



国家电网公司
STATE GRID
CORPORATION OF CHINA



Corporate Social Responsibility Report 2014



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 2014 and the commitment for 2015.

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.

January 2015



State Grid Corporation of China
CSR Report
2005~2014

Report Overview

The time frame covered by this report:

Jan. 1, 2014-Dec. 31, 2014. Certain part may go beyond this time frame.

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:

SGCC released its CSR Reports for 9 consecutive years on Mar. 2006, Jan. 2007, Jan. 2008, Jan. 2009, Jan. 2010, Feb. 2011, Feb. 2012, Feb. 2013 and Feb. 2014.

Note on the data:

The data for 2014 used in this report are preliminary statistics. They may be slightly different from the final results. The data for 2013 are final statistics, part of which differs slightly from the 2013 CSR Report.

Extended reading:

For information related to corporate governance, social responsibility management, stakeholder's participation mechanisms, and index calculations, please visit the official website:
<http://csr.sgcc.com.cn>;
<http://www.sgcc.com.cn/ywlm/socialresponsiility/index.shtml>.

Language of the report and how to get a copy:

The CSR Reports are available in both Chinese and English, including paper and electronic versions. Please email csr@sgcc.com.cn or call at 86-10-63413454 for a hard copy, or you can download the report from our CSR website.

Procedure for Report Preparation:

Please visit our CSR website for more details.

References:

Sustainability Reporting Guidelines by Global Reporting Initiative
Guidelines to the State-owned Enterprises Directly under the Central Government on Fulfilling Corporate Social Responsibilities by SASAC
SOEs' Harmonious Development Strategy Implementation Outline During the 12th Five Year by SASAC
State Grid CSR Performance Guide
Guidance on Chinese Enterprises' Corporate Social Responsibility by Research Center for Corporate Social Responsibility, Chinese Academy of Social Sciences
CSR Guide for China's Industrial Enterprises and Industrial Associations by China Industrial Economic Federation
ISO 26000: Social Responsibility Guide (2010) by International Organization for Standardization ISO
AA 1000 Assurance Standards by Accountability Institute, Britain
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How to identify the topics for 2014

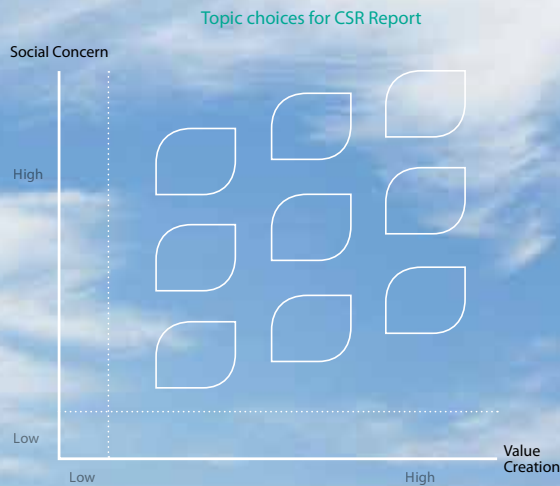
Collect topics for the CSR report via

- 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

Abide by *State Grid CSR Performance Guide*, we continue applying the two-dimensional matrix of "Value Creation & Social Concerns" to indentify the topics:

- 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.



Value Creation Dimension: assess the relevance, importance, and feasibility of specific topics (It must take into consideration the resources, potentials and advantages of the company and stakeholders),
Social Concern Dimension: assess the degree of concern on specific topics by the society and stakeholders (It must fully consider the attention from CSR standards).

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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.

2. Be responsible for each stakeholder

1. Ensure reliable and trustworthy power supply



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

Pursue maximized integration of economic, social and environmental value
Realize utmost contribution to sustainable development

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

Embed CSR into corporate operation

Provide safer, cleaner, more economical and sustainable energy supply with minimum economic, social and environment costs

- Fulfill the responsibility for scientific development and push for optimal allocation of the energy resources
- Fulfill the responsibility for securing power supply and maintain public social security
- Fulfill the responsibility for management excellence and guarantee operational efficiency
- Fulfill the responsibility for technical innovation and lead independent industrial innovation
- Fulfill the responsibility for global vision and deepen global resource integration

Operate the company in a human-oriented way

2. Be responsible for each stakeholder (Be responsible for everyone involved in the corporate operation)

- Be responsible for Quality Service: responsible for customers
- Be responsible for Agriculture, Countryside and Farmers:
- Be responsible for Employee Development: responsible for employees
- Be responsible for Win-win Partnership: responsible for partners
- Be responsible for Corporate Citizen: responsible for the community

Operate the company in a environment-friendly way

Be Responsible for Environmental Protection and Low Carbon Emission: responsible for the environment

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

Develop overseas business with responsibility

Implement overseas business development strategy with responsibility on global vision

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

Transparency and stakeholders' participation ensure social responsibility trustworthy and sustainable

Be Responsible for Communication and Cooperation: ensuring stakeholders' right to know, to participate, and to supervise, building trust, promoting mutual understanding, and cooperating to create integrated value

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



Mr. Liu Zhenya, Chairman of SGCC

Message from the Chairman

2014 has been an extraordinary year for SGCC. Under the strong leadership of the CPC Central Committee and the State Council, SGCC further promoted the development pattern transformation of both the company and power grid, sped up the construction of a modernized company with “A Strong Power Grid, Excellent Assets, Services and Performance”. While pursuing the maximized integrated economic, social and environmental value, the company has ushered in a new age of fulfilling its social responsibilities and promoting its sustainability.

Always prioritize safe power supply. Under the complex circumstances of large-scale integration of new energy, mass operation of new equipments, frequent natural disasters and damages from external forces, SGCC still ensured the grid's safe operation and reliable power supply. Even during the flood season, Fufeng, Jinsu and Binjin UHV DC lines were operating at full capacity, transmitting electricity of 21.6GW to East China, an increase of 69%, and accommodating 90TWh of hydropower from Southwest China, increased by 85% and both made record high. They have ensured the export of hydropower in Southwest China and reliable power supply in East China. The trans-regional and trans-provincial power transmission via UHV reached 136.7TWh, increased by 88%. UHV's advantages in mass transmission over long distance and energy optimization were fully utilized to promote the smog governance in East China and the development and utilization of clean energy in West China. The company also successfully guaranteed the power supply of major events such as APEC, CICA and the Youth Olympic Games.

Insisting on law-compliance as the essence to implement social responsibility. Employees should always keeping in mind the concept of governing by laws and study the knowledge of laws and regulations. Incorporate the ruling by law concept into the enterprise management, covering various levels, businesses and duties so as to ensure exclusive supervision. Moreover, standardize working procedure and realize close-loop and efficient decision making mechanism and management and supervision mechanism. In search of building a law-abiding company with complete coverage, whole-process supervision and employee total involvement.

Promoting sustainable energy development is the core task to fulfill our social responsibility. A new round of energy revolution centered around new energy is rising across the globe since the 21th century. Large-scale development and exploitation of clean energy has become the common choice for various countries to ensure energy supply, protect the ecological environment and cope with climate change. SGCC strictly implements the strategy of One Belt And One Road (OBAOR), accelerating the cross-border

interconnection between power grids and coming up with the strategic concept of Global Energy Interconnection which is to build a globally interconnected strong and smart grid with UHV grid as the backbone and delivery of clean energy as the priority to ensure clean replacement and electricity replacement. The Global Energy Interconnection connects the power grid in different countries and regions with different time zones and seasons to stimulate the development, exploitation and coordination of new energy in large capacity in a larger scope so as to push for the energy revolution and sustainability. Eight UHV projects were included in the Air Pollution Prevention and Control Action Plan. Three UHV projects including Huainan-Nanjing-Shanghai UHV AC project began construction. Other UHV projects such as Southern Hami-Zhengzhou UHV DC project began operation. UHV projects have entered a new stage for large-scale construction and rapid development. SGCC has built the grid with the world's largest integrated capacity of wind power and the fastest growth of PV generation.

Scientific management and S&T innovation is the basic guarantee to enhance the capacity of fulfilling our social responsibility. “3I5G” system (Intensive Management on Human Resource, Materials and Finance and Grand Planning, Construction, Operation, Maintenance, and Marketing) and three centers (control and dispatching center, operation monitoring center and call center) were built. SGCC also speeds up the construction of an integrated governance system, sorting out 1,300 core business flows, and releasing 484 corporate standards, and 452 universal systems. The company revenue has made record high, making great contribution for consecutive growth. It has been rated as an A-Class enterprise by SASAC evaluation on operation performances for 10 consecutive years and ranked 7th on Fortune Global 500 for 4 consecutive years. Its S&T innovation capability has been greatly enhanced. The world's first five-terminal flexible HVDC transmission project- Zhejiang Zhoushan Flexible HVDC Transmission Demonstration Project was put into operation. Smart grid innovation project won the first prize for Science and Technology Progress. SGCC's technical standard has won the highest prize of China Standards Innovation and Contribution Award for three consecutive years. And let's not forget that the number of patents we own ranks first among all SOEs.

Treat every stakeholder responsibly. Be responsible for customers. Improve work efficiency and services. The company spares no effort in solving “the last kilometer” problem, which significantly enhanced the customers' satisfaction. Be responsible for agriculture, countryside and farmers. Keep solving the undervoltage problem in

rural areas. SGCC has solved this problem for 3.36 million households and brought electricity access to 870 thousand people in 210 thousand households. Be responsible for employees. Place staff training and democratic management as the core for the strategy of vitalizing the company by human resource development. Ensure employees' right to know, to participate, to speak, and to supervise. Be responsible for partners. Stick to transparent operation, promote responsible procurement and push for the independent innovation and upgrade of the equipment manufacturing industry. Be responsible for the community. Build public welfare brands such as UHV Scholarship Fund and other programs to assist students and the poor. Implement “Young Volunteers Action” for 12 consecutive years which has benefited more than 700,000 people.

Implement international business responsibly. Leverage our advantages in technology and management to deploy the win-win concept and advance in international energy cooperation and overseas business operation in a responsible way. SGCC won the bid for auxiliary transmission project of Belo Monte hydropower in Brazil. UHV transmission technology is going global. The company successfully acquired 35 percent stake of CDP Reti. Besides, SGCC has signed energy cooperation agreements with Rossetti, Kazakhstan SK Fund, and the Ministry of Electricity and Energy of Egypt. Now the company is operating the backbone energy networks in the Philippines, Brazil, Portugal, Australia, Italy and Hong Kong. Its overseas assets reach \$29.8 billion, 17 times higher than that of 2009.

A brand new year starts with brand new expectations. An innovative development steps into a new journey. In 2015, we will implement the spirit of the 3rd and 4th Plenary Sessions of the 18th CPC Central Committee and the Central Economic Work Conference to adapt to the economic “new normal”, speed up the coordinated development between UHV and grids at all levels, improve operation and management, ensure safe power supply and quality service, deepen the sustainable development, promote the sustainable utilization of energy sources, and make positive contribution to the building of a moderately prosperous society and the realizing the Chinese dream of the great rejuvenation of the 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 10 consecutive years. As the largest utility in the world, SGCC ranked 7th on Fortune Global 500.

SGCC is the largest power grid constructor and operator in the world. Our mission is 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 1.86 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, Australia and Italy, etc with good performance.

on Fortune Global 500

7th

of the national territory

Serving **88%**

Providing power to a population of over

1.1 billion

Over **1.86** million employees

Length of transmission line*

1, 095,000 km

Transformation capacity **

3,430 GVA

*110 (66) kV and above transmission line;

**110 (66) kV and above transforming facilities.

All above-mentioned data exclude overseas assets.

Electricity sales

3,469.4 TWh

Revenue RMB

2,096.1 billion

Total assets RMB

2,900.9 billion

Line loss

6.81%

Reliability rate of urban power supply

99.967%

Reliability rate of rural power supply

99.878%

Organizational Structure—the Headquarters

1	Administration Office, SGCC	12	Dept. of AC Transmission Project, SGCC	23	Restructuring Office, SGCC
2	General Office, SGCC	13	Dept. of DC Transmission Project, SGCC	24	Dept. of Retirement Affairs, SGCC
3	Research Office, SGCC	14	Dept. of Information and Communication Technology, SGCC	25	Dept. of Logistics, SGCC
4	Dept. of Development and Planning, SGCC	15	Dept. of Procurement (SGCC Bidding Management Center), SGCC	26	Dept. of Corporate Culture (Youth League and Party Committee), SGCC
5	Dept. of Finance & Asset, SGCC	16	Dept. of Affiliates Management, SGCC	27	Supervision Office, SGCC
6	Dept. of Safety Supervision, SGCC	17	Dept. of Public Relations (SGCC Brand Building Center), SGCC	28	Labor Union, SGCC
7	Dept. of Operation & Maintenance, SGCC	18	Dept. of International Cooperation, SGCC	29	National Power Dispatching & Control Center
8	Dept. of Marketing, SGCC	19	Dept. of Auditing, SGCC	30	SGCC Operation Monitoring Center
9	Dept. of Rural Electrification, SGCC	20	Dept. of Legal Affairs, SGCC	31	SGCC Power Exchange Center
10	Dept. of Science & Technology (Department of Smart Grid), SGCC	21	Dept. of Personnel, SGCC	32	SGCC Association of Enterprise Management
11	Dept. of Construction, SGCC	22	Dept. of Human Resource, SGCC		

Organizational Structure—Branches

SGCC North China Branch	SGCC East China Branch
SGCC Central China Branch	SGCC Northeast China Branch
SGCC Northwest China Branch	SGCC Southwest China Branch

Organizational Structure—Provincial Companies

1	Beijing Electric Power Company, SGCC	10	Anhui Electric Power Company, SGCC	19	Jilin Electric Power Company, SGCC
2	Tianjin Electric Power Company, SGCC	11	Fujian Electric Power Company, SGCC	20	Heilongjiang Electric Power Company, SGCC
3	Hebei Electric Power Company, SGCC	12	Hubei Electric Power Company, SGCC	21	East Inner Mongolia Electric Power Company, SGCC
4	Jibei Power Grid Company, SGCC	13	Hunan Electric Power Company, SGCC	22	Shaanxi Electric Power Company, SGCC
5	Shanxi Electric Power Company, SGCC	14	Henan Electric Power Company, SGCC	23	Gansu Electric Power Company, SGCC
6	Shandong Electric Power Company, SGCC	15	Jiangxi Electric Power Company, SGCC	24	Qinghai Electric Power Company, SGCC
7	Shanghai Electric Power Company, SGCC	16	Sichuan Electric Power Company, SGCC	25	Ningxia Electric Power Company, SGCC
8	Jiangsu Electric Power Company, SGCC	17	Chongqing Electric Power Company, SGCC	26	Xinjiang Electric Power Company, SGCC
9	Zhejiang Electric Power Company, SGCC	18	Liaoning Electric Power Company, SGCC	27	Tibet Electric Power Company, SGCC

Organizational Structure—Subsidiaries directly managed by SGCC

1	China Electric Power Research Institute	12	SGCC Call Center	23	State Grid XuJi Group Corporation
2	State Power Economic Research Institute	13	SGCC International Service Company	24	State Grid Pinggao Group
3	State Grid Energy Research Institute	14	NARI Group Corporation (SGCC Electric Power Research Institute)	25	Shandong Power Equipment Co., Ltd.
4	State Grid Smart Grid Research Institute	15	China Electric Power Equipment and Technology Co., Ltd. (State Grid Project Management Company)	26	State Grid Energy Conservation Service Co., Ltd.
5	State Grid Management Academy (SGCC CPC School)	16	Luneng Group Co., Ltd. (Duchengweiye Group Company)	27	State Grid Yingda International Holdings Group Ltd.
6	SGCC Advanced Training Center	17	State Grid Xin Yuan Co., Ltd. (State Grid Xin Yuan Hydropower Co., Ltd.)	28	China Power Finance Co., Ltd.
7	State Grid Institute of Technology (Youth League School)	18	State Grid International Development Limited.	29	Yingda Taihe Property Insurance Co., Ltd.
8	State Grid Operation Company	19	State Grid General Aviation Co., Ltd.	30	Yingda Taihe Life Insurance Co., Ltd.
9	State Grid DC Engineering Construction Company	20	State Grid Materials Supply Co., Ltd.	31	Yingda Chang'an Insurance Brokers Co., Ltd.
10	State Grid AC Engineering Construction Company	21	State Grid Zhongxing Co., Ltd.	32	Yingda International Trust Co., Ltd.
11	State Grid Information & Telecommunication Technology Company	22	Yingda Media Investment Group Co., Ltd.	33	Yingda Security Corporation Ltd.

