RAO UES of Russia to expand power cooperation. The Phase I Sino-Russia power transmission and transformation project supplied 2.208 TWh of power in 2013. The cross-border power trade between China and Russia reached 1.287 TWh.

**Ethiopia**
Sign an EPC contract to construct a 500kV power transmission and transformation project.

**Australia**
Purchase a 60% stake in Singapore Power International (Australia) Assets (SPIAA) and 19.9% stake in SP AusNet.

**Poland**
Sign a general contract for the 400kV power transmission and transformation project.

**Brazil**
Establish an operation and maintenance work area in the southwest of Brazil. Carry forward the construction of the Teles Pires transmission concession project and Lot G of auxiliary transmission project of Belo Monte hydropower. Construct the expansion projects of 12 substations such as the 500kV North Green River substation, Pilarpora substation and Ribeirao Preto substation.

Operate SGBH with responsibility

SGBH was founded at the end of 2010. As one of the biggest energy companies in Brazil, it owns a total of 6,748 km transmission lines, supplying power to Brasilia, Rio de Janeiro, Sao Paulo and other neighboring areas.

Adhere to the concept of sustainable development. Regard sustainable development as the corporate strategy and stick to localized operation. Comply with local laws and regulations, respect local religious practices and national culture, and create job opportunities for the local community. Keep as many original employees as possible while taking over the ACS project’s assets.

Care for employees’ safety, health and development.

- **Ensure decent labor.** Respect local employees’ working habits, ensure their safety and health, provide them with competitive salary and benefits in accordance with local conditions to encourage internal staff and attract external talents. Ensure the reasonable distribution of salary and benefits to protect the interests of employees and promote teamwork.

- **Care for employees’ development.** Regard human resource management as a major part of the company’s strategic management. Differentiate individual and career planning for employees of different culture backgrounds, genders, religions and ethnic groups to meet varied job requirements and exert individual talents. During the massive protest and the big strike in Brazil in 2013, both Chinese and Brazilian employees never left their posts and fulfilled their duties.
Contribute to Brazil’s socio-economic development.

- Carry out the symphony project. SGCC has provided children and teenagers from Rio de Janeiro with compulsory music training, honing their music skills and tapping music professionals. Apart from high-quality trainings on a regular basis, SGCC invites experts to guide trainees, offering local children and teenagers opportunities to develop their interests and realize their dreams.

- Contribute to Brazil’s educational and sports development. Relying on the “tax incentives” policy, SGCC sponsors the cultural and sports exchanges and educational projects for Brazil’s underprivileged youth. It has funded 10 schools in Rio de Janeiro to promote table tennis and sponsored Brazil’s table tennis league to hold the 2013 Brazilian Open Table Tennis Tournament to help select and train excellent local table tennis players. Also, SGCC has donated money to build power workshops in schools of Bahia State and trained 45 students in total in 2013.

Protect local ecology and manage the environment.

- Promote green projects. SGCC has been committed to protecting the natural ecological environment alongside power lines. It has carried out the project to protect “large anteaters and indigenous cultures” to support the preservation of local rare species and indigenous cultures. It has also joined the “Brazilian action 9.985/2000” initiated by the national nature conservation agencies to contribute to the protection of national nature reserves in Brazil. The SGCC Rio Tower won the golden prize by the United States Green Building Council (USGBC).

- Participate in environmental public welfare projects. Classify and store garbage in accordance with the recycling criteria. Extensively conduct environmental education through a variety of activities such as establishing waste recycling workshops, handing out promotional materials and radio broadcasting to publicize fire prevention and environmental protection knowledge and awareness among the schools and families within the service area.

- Encourage stakeholders’ cooperation. Strengthen the exchanges of visits with senior officials from the Brazilian government’s regulatory agencies and industrial counterparts. Promote technical exchanges with local partners and participate in the bidding and construction of the transmission greenfield concession projects. Actively communicate with the local community through the Brazilian mainstream media to enhance understanding and recognition of SGCC’s corporate development among people of all works of life.
Support the sustainable development of REN and ElectraNet

In 2012, SGCC invested in Redes Energeticas Nacionais (REN), Portugal’s national energy network company and continuously enhanced the operation for local sustainability. REN, as Portugal’s only national energy transmission company, has made continuous progress in the energy transmission network construction, service quality and research and development capabilities in the energy field. It also actively participates in social welfare activities for the local comprehensive development of economy, society and environment.

Support the sustainable development of ElectraNet. In December 2012, SGCC invested in ElectraNet, which was a breakthrough in the Australian market. ElectraNet, as the only power transmission company in South Australia, advocates the sustainable strategy of mutual benefit and win-win partnership and takes its corporate social responsibilities in ensuring safe production, protecting the interests of employees and safeguarding the ecological environment.

Operate NGCP with responsibility

Ensure the safe and stable operation of power grid. Taking the advantage of its technology and management, SGCC introduced the advanced grid operation concepts to better control the defects of equipment and enhance the overall technical indicators. Since 2010, the company has cooperated with the distribution company DUS to train 2,147 linemen. In 2013, the grid was in stable operation with well-performed regulatory indicators and successfully dealt with several typhoons, tropical storms and earthquakes, providing safe, stable and reliable power supply for the economic and social development of the Philippines.

In November, Super Typhoon Haiyan caused serious damage to NGCP’s transmission facilities. SGCC’s experts who were stationed in the Philippines rushed to repair as soon as possible and developed the grid recovery plan with the Philippine technical peers. Meanwhile, 11 experts were sent from China to the Philippines to guide the repair and reconstruction work. They played an important role for restoring power as quickly as possible.

Support the development of clean energy in the Philippines. The Company actively researched on and formulated relevant standards, issued *The Supplementary Technical Standards of Wind and Solar Power Integration* and established the special mechanism for the integration of wind and solar power, providing a standardized technical basis for the development of wind and solar power in the Philippines.

Actively communicate to ensure operational transparency. The company normalized customer visits and conversations as a mechanism to ensure the questions they concerned could be adequately replied. In 2013, 423 customer visits and 61 face-to-face meetings were organized, which continuously improved customer relations. Consultation meetings on power development planning were held to better satisfy the demands and investments.

Continuously participate in social welfare undertakings. The company actively carried out social assistance while restoring power supply in the areas affected by typhoons and other disasters, as well as executing other social contributions on education, public health and municipal infrastructure projects.

Organize customer visits

423 times

Talk with customers face-to-face

61 times
Jointly cope with the global challenge of sustainable development

Hold the World Smart Grid Forum 2013. The World Smart Grid Forum 2013, co-organized by SGCC, IEC and VDE, was launched in Berlin, Germany, on September 23-25th, 2013. Over 600 delegates from more than 40 countries in Asia, Europe, South and North America and Africa attended the forum and discussed on the theme “a business, regulatory and technical executive perspective” on Smart Grid.

Participate in international organizations

G-SEP Summit
Participate in many discussions on how to achieve the goal of “Sustainable Energy for All” (SE4ALL) and the particular action plans and deliver the speech on Strong Smart Grid and the Sustainable Development of Energy.

World Energy Congress
Initiate the strategic innovative idea that Strong Smart Grid will power the 3rd Industrial Revolution. Four experts of SGCC were appointed by the World Energy Congress Organizing Committee as the member of Publicity Committee, Program Committee, Research Committee and Finance Committee respectively. Organize and complete the questionnaire jointly launched by WBCSD, GSEP and WEC on global electricity planning.

VLPGO
Participate in the Council and working group meetings and sign the joint declaration at the annual meeting.

The Association of Electricity Supply Industry of East Asia and the Western Pacific (AESIEAP)
Participate in the AESIEAP CEO Conference and deliver a speech.

IEC
Meet with IEC President Mr. Wucherer.
Shu Yinbiao was officially appointed as the Vice President of IEC.
Deliver the speech, “Address the Challenges of Power Quality – China’s Practice and Experience”, at the 77th General Meeting, introducing China’s power profile and its measures for the challenges of power quality.

SGCC Chairman Liu Zhenya pointed out in the keynote speech that “the safe, efficient and clean energy supply” was the strategic direction of energy development. To solve the energy problem, a “Macro Energy Perspective” should be established, which would bring about a global vision, a sustainable perception, strategic initiatives and innovative technologies to transform the pattern of energy development, as well as coordinate the development of energy, economy, society and environment.
Combat the global energy challenge with joint efforts

Jointly safeguard the global energy security. Security is not only the core goal of the world’s energy development, but also the common challenge. SGCC aims at providing stable, reliable, economical and clean energy and works together with international peers to address the four key issues of resources, allocation, efficiency and environmental protection.

Participate in the international standard formulation

The UHV AC voltage became the international standard. IEC formally identified the UHV AC voltage of China’s SGCC as the international standard voltage. This marks China’s grid technology has reached the world’s leading level.

Build the “Demonstration Base for International Standardization Innovation”. On May 27, 2013, SAC awarded SGCC as “the Demonstration Base for International Standardization Innovation”. Through the construction of the Base, the company accelerated the translation of scientific research and construction achievements in key areas into the international standards and improved Chinese electric power industry’s international standardization.

Build a safe and reliable energy security system. The key is to establish a “Macro Energy Perspective” to reinforce the role of electricity as the center to develop the modern bulk grid, promote the 21st century reform on energy development mode and finally achieve the goal of high efficiency, low loss and less emission.
Participate in the international standardization efforts. Three standards launched by SGCC including HVDC System Operation Guidelines were officially approved by IEC and the international standard of General Technical Guidelines of HVDC Grounding Design was officially published. The White Paper project, Wireless Sensor Network in the Internet of Things, was officially approved by IEC MSB. The technical report of B3.29 UHV Substation Field Test, which was convened by SGCC experts and launched by CIGRE, was officially published. A new working group - Operating Experience of Series/Parallel Compensation Device, was established. Three UHV AC standards initiated by SGCC in IEEE completed the working team draft and passed the vote.