Honors and prizes for CSR fulfillment in 2014

A-Class Enterprise by SASAC Evaluation on Operation Performances for the 10th consecutive year	SGCC Smart Grid Innovation Project won the First Prize of the National Award for S&T	Five-star Enterprise on the CFIE Social Responsibility Star List
A-class financial performance by SASAC for the 4 th consecutive year	Huainan-Shanghai UHV AC Pilot Project and Jinping- Southern Jiangsu UHV DC Project won the National Gold Prize for Excellent Project.	China Excellent Corporate Citizen of 2014
7 th on Fortune Global 500 for the 4 th consecutive year	The Qinghai-Tibet Interconnection Project won China Grand Awards for Industry in 2014.	China Top 100 Green Companies
Being awarded the National Sovereign Credit Rating by three major international rating agencies for two consecutive years	The UHV AC Series Compensation Project won the first prize of the 2014 China Power Industry S&T Progress Award	Leading Enterprise by the 9 th People's Corporate Social Responsibility Award
Second Place of Chinese Top 500 Most Valuable Brands for two consecutive years	Function standards for smart meter won the first prize of the China Standards Innovation and Contribution Award	23 units and 37 individuals won the National Labor Award
First Place of Top 500 Chinese Service Enterprises for the 10 th consecutive year	Advanced Unit in Management Enhancement by SASAC	62 groups won the Title of National Workers' Pioneer
1 st Prize in the 21 st National Enterprise Management Modernization Innovation Achievement	Pioneer Enterprise of "Caring for Climate – Ecological Civilization" by the United Nations Global Compact	1 group and 1 individual were recognized as model group and individual of national retired cadres.
2014 IEEE-SA Corporate Award	SGBH won "Best CSR Management Practice" by the United Nations Global Compact

A Prominent Role in Transforming Energy Mode

UHV in a Decade

2004-2014

UHV is "Created by China" and "Led by China"

2004-2014

The Aspiration

Awareness comes first in responsible development

¶ The construction and operation of the extension project of SGCC's 1000kV UHV AC Demonstration Project upgraded the independent innovation capability and core competitiveness of China's electric power equipment industry and made a firm stance in leading the world's UHV transmission sector. ¶

— It's a hard journey for the last ten years. SGCC opened the door for the era of UHV in the world, shouldering it as a national responsibility and mission. Since its initiation in 2004, UHV has now sailed into a new phase of large-scale construction and fast development. SGCC staff have pioneered a strategic direction to transform energy development, ensure energy security, construct ecological civilization and serve socio-economic sustainability.

— SGCC marched forward through difficulties and conquered obstacles to promote UHV and form a global consensus on this technology. China has organized a number of large-scale independent research and demonstrations on UHV, which was highly appreciated by senior state leaders, including Chinese President Xi Jinping. The praise was echoed among international peers. With local government backing it up, the development of UHV has been included into the national 12th Five Year Plan, the 12th Five Year Plan for Energy Development, Air Pollution Prevention and Control Action Plan, Mid and Long Term S&T Development Plan, and Action Plan for Energy Development Strategy (2014-2020). The concept of a Global Energy Interconnection backed by UHV has triggered positive responses and wide praises from the international community.

— The innovative march in the last decade has created new records one after another in the world history of grid construction in search of excellence and in pursuit of outperformance. SGCC adheres to independent innovation, makes firm strides forward, improves itself every year to a new level, exceeds itself with every power line, and makes innovative breakthroughs in UHV's core technologies, key equipment, project construction, standard formulation and commercial operation. It has become a golden card of the country as it was "Created by China" and "Led by China".

Explore, Practice, Test and Improve a Scientific Outlook on CSR

Implement the requirements from the Central Government and the essence of a series of important speeches from President Xi Jinping.

Effectuate the essence of the Fourth Plenary Session of the 18th CPC Central Committee, promote the rule of law in the country, and implement the social responsibilities of managing the corporate according to law.

- Stick to the principle of governing and administrating by law, and build a law-based country, government and society. Ensure that a scientific approach is taken to legislation, law is enforced strictly, justice is administered impartially, and the law is observed by everyone. Promote modernization of governance system and competence of the state.
- Stick to the principle of protecting property right, honoring contract, unifying market, fair exchange, fair competition and effective administration. Market will play a decisive role in resource allocation and government will be better functioned. Improve the laws and regulations for socialist market economy.
- Strengthen legislation of enterprise's social responsibility. Strive to build a law-based enterprise to ensure that all staff abide by the law, covering all aspects and controlling all processes. Realize the management of human resource, power, business and the enterprise by law.

Thoroughly implement the Central Economic Work Conference and promote responsible and sustainable development focusing on apprehending, adapting to and leading the "new normal".

In Economic Construction

Thoroughly deepen the reform, innovate macro-control mode, strengthen risk control, and promote economic development transformation from extensive growth in large scale and fast speed to intensive growth in good quality and high efficiency. Speed up structural adjustment and industrial upgrade. Economic growth is more driven by market, human capital, technical progress and overall innovation to find and create new growth points. Mold a green, low-carbon circular development mode and create a new situation of harmonious, synergetic and joint development among different regions.

In Social Construction

Take the people's longing for a good life as an objective, and make it the starting point and foothold of everything the Party is working at. Implement social policies strictly, strengthen the assurance and improvement of people's wellbeing, to provide the basic necessities for our people, and care for the people with low income. Attach greater importance to social stability. Innovate social governance mechanism to improve governing methods which are systematic, law-abiding, comprehensive, and addressing to the source. Promote the construction of a safe China.

In Ecological Civilization Construction

Bolster a green, circular and low-carbon development. Explore an approach for a scientific development that caters to socio-economic development and the ecological environmental protection. Ecological construction is progressed in a systematic way. Strictly observe an ecological "red line", which will be ensured by institution. Optimize national land space development pattern to promote resource conservation. Focus on solving pressing environmental problems that jeopardize people's health. Strengthen ecological environmental protection by implementing the most rigid protection system.

To apprehend, adapt to and lead the "new normal" is the basic logic for China's socio-economic development for the time being and for the time to come. It's also the general work guideline for CSR implementation.

"Strengthening of state-owned enterprises is to improve ourselves during deepened reform and rebirth from harsh condition instead of sticking in the mud and making no attempt for progress. We need to fulfill our social responsibility, forge a good image and intensify reform measures."

—— Chinese President Xi Jinping

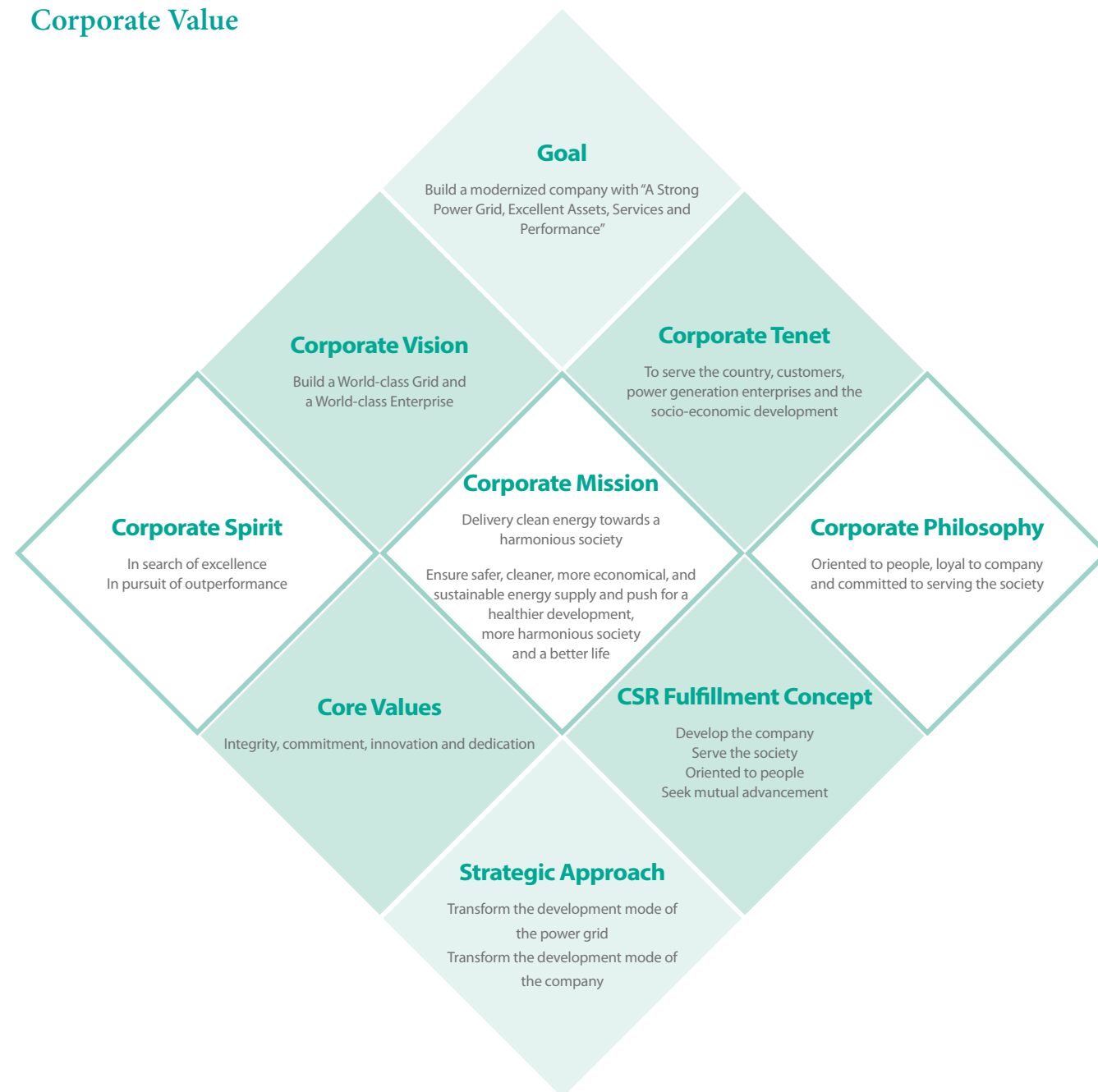
Speech at the panel discussion with a delegation from Shanghai during the "Two Sessions" in 2014

8 Key Points in the Corporate CSR Concept

CSR originates from the operation of the company.	It loses the substance for the shadow to pursue social responsibilities without taking into consideration the process and overall performance of grid construction and operation.
Identify the groundwork of CSR	Understand and recognize the social and environmental influence of company's operation, both positive and negative. What specific influence entails what specific responsibility.
Connotation of CSR implementation	Manage the influence of company's operation on the society and the environment by thorough communication and effective operation with stakeholders. Maximize positive influence while minimize negative influence.
Standard for responsible corporate action	Whether the company can keep a transparent and ethical business practice, including complying by the laws, regulations, moral bottom line, and business ethics, considering stakeholders' expectations and interests, being committed to sustainable development and promoting stakeholders' participation. All the above-mentioned practices ensure operational transparency.
CSR is the integration of the aspiration, action and performance of the company to take responsibilities.	Aspiration arises from corporate governance, including the corporate mission, value, strategy, and organizational system, as well as external pressure and momentum. Action is the practices to implement the responsibilities assumed by the enterprise. Performance is the company's contribution to sustainable development, that is, the creation of economic, social and environmental value, and the operational transparency to the satisfaction of stakeholders and the society.
The purpose of the company to implement its social responsibility	Go beyond the simple, narrow pursuit of maximized profits. Spare no efforts in realizing the unity and harmony between the corporate and social sustainability in the course of seeking maximized integrated economic, social and environmental value. Work for a reliable, trustworthy, responsible SOE brand in the masses.
The essence of building a responsible SOE is to achieve "value, transparency, and recognition".	Value requires the company to go after the maximized integrated economic, social and environmental value. Transparency calls upon the superior design, institutional construction and communication innovation of the corporate transparency. Recognition addresses to the company's understanding, awareness and guidance of the expectations from stakeholders and the society.
Social responsibility is the process of transformation for the company and its employees.	Social responsibility is the process to explore and practice employees' new working method, and the new development mode, novel communication method, and contemporary management mode of the company.