In March 2013, the IEC Plenary Meeting passed the proposal initiated by SGCC of establishing the Sub-technical Committee of Grid Integration of Large-capacity Renewable Energy Sources. The Secretariat of the Committee was set up in the National Energy R&D (Test) Center for Large-scale Wind Power Integration. This is another milestone breakthrough in China’s participation in international standard formulation, having great significance in ensuring the safe integration of the current large-capacity renewable generation and promoting the healthy development of renewable energy in the future.
Guarantee Operation
Transparency and Be Open
to Public Supervision

Maintain smooth social communications
- Improve the company’s four-level press release system
- Release annual CSR report
- Innovate platforms to publicize key CSR implementation and performances

Hold
39
press conferences in 2013

The delegates of the National “Two Sessions” from SGCC brought up
71
proposals in 2013

Guarantee the transparency of major decisions
- Provide suggestions to the national energy policies
- Discuss power grid development with governments of all levels
- Develop together with industrial partners

Implement Responsibility on Communication and Cooperation
More transparency and trust to create maximized integrated economic, social and environmental value with cooperation

Implementation

[Diagram with icons and text boxes related to the main points above]
Be open to regulation and supervision
- Be open to government regulation
- Be open to media and public supervision
- Enhance transparency

Encourage stakeholders’ participation
- Develop stakeholder engagement strategies
- Improve the managing mechanism for stakeholders’ participation
- Establish a long-term mechanism for stakeholders’ participation

Hire
29000
social moral supervisors in 2013

Releases
893
of power dispatching and transaction information in 2013
Transparency is an significant strategic objective and inner demand for scientific development

Why does a company exist? SOEs exist to pursue the maximized integrated value for their country and people. The society cannot realize that without transparency. How to develop a company healthily? The interest, emotion and value recognition from all parties is the premise. Also, to achieve that, transparency is needed.

Favorable development condition, which is indispensable for grid and company construction, cannot be built without operation transparency.
Adhere to operation transparency and be open to public supervision. Build trust, enhance consensus and boost cooperation by communication. Actively encourage stakeholders’ participation and enhance society recognition on interest, emotion and value to promote sustainable development.
Make suggestions on major decisions

UHV AC/DC Grid Released in Beijing

The 740,000-word book is divided into 12 chapters. Starting from the grid’s past, present and the future, it analyses the AC&DC UHV grid development history. The technological features and advantages of AC&DC transmission are thoroughly illustrated in the book. Besides, it also brings up the conception and the analysis of China’s construction of UHV AC/DC grid, points out the S&T innovation and project practice of UHV transmission technology, and summarizes the pragmatic experience and technical standards of UHV projects and engineering application.

Integrate the large grid featured with UHV with power sources like hydropower, wind power and solar power. Construct complementary allocation platforms with multiple functions. Promote the development of green, clean energy.

Yang Qixun  
Academician of Chinese Academy of Engineering  
“This book comprehensively concludes the achievements China has made in UHV grid construction, and answers to strategic research problems in construction.”

Qiu Aici  
Academician of Chinese Academy of Engineering, Dean of School of Electrical Engineering, Xi’an Jiaotong University  
“This book presents the achievements China has obtained in UHV grid independent intellectual property rights.”

Guo Jianbo  
Academician of Chinese Academy of Engineering, President of China Electric Power Research Institute  
“This book is the fruit of theoretical application to engineering practice through deeper and more comprehensive analysis and re-innovation on UHV technology.”

Provide suggestions to the national energy policies. Follow the direction of national development and public opinions as well as the emphasis and difficulties of energy and electric power development; strengthen information collection and analysis and dynamic estimation to provide reference for China’s scientific decision-making. Press on continued attention to UHV construction from NPC and CPPCC to track and supervise UHV construction projects as significant proposals.

The company has reported 203 pieces of information to superior authorities like the General Office of the Central Committee, the General Office of the State Council, the National Development and Reform Commission, Organization Department of the CPC and the National Energy Administration. 187 of them were adopted, which was 92.12%. Among then, 7 got feedbacks and instructions from leaders of the Party and the state. SGCC’s contribution in information has ranked 1st for 10 years in central SOEs’ evaluation organized by the General Office of the State Council and SASAC.
Provide reference for government decision-making on scientific planning. Give full play to advantages of the company's research institutes. Actively undertake projects delegated from the government. Provide consultation to government on policy-making and planning.

From 2011 to 2013, SGCC has undertaken numerous consultant projects assigned by government departments like National Development and Reform Commission, National Energy Administration and SASAC, etc. SGCC has obtained abundant high-quality achievements in energy development strategy, the 12th Five-Year Plan, air pollution prevention, administration simplification and decentralization, energy price and central SOE management innovation. The government spoke highly of SGCC’s contribution in providing reference to scientific development of energy strategy and power development plan.

On the 3rd Academicians Forum on China's Electric Power Development & Technology Innovation held by China Electric Power Research Institute, 32 academicians held a thorough discussion about the latest progress, achievement and technology in energy and electric power research from home and abroad. Focusing on the topic of “Innovation promotes development”, they expressed their expectations for the future of China’s energy and electric technology. Liu Zhenya, SGCC Chairman and the honorary president of the forum, addressed a theme speech on vital topics in China’s energy and electric power development in terms of “Insisting on independent innovation and scientific development”, “Speeding up UHV development on national realities” and “In search of excellence; In pursuit of outperformance: Boost grid innovation”.

On September 6, 2013, SGCC held a press conference on wind power integration testing information in Beijing with National Energy R&D (Test) Center for Large-scale Wind Power Integration, which was founded with the support of China Electric Power Research Institute, authorized by National Energy Administration. It was the center’s first time to comprehensively and systematically release information on wind power testing. Overall progress, testing information and data of wind power integration for the last three years were released on the conference.
Jointly construct grid with local governments. In 2013, SGCC has held 27 meetings and talks with governments from 16 provinces, autonomous regions and municipalities. SGCC voluntarily brought up the notion that it would actively support the local government to save energy and reduce emission and to realize the objective of sustainable energy development on the base of comprehensive economic, social and environmental requirements for local governments. During the “Two Sessions” in 2013, the company exchanged opinions with provincial delegations from Fujian, Xinjiang, Shandong, Gansu, Zhejiang, Hubei, Hunan, Ningxia and Jiangsu. A consensus on UHV grid development was reached during the discussions.

The company reached a consensus with provinces like Shandong, Jiangsu, and Zhejiang on the transformation of grid development mode, improvement on local energy and resource guarantee capability, and the boost on industrial upgrade. As for energy-export provinces like Jilin, Sichuan, Xinjiang, Gansu, Hebei, Ningxia, Qinghai, Anhui, Shanxi, the company shared the same opinion with them on speeding up the construction of electricity export channels and promoting clean energy development, namely hydropower, wind power, solar power, which would be helpful for turning energy abundance into economic advantage. In discussions with Fujian, Jilin, Qinghai, Sichuan, Hebei, the company and delegations expressed their thoughts thoroughly on topics like construction of pumped storage power stations and smart grid, upgrade of rural and urban grids, grid construction in Tibet and other regions without access to electricity.

Enhance social communication

SGCC is the only central SOE to release CSR reports for eight consecutive years in China. The SGCC CSR Report 2012 was released to all employees and all walks of life in a teleconference. More than 38,000 people in 1,832 venues attended this conference.

Build a communication platform available to all walks of life. A series of press conferences were held to promote distributed generation integration and wind power accommodation. The company also organized discussions on heated topics of energy and power development to build a communication platform for the company, government and the society.

SGCC Jiangsu Electric Power Company held a press conference named “Responsibility lights up a beautiful life” to promote the Best Practices of CSR performance. In over 130 management practice cases, 9 cases were selected as the “Best Practices” to show typical actions and effects of the company’s CSR fulfillment to representatives from customers, governments and media.

“Best Practices” demonstrate “six dimensions in one action”

A. Issue dimension: examine problems and challenges from the perspective of CSR
B. Value dimension: create economic, environmental and social integrated value for stakeholders
C. Application dimension: serve the core business and optimize CSR practice by CSR management
D. Transformation dimension: give full play to stakeholders in business enhancement and management improvement
E. Capability dimension: promote aspiration and capability of CSR fulfillment for the Best Practice teams
F. Communication dimension: deliver positive message to the society by the act of the Best Practices
On February 27, SGCC held a press conference for promoting distributed generation integration in Beijing, and released *Suggestions on Carrying Out Integration Service for Distributed Generation*.

On March 31, on the CCTV show “Dialogue”, SGCC had a discussion about the future of clean energy development with Jeremy Rifkin, author of the book *The Third Industrial Revolution* and Philippe Delorme, Executive Vice-President of Schneider Electric.

On October 28, SGCC held a press conference on promoting the integration and accommodation of wind power. Journalists from the People’s Daily, the Xinhua News Agency, and CCTV all attended the conference.
Be open to inspection and supervision

Be open to media supervision. SGCC has assisted media with various reports and interviews on key problems and hot issues of public concern. On April 4, the People’s Daily illustrated the production, purchase, and deployment process of smart meters in an article, which also revealed effective measures quality supervision bureaus, manufacturers and SGCC employed to guarantee the accuracy of smart meters.

Many provincial-level companies invited media to visit SGCC. The company organized and coordinated media groups consisting of the press, citizens and customers to visit the frontline of electricity production to learn more about how electric power companies operate.

Encourage stakeholders’ all-round participation

Build a network platform to encourage stakeholders’ participation. SGCC has taken full advantage of new media like Weibo (microblog) or microfilm to build a network platform for stakeholders’ participation so as to provide real-time information about power supply service and common knowledge on electricity. It promotes the company’s CSR aspiration, action and performance in a way recognized by the society and the public.

During Ya’an earthquake, the official Weibo accounts of SGCC and Sichuan Electric Power Company, and media outlets owned by SGCC released relevant information simultaneously. After the first Weibo message about the emergency rescue posted at 9:58 on April 20, SGCC’s official Weibo kept releasing real-time information on the repair and restoration during the entire process.
SGCC Chongqing Electric Power Company: communication innovation enhances recognition

- Create a new communication mode of "4 steps in 3 dimensions". The company has built a systematical, regulated, well structured and institutionalized communication procedure among stakeholders by steps of selecting communication strategy, organizing bidirectional talks, collecting supervision feedbacks, and keeping improvement in three dimensions, namely communication targets, topics and methods.
- Formulate a communication brochure between the government and the company. It has drawn up 10 communication strategies about grid development, power supply service and other regular tasks and built more interactive and diversified cooperation relations with governments at all levels to promote coordinated development of the grid and local economy.
- Establish a matrix of official Weibo accounts. A matrix of official Weibo accounts of SGCC Chongqing Electric Power Company and 25 grass-roots branches attracted over 900,000 followers all together with 3.5 million forwards and more than 7,000 comments.

SGCC Beijing Electric Power Company: organize public open day

SGCC Beijing Electric Power Company has kept exploring CSR management mode, which could be in accordance with the geographic characteristics of the capital. In the last two years, it successively organized a bunch of activities like “the Month of CSR Promotion” and “Public Open Day”. The company intends to innovate thorough CSR penetration in the company and get to the heart and find the stance of CSR management in the company’s key operation. It will keep on building and popularizing the brand “Electricity Lights up the Capital”.

SGCC Beijing Electric Power Company has paid great attention to the layout of EV charging & battery swapping stations to cultivate a livable, friendly and low-carbon environment. Chaoyang District Power Supply Company has invited Commission of City Administration and Environment officials from 36 sub-district offices to discuss about the construction of charging facilities for electric sanitation trucks. SGCC Beijing Electric Power Research Institute has invited citizens to visit the EV laboratory.

SGCC Beijing Electric Power Company has organized Laboratory Open Day themed as “Electricity Lights up the Capital; Meter Measures with Integrity”, inviting citizens and media to the site of the test. The Xinhua News Agency published the article “Smart Meter is Ushering in Beijing” with pictures. Guangming Daily published the article “6 Steps of Detection to Guarantee the Reliability and Accuracy of Electricity.”

SGCC Beijing Electric Power Company has organized an Open Day themed as “Electricity Lights up the Capital; Build the Future Hand in Hand” to teach students about energy conservation and environmental protection. Ten grass-roots power supply companies organized tours in the electricity exhibition hall and campus tours on electricity. These varied activities have shown children what a convenient life technology and electricity can bring about.
The Performance

Value recognition based on performance

Build and demonstrate a responsible, reliable and trustworthy SGCC
Integrated capacity from clean energy generator units (GW)

- 2010: 175.85
- 2011: 202.60
- 2012: 240.04
- 2013: 286.32

Overall productivity (RMB yuan per person per year)

- 2010: 403000
- 2011: 493200
- 2012: 550600
- 2013: 609000

Electricity sales (TWh)

- 2010: 2689.1
- 2011: 3092.5
- 2012: 3253.9
- 2013: 3522.7

Average blackout duration for urban users (Hour/household)

- 2010: 8.234
- 2011: 6.92
- 2012: 5.18
- 2013: 3.854

The average gap between urban and rural annual blackout time (Hour/household)

- 2010: 23.66
- 2011: 22.43
- 2012: 18.03
- 2013: 9.11
## Economic Performance

### Financial Performance

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue (billion RMB)</td>
<td>1258.0</td>
<td>1542.7</td>
<td>1675.4</td>
<td>1883.0</td>
<td>2049.2</td>
</tr>
<tr>
<td>Total assets (billion RMB)</td>
<td>1841.9</td>
<td>2119.2</td>
<td>2211.6</td>
<td>2333.5</td>
<td>2560.2</td>
</tr>
<tr>
<td>Total profits (billion RMB)</td>
<td>4.6</td>
<td>45.09</td>
<td>53.78</td>
<td>109.03*</td>
<td>70.56</td>
</tr>
<tr>
<td>Pre-tax profits (billion RMB)</td>
<td>65.75</td>
<td>122.74</td>
<td>138.4</td>
<td>209.7*</td>
<td>193.6</td>
</tr>
<tr>
<td>Return on equity (%)</td>
<td>-0.39</td>
<td>4.87</td>
<td>4.54</td>
<td>8.36*</td>
<td>4.60</td>
</tr>
<tr>
<td>Asset-liability ratio (%)</td>
<td>65.07</td>
<td>61.83</td>
<td>60.02</td>
<td>57.02</td>
<td>57.01</td>
</tr>
<tr>
<td>SASAC Evaluation on Operation Performances (Class)</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>

The total profits in 2012 include the one-time income transfer of RMB 43.95 billion from State Grid Energy Development Co., Ltd.

### Grid Capability

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment in power grid construction (billion RMB)</td>
<td>303.16</td>
<td>264.37</td>
<td>301.92</td>
<td>305.4</td>
<td>337.9</td>
</tr>
<tr>
<td>Length of transmission lines (km)</td>
<td>561000</td>
<td>619000</td>
<td>655000</td>
<td>713000</td>
<td>771000</td>
</tr>
<tr>
<td>Transformation capacity **(kVA)</td>
<td>189000</td>
<td>213000</td>
<td>239000</td>
<td>281000</td>
<td>303000</td>
</tr>
<tr>
<td>Integrated capacity (GW)</td>
<td>671</td>
<td>744</td>
<td>818</td>
<td>880</td>
<td>962</td>
</tr>
<tr>
<td>On-grid electricity of integrated capacity (TWh)</td>
<td>2430</td>
<td>2880</td>
<td>3240</td>
<td>3390</td>
<td>3690</td>
</tr>
<tr>
<td>Technical R&amp;D input (billion RMB)</td>
<td>5.138</td>
<td>6.129</td>
<td>6.452</td>
<td>7.940</td>
<td>5.787</td>
</tr>
<tr>
<td>Total patents</td>
<td>3511</td>
<td>6528</td>
<td>10538</td>
<td>16399</td>
<td>28311</td>
</tr>
<tr>
<td>Total National Science and Technology Awards</td>
<td>26</td>
<td>32</td>
<td>36</td>
<td>39</td>
<td>43</td>
</tr>
<tr>
<td>UHV transmission ( TWh )</td>
<td>8.744</td>
<td>26.913</td>
<td>39.754</td>
<td>72.034</td>
<td>139.004</td>
</tr>
<tr>
<td>National and Industrial standards led and compiled by SGCC</td>
<td>95</td>
<td>97</td>
<td>126</td>
<td>176</td>
<td>206</td>
</tr>
</tbody>
</table>

Transmission lines of 110 (66) kV and above levels; Transforming facilities of 110 (66) kV and above levels.

Note: The statistics for 2012 are final, which may differ from the ones in 2012 CSR Report. The statistics for 2013 financial performance are from the financial express reports, which may differ from the final statistics.
### Operational Efficiency

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall productivity</td>
<td>296300</td>
<td>403000</td>
<td>493200</td>
<td>550600</td>
<td>609000</td>
</tr>
<tr>
<td>(RMB yuan per person per year)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total asset turnover period (Day)</td>
<td>514</td>
<td>445</td>
<td>457</td>
<td>442</td>
<td>432</td>
</tr>
<tr>
<td>Line loss rate (%)</td>
<td>6.12</td>
<td>5.98</td>
<td>6.53</td>
<td>6.73</td>
<td>6.83</td>
</tr>
<tr>
<td>Transmission capacity upgrade over the years (GW)</td>
<td>171</td>
<td>188</td>
<td>200</td>
<td>213</td>
<td>241</td>
</tr>
<tr>
<td>Number of equipment accidents</td>
<td>27</td>
<td>20</td>
<td>9</td>
<td>0*</td>
<td>0*</td>
</tr>
<tr>
<td>Number of power grid accidents</td>
<td>10</td>
<td>2</td>
<td>5</td>
<td>0*</td>
<td>0*</td>
</tr>
</tbody>
</table>

*SGCC had no ordinary or more serious grid or equipment accident in 2013 according to the Regulations on Emergency Response and Investigation in Power Safety Accidents released by the State Council in 2011. This standard is different from the previous standard executed by SGCC, which resulted in that the statistics of grid and equipment accident are not entirely comparable with previous ones.

### Power Supply Performance

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity sales (TWh)</td>
<td>2274.8</td>
<td>2689.1</td>
<td>3092.5</td>
<td>3253.9</td>
<td>3522.7</td>
</tr>
<tr>
<td>Maximum load within SGCC’s service area (MW)</td>
<td>424900</td>
<td>484100</td>
<td>535500</td>
<td>561200</td>
<td>654000</td>
</tr>
<tr>
<td>Number of customers (millions)</td>
<td>244</td>
<td>258</td>
<td>286</td>
<td>309</td>
<td>343</td>
</tr>
<tr>
<td>Average blackout duration for urban users (Hour/ household)</td>
<td>8.5</td>
<td>8.234</td>
<td>6.92</td>
<td>5.18</td>
<td>3.854</td>
</tr>
<tr>
<td>Average blackout duration for rural users (Hour/ household)</td>
<td>33.73</td>
<td>31.89</td>
<td>29.35</td>
<td>23.21</td>
<td>12.965</td>
</tr>
<tr>
<td>Voltage qualification rate for rural users (%)</td>
<td>97.25</td>
<td>97.477</td>
<td>97.688</td>
<td>98.074</td>
<td>98.567</td>
</tr>
<tr>
<td>Electricity Trading Volume in the National Power Market (TWh)</td>
<td>294.4</td>
<td>358.5</td>
<td>399.87</td>
<td>515.89</td>
<td>601.9</td>
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</table>
## Social Performance

### General Service

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
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</thead>
<tbody>
<tr>
<td>Investment in the rural grid (billion RMB)</td>
<td>71</td>
<td>70</td>
<td>73</td>
<td>80.74</td>
<td>50.8*</td>
</tr>
<tr>
<td>Incremental number of households connected to electricity (Thousand)</td>
<td>1262</td>
<td>1340</td>
<td>1375</td>
<td>1490</td>
<td>1657</td>
</tr>
<tr>
<td>Incremental number of people connected to electricity in rural areas (Thousand)</td>
<td>4756</td>
<td>5090</td>
<td>5226</td>
<td>5720</td>
<td>6420</td>
</tr>
<tr>
<td>The average gap between urban and rural annual blackout time (Hour/household)</td>
<td>25.23</td>
<td>23.66</td>
<td>22.43</td>
<td>18.03</td>
<td>9.11</td>
</tr>
</tbody>
</table>

*The statistics in 2013 is specialized investment in rural grids.