Responsibilities Originate from Mission and Arise from Strategy

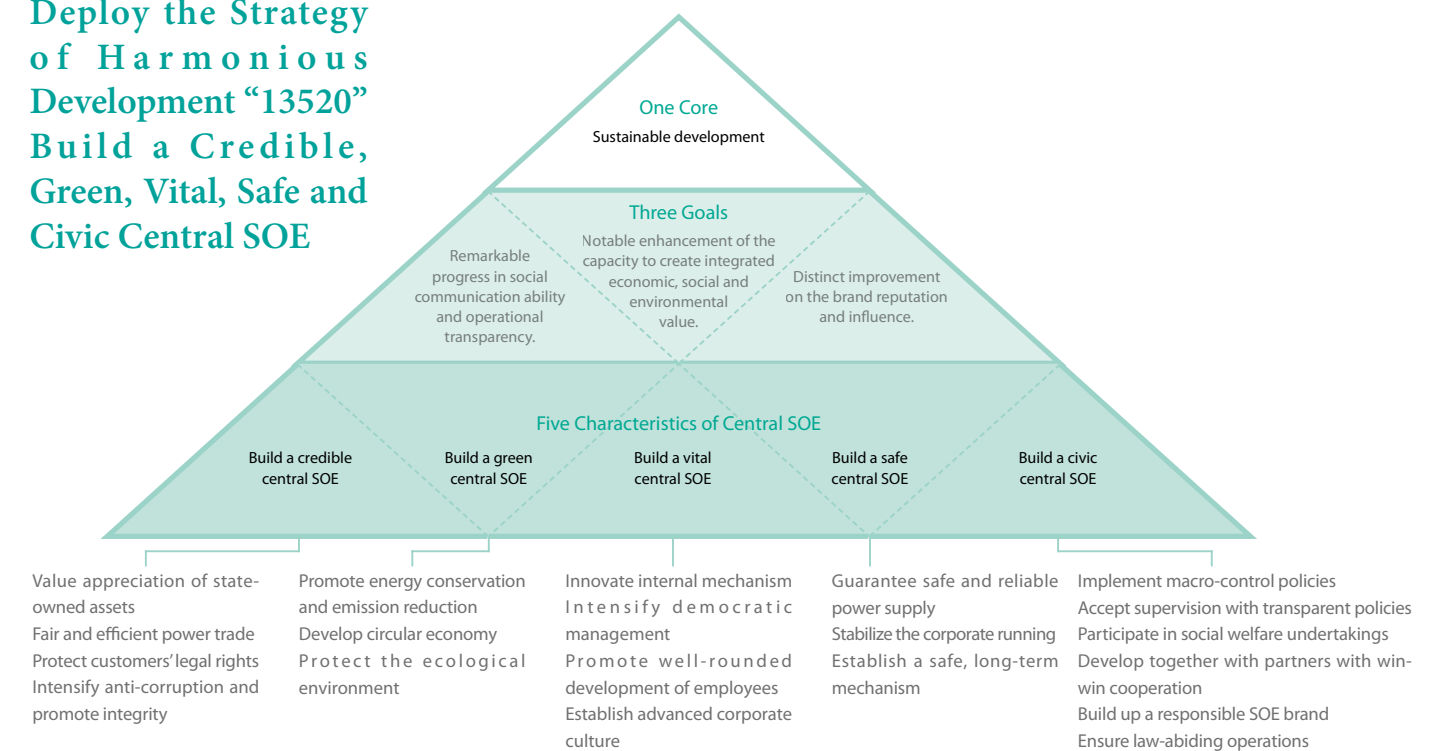
Corporate Value



Strategy of Sustainable Development

Core	Advocate the sustainable development of the company, the industry and the society.
Goals	Ensure the sustainable operation of the enterprise. Maximize the integrated value. Strive for social recognition and trust.
Highlights	Promote energy sustainability by focusing on constructing the Strong and Smart Grid. Ensure reliable and trustworthy energy supply by efficient operation and S&T innovation. Satisfy power demand for economic development with quality service. Win over social recognition with transparent operation and supervision from all walks of life. Promote the sustainable development of the industry with the company's industrial driving force. Stimulate the sustainable development of the society with the company's social influence.
Approaches	Accelerate the transformation of grid development mode, construct the Strong and Smart Grid, and modernize the grid development. Accelerate the transformation of company development mode, ensure efficient running of "315G" system and modernize the company development.

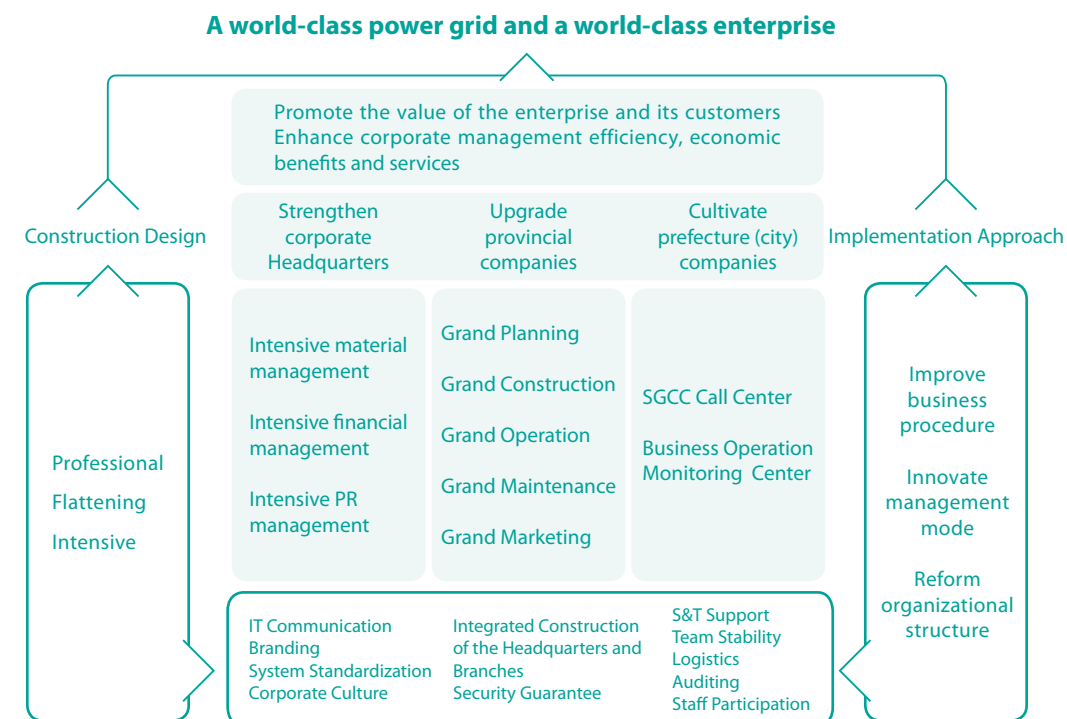
Deploy the Strategy of Harmonious Development "13520" Build a Credible, Green, Vital, Safe and Civic Central SOE



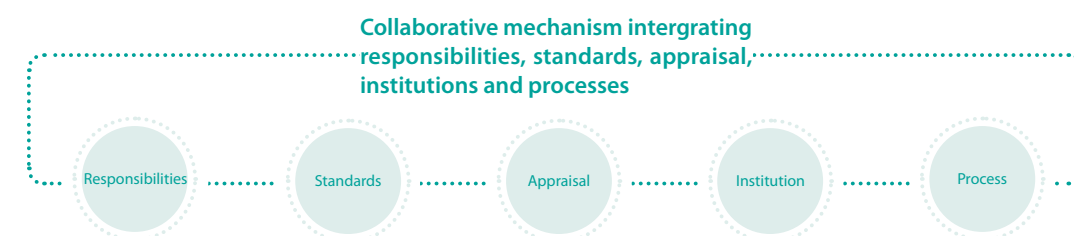
Responsibilities are Rooted in Management and Accomplished through Mechanism

The “3I5G” system construction promotes management innovation

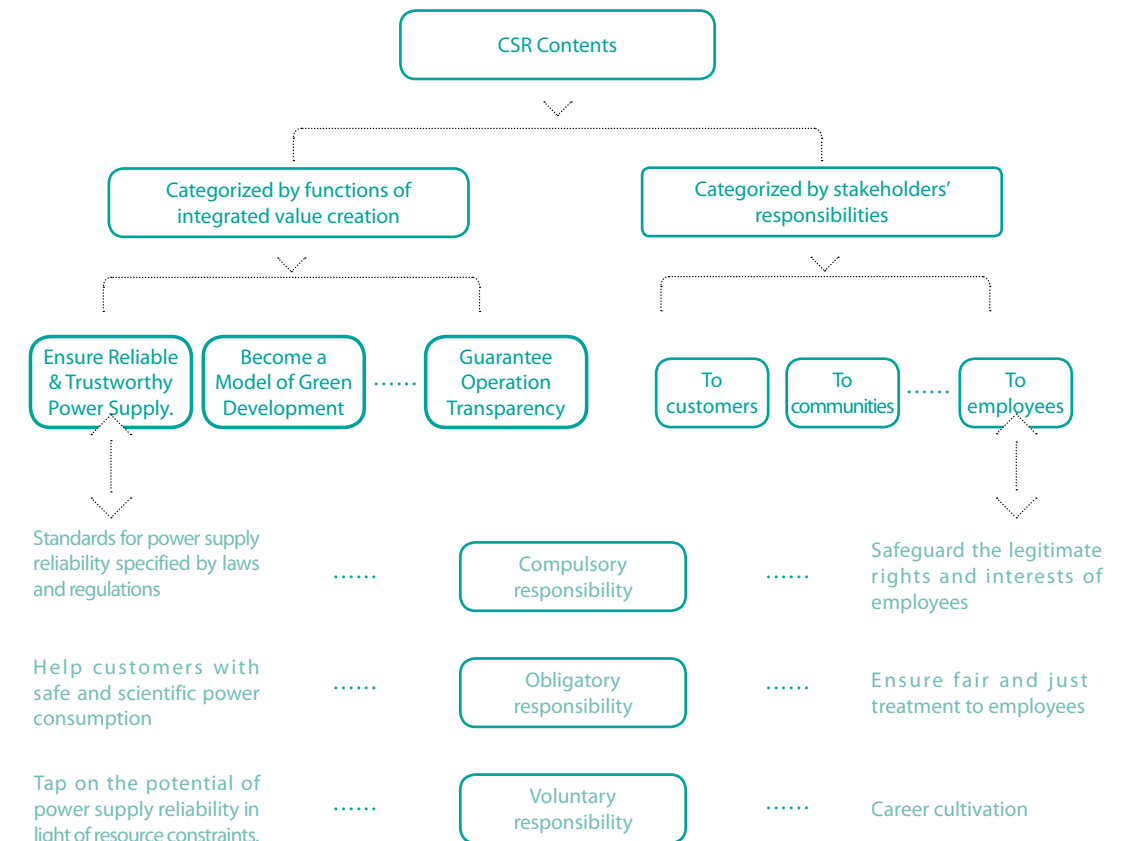
The “3I5G” system has refreshed operation and development and kept improving development quality and efficiency, which includes intensive and effective management, intensively shared resources, integrated and smooth businesses, unified and complete infrastructure. At the same time, it has brought about positive outward influence so that the company can better perform its CSR and construct a fine and healthy corporate ecosystem.



Build a strong supporting and guarantee system



Improve the Contents of CSR Fulfillment



Optimize the Action of CSR Fulfillment



Stakeholders' Participation

Types	Information Disclosure	Feedback Acceptance	Dialogue and Communication	Joint Action
	<ul style="list-style-type: none"> • Disclose important information such as tariff standards, pricing policy, service channels, and service standards. • Popularize knowledge on safe power use, electrical shock first aid, and power facility protection. Disclose trade plans, price, procurement information and policies. • Bulletin information on safe production and project quality. Publish important information on public welfare and electricity poverty alleviation. 	<ul style="list-style-type: none"> • Listen to customers' opinions, suggestions and expectations. • Carry out service satisfaction surveys to know topics of customers' concern. • Conduct thorough investigations on power supply services and pay field visits to business halls, power supply stations and customers. • Give audience to the opinions and suggestions from power generation companies, design and construction companies and suppliers. • Get to know the progress and results of public welfare projects. 	<ul style="list-style-type: none"> • Panel discussion with customers. • Discuss together about topics on serving Agriculture, Countryside and Farmers. • Put heads together for the development of electric power industry, supplier qualification standards and product standards. • Learn core topics of partners' concern. • Figure out the welfare strategy with professional bodies. 	<ul style="list-style-type: none"> • Formulate power supply solutions with customers. • Jointly promote the new countryside construction. • Jointly promote the coordinated development of power source and power grid, and solve the problems in design and construction. • Jointly develop key equipment. • Jointly conduct public welfare activities.
Channels	Information Bulletin on website Notice in business hall Hand out publicity materials Hold press conferences Press conferences on dispatching information Press conferences on bidding information Ceremonies of public welfare activities Report on electricity poverty alleviation Media reports	95598 power supply hotline Online feedback platform Power supply satisfaction survey Industrial moral building investigation Expert advisory meeting Symposium Research on public welfare projects Third party evaluation on performance of public welfare projects.	Visit customers Symposium Field research on serving Agriculture, Countryside and Farmers. Expert forum Coordinating meeting Visit symposium Public welfare forum	Jointly conduct checking and controlling potential dangers Protect rural power facilities Coordinated construction of power plants and power grids Combine efforts and tackle designing and construction Examination and feedback in conformity with the rules & regulations Set up UHV Scholarship Fund Community co-construction

“9-Step” Mechanism of CSR Implementation

Choose prioritized topics:

Comprehensively consider resource and capability and choose the CSR topics which contribute most to sustainable development.

Determine implementation concept:

Consider the factors of economy, society, and environment and ensure transparency and stakeholders' participation.

Formulate implementation strategy:

Decide the strategic roadmap to maximize the integrated economic, social and environmental values.

Improve institutional guarantee:

Ensure the implementation of philosophy and strategy on prioritized topics.

Plan the implementation action:

Plan and carry out major CSR action projects and ensure sufficient resource input.

Identify performance standard:

Clarify the indicator system and effective standard for measuring and monitoring the performance of CSR topics.

Regularly benchmark and feedback:

Timely keep informed and monitor the topic progress, achievements, existing problems and challenges.