### Public Donations

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
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</thead>
<tbody>
<tr>
<td>Donations (Million RMB)</td>
<td>184</td>
<td>230</td>
<td>108</td>
<td>147</td>
<td>116</td>
</tr>
<tr>
<td>Via State Grid Foundation for Public Welfare</td>
<td>—</td>
<td>21</td>
<td>33</td>
<td>64</td>
<td>8.5</td>
</tr>
<tr>
<td>Staff’s volunteer service (Person-times)</td>
<td>620000</td>
<td>630000</td>
<td>640000</td>
<td>650000</td>
<td>713000</td>
</tr>
</tbody>
</table>

### Win-win Partnership

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<tr>
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<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centralized tendering volume (billion RMB)</td>
<td>186.32</td>
<td>175.12</td>
<td>230.6</td>
<td>322.96</td>
<td>334.3</td>
</tr>
<tr>
<td>Total Luban Awards</td>
<td>11</td>
<td>14</td>
<td>17</td>
<td>18</td>
<td>20</td>
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</tbody>
</table>

### Transparent Operation

<table>
<thead>
<tr>
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<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
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</thead>
<tbody>
<tr>
<td>SGCC website's traffic statistics (Visits)</td>
<td>2124000</td>
<td>5531000</td>
<td>5596000</td>
<td>5620000</td>
<td>8664000</td>
</tr>
<tr>
<td>Number of times releasing power dispatching and transaction information</td>
<td>540</td>
<td>552</td>
<td>545</td>
<td>545</td>
<td>893</td>
</tr>
<tr>
<td>Information reported to governments from SGCC Headquarters (Piece)</td>
<td>313</td>
<td>329</td>
<td>245</td>
<td>205</td>
<td>203</td>
</tr>
</tbody>
</table>

### Employee Development

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
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</thead>
<tbody>
<tr>
<td>Investment in employees’ training (billion RMB)</td>
<td>3.33</td>
<td>3.33</td>
<td>3.536</td>
<td>3.45</td>
<td>2.902</td>
</tr>
<tr>
<td>Training coverage rate (%)</td>
<td>91.2</td>
<td>92</td>
<td>93</td>
<td>93.5</td>
<td>94</td>
</tr>
<tr>
<td>Average training hours of employees (Hour/person-year)</td>
<td>64</td>
<td>66</td>
<td>68</td>
<td>74</td>
<td>77</td>
</tr>
<tr>
<td>Employee training Person-times (Thousand)</td>
<td>3050</td>
<td>3120</td>
<td>3280</td>
<td>3350</td>
<td>3400</td>
</tr>
<tr>
<td>Proportion of female employees</td>
<td>26.4</td>
<td>26.2</td>
<td>27.1</td>
<td>27.3</td>
<td>26.9</td>
</tr>
<tr>
<td>Labor unions</td>
<td>1066</td>
<td>1175</td>
<td>1236</td>
<td>1252</td>
<td>1936</td>
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</tbody>
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## Environmental Performance

### Serve Clean Energy Development

<table>
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<tr>
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<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated capacity from clean energy generator units (GW)</td>
<td>1535.7</td>
<td>1758.5</td>
<td>2026</td>
<td>2400.4</td>
<td>2863.2</td>
</tr>
<tr>
<td>Including integrated capacity of hydropower</td>
<td>1341.9</td>
<td>1445.8</td>
<td>1561.7</td>
<td>1681.6</td>
<td>1853.7</td>
</tr>
<tr>
<td>Integrated capacity of nuclear power</td>
<td>50.7</td>
<td>57.4</td>
<td>64</td>
<td>64</td>
<td>84.9</td>
</tr>
<tr>
<td>Integrated capacity from new energy generator units (MW)</td>
<td>14310</td>
<td>25530</td>
<td>40030</td>
<td>65480</td>
<td>92470</td>
</tr>
<tr>
<td>Including integrated capacity of wind power</td>
<td>14310</td>
<td>22140</td>
<td>35190</td>
<td>56760</td>
<td>70370</td>
</tr>
<tr>
<td>Integrated capacity of PV power</td>
<td>—</td>
<td>240</td>
<td>2320</td>
<td>3330</td>
<td>15460</td>
</tr>
<tr>
<td>On-grid power from clean energy generator units (TWh)</td>
<td>432.1</td>
<td>490.3</td>
<td>594.3</td>
<td>717.7</td>
<td>790.4</td>
</tr>
<tr>
<td>Including on-grid hydropower</td>
<td>369.2</td>
<td>410.3</td>
<td>437.3</td>
<td>551.8</td>
<td>568.3</td>
</tr>
<tr>
<td>On-grid nuclear power</td>
<td>35.5</td>
<td>30.8</td>
<td>41.6</td>
<td>47.5</td>
<td>60.6</td>
</tr>
<tr>
<td>On-grid power from new energy generator units</td>
<td>27.4</td>
<td>49.2</td>
<td>115.4</td>
<td>118.4</td>
<td>161.5</td>
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</table>

### Comprehensive Power Conservation

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
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<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power saved by lowering the line loss (TWh)</td>
<td>1.94</td>
<td>4</td>
<td>2.31</td>
<td>1.05</td>
<td>1.89</td>
</tr>
<tr>
<td>Generation rights transactions (TWh)</td>
<td>144.3</td>
<td>141.457</td>
<td>105.939</td>
<td>109.748</td>
<td>113.848</td>
</tr>
<tr>
<td>Electricity substitution capacity (TWh)</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>14</td>
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</table>

### EV Development

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total EV charging and battery swapping stations</td>
<td>—</td>
<td>87</td>
<td>243</td>
<td>353</td>
<td>400</td>
</tr>
<tr>
<td>Total EV charging and battery swapping spots</td>
<td>—</td>
<td>7000</td>
<td>13000</td>
<td>15000</td>
<td>19000</td>
</tr>
</tbody>
</table>

### Carbon Dioxide Emission Reduction

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission reduced by clean energy accommodation (Thousand tons)</td>
<td>—</td>
<td>447000</td>
<td>442854</td>
<td>552649.3</td>
<td>668291.3</td>
</tr>
<tr>
<td>Emission reduced by lowering the line loss* (Thousand tons)</td>
<td>1580</td>
<td>3300</td>
<td>1900.4</td>
<td>853.2</td>
<td>1512.5</td>
</tr>
</tbody>
</table>

*SGCC’s line loss rate in 2013 was 6.83%, up by 0.1 percentage point, because 211 power companies were transferred up. If calculating with the same diameter, the line loss rate was down by 0.05 percentage point, saving 1.89TWh of power.
The Commitment

Continuous improvement is a long-lasting task in front of us.

The creation of integrated value is a never-ending journey.

The long-term effective fulfillment mechanism can always get better.
By 2015
Construct a Strong and Smart Grid in its preliminary phase
By 2015, two vertical and two horizontal UHV synchronous grids and 7 loops of UHV DC lines will be constructed. The lines of 110 (66) kV (and above) reach 900,000 kilometers with 4,000,000 GVA (kW) transformation (conversion) capacity, 1.5 times and 1.8 times of those in 2010 respectively. UHV and Cross-regional transmission capability will reach 210 GW, providing back-up for the delivery and accommodation of 350 GW of clean energy.
Almost every household without access to electricity within SGCC’s service area will be provided with the access. Major breakthroughs will be made in key technology and equipment of smart grid. Power consumption information will be automatically collected and smart grid control technology is widely applied.
Total assets, revenue and profits will reach RMB3,200 billion, RMB2,500 billion and RMB80 billion, an increase of 55%, 67%, and 78% than 2010 respectively. The asset-liability ratio will be kept under 61%.
The overall productivity will reach RMB 800,000 per person per year, doubled from 2010.

By 2020
Build Strong and Smart Grid in a comprehensive way
The UHV synchronous grid in North, East and Central China will include five vertical and five horizontal UHV grids. The lines of 110 (66) kV (and above) will reach 1.2 million kilometers with 5,500,000 GVA (kW) transformation (conversion) capacity, twice and 2.5 times those of 2010 respectively. The grid scale will be more than doubled than 2010. UHV and trans-regional transmission capacity will reach 450 GW and ensures the delivery and accommodation of 550 GW of clean energy.
The intelligentization of the grid will be world leading. The dispatching operation of the bulk power grid will be internationally advanced.
Comprehensively build a modernized company with “A Strong Grid, Excellent Assets, Services and Performance”
Total assets, revenue and profits reach RMB4,300 billion, RMB3,500 billion and RMB100 billion, 2.2 times, 2.3 times and 2.2 times that of 2010.
The asset-liability ratio will be kept under 65%.
The overall productivity will reach RMB1,200,000 per person per year, tripled from 2010.
Commitments for 2013

Eliminate massive blackouts.
Grid investment exceeds RMB 300 billion.
Put into operation over 50,000 kilometers transmission lines of 100 (66) kV (and above) with 230GVA transformation capacity and 2,210 kilometers DC lines with 8GW of conversion capacity.
Build the pilot project of the new-generation smart substation and deploy over 30 million smart meters.
Put into operation the Anhui-to-East China UHV AC Demonstration Project, Southern Hami-Zhengzhou UHV DC Project, Second Xinjiang-Northwest Main Grid HVDC Transmission Line, and Yushu-Qinghai Interconnection project.
Keep the average blackout time for urban power users within 5 hours per household.
Keep the average blackout time for rural power users within 20 hours per household.
Promote the “one grid, one tariff” for various rural and urban power uses.
Employees’ volunteer service reaches 700,000 person-times.
The investment in staff training stands no less than that of 2012.

Commitments for 2014

Economic Performance

Return on equity (%) is no less than 2013.
Keep the debt-asset ratio under 60%.
Invest over RMB 380 billion in power grid construction.
Invest over RMB 75 billion in smart grid construction and upgrade.
Invest over RMB 150 billion in distribution grid construction and upgrade.
Upgrade 100 smart substations and put into operation 50,000km AC lines of 110(66) kV (and above).
Put 1570km DC lines into operation.
Speed up the grid construction of the Northwest Main Grid 750kV HVDC Transmission Project.
Construct and upgrade the power grids in 30 municipal downtown areas.
Solve isolated operation of 5 grids and the weak links between 38 county-level grids with the main grid.
Invest RMB 7 billion in R&D.
Overall productivity exceeds RMB 660000 per person-year, Line loss is no more than 6.96%.
Launch the electric power market platforms of 20 provincial companies within the year.
Accomplish the business conglomeration of 95598 Call Center.
Electricity sales reach 3,600TWh.
Complete power trade of 600TWh in the National Power Market.
Deploy 60 million smart meters throughout the year.
Fulfilled Commitments for 2013

- No massive blackout throughout the year.
- The investment in power grid reached RMB337.9 billion.
- Put into operation 48,000 kilometers transmission lines of 100 (66) kV (and above) with 230GVA transformation capacities.
- Put into operation 2,210 kilometers DC lines with 8GW of conversion capacity.
- Build 6 smart substation demonstration projects and deploy 62 million smart meters.
- Complete and start the operation of Anhui-to-East China UHV AC Demonstration Project, Second Xinjiang-Northwest Main Grid HVDC Transmission Line, and Yushu-Qinghai Interconnection project.
- Put Southern Hami-Zhengzhou UHV DC Project into operation before the Spring Festival of 2014.
- The average blackout time for urban and rural power users is kept at 3.854 and 12.965 hours per household respectively. The tariff is the same for the same kind of power consumption on the same grid for various rural and urban users.
- Employees' volunteer service exceeds 713,000 person-times.
- The investment in staff training reaches RMB2.902 billion.

Social Performance

- Prevent massive blackouts.
- Provide electricity access for 260 thousand households and 1.04 million people without access to electricity.
- Reliability of urban power supply reaches 99.966%.
- Reliability of rural power supply reaches 99.875%.
- The average gap between urban and rural annual blackout time is reduced to 8 hours per household.
- The donation budget is over RMB100 million.
- Solve the undervoltage problem for 1.6 million rural households within the year.
- Employees' volunteer service is no less than 700,000 person-times.
- Invest RMB 2.32 billion in staff training.

Environmental Performance

- Prioritize wind power and PV power grid integration and realize purchase in full amount.
- Accomplish 30TWh of electricity substitution.
- Build 167 EV charging and battery swapping stations within the year.
- Accelerate the construction of transmission channels for Southwest hydropower and new energy bases.
## Featured CSR Commitment from Provincial Companies for 2014

<table>
<thead>
<tr>
<th>Company</th>
<th>Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beijing Electric Power Company, SGCC</td>
<td>Implement Beijing Clean Air Action Plan and replace coal by electricity in <strong>268 thousand</strong> households.</td>
</tr>
<tr>
<td>Tianjin Electric Power Company, SGCC</td>
<td>Build <strong>2</strong> smart substations of the new generation to save land use and reduce the number of installations so as to cut down environmental pollution in production, maintenance and recycle.</td>
</tr>
<tr>
<td>Hebei Electric Power Company, SGCC</td>
<td>Enhance urban-rural power supply integration. Accomplish the upgrade of power supply facilities in <strong>1478</strong> key villages and <strong>181</strong> core villages.</td>
</tr>
<tr>
<td>Shandong Electric Power Company, SGCC</td>
<td>Exert the advantage of large-scale energy allocation. Import over <strong>50TWh</strong> of electricity into Shandong.</td>
</tr>
<tr>
<td>Jibei Electric Power Company, SGCC</td>
<td>Support the development of new energy. Integrate over <strong>9GW</strong> of installed capacity of new energy in the region.</td>
</tr>
<tr>
<td>Anhui Electric Power Company, SGCC</td>
<td>Build <strong>13</strong> EV charging and battery swapping stations and <strong>2356</strong> charging spots.</td>
</tr>
<tr>
<td>Zhejiang Electric Power Company, SGCC</td>
<td>Support the development of new energy and distributed generation and ensure all integrated new energy to be accommodated.</td>
</tr>
<tr>
<td>Shanghai Electric Power Company, SGCC</td>
<td>Maintain world-level reliability rate of power supply. Keep the average blackout duration for urban users under <strong>1.23 hours</strong>.</td>
</tr>
<tr>
<td>Fujian Electric Power Company, SGCC</td>
<td>Contribute to the harmonious social development. Employees’ volunteer service exceeds <strong>27000</strong> person-times.</td>
</tr>
<tr>
<td>Shanxi Electric Power Company, SGCC</td>
<td>Deepen staff democratic management and make public the affairs of the enterprise up to <strong>90%</strong>.</td>
</tr>
<tr>
<td>Jiangsu Electric Power Company, SGCC</td>
<td>Keep a nationally leading operational efficiency. The overall productivity exceeds RMB <strong>13 million</strong> per person per year.</td>
</tr>
<tr>
<td>Hubei Electric Power Company, SGCC</td>
<td>Accommodate a total of <strong>48TWh</strong> of hydropower within the province or power purchased outside the province, accounting for <strong>30%</strong> of the total power consumption.</td>
</tr>
</tbody>
</table>
East Inner Mongolia Electric Power Company, SGCC
Accommodate 15TWh of wind power, accounting for 57% of the total electricity sales.

Hunan Electric Power Company, SGCC
Solve undervoltage problem for 370000 rural households and benefit 1295000 people.

Henan Electric Power Company, SGCC
Electrify 211000 agricultural wells and benefit 8400-square-kilometer farmland.

Jiangxi Electric Power Company, SGCC
Support the accelerated development of South Jiangxi Revolutionary Base and invest RMB 2.7 billion in electric power infrastructure.

Sichuan Electric Power Company, SGCC
Give full play to the bulk power grid’s advantage and export 70TWh of hydropower out of Sichuan.

Chongqing Electric Power Company, SGCC
Serve people’s livelihood and upgrade the power facilities in 700 abandoned neighborhoods.

Liaoning Electric Power Company, SGCC
Enhance power supply reliability and invest RMB 4.5 billion in distribution grid.

Jilin Electric Power Company, SGCC
Ensure power supply for heating system of 3838000 households in the province.

Heilongjiang Electric Power Company, SGCC
Deploy a total of 1775000 smart meters.

Gansu Electric Power Company, SGCC
Accommodate 16TWh of electricity fueled by new energies.

Qinghai Electric Power Company, SGCC
Integrate over 1GW of PV power generation.

Ningxia Electric Power Company, SGCC
The installed capacity of on-grid new energy accounts for 20% of the total installed capacity under unified dispatch by the province.

Xinjiang Electric Power Company, SGCC
Export 1.66GW of electricity out of Xinjiang.

Tibet Electric Power Company, SGCC
Provide electricity access for 270000 people.
Featured CSR Commitments for 2014 from Subsidiaries Directly Managed by SGCC

The support function of financial and directly-owned industries is significantly improved, contributing to 33% of the company’s total profits.

- **China Electric Power Research Institute**
  - Accumulatively accomplish 4±800kV UHV DC projects.

- **State Grid DC Engineering Construction Company**
  - Accumulatively accomplish 39GVA UHV transformation capacity from directly managed projects. Construct 1937.4km UHV lines in total.

- **State Power Economic Research Institute**
  - Construct a nationally leading planning and consulting agency to serve the construction of the Strong and Smart Grid.

- **State Grid Energy Research Institute**
  - Release at least 8 fundamental research annual reports on energy and electric power.

- **State Grid Xin Yuan Co., Ltd. (State Grid Xin Yuan Hydropower Co., Ltd.)**
  - Construct a nationally leading planning and consulting agency to serve the construction of the Strong and Smart Grid.

- **State Grid Call Center**
  - Accessibility rate of 95598 call center service is no less than that in 2013.

- **NARI Group Corporation**
  - International EPC projects amount to 25.

- **State Grid Institute of Technology (Youth League School)**
  - The satisfaction rate of training quality is over 90%.

- **SGCC Advanced Training Center**
  - Organize trainings of 15000 person-times.

- **State Grid Operation Company**
  - The forced energy unavailability of UHV DC transmission is lowered to under 0.089%.

- **State Grid Institute of Technology (Youth League School)**
  - The satisfaction rate of training quality is over 90%.

- **China Electric Power Equipment and Technology Co., Ltd. (State Grid Project Management Company)**
  - International EPC projects amount to 25.

- **State Grid Xin Yuan Co., Ltd. (State Grid Xin Yuan Hydropower Co., Ltd.)**
  - Construct a total of 25 pumped storage power stations with an installed capacity of 25.43GW.
State Grid Smart Grid Research Institute

Process no less than 200 patents (at least 150 patents for invention). Acquire authorization of at least 80 patents.

State Grid International Development Limited.

The equipment operation availability exceeds 99% for SGBH. The system availability on Luzon Island in the Philippines exceeds 99%.

State Grid General Aviation Co., Ltd.

Carry out 3-D laser scans on the power grid by helicopters at 7000km above the ground.

State Grid Materials Supply Co., Ltd.

Answer the questions raised by suppliers as soon as possible, with a maximum gap of 5 working days since the day they are received.

Yingda Media Investment Group Co., Ltd.

Enhance communication capability, and media operation, and speed up digitalization.

State Grid XJ Group Corporation

Boost R&D capacity and complete 50 S&T innovation projects.

State Grid Pinggao Group

Further improve management and increase productivity by 10%.

Shandong Power Equipment Co., Ltd.

Provide quality products and services and ensure all UHV and key projects can be put into operation at their first try.

China Power Finance Co., Ltd.

Fully exert its function as a finance company with a fund accumulation rate of 99.1%.

State Grid Energy Conservation Service Co., Ltd.

Accomplish 5.5TWh of biomass power generation; reduce the burning of 7.88 million tons of straw in open space, and save 2.36 million tons of standard coal.

Performing Subject

In search of excellence
In pursuit of outperformance

Corporate responsibility to employees
Employees' responsibility to the society

CSR is rooted in our pursuit
Practice what you acknowledge and preach
Corporate responsibility to employees

Be a model in protecting employees’ legitimate rights and sign labor contracts with all on-the-job employees.
Be a model in protecting employees’ safety and health and keep staff accident/casualty rate at a good record.
Be a model in promoting employees’ professional career path and lead in staff training and education in the industry.
Be a model in guaranteeing employees’ democratic management and process all proposals collected at Staff Congress.

Employees’ responsibility to the society

Set an example of strengthening the consciousness of responsibility fulfillment and fortify the concepts of sustainable development, maximized value, stakeholders, green development, social and environmental impact management, transparent operation, active communication, and value-creating cooperation.
Strive to be an example of enhancing the capability of responsibility fulfillment, improve responsible leadership and upgrade job fulfillment capability in the team, in professional fields, in the corporation, and in the industry and society.
Go all out to be an example of demonstrating fulfillment actions, and exert the function as a fulfillment model in innovative advance at fulfillment topics, demonstration popularization of CSR management, construction of long-term fulfillment mechanism, intensification of CSR communication, and the demonstration of a responsible central SOE image.
Corporate responsibility to employees is the basic guarantee for employees’ responsibility to the society. Good fulfillment of responsibility on employee development is the premise and foundation for other social responsibilities, as well as the key for SGCC to promote sustainable development and create maximized economic, social and environment value.