Ensure operational transparency:

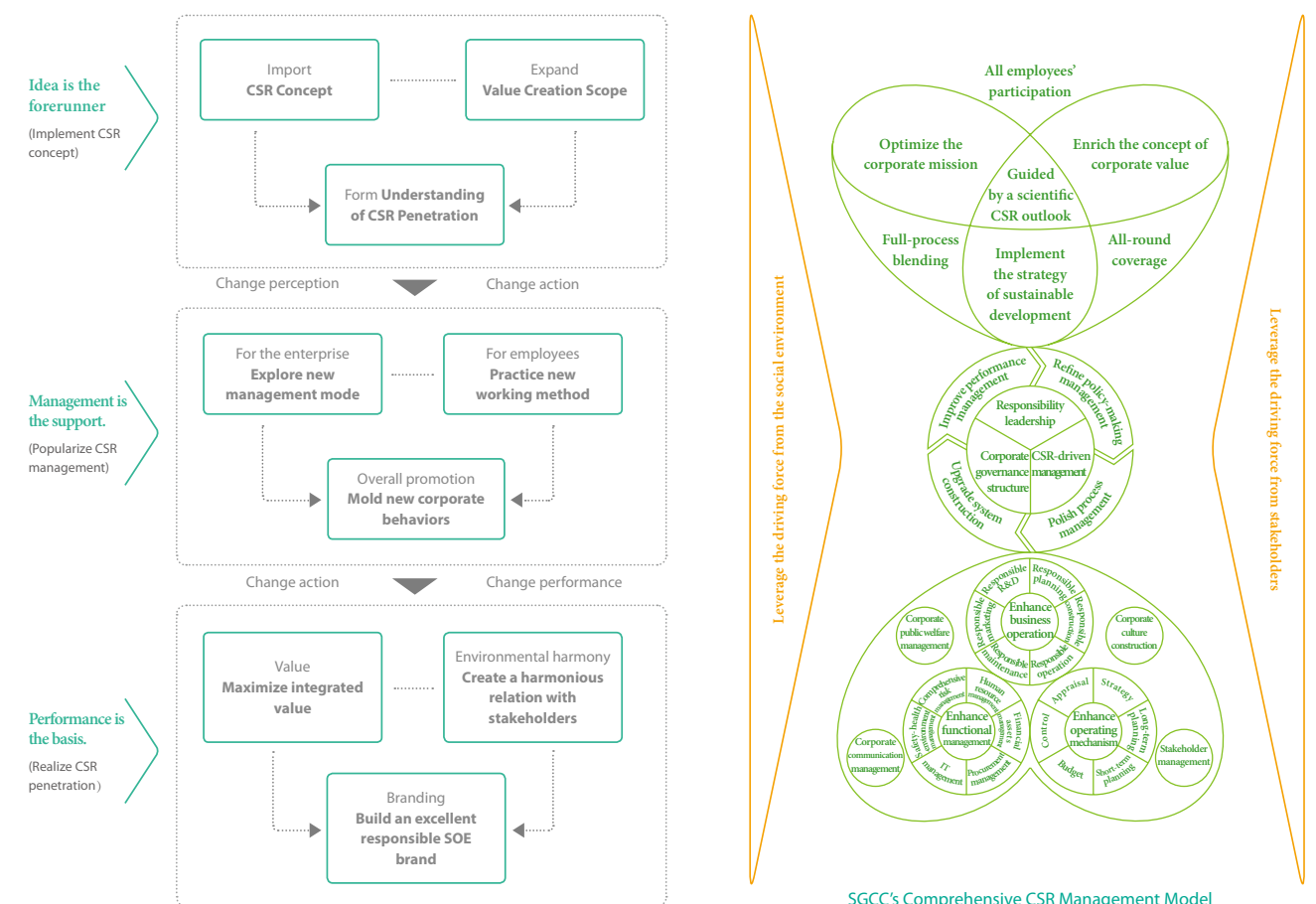
Ensure stakeholders' right to know, to participate, and to supervise.

Improve constantly:

Topics that are more scientifically chosen, better implemented and more effectively communicated.

Promote CSR Penetration: All Employees' Participation, Full-Process Blending, and All-Round Coverage

A comprehensive and profound reform of organizational management mode is in need to promote thorough implementation of CSR in activities of the organization within its influence and maximize its contribution to the sustainable development.



Change Mindset

Pursue maximum integrated value
 Improve the transparency of corporate operation
 Strive for social trust and recognition

Support of Mindset and Action Change

Support of responsibility leadership
 Support of governance mechanism
 Support of implementation mechanism

Change Action

CSR optimizes business operation
 CSR enhances functional management
 CSR improves operating mechanism

The Action

Embedded in mind and actualized in action

♥ 15000

Let Innovation
Be the New Engine

UHV in
a Decade

- **Leverage the conglomerate advantages and various social forces.** Hold 300 important themed discussions and organize 30 domestic and foreign academicians, 300 professors and professors of engineering, 800 senior engineers and Ph.Ds, 500 construction companies, and 170 domestic equipment manufacturers to conduct various work on UHV, such as scientific research, experiment, demonstration, planning, designing, construction and operation.
- **Yield a new business card for China's S&T development.** Accomplish important key technological researches and obtain 705 authorized patents. Build world-class test bases and R&D centers and develop a full range of UHV key equipment and components. Successfully solve a series of difficulties, such as big-span construction, heavy-cargo transportation, and intensive installation and commissioning of a large number of new equipment. Lead the formulation of 40 national standards and the release and implementation of 6 international standards.
- **Build and put three AC and four DC UHV projects into operation.** Create multiple world records, such as the first commercial operation of the UHV AC/DC projects, project systematic design, double-circuit UHV AC transmission on the same tower, and ultra-large-capacity AC transmission. These lines have withstood harsh weather and natural disasters such as lightening, high winds, high and low temperatures and snowstorms. They have also undergone strict tests of various operation modes and different faults and maintained safe and stable operation consistently.

On January 18, 2013, "UHV AC transmission key technology, system equipment and engineering application" won China's highest award for science and technology—the National Award for S&T Progress (Special Prize). Project leader SGCC Chairman Liu Zhenya received the award from state leaders.



The length of SGCC's UHV lines in operation and under construction is over
15,000 km

Ensure Reliable & Trustworthy Power Supply

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

+ Unleash grid's function to optimize resource allocation

- UHV enhances cross-regional resource allocation capacity
- UHV promotes the Global Energy Interconnection
- Promote the coordinated development of power grids at all level

...

+ Trans-regional power delivered via UHV

136.7 TWh

+ Ensure safe and reliable power supply

- Accomplish important power supply tasks
- Reinforce grid risk control
- Strengthen emergency response capability

...

+ Maximum load in 2014

659.95 GW

+ Management innovation ensures quality and benefits

- "315G" system improves operational efficiency
- Promotes overall corporate operational capability
- Improve corporate management performance

...

+ Electricity sales in 2014

3,469.4 TWh

+ Safer, cleaner and more economical power supply

- Accelerate the construction of smart grid
- Accommodate power generation fueled by new energy
- Promote the construction of energy bases

...

+ Grid investment in 2014

RMB **385.5** billion

+ S&T innovation supports grid development

- Construct the strategy of S&T support and development
- Complete first-class S&T innovation system
- Push forward major projects of the big grid and S&T demonstration projects
- Carry out major S&T innovation

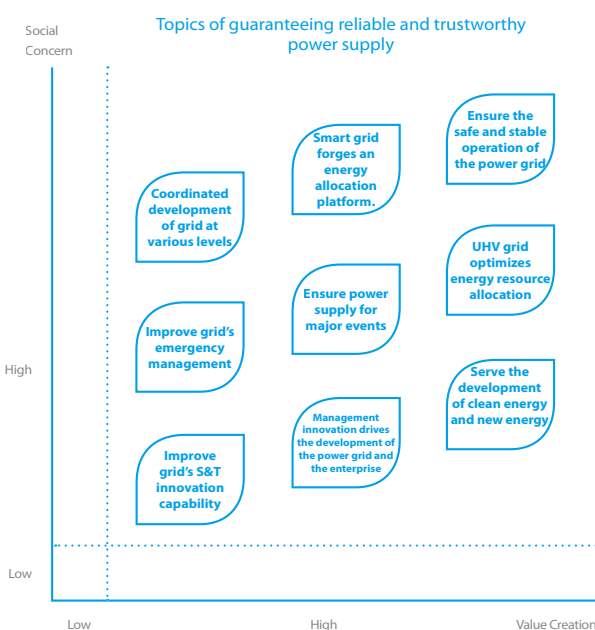
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+ Patents owned by SGCC

40,646

UHV promotes the optimal allocation of energy resources

UHV has entered a new phase of large-scale construction. SGCC's four AC and four DC UHV projects were listed in the Action Plan for Air Pollution Prevention and Control of China. UHV grid has become the strategic focus of the national energy development and clean development. These projects have built fourteen UHV substations, 8 converter stations, and 12,000km lines with 130GVA/GW transforming and converting capacity, which will be put into operation by 2017.



Transformation capacity

3,430 GVA

Investment on S&T development in 2014

RMB **7.08** billion

Total smart substations

1,550

Electricity traded at the National Power Market in 2014

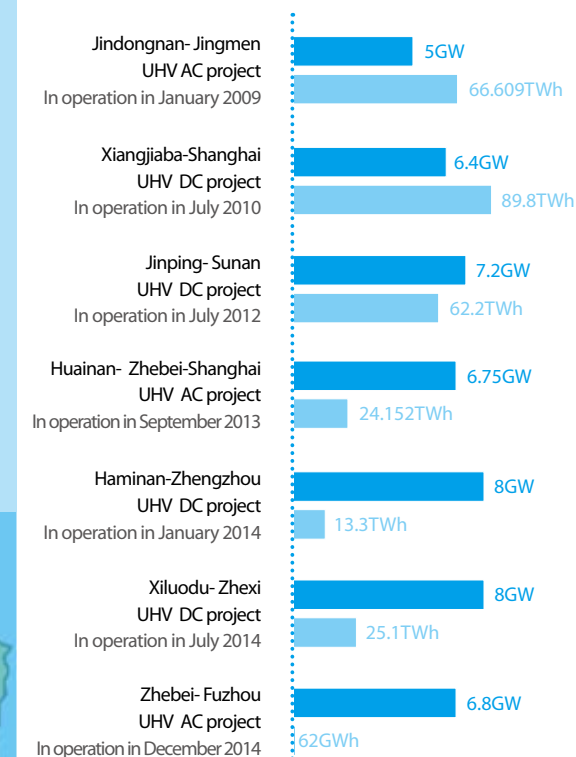
678.9 TWh



UHV promotes the Global Energy Interconnection. To cope with the global energy problem, SGCC brought up the strategic concept of building a Global Energy Interconnection with overall breakthrough in UHV transmission technologies, which is to connect grids between energy bases and load centers across or within the continents. The Global Energy Interconnection also fits the strategic concept of "One Belt And One Road (OBAOR)". Accelerating the interconnection of infrastructure, including power grids, is in line with the development needs of various countries. SGCC has signed a strategic power cooperation agreement with Kazakhstan to promote the interconnection of power grids between two countries, work on building large-scale coal-fired integration and new energy bases in Kazakhstan, transmit large-capacity electricity over long distances to China and other neighboring countries via UHV technologies. It is of economic complementarity and pragmatic significance.

Trans-regional power transmission capability of UHV grids

- Rated transmission capability
- Accumulative transmitted electricity since operation



- Zhebei-Fuzhou UHV AC** Put into operation on December 26
- With an investment of RMB18.9 billion, the 2x603km-long project has further strengthened the UHV power grid in East China. The electricity exchange capacity between Northern Zhejiang and Southern Zhejiang, between Fujian and Zhejiang reached 10.7GW and 6.8GW respectively. It has greatly secured the power supply in Zhejiang and eased the tension of surplus power in wet season and power shortage in dry season, and solved the peak shaving problem for Fujian Electric Power Grid.
- Xiluodu-Zhexi ±800kV UHV DC Project** Put into operation on July 3
- With an investment of RMB19.7 billion, the 1562km-long project has a transmission capacity of 8GW, a major innovation project with comprehensive application of typical design and equipment. It can deliver 40TWh of clean hydropower from Southwest China to Zhejiang province, equivalent to saving 12.4 million tons of standard coal and reducing carbon dioxide emission by 30 million tons.
- Haminan-Zhengzhou ±800kV UHV DC Project** Put into operation on January 27
- With an investment of RMB23.4 billion, the 2210km-long project is the world's first ±800kV/8GW DC transmission project. It's also the first UHV project integrating large-scale thermal power and wind power bases, which greatly enhances the capability to deliver electricity from Xinjiang to elsewhere. It bears a great strategic significance.

UHV transmission enhances trans-regional resource allocation capacity. The "1U4L" strategy will intensively develop large-scale coal-fired power, hydropower, nuclear power and renewable energy bases, allocate electricity power resources nationwide or throughout the globe via UHV grids, and improve the development and allocation efficiency of fossil fuels to accelerate the development of clean energy. Relying on the transmission channels mainly consisting of UHV grids, 112.2TWh of hydropower generated in Sichuan was transmitted out annually, with an increase of 62.3%. Trans-regional and trans-provincial wind power and PV generation was transmitted at 19TWh, with an increase of 90%.

UHV promotes the construction of energy bases. SGCC has built three AC and four DC UHV transmission channels for energy bases to transmit the power out from coal-fired power bases in Shanxi, Huainan and Huaibei, Hami and the hydropower bases in Southwest China. SGCC's four AC and four DC UHV projects are included in the Action Plan for Air Pollution Prevention and Control and the Jiuquan-Hunan UHV DC project will transmit the electricity out which is produced in energy bases in Shanxi, eastern Inner Mongolia, Ningxia, and northern Shaanxi.

UHV promotes large-scale development and exploitation of clean energy. China has abundant clean energy resources. Exploitable hydropower reaches 570GW and the exploitable wind power and solar power is over 2,500GW and 5,000GW respectively, equivalent to 2500GW of conventional thermal power. SGCC plans to construct the UHV synchronous grids in Southwest China to transmit hydropower out via 16 loops of UHV DC channels. The wind power and solar power in West and North China will be delivered out via UHV DC channels in ways of bundling wind and coal-fired power, bundling wind, PV and coal-fired power, and complementing hydro and PV power.



Smart grid forges a new energy allocation platform

Grid intelligent transformation realized its leapfrog development. The demonstration expansion project of the new-generation smart substation was constructed with major breakthroughs in core technologies, such as overall integrated design, smart equipment development and testing, and modularization construction. All of these have greatly improved the intelligent transformation of substations. SGCC has launched the construction of 50 newgeneration smart substations and accomplished the intelligent transformation upgrade of 200 substations. A total of 1,550 smart substations have been built and helicopter and smart inspection robot have been popularized.

Smart grid projects have been widely applied. SGCC began the construction of the second phase of the National Wind/PV/Energy Storage and Smart Transmission Demonstration Project, the first of its kind in the world to integrate wind power generation, solar power generation, power storage system and smart transmission. The company also initiated 41 smart grid innovation demonstration projects of 6 categories. Now SGCC has constructed 305 smart grid pilot projects and

35 national smart grid projects. In 2014, 218 EV charging and battery swapping stations and 5,007 charging poles were constructed. The quick charge network covering Beijing-Shanghai Highway, Beijing-Hong Kong-Macao Highway, and Qinghai-Yinchuan Highway (two vertical and one horizontal) has basically come into being.