- **Training coverage rate**: 94%
- **Average training hours of employees**: 77 hour/person-year
- **Investment on staff training RMB**: 2.902 billion
- **Overall productivity RMB**: 609,000 /person-year

Corporate responsibility to employees is the basic guarantee for employees’ responsibility to the society. Good fulfillment of responsibility on employee development is the premise and foundation for other social responsibilities, as well as the key for SGCC to promote sustainable development and create maximized economic, social and environment value.
Safeguard employees’ basic rights and benefits

Ensure decent labor.
- Establish a reasonable paid leave system: 5 working days of annual paid leave for an employee who has served less than 10 years accumulatively; 10 working days if he or she has served over 10 years but less than 20 years; and 15 working days for staff of 20 years’ employment or longer. Protect employees’ rights for maternity leave/paternity leave.
- Respect employees’ dignity and freedom. Eliminate forced labor.
- Protect employees’ privacy. Implement encryption management for critical information to ensure the security of employees’ personal information.
- Establish a modern salary management system, covering the pension, health care, work injury, maternity and unemployment, and social insurances for all employees.

Respect for human rights and stick to equality in employment.
- Fully implement the laws and regulations stipulated in China’s Labor Contract Law and sign labor contracts with all on-the-job employees.
- Respect for equal opportunity in workplace and employees’ diversity. Implement the principle of equal pay for equal work despite gender or nationality. Eliminate child labor.
- Respect employees’ own will when they are to undertake a different post and earn their trust and understanding. In 2013, the turnover rate of SGCC’s wholly-owned and holding companies was less than 0.64%.
- Develop a platform for recruiting university graduates and standardize recruitment process.

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>New employees of the year</td>
<td>17.8</td>
<td>16.8</td>
<td>18.3</td>
<td>16.3</td>
</tr>
</tbody>
</table>

Unit: Thousand

Corporate responsibility to employees

Sign labor contracts with all on-the-job employees

Pay social insurances for all employees

100%

100%
Pay attention to employees’ career growth

The Company won National Labor Award for 20 times.

38 individuals won National Labor Award

63 collectives won the title of National Workers’ Pioneer

Female leaders accounted for 9.1%

Be human-oriented and advocate the strategy of vitalizing the company by human resource development.

- In accordance with talent cultivation deployment from the country, the company, provincial companies, and prefecture-level companies, SGCC developed talent teams of marketing, management, technology and skills.
- SGCC has fostered a pool of top-notch technological talents, professionals, experts and reserve expert to expand the paths for career growth. The company selected 18 experts to enjoy special government allowance from the State Council and 2 experts were included into the National Excellent Talent Project in 2013.
- The company has implemented the Recruitment Program of Global Experts by the central government and recruited 22 overseas talents in total, ranking the forefront among central SOEs.
- By establishing the performance management system with definite duty position responsibilities, close process association, effective mission control, clear standard guide and comprehensive result application, SGCC has set up an efficient and integrated operation mechanism of the Headquarters and branches.

Enhance employees’ development planning and improve career growth paths.

- Improve the talent cultivation mechanism and make the best use of them. Create an orderly competitive environment.
- Organize 30 senior executive managers and reserve managers from provincial companies in central and western China to take temporary positions in eastern provincial companies.
- Select 85 outstanding young managers in SGCC to work temporarily at the Headquarters. Select 25 employees from branches to rotate in the Headquarters and send 14 people to provincial companies for cultivation.
- Select 35 junior and middle-level managers from subsidiaries directly managed by SGCC to take temporary professional management positions at provincial companies for better collaborative business operation.
- Select 15 material supply professionals and 78 construction and operation personnel from provincial companies to work in professional subsidiaries directly managed by SGCC to enhance their professional skills.
- Select 16 young middle-level managers to work in Xinjiang Electric Power Company and Tibet Electric Power Company for two years.

Construct a platform with unified regulations, clear responsibilities and orderly flow to promote the intensive coordination, optimized allocation and efficient use of human resource of the company.

- Unify the standard and management of positions and levels for staff stationed elsewhere in both China and overseas offices and between different companies.

Construct an internal human resource supply and demand platform

Three incentives
- Training & assessment
- Salary incentive
- Living allowance

Five methods
- Open recruitment
- Talent support
- Labor cooperation
- Temporary borrowing
- Temporary exchanges

Three systems
- Organization system
- Operation system
- Assurance system

Five incentives
- Open recruitment
- Talent support
- Labor cooperation
- Temporary borrowing
- Temporary exchanges

Construct an internal human resource market with unified regulations, clear responsibilities and orderly flow to promote the intensive coordination, optimized allocation and efficient use of human resource of the company.

Improve the incentive and restraint mechanism to elevate employees’ quality.

- Insist on providing rich training opportunities for employees. Carry out various trainings for all employees of different levels and classifications catered for working and training needs. Training coverage rate has reached 94% and RMB 2.191 billion has been invested in training.
- Enhance employees’ comprehensive capability through competitions instead of trainings. In order to encourage employees to improve, the company has organized 4395 competitions and selective examinations involving 266200 person-times, which has effectively motivated their participation and creativity. Their work capability and quality has been improved significantly.
- Exert the effect of model worker innovation offices. There are nearly a thousand model worker offices. There are nearly a thousand model worker offices named after model workers. Among them, 76 are pilots of SGCC model worker innovation offices. They play the conglomerate, radiating and branding effects of model workers to improve employees’ ability and quality.
Deepen staff democratic management.

- Improve the democratic management system. SGCC ensures employees’ right to know, to participate, to express and to supervise. It continuously makes public the affairs of the company. Safeguard employees’ legal rights and interests and gives full play to them in democratic management. The company won the title of “National Advanced Unit for Transparent and Democratic Management”.
- Collect proposals and reasonable advice from employees. The company has collected 191 proposals through Staff Congress and all proposals have been answered and processed. 228000 reasonable suggestions have been raised from employees in total.
- Give full play to president liaison officers. The company has held three president liaison officer meetings to collect advice and broaden the channels of passing on subjects from superior, and reporting the situation to the top.

Refine work style. SGCC further promotes work style construction and educational activities by improving writing and meeting styles and emphasizing planning management. It streamlines briefings and eliminates data input duplication. By implementing the Eight Provisions of the CPC Central Committee, it has standardized official reception and simplified the procedures.

Deliver special care to employees.

- Improve working conditions and create a standard and safe operating environment. SGCC has established a better whole-process risk management mechanism covering production organization and management mode. It provides safe working conditions for employees who are engaged in high-risk tasks. No serious injury or death occurred throughout the year.
- The company has established health archive and carried out regular health checks for its staff and risk analysis on their health situations. It also respects staff’s individual emotions and other psychological needs.
- Care for the retirees. SGCC implements various national retirement policies. It has 345752 retired employees, 2149 event venues and 53 senior universities. The average daily number of participants reached nearly 57000.
- Care for female employees. The company has launched an essay contest with the theme of “Happiness in Literary SGCC” to showcase self-reliance, self-improvement, self-esteem and self-confidence of the majority of female employees.
- Help employees in difficulties and deliver special care to them.

The Qinghai-Tibet Interconnection Project has the world’s longest transmission lines passing through the permafrost. In permafrost construction, it is generally believed that the foundation must be tested by the cycle of freezing and melting, then the next procedure can be carried out next year. Dr. Wang went through numerous documentations, discussed with other experts and inspected every foundation day and night. Through his pursuit in both theory and practice, he handed in a new construction report to the General Command of the Project with the conclusion that the cycle process was unnecessary. This report was highly recognized by Chinese senior permafrost experts three times and greatly shortened the construction time.
Employees’ Responsibility to the Society

<table>
<thead>
<tr>
<th>Topics on employees’ responsibility to the society</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encourage stakeholders’ participation</td>
</tr>
<tr>
<td>Intensify social communication</td>
</tr>
<tr>
<td>Polish CSR work institution</td>
</tr>
<tr>
<td>Promote and implement CSR to all staff</td>
</tr>
<tr>
<td>Conduct CSR pilots</td>
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<tr>
<td>Polish CSR work mechanism</td>
</tr>
<tr>
<td>Establish CSR performance management system</td>
</tr>
<tr>
<td>Integrate CSR management into company’s operation</td>
</tr>
</tbody>
</table>

- **46** comprehensive CSR Management pilots
- **52** outstanding CSR integration projects of the year
- **138** outstanding CSR implementation cases of the year

Actively explore and practice a scientific outlook on CSR, which combines superior design with grassroots innovation, pilot exploration with demonstration promotion, benchmark motivation with spontaneous advance, key breakthrough with comprehensive elevation, and coordinated planning with creation. Thoroughly penetrate CSR in every aspect of the company and enhance the employees’ fulfillment awareness and ability.
Base the implementation concept on daily operation

\[ \Sigma (\text{Business+Improvement}) \Re = \text{Work} \cup \text{Value} \]

\( \Sigma \) refers to every business and improvement. 
\( \Re \) is the abbreviation of Responsibility and Rethink. 
\( \cup \) is the logic operator meaning “and”.

SGCC uses this Concept as an important tool to promote and implement CSR. It is an improved and extended version of the former equation “Business+Improvement=Work”, initially proposed by SGCC Wuxi Electric Power Supply Company. It implants new CSR content into the corporate spirit of “In search of excellence, in pursuit of outperformance”.

No one or nothing is unrelated to CSR

\( \Sigma (\text{Business+Improvement}) \Re \) refers to rethink every business and improvement with the concept of CSR to recollect and improve again and again.

Work \( \cup \) Value means that business is employees’ work from the internal perspective and employees’ work is to create integrated value for the society and implement CSR from the external perspective.

Establish an external vision and comprehensive value concept to contemplate the integrated economic, social and environmental value of the business from a social perspective and improve business from the perspective of enhancing the integrated value.

Build the stakeholder concept and environmental-friendly concept. Actively think and manage the influence of business on people and environment.

Upgrade business by coordinating social expectation and stakeholders’ demands and being responsible for stakeholders and environment.

Boost effective publicity and transparent operation. Initiate publicity strategy and make related parties understand the integrated value and identify with its social contributions. Enhance communication and exchange to ensure stakeholders’ right to know, to participate, and to supervise.

Innovate in system and set up a long-term effective mechanism. Promote the institutionalization of business improvement and system innovation. Set up a long-term effective implementation mechanism, which insists on transparent operation, effective control of business impact on the society and environment, and the pursuit of maximized integrated value.

Externalize internal work. It should be acknowledged that the society does not care about business itself but its social contribution. Therefore, the company should convert work from the internal perspective to externally well-recognized value and consider, popularize and enhance the integrated economic, social and environmental value of business to strive for stakeholders’ recognition in interest, emotion and value.