Smart grid promotes the revolution of energy production and consumption. Smart grid has diversified the ways for energy production, ensured the exploitation of clean energy and promoted the transformation of energy allocation from on-site balance to trans-regional optimal allocation in a larger scope. Smart grid can be used as a platform to optimize resource allocation. The focus used to be strengthening smart grid. Now it should be shifted to promoting the revolution of energy production and consumption and serving the social-economic development.

Smart grid promotes the development of new industries, and promotes the development of new energy industry, enhances the production of new energy equipment and drives the advancement of new materials, smart equipment, EV, and smart power supply facilities. Smart Grid bolsters the integration and interaction of EV and the power grid, explores how to serve smart city construction and carry out cooperation to build demonstration districts of smart grid innovation.

SGCC has constructed smart grid pilot projects

305

National smart grid projects

35

Demonstration Projects of Smart Grid Innovation launched by SGCC in 2014

Area	Demonstration Task	Number of Projects
Project to support new energy development	Offshore wind power testing base	1
	The National Wind/PV/Energy Storage and Transmission Joint Demonstration Project (2 nd phase)	1
	Combined commissioning of wind power and urban heating	1
Project to support the application of distributed generation	Complementation of varied distributed generation.	3
	Coordinated operation of micro-grid	3
Project to facilitate convenient power consumption	Smart community	1
	Smart building	2
	Smart district	2
	Smart harbor	3
Project to enhance EV development	Interaction between EV and the power grid	3
Project to serve smart city construction	Demonstration district of smart grid innovation	2
	Smart grid supports smart city	8
Project to upgrade grid Intelligent Transformation	New-generation 500kV/330kV smart substation	2
	Flexible DC transmission	2
	Smart transmission line	6
	DC distribution system	1
Total		41

Promote coordinated development of grids at different levels

Length of 110 (66) kV and above transmission line in operation

52,000 km

Transformation capacity of 110 (66) kV and above

280 GVA

Scientifically plan the construction of grids for the 13th Five Year. Launch the strategic planning of grid development for the 13th Five Year and its medium-and-long-term development in line with the Grid Implementation Program for the Action Plan for Air Pollution Prevention and Control. Take into consideration the need for large energy base construction and regional economic development and optimize the planning for UHV grids and grids at different levels.

Promote the coordinated development of grids at different levels. With safe, qualified, efficient and large-scale construction of UHV grids as the emphasis, coordinate the construction of UHV and grids at different levels, improve the Northwest 750kV main grid, and advance the construction of pumped storage power stations. With the improvement of urban power supply reliability as the focus, optimize distribution grid planning and adapt to the rapid development of distributed generation and EV. Upgrade rural grids and improve power supply capability.

Promote key grid projects at all levels. In 2014, SGCC put one AC and two DC UHV projects into operation and started constructing another two AC and one DC UHV projects. The Sichuan-Tibet Interconnection Project was put into operation six months in advance. The Northwest 750kV main grid, auxiliary project to supply power to electrified railway, and pumped storage power stations like Xianju Project in Zhejiang, are progressed in an orderly way. SGCC has started the construction of 50,000km lines of 110(66) kV and above with a transformation capacity of 320GVA and put into operation 52,000km lines of 110(66) kV and above with a transformation capacity of 280GVA.

Tap on the grid transmission capacity. Depending on the realities of power grids in different areas, SGCC conducted thorough analysis on the constraints on power grid transmission capacity in five aspects, namely, simulation technology, control technology, transmission technology, management reinforcement, and equipment upgrade. The company organized projects to improve grid transmission capacity.

Status of projects to enhance grid transmission capacity in 2014

Voltage level (kV)	Number of accomplished projects	Improvement on transmission capacity (MW)
500	9	6600
220	33	5140
110	29	661.3
合计	71	12401.3



Sichuan-Tibet Interconnection Project serves the development of Tibetan areas

This is a key project for SGCC to implement the Fifth Party's strategic plan on Tibet and to serve the social-economic development and long-term stability of the Tibetan areas in Sichuan and Tibet. The project will greatly enhance the economic and social development in the Tibetan areas of Sichuan and Tibet, and improve the living conditions of the people there. It is of great significance to maintain social stability and national security and promote national unity. State leaders have attached great importance to this project. Yu Zhengsheng, Member of Politburo and Chairman of CPPCC, has affirmed the project's significance on multiple occasions. The provincial governments of Sichuan and Tibet and SGCC co-founded a steering committee of Sichuan-Tibet Interconnection Project, led by SGCC Chairman Liu Zhenya. Related leaders from these two provincial government and SGCC were deputy leaders of this organization.

The project starts at Sichuan Xiangcheng 500kV substation in the east and ends at Tibetan Changdu 500kV substation in the west. The Sichuan Xiangcheng-Batang 500kV line, Tibetan Bangda-Yulong 220kV substation, Changdu-Yulong and Changdu-Bangda 220kV lines were in construction at the same time. The project has newly constructed 1,521km lines with a dynamic investment of RMB6.63 billion. It's by far the most challenging UHV AC transformation/transmission project on the plateau in the world. The construction was extremely difficult. Four stations were in high altitude. For example, the altitude of Bangda and Yulong stations was over 4000m, which suffered from severe cold and was lack of oxygen. The construction efficiency was greatly set back. There were no railways or highways along the construction sites, which resulted in the difficulty in transporting main equipment. All transformation facilities and materials were transported on No. 318 and No.214 national roads or local roads.



Newly constructed lines in the project

1,521 km

Dynamic investment of the project

RMB **6.63** billion



Sichuan-Tibet Interconnection Project

Distribution grid construction guarantees people's livelihood

Overhead lines with high failure rate were maintained
27,856

Complete the standardization system for distribution grid construction. Compile all-process and all-system management policies and technical standards for distribution grid from 10kV to 0.4kV on the corporate level. Release 6 general institutions including the operation and maintenance of distribution grid and cable, emergency repair for distribution grid, and distribution automation construction and maintenance. Issue other 4 specifications regarding the operation, maintenance and repair of distribution grid and cable. Publish a series of standardizations such as typical design and general engineering cost for 10kV and 0.4kV distribution grid and Updated Description for 10kV Distribution Grid's Typical Design and Standard Materials. The application rate of typical design in newly built projects was over 90%. Finish the software development and test for distribution grid's standard design. The standardization rate for material procurement in SGCC's units was over 95%.

Improve quality service of the distribution network. Advance "cell" distribution and standardized repair. Integrate the operation and distribution data of 10kV lines in all prefecture-level companies. Exact connection was established among stations, lines, transformers and households to effectively support the repair of distribution grid. Fully knowing situations of low voltage within SGCC's system and utilize 95598 orders and marketing to collect data. Strengthen the monitoring of undervoltage problems in all key areas and supervise the implementation of control measures. Follow complaints on distribution grid repair, supervise improvement measures and constantly improve power supply quality.

Strengthen distribution grid's capability to ensure livelihood. Expand the scope of urban power grid construction and upgrade, continuously improve distribution lines of high failure rate, promote live work of distribution grid and live equipment testing, and enhance



Capacity expansion and upgrade for distribution transformers

Newly added emergency repair spots
353

The average radius for repair services
4.89 km

the power supply quality of distribution grid. SGCC performed 278,000 live assignments throughout the year, with an increase of 40% year on year. Popularize easy, convenient and effective live detection measures and solve the problem of seasonal heavy load on rural grids. Accomplish the formulation of 5 technical standards, including Technical Guide for Distribution Automation. Formulate the technical standards for the bidding of master station, terminal, and fault indicator. Finish the evaluation system of distribution automation operation and orderly advance the application of distribution automation.



Distribution grid construction guarantees a safe and stable power consumption environment

- **SGCC Tianjin Electric Power Company** enhanced the capacity for 5 substations in light of the power consumption situation in Wuqing. After the upgrade, eleven 20MVA transformers were added to ease the tension of power supply and facilitate the development of local industrial zones, new energy vehicles, e-commerce and aquaculture. 80,000 customers were provided with safer and more stable environment for power consumption.
- **SGCC Fengtai Power Supply Company** further deployed its fruit in linking marketing up with distribution. The integration of grid information and customer data can enable quick location of the fault zone and the range of customers affected by power cut. Emergency repair used to depend on calls, which was quite passive. Now the company can take the initiative

and reduce power cut time in the operational district by 13.8 minutes. The company uses visual power supply programming so that it can rapidly respond to customers' demand. The average time for power access is shortened by 5 days. Power grid troubleshooting and customer power demand can be truly interactive.

— **SGCC Ma'anshan Power Supply Company** spared no efforts in renovating the power supply for aging communities. Right now the power supply facilities in 18 communities have been upgraded, eliminating outdated distribution equipment and safety issues in these residential areas. The company replaced distribution transformers, added new consumption branch boxes, and rectified external lines. The company planned to finish the renovation of distribution facilities for all 46 old communities by the end of 2015.

40,987
Accomplish the upgrade of 10kV lines

19
million hours × household
Reduce power cut of

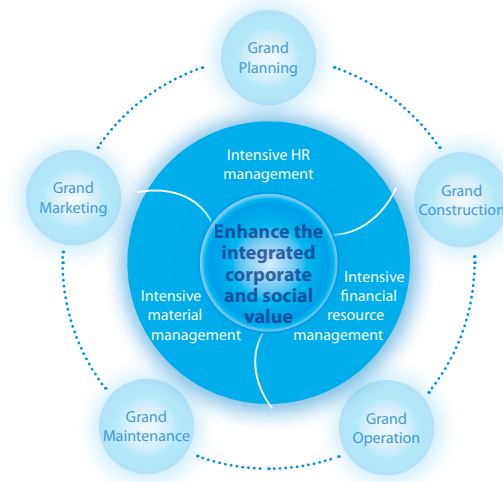
78
Distribution automation system has covered prefectures and cities

100%
Power quality indicators are automatically collected for all urban distribution grids

Build “3I5G” system

Power grid has distinct economics of scale and scope. Most businesses are highly homogeneous. Large grid companies should adopt strategic operation and management mode, strengthening the intensive management of various resources and core businesses, and promoting the upward centralization of core business management, thus to form the economics of scale in production and organization management, and realize maximized overall efficiency of the conglomerate.

SGCC spent 5 years in promoting the integration of the Headquarters and its branches, strengthening the intensive control of its human resources, financial resources, materials and core resources and the operation and management of its core businesses. The company finished the construction of “3I5G” system in 2014, accomplishing an intensive, flattening, professional, new mode of grid business operation.



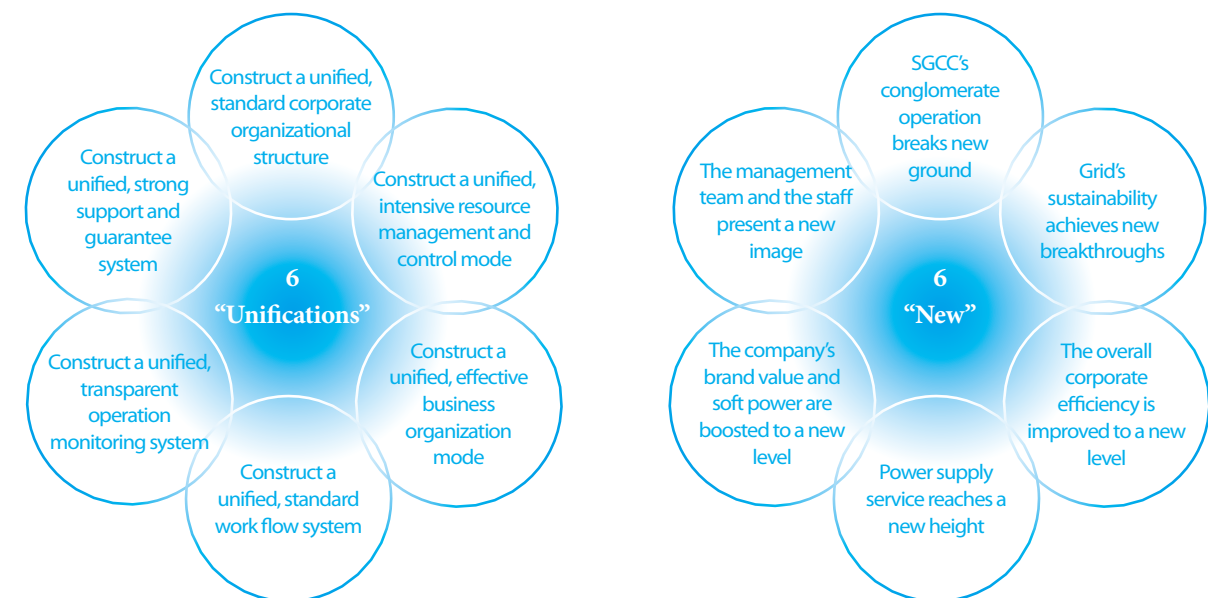
Problems targeted by “3I5G” System

Problems to be solved	Traditional methods	Constraints
Decentralized grid management holds back the development of the Strong and Smart Grid.	The connection between different grid management regions was weak. Electricity was on-site self balanced in different regions and different provinces. The traditional grid management system was decentralized according to geographic scope and voltage levels.	Constrain the implementation of unified balance of electricity nationwide; Constrain UHV planning and construction and the coordinated development of grids at different levels; Constrain the company to exert its overall strength, to support the highly intensive construction, highly stable operation, and high quality maintenance of the big grid.
Decentralized operation management can hardly satisfy the company's demand for sustainable development.	Multiple levels of property ownerships result in a long chain of management, and they are small, all-inclusive and scattered.	SGCC can hardly bring its conglomerate and scale advantages into play or implement standardized and lean management, which results in low efficiency and benefit.
The operation management with production as its focus can hardly adapt to the increasing demands for services.	Production is emphasized while services are ignored; Businesses are segmented and managed in a decentralized way; Customer service quality is not highly acknowledged.	There is a serious conflict between traditional operation management and the overall customer-oriented trend in the market economy. It has become harder and harder to meet customers' need for quality, convenient, economical and efficient services.
The operation management with unclear responsibilities and unmatched supervision cannot meet increasingly stringent regulatory requirements.	Traditionally, SGCC Headquarters had inadequate control over its core resources and businesses. In face of inadequate supervision and evaluation, executive efficiency is weakened level by level; SGCC has many subsidiaries with unclear functional orientation and responsibilities. It results in the redundancy of organizational structure, overlapping functions and repeated responsibilities. Business end lacks control and supervision and there abounds with operational risks.	It hinders the company from realizing a world-class grid and a world-class enterprise and the objective of “A Strong Power Grid, Excellent Assets, Services and Performance”, incompatible with the macroenvironment of strengthened industrial and social supervision.

The Management Reform for “3I5G” System

	Solutions	How to do
Intensive Management	Integrate various kinds of production elements scattered in different subsidiary companies, and allocate, integrate and optimize them in a unified way within SGCC's system so as to realize the collaboration of scale economy, improvement on management and control, and various businesses.	Integrate all production elements and core businesses of the group for unified allocation and optimized combination to enhance efficiency and benefits as the value orientation in principle of being cost-saving, restricted and efficient, so as to manage skillfully, lower the cost and gain sustainable competitive competency.
Flattening Management	Reduce the level of corporate legal persons and managements and shorten the management chain. Clarify the position of each managerial level in a scientific way and strengthen the Headquarters' (mother company) control to lower the cost for conglomerate coordination.	The management chain and business procedures will be simplified by condensing the levels of property ownerships and managements and reducing none-core institutions so as to achieve a swift and lean organization, intensive and powerful control, smooth information communication, quick response, and efficient decision and management.
Professional Management	Focus on various operational activities, specify the boundary of responsibilities, and give play to the self-discipline advantages of modularization. Build thorough control capacity even to the margins of the businesses and effectively reduce the cost for coordination between different sectors.	Build a unified management system and technical standard by focusing on various operational activities, specifying the boundary of responsibilities, and optimizing business procedures. Construct an operational system that penetrates into all levels and covers the entire business area so as to improve its control over businesses, exert the advantage of scale operation and improve the company's core competitiveness.

Outcomes of “3I5G” System



The “315G” System is a leading management innovation for central SOEs, which complies with the requirement for the basic law of corporate management as well as the realities of the country and the company. It is supported by the intensive management of human, financial and material resources, centered on the overall organizational reform of corporate value chain business, and based on the construction of auxiliary mechanisms, such as systems, standards and culture. It has accomplished an excellent facelift in management as a large-scale SOE.

The “315G” System is a reform with all employees’ participation. It’s a revolution to fundamentally adjust the internal productive relations and liberate productive forces within the company. It’s also the most profound and far-reaching reform in management since the founding of the company, laying a solid foundation to build a company that lasts.



SGCC business operation monitoring Center

A new type of grid corporate management system basically comes into being.

- **Realize 2-tier legal persons and three-level management.** Condense the original five-tier legal person system (the Headquarters, region, provincial-level, prefecture-level, and county-level) to a two-tier legal person system (the Headquarters and provincial-level). The original five-level management was simplified into three-level management (the Headquarters, provincial-level and prefecture-level).
- **The function of various levels is better clarified.** The Headquarters’ status for strategic decision, resource allocation and management control center is more prominent. Provincial companies will enrich their management capacities and operational forces and play a key connective role as the middle-level management and business organizers. Prefectural-level and county-level companies will focus on implementation.
- **Positions are standardized in a unified way.** The functional departments of the headquarters for the provincial companies, prefecture-level companies and county-level counties are no more than 21, 11 and 8 respectively. The business implementation institutions for the former two level companies are no more than 8 and 7 while the county-level companies can only have 2.
- **A unified, efficient business organization mode is formed.** A business system is established based on centralized management, in which functional management and business-supporting organizations can complement each other. Business operation tends to be modularized, changing the original overlapping management. Business professionalism has been greatly enhanced.

Construct 5-in-1 Coordination Mechanism.

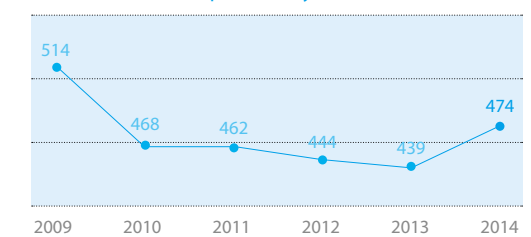
- **A unified, top-down process is built.** ARIS was introduced to achieve dynamic matching and synchronized adjustment among five management elements, namely, responsibility, process, system, standard and evaluation. Dynamic and unified management for these five elements can be realized. The Headquarters has accumulatively developed 1,300 universal procedures covering power supply stations in provinces, prefectures, counties and townships, promoting the transformation from functional management to comprehensive functional and process management.
- **A general institution based management mechanism is established.** Finish a new management system directory, including 452 general institutions, 254 non-general institutions, 95 operational procedures, and 59 other specifications. All job positions are covered and all processes are responded to. 49,330 standards and institutions were abolished. 1,203 business are managed in an institutional way among SGCC’s 1,300 businesses of different levels.
- **Take the lead to establish a unified technical standard system of full coverage in the electric power industry.** Publish *SGCC Technical Standard System Table*, which is revised every year. It gradually realized the dynamic integration between corporate standards with national standards and industrial standards. The Table includes 1,019 technical standards of SGCC and 3,600 core industrial standards and national standards.

Greatly enhance SGCC’s operational capability.

- **Improve planning efficiency.** In 2014, the average time for feasibility research and preliminary work of grid projects was shortened by 37% and 22%. The approval cycle for preliminary design was shortened by 33%.
- **Enhance grid construction capability.** According to professional assessment, SGCC’s overall grid construction capability was improved by 8.51%. The efficiency was enhanced by 8.52% and the comprehensive benefits were elevated by 6.14%.
- **Strengthen grid dispatching & monitoring capacity.** Regulation and control integration realized an integrated operation of scheduling and equipment monitoring. The coverage of centralized monitoring in substations reached 99.95%. The qualification rate of substation monitoring information was improved by 15.5%, compared with that in 2013.
- **Enhance grid operation and maintenance efficiency.** The efficiency for power transmission personnel, transformation personnel, and distribution personnel is 34km/person, 33.7MVA/person and 30 units/person, increased by 2km/person, 13.6MVA/person and 9 units/person respectively after the system construction.
- **Sales businesses are integrated according to different levels and categories.** All businesses in all grids are integrated in 95598 within SGCC’s business area. Verification and distribution of measuring instruments and asset management are integrated at provincial level. Power metering check and business extension and application for installation are integrated at both prefecture level and county level. The cost for metrological verification was lowered by 47.75% while its efficiency was enhanced by 346.94%. The average connection time of business extension and application for installation for high voltage customers is 8.29 days.

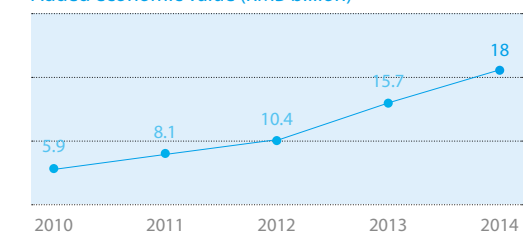
Corporate efficiency and profits keep improving.

Total asset turnover period (Day)



Please refer to page 87 for detailed reasons of the total asset turnover period in 2014.

Added economic value (RMB billion)



Management performance is greatly enhanced

SGCC was titled “Advanced Unit in Management Enhancement” by SASAC for its success in completing this campaign. The company also won special awards in overall budget, procurement management, and IT management. The total assets of its subsidiaries were RMB475.231 billion, increased by 32.57%. Profits reached RMB20.601 billion, increased by 16.83%. Added economic value RMB10.465 billion, increased by 16.8%.

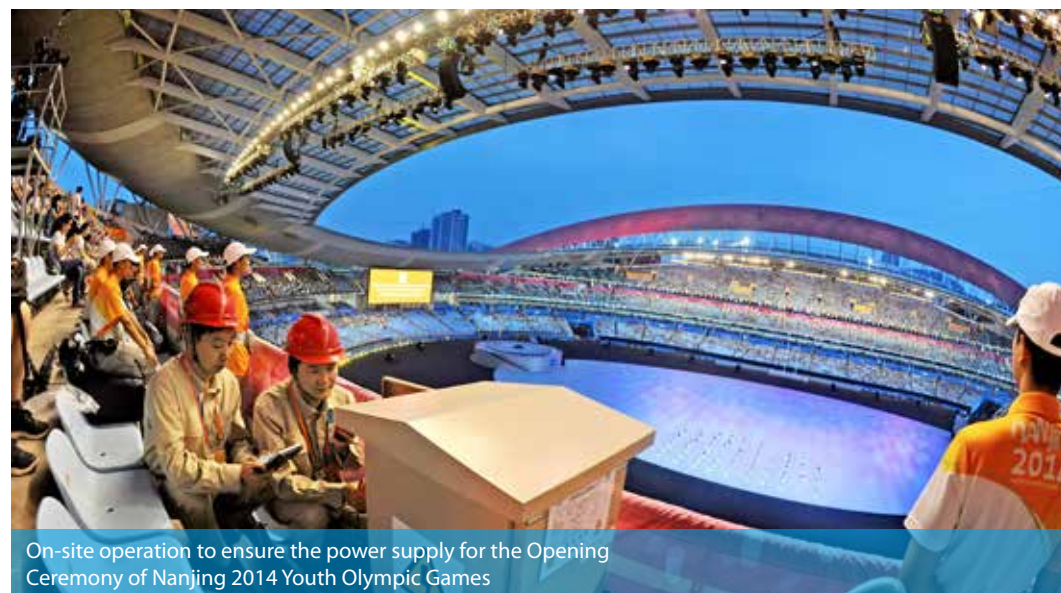
Ensure safe and reliable power supply

SGCC released
early warnings
3,494

Accomplish important power supply tasks. Ensure the power supply for big events, such as the NPC, the CPPCC, the Fourth Plenary Session of the 18th CPC Central Committee, the Central Economic Work Conference, Shanghai CICA Summit, Nanjing 2014 Youth Olympic Games, and Beijing APEC. No mistake, accident or complaint has occurred.

Strengthen safety risk control of the power grid. Build an early warning platform for grid operational risks, covering 5 branches, 27 provincial companies and 394 prefecture-level companies. SGCC released 3,494 early warnings within the system and ensured the safe implementation of 3,639 maintenance tasks. SGCC had no grid or equipment accident at levels of ordinary or above. There were 3 personal injuries, 13 five-level grid accidents, 2 six-level grid accidents, 1 five-level equipment accident, and 2 six-level equipment accidents.

Fortify emergency management capability. Strengthen emergency drills and emergency preparation. Evaluate power supply companies' emergency response capability in key cities and improve emergency plans. Compile *Action Plan to Prevent and Respond to Violent and Terrorist Attacks* and carry out anti-terrorist trainings and exercises. Prepare 32 copies of responding cards for all kinds of emergencies.



On-site operation to ensure the power supply for the Opening Ceremony of Nanjing 2014 Youth Olympic Games



Guarantee the power for the success of big events

During **Beijing APEC**, SGCC has mobilized 17,698 employees in power emergency repair, line inspection, transformation operation, and security guard, 1,309 automobiles and 64 emergency generation vehicles. It mobilized 142,400 man-times and 10,900 vehicle-times to safeguard 108 key substations (including switching stations) and 535 transmission lines to ensure safe and reliable power supply for 16 important venues such as the Olympic central area, Beijing Capital International Airport, as well as 19 hotels where officials stayed.

The power supply for **Nanjing 2014 Youth Olympic Games** involved 96 substations and 738 lines. SGCC Jiangsu Electric Power Company totally invested RMB3.05 billion in grid construction. During the Games, it mobilized 70,700 man-times and 7,775 vehicle-times and carried out 29,200 inspections on transformation equipment and 10,600 visits to various customers to ensure successful power supply.

During the **2014 Summer Davos Forum**, the emergency command center of SGCC Tianjin Electric Power Company was on duty 24 hours for the safe and reliable power supply for big events, VIP Customers and key venues. There was no flicker on the grid, no mistake on power supply and no complaint from customers. SGCC has provided strong support for the success of this event.

Innovation drives scientific development

Optimize S&T support and scientific development strategy. Complete the Framework of *Major Specific Research on the Key Technologies and Equipment of Global Energy Interconnection*. Come up with technical implementation approaches and research contents to clarify the direction for major research. Enhance the capability for basic and prospective research. Propose 98 topics in 5 directions and organize demonstrations and arrange SGCC's first batch of key basic and prospective scientific projects. Optimize superior design of technological planning and identify 6 major research branches and 18 technical fields. In 2014, the company invested RMB7.08 billion in R&D.

Improve first-class S&T innovation system. Enhance the S&T innovation system. Speed up the construction of overseas research centers. European branch of State Grid Smart Grid Research Institute was established and the first batch of research projects in the U.S. research institute was launched. A guidance mechanism was constructed so that SGCC's directly owned research institutes worked together with provincial research organizations to carry out scientific and technological development and support services. The lab elimination mechanism started implementation and 52 labs within SGCC's system were assessed. Release the *Guide for Sharing SGCC Laboratory Resources*.

Make major S&T innovations. Conduct themed research on "Smart Grid Undertakes and Promotes the 3rd Industrial Revolution". Organize NARI Group and other 41 enterprises to establish Smart Electricity of Industry Alliance. Organize China EPRI and NARI Group to jointly conduct key technical research on grid development, making world-leading progress in IGBT component development, $\pm 1000\text{kV}$ converter transformer and wall bushing technology.

Promote the construction of specific big grid projects and S&T demonstration projects. Zhoushan Flexible HVDC Transmission Demonstration Project was put into use according to schedule. Fujian-Xiamen Flexible HVDC Transmission Demonstration Project started construction. Advance the big grid research in 44 topics of 6 areas and obtain periodic progress in six areas, such as big grid emergency control. 12 projects have been successfully declared to be the National "863" Program, National "973" Program, and supporting projects. The evaluation on smart grid efficiency was applied as an ECP project. Experts will supervise 226 key S&T projects.



Flexible HVDC Sets Sail

On June 27th, 2014, the world's first five-terminal flexible HVDC transmission project—Zhejiang Zhoushan $\pm 200\text{kV}/1\text{GW}$ Five-Terminal Flexible HVDC Transmission Demonstration Project began its trial run. The project has a line of 141.5km, of which submarine cable is 129km. It will effectively promote the accommodation of new marine energies, such as offshore wind power and tidal energy. The electricity among the islands in northern Zhoushan can be swiftly exchanged and complementary, providing a strong support for the development of the new district of Zhoushan islands. This project is a major S&T demonstration project whose intellectual property rights are fully owned by SGCC. It has the most terminals and the highest voltage level among world's multiple-terminal flexible HVDC projects. This project signifies that China is leading in the world in this regard, and it provides an effective solution for the construction of the Strong and Smart Grid.