Internalize external expectation. Understanding and responding to social expectations and stakeholders’ demands is an important way to constantly improve work. Turning external expectation on value creation to internal request and motivation of work improvement can enhance operation transparency, stakeholders’ satisfaction, and integrated value and ability.

Reinforce the value of work improvement. The ability of creating integrated value is the fundamental standard to judge work improvement. A more relationship, more enhanced value and more excellent brand is regarded as the new direction, demand and method to improve business.
Performing Subject

Ten elements are required in CSR integration

- Be a model and pilot in exploring CSR integration
- Enhance implementation knowledge, skills and aspiration by training
- Adopt top-level design to implement the Comprehensive CSR Management pilot program
- Guarantee the corresponding human resource and financial support
- Ensure the completion of “15333” pilot project deployment
- Conclude and promote successful experience as a demonstrator and a leader
- Amplify effects and showcase the pilot results of CSR management in many ways
- Evaluate regularly to ensure the effects of CSR management pilots
- Be result-oriented to ensure the expected outcome of responsible communication and management
- Orderly promote and explore the implementation of CSR project mechanism

Explore the project mechanism of CSR penetration

SGCC encourages all companies to select the businesses with high social concerns and significant value creation effects to integrate into CSR concept, promote CSR project management mechanism, and refine CSR projects’ philosophy, strategy, system, action, performance and transparency. The year 2013 witnessed 52 outstanding CSR management projects. SGCC Beijing Electric Power Company used the project management method to integrate CSR with business by strengthening the communication with and the participation of stakeholders.

Pre-project
1. Identify stakeholders and their needs.
2. Evaluate possible effects.
3. Collect and analyze the performance before implementing the project mechanism.
4. Highlight the orientation on value, problem and variation and develop an implementation plan.

On-project
1. Communicate with stakeholders regularly.
2. Fulfill the management process.
3. Trace and improve the implementation.
4. Analyze and react to the changes on performance indicators.

Post-project
1. Compare and analyze the completion of key indicators.
2. Investigate on stakeholders’ satisfaction.
3. Summarize the basic mode of project management.
Establish the first CSR indicator system

SGCC Jiangsu Electric Power Company uses the indicator system to evaluate and reflect the CSR management results. Among them, 73 practice indicators reflect the company’s influence on stakeholders, the elements closely connected with or concerned by stakeholders or related to social risk control and prevention, and the effects on implementation capability. A total of 20 work promotion indicators are to implement CSR-related indicators of various aspects in daily operation and management by quantification and logic arrangement.

Value orientation improves service performance

SGCC Zhejiang Electric Power Company internalizes external expectations in light of the unique CSR as a SOE. It pursues maximized integrated value, adjusts the management direction according to customers’ expectations and converts service demands to business demands and management improvement measures. Active and customized services are offered instead of passive services. With its help, over 1000 enterprises no longer consume electricity in an unscientific way. By peak shaving, more than 3GWh of electricity has been saved, cutting down production cost and promoting energy conservation and emission reduction.
Integrate CSR into job positions

SGCC incorporates CSR in every level of job positions and readjusts the duty to integrate social responsibility into the daily work of staff at the production line.

SGCC Chaoyang Electric Power Supply Company integrates CSR in business positions

The Job Position Responsibility Guidelines of SGCC Zaozhuang Electric Power Supply Company (the positions on specific business extension services of the operation team of customer service office)

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Responsibility goal</th>
<th>Responsibility fulfillment requests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customers</td>
<td></td>
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SGCC incorporates CSR in every level of job positions and readjusts the duty to integrate social responsibility into the daily work of staff at the production line.

SGCC Chaoyang Electric Power Supply Company integrates CSR in business positions

The safe and stable operation of power grid is the guarantee of continuous power supply for life and work. These employees should carefully and thoroughly inspect hidden dangers and maintain safe power use.

It can build a good image among customers. We fulfill legal provisions and notify on hidden dangers. Specifications should be given on the checklist with the date clarified for each rectification. We consider a warm reminder our responsibility and build a win-win relationship between the company and our customers.

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Integrate CSR into teams and stations

The company incorporates CSR into power supply stations and grassroots teams, integrates it with the main business, basic management, quality service and civilization construction of the grassroots teams, and fulfills its responsibilities covering all employees and all processes in an all-round way, forming a replicable mode of integrating CSR into teams and stations ready to be popularized. SGCC Beijing Electric Power Supply Company has actively explored a CSR management model for power supply stations and specifically developed the CSR Implementation Handbook for Power Supply Stations.

Method:

The company starts from enhancing the motivation and capability of the performing subjects, to shift employees’ mindset from focusing on the internal to the externalization of internal work and internalization of external expectation in a staff-oriented manner based on responsibilities and outlined by the system. It seeks the connection between CSR and the businesses at different positions, and perceives in advance to provide initiative services instead of passively responding to the stakeholders’ requests. Hence it improves staff’s motivation and capability, teams’ executive power and stations’ decision-making ability to better serve local sustainability.

Result:

- **Transform mindset**
  Form a stakeholders’ perspective, accurately position our own value and create integrated benefits for stakeholders.

- **Reshape work regulations**
  Implement CSR management demands, turn the internal work into social contributions and integrated value and enhance work quality as a return to social expectations.

- **Strengthen system construction**
  Sort out and improve the original system by adding in demands for the local sustainable development. Form a CSR management system and operation regulations for power supply stations.

- **Enhance daily operation**
  Integrate fulfillment requirements into production operation and employees’ daily work, optimize the management process of power supply stations and form a long-term effective mechanism on safe power supply, quality service, environment protection and energy conservation to boost customers’ satisfaction.

- **Optimize developing environment**
  Intensify information disclosure and form a harmonious and cooperative relationship with stakeholders’ recognition and support.
Integrate CSR in profession

The Company actively serves and integrates the CSR management into the “5G” system (Grand Planning, Construction, Operation, Maintenance, and Marketing) while still taking into consideration the pursuit of maximized integrated value, the coordination of social expectations and stakeholders’ demands, social and environment risk management, communication strategy development, and operation transparency guarantee. Thus it realizes and demonstrates responsible planning, construction, operation, maintenance and marketing.

Responsible construction

- Ensure the grid’s safe operation in its life cycle. Exert the grid’s function on optimal resource allocation. Scientifically construct the grid based on serving the local situation in consideration of social and environment factors.
- Implement the safety and health management system of grid construction projects.
- Implement the environment assessment and environmental acceptance mechanism of grid construction projects.
- Strengthen communication with stakeholders.
- Properly carry out land acquisition, relocation and compensation to ensure all parties’legitimate interests.

Responsible operation

- Make the greatest efforts to ensure the safe and stable operation of the grid and eliminate large-scale power failure.
- Make the best of grid’s optimal allocation of electric power resources and eliminate hidden dangers and increase power supply reliability.
- Make the greatest efforts to promote energy-saving and environmental-friendly dispatching and ensure efficient use of resources.
- Strengthen internal communication and cooperation and reinforce the coordination with other departments.

Responsible maintenance

- Change the traditional periodic maintenance method and convert the former “repair when fails” to “repair when needs” to inspect and repair equipment status, which can save a lot of labor and materials and comprehensively improve maintenance efficiency.
- Strengthen the communication with stakeholders and release the maintenance information to the public timely to increase transparency in maintenance. Respect and safeguard customers’ interests and win their understanding and support.
- Elevate the cooperation with stakeholders like power generation companies and governments to ensure smooth maintenance on the grid and improve efficiency.

Responsible planning

- Serve China’s energy strategy and local economic and social development and endeavor to realize the unified and coordinated planning between the grid, the national energy, as well as local socio-economic development.
- Reflect the strategic demand on grid’s sustainable development and serve large-scale development of clean energy in consideration of the social and environmental factors such as safety, health, environmental protection and ecology.
- Grid planning should fully take stakeholders’ expectations and social demands into consideration, ensure their right to know, to supervise, and to participate and promote the grid construction in cooperation of all parties.

Responsible marketing

- Thoroughly implement the concept of quality service and internalize quality service into the intrinsic action of every employee.
- Promote safe, convenient, assuring, satisfying, scientific and green use of power.
- Ensure service transparency and be open to supervision from governments and all parties. Actively strengthen the communication and cooperation with key stakeholders.
## Explore the promotion mode of CSR integration

SGCC deepens the Comprehensive CSR Management and explores the integration model that sets senior management as the leading role, incorporates professional expertise, constructs teams and stations, and mobilizes all job positions. After constant innovation and improvement, SGCC Wuxi Electric Power Supply Company has formed 40 regulations on penetrating CSR in grass roots.

### Set senior management as the leading role

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<td>1.</td>
<td>Concentrate on building a world-class power grid and a world-class company and practice the core values of integrity, commitment, innovation and dedication.</td>
<td>Members of senior management should divide the responsibilities to promote each division's CSR management that falls into their administration.</td>
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<td>2.</td>
<td>Integrate CSR into decision-making management, and externalize internal work and internalize external expectation.</td>
<td>Members of senior management should attend meetings and fulfillment actions according to unified arrangements.</td>
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<td>3.</td>
<td>Work out and implement the annual promotion plan of Comprehensive CSR Management with corresponding measures and resources.</td>
<td>The leadership should promote CSR concept and the company's fulfillment practice.</td>
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<td>4.</td>
<td>Organize a CSR management seminar for the core teams of the two-level leadership every quarter.</td>
<td>Organize CSR management assessment in departments, units and positions.</td>
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<td>5.</td>
<td>The Chief Executive Board Meeting should arrange one case study on CSR topics and actions quarterly.</td>
<td>The leadership should organize and support CSR management office to fulfill its duty.</td>
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### Incorporate professional expertise

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<td>1.</td>
<td>Examine the professional work from the perspective of responsibility fulfillment and work on stakeholders to improve professional management.</td>
<td>Establish the communication &amp; feedback and improvement mechanism with key stakeholders.</td>
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<td>2.</td>
<td>Integrate CSR concept into professional training for a better combination between CSR concept and professional management.</td>
<td>Interview with stakeholders every year to sort out and decide the topics on professional responsibility fulfillment and related actions.</td>
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<td>3.</td>
<td>Enhance CSR management and set the maximization of integrated value as the new goal of professional work.</td>
<td>Find out stakeholders' demands and formulate a program to improve professional work to serve the company's decision-making.</td>
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<td>4.</td>
<td>Execute the plan and requirement for CSR management and improve work guidance books and job instruction cards.</td>
<td>Support the CSR team to promote CSR management and implement significant actions.</td>
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<td>5.</td>
<td>Improve management standards by CSR concept and bring implementation into performance assessment.</td>
<td>Use PDCA method to continuously improve CSR performance of professional work.</td>
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### Construct teams and stations