Some S&T Results in 2014

10,475
Authorized patents

16
China Excellent
Patent Award

57
commercialized

88%
new technologies
were applied

143
Release national and
industrial standards

484
Release corporate
technical standards

Deal With Each Stakeholder Responsibly Be responsible for each stakeholder

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

+ Be responsible for customers The responsibility on quality service is rooted in every business

- Improve power quality and reduce interruption time
- More convenient 95598 call center services
- seamless service

+ Reliability rate of urban power supply in 2014

99.967 %

+ Be responsible for agriculture, countryside and farmers Be responsible for serving agriculture, countryside and farmers, rooted in obligation

- Urban-rural power supply integration supports modern agriculture
- Provide quality power for building a beautiful countryside
- Improve power construction projects in areas without electricity access and ensure their basic living conditions

+ Bring power to

870,000

people without access to electricity in 2014

+ Be responsible for partners Be responsible on win-win partnership and rooted in every co-operation

- Serve power generation companies
- Propel independent innovation of the equipment industry
- Promote responsible procurement

+ Centralized tendering volume reached in 2014

RMB **3690** billion

+ Be responsible for communities Be responsible for corporate citizen and rooted in every good deed

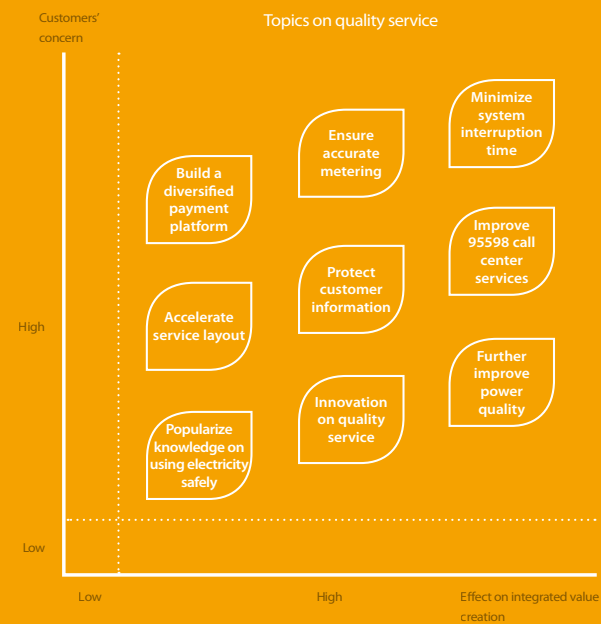
- Establish "UHV Scholarship Fund"
- Carry out employee volunteer services
- Persist on assisting Tibet, Xinjiang and Qinghai

+ Donated in 2014

RMB **114** million



Be Responsible for Customers



Satisfaction rate of call center service

99.42 %

Voltage qualification rate

99.999 %

Install smart meters

66 million

Serve customers on 95598 platform

378 million

Improve power quality and reduce system interruption time

Carry out uninterruptible power supply on distribution grid. In 2014, the company carried out uninterruptible power supply on distribution grid for 278,000 times, reduced outage time by 19 million hours/household and enhanced power supply reliability by 0.032%. Average failure and outage time was lowered to 4.8 minutes among core customers in 30 important cities including Beijing and Qingdao. Other cities' average failure and outage time was lowered to 19.8 minutes.

Improve operation and management of distribution grid. SGCC has optimized the grid structure and enhanced its automation with standardized and serialized equipment. Standardized achievements have been applied in distribution grid and automation was orderly promoted. The company started to test the terminals' special performances and developed automatic index evaluation system to monitor system application effects in real time.

Form a professional first-aid repair crew. The company established an efficient repair and recovery mechanism by arranging near resources that could offer timely help and 24-hour response to "make the light on first". A gridding emergency repair mode covering all voltage levels was built and prefecture-level and county-level power companies founded 26,416 repair points. Average annual power outage time for urban and rural power users decreased by 24.99% and 17.57% separately on a year-on-year base.

Improve electricity demand-side management. The company pushed forward the construction of "National Demand-side Power Management Platform" and analyzed the power supply and demand situation in advance. The priority was to ensure residential power consumption and control those companies with high-energy consumption, high emission and over capacity. SGCC launched comprehensive check of potential dangers of high-risk and important customers and public places.



— **SGCC Zhejiang Electric Power Company** formed a convenient service map and took the administrative village as one unit to execute aiding formulation of business extension plans, repair distribution grid and deliver outage notices. These measures provided support for fault repair and business consulting service and linked the operation and distribution data from the power source to customers. 95598 repair orders fell by more than 20%.

— **SGCC Heilongjiang Electric Power Company** insisted on live work without power cut and carried out 36,000 times of live work on distribution grid, reducing the outage time by 105,200 hours per household. It strengthened the professional management of grid operation and maintenance in county level and in 2014, the average annual outage time in county level was less than 10 hours per household.

Operate work of uninterruptible power supply
278,000 times

Established emergency repair points
26,416

SAIDI for urban users decreased from
3.854 hours per household

to
2.891 hours per household



Attentively serve aquaculture farmers

More convenient 95598 call center services

Process customer calls more than
11,270

95598 platform issues common rules
31

95598 call center is a centralized service platform offering full-fledged businesses. It provides 7/24 online services and real time control, which is the world's largest public service center with most functions and customers. It offers full-fledged businesses and 24-hour professional services to 1.1 billion people. Service time for repair, complaint and report decreased by 71.11%, 13.90% and 31.81% separately. Service awareness and efficiency were significantly improved.

Unify professional service standards. Through centralized personnel management, service control and performance assessment, 95598 call center has unified the standards of service acceptance, business classification, order processing, quality inspection, customer feedback and service evaluation. It recruits and trains service representatives in batches in order to improve their business and service skills. According to the customer satisfaction survey, in 2014, the company's overall customer satisfaction increased 2.55% year on year.

Widen smart service channels. SGCC has built up China's first intensive and professional utility service platform -- 95598 customer service information system and call center. The average daily login volume is 720,000 times. Average daily marketing orders are more than 2 million pieces. It serves 378 million electricity customers. Through the highly integration of 95598 platform and production and marketing information system, the company can monitor the distribution grid in real time from all dimensions and bi-directionally drive fault warning for active repair and 95598 customers' request for repair at the same time. Thus the average repair time fell by 71.11% in 2014.



Serve customers with a smile

Preliminarily establish the service integration mechanism. Through the comprehensive implementation of smart meters promotion and electricity information collection system construction, SGCC has built up an all-in-one collaborative mechanism of business extension and application for installation to strengthen business cooperation between departments. It also established a fair, open and unified service evaluation mechanism, strengthened online information monitoring and issued 31 general rules.



Fast service brings convenience to people

SGCC Yueyang Power Supply Company launched a "1+1 and 1+3" installation model for low voltage customers, which was a simplified door-to-door service. Once local qualified residents applied, they could access to electricity in the second day. Low voltage non-resident customers could access to electricity in three working days after application. Residents' business extension and application for installation could be done in one day and the application materials were reduced to 2 pieces from 4 pieces. Low voltage non-resident customers only need three days to finish this business and the application materials reduced to 3 pieces from 6 pieces.

Improved quality guarantees better services

Improve the level of standardization. The company revised SGCC Service Quality Standards of Power Supply, SGCC Customer Service Quality Standards and clearly pointed out the service channels, projects and standards. It revised the State Grid Interim Procedures of 95598 Business Management to formulate 95598 services. It released SGCC Rewards and Punishment Regulations for Power Supply Service to regulate employees' services and improve the standardization.

Increase transparency of power supply services. Released the electricity price and references, charging standards, business process, service projects, 95598 hotline, power outage notice, position discipline, service promise and the telephone number for complaints on the official website, Weibo and Wechat. Responded the customers' concerns and requests at first time.

Carry out power supply service investigations. There were totally four investigations to verify 170 complaints, interviewed 66 customers with complaints, interviewed 104 customers with complaints through telephone, investigated 114 urban business halls and 107 rural power substations, visited 153 residential areas, 113 villages and towns, 58 new installation households and randomly talk with 1,152 customers. These investigations helped us understand the forefront situation of power supply services and verify the actual situation of business expansion and review. 151 problems were found and all were rectified.

Organize skill competitions of power supply. The company organized the second competition of power supply skills and awarded 6 six excellent groups, 30 professional individuals and 6 excellent organizations. Taking the competition as an opportunity, the company fully implemented specialized and standardized services, and put fine requirements into every customer service.

98.56 %

Accessibility rate of 95598 call center service

more than
46.4
million

Deal with business orders

99.95 %

Rate of timely dispatch list

98.48 %

Satisfaction rate of service

Actively protect the legitimate rights of customers

Collect power consumption information from

256 million users


Repair metering boxes

369,900

Strictly implement the national electricity pricing policy. SGCC puts priority on the execution of environmental protection policies in electricity tariff, such as standard adjustment of additional subsidy of the renewable energy, electricity pricing policy for denitration and dust extraction, electricity pricing of electric vehicles, and varied prices for cement industry. It strictly follows the pricing standards according to the national and provincial authorities, and carries out screening, measuring and charging tasks of relevant companies and production lines. SGCC strengthens supervision by using information techniques such as marketing business application system to carry out inspection and general investigation on electricity pricing.

Ensure accurate metering. The company issued *Handbook of How to Identify and Deal with Electric Meters' Faults* to enhance the monitoring of fault meters, establish a database for meter operation and carry out spot check on meters for controllable and in-control quality of meters. It implemented broken metering boxes maintenance project, changing 16.5962 million metering boxes and repairing 369,900, which has improved the operation safety. The company also reinforces the study of cutting-edge technologies and explored 41 non-standard means of meter detection, enhancing its technical and work level. In 2014, SGCC deployed 66 million smart meters and collected information from 256 million customers.

Protect customer information. With the widespread use of social media, mobile terminals, and smart meters, the interaction between users and the power grid has become more frequent. Information of measuring and pricing data, time interval parameters and gross settlement concerns users' vital interests. Thus SGCC implemented decentralized and tiered management on customer information and strengthened hardware and software upgrade for safe storage and use of customer information. The transfer of information in APP and mobile operation is encrypted. In addition, it signed the contract with partners to identify responsibilities, rights and interests and increase security management.



Transformation of "One Meter for One Household" helps customers better understand power consumption

SGCC Qinghai Electric Power Company enhanced the communication with the government, owners in residential compounds and property management companies to impel meter reform and auxiliary projects construction. 120,000 households finished the "One Meter for One Household" upgrading in 2014, which solved the problems of under voltage, low reliability and high tariff for customers who used to share one meter together. Now they can enjoy tiered pricing, operation and maintenance service, long-distance charge promotion and supportive payment channels.



Pay attention to users' privacy protection during power supply service

Heart to heart quality service

Speed up service layout. SGCC accumulatively invested RMB497 million to deploy 46,700 self-served payment terminals, 653,000 payment spots and 147,000 rural payment spots. Urban customers can pay their electricity bills in 10 minutes wherever they are. Billing spots are available in every village in rural areas. SGCC Lingshou County and Jiashan County Power Supply Companies could provide power supply service in every village through building payment spots and village convenient service stations.

Establish diversified payment platform. The company vigorously promoted the interactive channels of 95598 website, mobile APP and WeChat and has expanded the payment methods to 25 kinds including business hall, advance payment, online banking, self-served payment terminal and recharge card. It set up a third party payment platform and the Internet financial trading platform including public utility payment, life service and e-commercial.

Improve business efficiency. SGCC simplified the application materials of business extension and application for installation: low voltage residents were reduced to 2 pieces from 4 pieces; low voltage non-residents were reduced to 3 pieces from 6 pieces; high voltage customers were reduced to 4 pieces from 9

pieces. Installation time was shortened by 20% and the average accessing time was shortened by 3.5 days.

Construct a collaborative service mechanism. The company streamlined the process and procedures and constructed a collaborative and all-in-one service mechanism: low voltage residents could access to the electricity the second day of application; design, construction and installation of key projects were started at the same time, which could reduce seven procedures and the time needed is 20% less than the promised maximum time.



The mobile APP provides convenient search function, payment, spot navigation, power outage notice, message subscription, online customer service, and knowledge query.



Provide more convenient payment

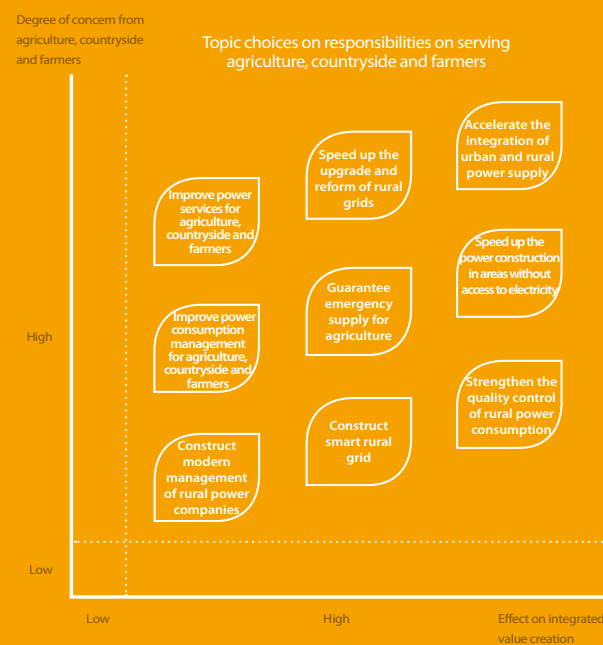
- **SGCC Pudong Power Supply Company** noticed the residents' trouble when separately paying the public service bills of water, electricity and gas every month and actively teamed up with water and coal enterprises to establish a platform reading the three meters together, which was China's first remote and automatic platform reading water, electricity and gas meters at the same time.
- **SGCC Weihai Power Supply Company** cooperated with China Mobile and China Unicom and added over 500 payment terminals with RMB3 million investment. The city now has 4,288 payment points with each point serving 284 households. The average payment distance is within 1 km. Thus the company was awarded as the first in local moral evaluation for 14 consecutive years.

Little bulb lights a great life

- **SGCC Changchun Power Supply Company** carried out the "Little bulb lights a great life" corridor lighting project. As of October 2014, it has benefitted more than 427.9 thousand households.
- **SGCC Tianjin Company served the construction of "A Beautiful Tianjin"** and lighted the street lamps in old communities. In 2014, it finished the inspection and rectification of lamps in 396 communities, involving over 6,500 street lamps.
- **SGCC Yinchuan Company carried out the public welfare activity of "lightning the way home"** and finished the rectification of "black corridors" in 35 communities, benefiting more than 12,000 households.



Be Responsible for Agriculture, Countryside and Farmers



Invest in rural power grids
RMB **46.45** billion

Reliability of rural power supply
99.878 %

System average annual interruption for rural power users
10.687 hours per household

Voltage qualification rate for rural users
98.808 %

Urban-rural power supply integration supports agricultural modernization

Advance in the rural grid upgrade. 2014 is the fifth year of upgrading the rural grid. SGCC focused on speeding up rural grid construction, increasing rural power supply guarantee and better adapting to new socialist countryside and new-type urbanization construction to solve the pressing problems, improve project risk control, standardize project management, impel standardization and raise the development quality of rural distribution grid. In 2014, over 90% rural grid projects were excellent.