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<td>1.</td>
<td>Explore the CSR management of team or station and guide the employees to implement the responsibilities.</td>
<td>Summarize a CSR fulfillment slogan or a testimonial according to the team or station's business features and actively promote and implement it.</td>
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<td>2.</td>
<td>The leader of a team or station should organize activities regularly to boost the integration of CSR concept.</td>
<td>Organize regular lectures on CSR in the team or station club to exchange fulfillment experience.</td>
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<td>3.</td>
<td>Implement CSR implementation plan for a team or station and highlight the focal actions.</td>
<td>List the stakeholders and their contact information, and communicate with them regularly.</td>
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<td>4.</td>
<td>Carry out CSR fulfillment standardization activities for a team or a station combining production realities.</td>
<td>Integrate CSR implementation concept into Standardization Handbook for Teams to clarify the fulfillment boundary.</td>
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<td>5.</td>
<td>Assign a site spokesperson for a team or a station at business halls to enhance information release.</td>
<td>Include relevant CSR indicators into performance management to enhance CSR fulfillment practice assessment.</td>
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### Mobilize all job positions

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<td>1.</td>
<td>Train all employees on CSR to improve their fulfillment awareness and capability.</td>
<td>Stick to the orientation on problem and improve our own business and actions with the CSR concept.</td>
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<tr>
<td>2.</td>
<td>Organize employees to participate in major fulfillment actions and participate in public welfare activities and volunteer actions.</td>
<td>Guide employees to shift their attention from their own position duties to stakeholders and become a pioneer in CSR fulfillment.</td>
</tr>
<tr>
<td>3.</td>
<td>Organize CSR moral lectures regularly for staff to popularize good CSR stories and the concept.</td>
<td>Implement democratic management system and organize employees to come up with reasonable suggestions on CSR every year.</td>
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<tr>
<td>4.</td>
<td>Establish CSR Weibo to release news on CSR fulfillment and guide employees to participate in CSR management.</td>
<td>Establish employees’ fulfillment files to record their practices and provide reference for the annual fulfillment assessment.</td>
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<tr>
<td>5.</td>
<td>Organize employees to participate in CSR assessment. Set up CSR supervisors to inspect the results.</td>
<td>Look for special practices and touching stories of CSR and select the “Stars of CSR Implementation”.</td>
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UN Global Compact: Initiatives and Performance

### Ten principles of the UN Global Compact

#### Human Rights
- **Principle 1**: Businesses should support and respect the protection of internationally proclaimed human rights; **Principle 2**: make sure that they are not complicit in human rights abuses.

#### Labour
- **Principle 3**: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining; **Principle 4**: the elimination of all forms of forced and compulsory labour; **Principle 5**: the effective abolition of child labour; and **Principle 6**: the elimination of discrimination in respect of employment and occupation.

#### Environment
- **Principle 7**: Businesses should support a precautionary approach to environmental challenges; **Principle 8**: undertake initiatives to promote greater environmental responsibility; and **Principle 9**: encourage the development and diffusion of environmentally friendly technologies.

#### Anti-Corruption
- **Principle 10**: Businesses should work against corruption in all its forms, including extortion and bribery.

### Action performance

#### Human Rights
- Abide by the international conventions, international practices signed or acknowledged by the Chinese government, follow the laws and regulations of the host countries, respect human rights in its operation, and promote human rights protection among stakeholders with its influence.
- Provide barrier-free service to the disabled at business premises to ensure their rights.
- Ensure decent work, provide payment and treatment in line with the national and the company’s conditions, sign labor contracts with all on-the-job employees, and pay social insurances for all employees.
- Respect staff’s personal dignity and freedom. Reject forced labor and child labor.
- Respect for equal opportunity in the workplace and employees’ diversity. Uphold the employment policies of equal pay for equal work, equality of men and women and equality of nationality.
- Provide barrier-free service to the disabled at business premises to ensure their rights.

#### Labour
- Integrate 70.37GW installed capacity of wind power. The integrated capacity and increasing speed of wind power top the world.
- Promote the leapfrog development of PV generation and integrate 15.46GW. It becomes the power grid with the rapidest growth of PV generation in the world.
- Build an energy conservation system and save 17.9 TWh of electricity.

#### Environment
- Implement the conglomerate operation and the intensive management of human resource, financial resource and material. Online monitor key businesses such as HR, capital operation, asset management, bidding and purchasing to effectively prevent operation and integrity risks.
- Impel the construction of the corporate penalty and prevention system, hand out The Enforcement Regulations on Implementing the Eight Provisions on Improving Work Style and Tying with the Public Closely by the 18th Political Bureau of the CPC Central Committee, improve work ethics, and implement the construction of an uncorrupted Party ethos.
- Use the energy efficiency monitoring information platform to inspect key areas such as power supply service and inventory supplies, raise 11887 inspection suggestions, make 281 decisions, and abolish, reverse or erect 3983 policies.
- Construct an open central SOE, push for transparent operation, and be open to supervision from all walks of life.
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### Appendix A: Index of Industry-Specific Indices

**Note:** the index can be found on [http://csr.sgcc.com.cn](http://csr.sgcc.com.cn)

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*Electric utility supplement*
Introduction
State Grid China is responsible for the collection, analysis, aggregation and disclosure of information contained in the Report. Our responsibility in performing this work is to the management of State Grid China only and in accordance with terms of reference agreed. The stakeholders of State Grid China are the intended users of this statement. The assurance is based on the assumption that the data and information provided to DNV is complete and true.

Scope of Assurance and Limitations
The scope of assurance work agreed upon with State Grid China includes the following:
- The specified sustainability performance information and the social, environmental and economic data presented in the Report, covering social responsibility performance from January to December 2013.
- On-site verification at State Grid’s Head Office and one subsidiary company (Beijing Company).
- Without visiting the external stakeholders.
- Evaluation of Accountability principles and performance information, as required for a Type 2, moderate level of assurance in AA1000AS.
- The specified sustainability performance information includes:
  - Reported progress against the company’s targets specified in the “prospect for 2012” as disclosed in its 2013 Report.
  - Performance and information about the development of smart grids
  - The sustainability performance information which presented in the Report against GRI 3.1
  - DNV has not verified the financial data disclosed in the Report.
- The verification was completed by DNV in January 2014.

Verification Methodology
Our verification was planned and carried out in accordance with the DNV Protocol for Verification of Sustainability Reporting. The Report has been evaluated against the following criteria:
- Adherence to the principles of Inclusivity, Materiality and Responsiveness in the AA 1000AS 2008.
- Adherence to the additional principles of Neutrality and Completeness as set out in DNV’s Protocol.
- Examined and reviewed documents, data and other information made available to DNV by State Grid China.
- Performed sample-based reviews of the mechanisms for implementing State Grid’s social responsibility policies, as described in the Report.
- Performed sample-based checks of the processes for generating, gathering and managing the quantitative and qualitative data presented in the Report.

Conclusions
In DNV’s opinion, State Grid’s Corporate Social Responsibility Report 2013 provides a credible and objective presentation of State Grid’s overall sustainability performance and application of the AA1000 Accountability Principles 2008. Within the scope of assurance, DNV has not observed any untrue statements of systematicness and Materiality.

Inclusivity: Acceptable. State Grid China fully considers the expectations of key stakeholders as described in Report including customers, agriculture, countryside, farmers, employees, commercial partners and communities, and determines the main topics of performing responsibility concerned by internal and external stakeholders through a systematical communication method.

Materiality: Acceptable. State Grid’s strategy topics of sustainability development were identified in the Report by means of establishing the social responsibility topics selection matrix. Also the Report discloses the State Grid’s internal management mechanism of how to implement the selected key sustainability topics and key performance indicators. Its achievement is also presented to the public in the report transparently.

Responsiveness: Acceptable. The Report responds to the public concerns of core topics in the sustainability of electric power industry, and to internal and external stakeholders about the specific topics of performing responsibility by State Grid’s mission, core value, and sustainability strategy, as well as the consecutive 3 to 5 years historical data and explicit context which discloses not only the achievement but also its sustainability progress and best practice.

Reliability: Acceptable. According to the requirements of Type 2 and moderate level of assurance, the system for collecting specified performance data and information presented in the Report appears generally reliable. No systematic errors were detected during verification.

Note: In case of discrepancy between the English and Chinese language text, the Chinese text shall prevail.
ASSURANCE STATEMENT

Additional Principles
Completeness: Acceptable. Within the reporting scope and boundary defined by State Grid China, we believe that the Report does not omit relevant information that could significantly influence stakeholders' decisions or that reflect significant sustainability impacts during the reporting period. We believe that the progressive extension of the boundaries to include more information about the overseas activities and include those activities in the external assurance will allow stakeholders to fully understand the sustainability performance of State Grid China.

Neutrality: Acceptable. We consider the overall tone of the Report to be neutral and the presentation of information to be generally balanced. The emphasis on various topics in the Report is basically proportionate to their relative materiality.

Opportunities for Improvement
The following is an excerpt from the observations and opportunities reported back to the management of State Grid China. However, these do not affect our conclusions on the Report, and they are indeed generally consistent with the management objectives already in place.

- Contents and performance disclosed in the Report should be able to match the reporting boundaries and scope
- It is suggested to set up an effective process to determine the subjects which have great effect on the company's sustainable goal
- It is suggested to disclose more clearly about the management mechanism of suppliers' corporate responsibility, including how it identifies suppliers' corporate responsibility risk, and the criteria for qualifying suppliers

Statement of DNV's Competence and Independence
DNV is a global provider of sustainability services, with qualified environmental and social assurance specialists working in over 100 countries. DNV was not involved in the preparation of any statements or data included in the Report except for this Assurance Statement. DNV maintains complete impartiality toward any people interviewed and the verification by numerous public means to understand positive and negative comments on State Grid China. DNV expressly disclaims any liability or co-responsibility for any decision a person or entity would make based on this Assurance Statement.

For DNV Business Assurance Group

Cai, Kun Quan
Lead Verifier

C. K. Wong
Sustainability Service Manager,
Greater China

Beijing, China January 2014

Note: In case of discrepancy between the English and Chinese language text, the Chinese text shall prevail.