Enhance management of county-level power supply companies. SGCC started to improve the management of power supply companies in towns and villages. Through longitudinal comparison of history data and lateral comparison of the differences among all units, SGCC popularized the best practices of 80 county-level companies and 170 township-level companies. With enhanced operation and maintenance management, township-level distribution grid failure decreased by 10.8%.



Transform power grid to ensure the masses' power safety

Jiangxi Xunwu has abundant hydropower with over 160 hydropower stations. In the remote villages between Jiangxi, Fujian and Guangdong, 1,793 rural households of Xiangshan Town, Xunwu County and other six towns were directly powered by small hydropower stations, which was tough, expensive and unstable. **SGCC Xunwu Power Supply Company** upgraded the power grids in a comprehensive and standardized way in mountainous areas. Power grids in 16 villagers of 7 towns have been through the transformation. Thanks to the grid reinforcement and expansion, many hidden problems have been solved for this small and aging hydro-grid which is poorly operated, such as high tariff, low supply reliability and voltage instability. Those 1,793 households could access to the large grid and about 7,700 villagers could use safe and affordable power like residential customers in urban areas.

Newly build or upgraded low voltage lines of

99,744 km

Upgraded power meters for

1.896 million households



Serve large fruit-growing households

Invest in rural undervoltage
upgrade in 2014

RMB **13.03** billion

Solve the undervoltage
problem for rural households

3.36 million

Promote county-level integrated management platform. SGCC has promoted marketing system in 170 escrow counties. The centralized monitoring rate of 35kV substations has increased from 81% to 90%. SGCC promoted safety supervision and management integrated platform. The online application was used in 70% direct-supply, direct-management and stake-holding counties, and 30% escrow counties.

Comprehensively solve undervoltage problem in rural areas. According to monitored data, undervoltage users account for 0.75% rural households. SGCC established a normalized working mechanism of comprehensive control, issued *A Notice of Carrying out Normalised Dynamic Governance of Undervoltage in Rural Areas*. By strengthening voltage quality monitor and governing, ensuring financial support and intensifying supervision and assessment, SGCC urged all industries to establish a mechanism to govern rural undervoltage and conduct normalized management. In 2014, investment of rural undervoltage transformation reached RMB13.03 billion, solving the undervoltage problem for 3.36 million households.



Keep solving the undervoltage problem in rural areas

- Follow up the central capital of RMB340 million allocated by the state, **SGCC Anhui Electric Power Company** raised an equity RMB280 million and RMB2.58 billion supplementary loans to upgrade rural power grids. RMB600 million was arranged for technical renovation and RMB190 million for overhaul maintenance. County-level companies used their own capital on rural grid maintenance and renovation to cope with undervoltage problems thoroughly.
- **SGCC Liaoning Electric Power Company** built an integrated platform to monitor voltage, reactive power, 3-phase imbalance and line losses. A mobile data monitoring system was also developed to solve undervoltage problem.
- **SGCC Zhejiang and Hunan Electric Power Company** analysed the reasons for undervoltage according to the principle of "one program for one station area", and solved the undervoltage problem.

Provide quality electricity for a beautiful countryside

Strengthen the management of rural grids' power quality. In light of the rural grids' upgrade, SGCC has optimized grids' structure, layout, supply reliability and power quality. SGCC also strengthened the process control of rural power supply. Power supply reliability has reached 99.878%, up by 0.026 percent point. Cumulative interruption time was 10.687 hours/household, down by 2.278 hours/household, with a year-on-year decrease of 17.57%. Voltage qualification rate for rural users reached 98.808%, up by 0.241 percent point. Voltage failure time declined by 16.82%.

Ensure power supply at important time. A total of RMB11.135 billion was invested to guarantee rural power supply during the Spring Festival. 67,900 distribution transformers were upgraded, together with 16.5 thousand kilometers of 10kV lines and 57.8 thousand kilometers of low-voltage lines. SGCC established 16,900 emergency repair teams, with 193,700 employees for repair and on duty. During festivals, emergency repair teams were dispatched 27,900 times, with 98,800 employees per time, which guaranteed power supply for rural households during the Spring Festival.

Ensure power supply with all efforts when fighting against drought. Throughout the year, SGCC has established 9,430 teams and mobilized 32,8389 person-times for anti-drought efforts. 69,446 deficiencies in irrigating equipment were eliminated. 2,621 generators of were provided, and 10,001 irrigation transformers were installed. 5,509.2km-long 10kV lines and 15,529.2 km of undervoltage lines were put up temporarily. All together RMB557.112 million was invested to help irrigate 57158.6 square km farmland, drill 10,815 wells, and solve water problem for 14.009 million people.



Ensure power supply actively when fighting against droughts

Henan Province suffered a severe drought in the summer of 2014. **SGCC Henan Electric Power Company**, which coordinates its 18 power supply subsidiaries, shouldered the responsibility as setting up 960 anti-drought teams with a total of 12,000 employees. The company temporarily set up 495 irrigation distribution transformers, and 160km of 10kV line, and eliminated 1,050 hidden dangers. Electricity for water supply and irrigation was ensured to the greatest extent, making sure of a harvest.

Help farming in "asparagus town"

Caoxian county of Shandong Heze City has an area of 186.67 square km for asparagus planting, with an annual output of 260,000 tons, accounting for one-sixth of national output. It is known as China asparagus town. To ensure the electricity reliability of asparagus growers, **SGCC Caoxian County Electric Power Company** installed power lines for asparagus greenhouses over 66.7 square km. Six new 100kVA transformers were set up to ensure the warming bulbs' full operation, and the quick start of electric heaters. Farmer's income was increased by RMB20 million.

Solutions to service problems after meter installation in rural areas

To solve the problem of post-meter-installation service, **SGCC Jiaxing Electric Power Supply Company** established a service mode. Under this mode, the meters will be purchased by the local government, and community service centers will be set up by third-party entities. This mode therefore has a clear division of responsibility for both the utility company and service centers by the time of meter installation. Meanwhile, the company expanded platform for service by connecting 96345, community service hotline, and 95598, power supply service hotline; also by more forms of sending farmers contacting cards, filing at the reception rooms in town and promulgation in village service centers to have a seamless connection between demand and supply.

Anti-drought power
service teams

9,430

Help irrigate farmland

56918

square km



Upgrade rural power grids

Serve rural safe power use

Launch the project to consolidate the foundation of safe rural power consumption. SGCC constructed 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, and explored new measures accordingly. SGCC standardized management of safe power consumption, power supply facilities and temporary electricity supplies, provided warning, marking, labeling and other material measures, and also increased installation of level-3 RCDs. SGCC also promoted *Risk Identification and Control Manual for Rural Distribution Grid Construction* to strengthen management of on-site safety.

Popularize knowledge of safe power use. Conduct and popularize safety education in rural primary and secondary schools. By considering seasonal and agricultural actualities, convey knowledge in a understandable way, and make rural people receive general knowledge of safe power use, first aid after electric shock, and power facility protection. SGCC compiled *General Knowledge on Safe Power Consumption in Rural Areas* and *Safe Power Consumption in Rural Areas—for Primary and Secondary Students* (bilingual version of Tibetan and Chinese) for areas without electricity access,

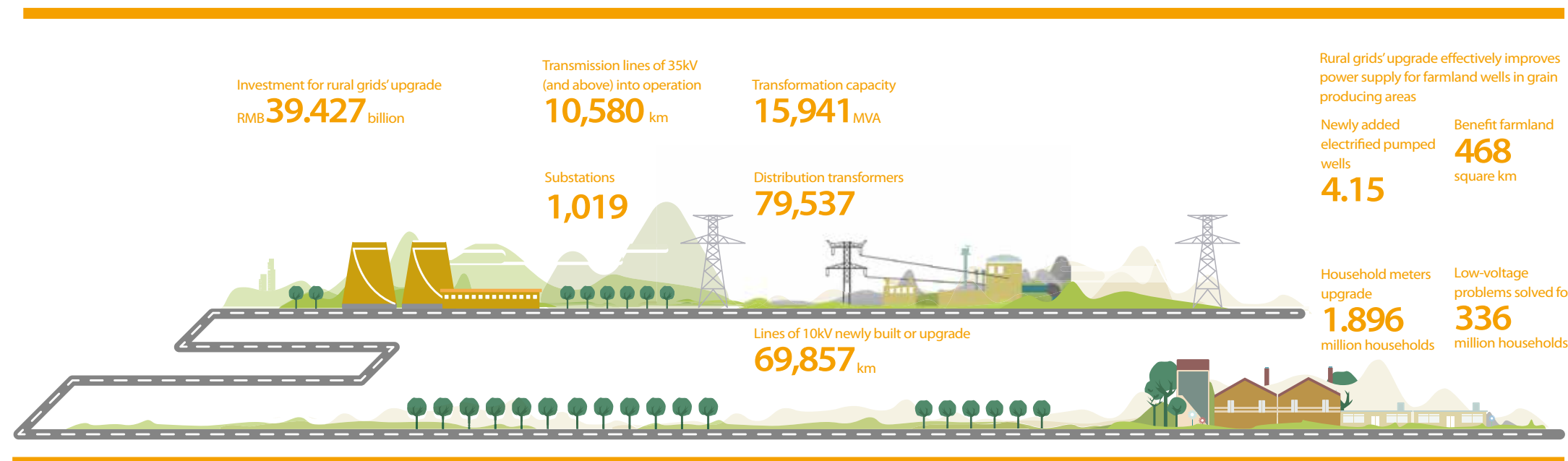
including Tibet and Tibetan areas in Sichuan and Qinghai. It was distributed and promoted to popularize safe power consumption knowledge and skills among Tibetan residents. SGCC also issued 85.809 million copies of posters, sent 117 million MSMs, and promoted safe power use on mainstream medias for 13,400 times. Moreover, SGCC organized examinations on safe use of rural power to enhance management and technical skills of grass-root employees.



Power project construction to guarantee livelihood in areas without electricity access

Most non-electrified areas within SGCC's business area are mainly in southern Xinjiang, Ganzi, Aba and Liangshanzhou in Sichuan Province where minority groups reside, and the Tibetan areas in Qinghai and Gansu and other remote areas. With advance of the power projects construction, the remaining areas are more remotely distributed where natural conditions are harsh and construction is more difficult.

SGCC reinforced project coordination and supervision, as well as safety inspections onsite to urge the progress. The company also utilized 35kV distribution and hybrid power supply of single-phase and three-phase to enhance efficiency. In 2014, SGCC invested RMB8.74 billion in power project construction in areas without electricity access, put in use 4,715 kilometers of transmission lines of 35kV (and above), 104 substations with a transmission capacity of 573MVA. SGCC also built 11,028 km-long 10kV lines, 7,557 distribution transformers and 15,652 kilometers of undervoltage lines. The company provided power for 870 thousand people of 210 thousands households and solved isolated operation of 10 county-level grids and the weak links between 38 county-level grids with the main grid.

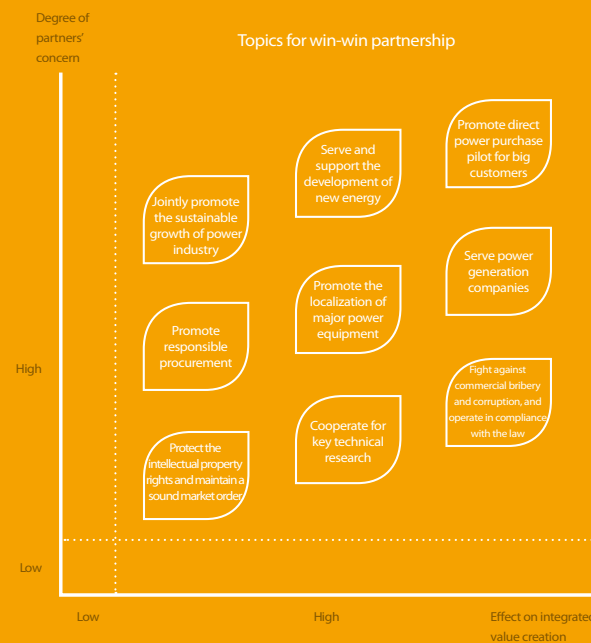


Accelerate the electric power construction in areas without electricity access in Qinghai

Areas without electricity access managed by **SGCC Qinghai Electric Power Company** are in remote areas and Tibetan areas with harsh natural conditions. Most electric power constructions are conducted at the altitude above 4,000 meters and transmission lines would cross mountain ridges and alpine areas. Difficult conditions, short effective construction period, huge investment and limiting power consumption have all affected the construction. In 2014, SGCC Qinghai Electric Power Company invested RMB976 million to construct 183 power construction projects in areas without electricity access in 17 counties of 5 cities, bringing electricity to 50,900 people of 12,700 households in the service area of Qinghai grid. Farmers and herdsmen changed their traditional lifestyle and production methods after their access of electricity. Their cultural lives have been enriched, their efficiency and life quality has been improved.



Be Responsible for Partners



Total on-grid electricity
3,650 TWh

Centralized procurement of goods and materials
100 %

Centralized bidding
RMB **369** billion

Responsible procurement rate
100 %

Serve power generation companies

Promote the coordinated development of power generation and grid.SGCC has vigorously promoted UHV technology and “One Ultra and Four Large (1U4L)” strategy to provide a reliable transmission channel for power generation. Meanwhile, the company has also insisted on appropriate advance grid construction to ensure the coordinated development of power source and grid.The integration process of wind power and PV power has been optimized and streamlined to accelerate new energy’s integration.

Prioritize dispatching management and receive supervision from all parties.SGCC organized symposiums on open, fair and just dispatching and supervision for comments and suggestions to improve dispatching management process.Meanwhile, the company has implemented the power generation control objectives, reasonably arranged the generation schedule, and fairly deployed the auxiliary services.The power dispatching and transaction information has been disclosed in compliance with the regulations to be inspected by the government and the society.

Orderly advance the construction of a unified national power market.SGCC has established a technical support platform which is nationally unified for the power market to provide a transparent and efficient passage for power generation companies.The transaction rules, model contracts, access rules, and cross-regional and inter-provincial transaction rules for big customer direct power purchase have been formulated to improve the regulation system of the primary unified national power market.The company has also steadily promoted pilots for big customer direct power purchase and launched the technical support platforms for the Headquarters, branches and 8 provincial-level companies.

Actively cooperate with power generation companies to conduct environmental protection renovation.According to the *Time-bound Treatment on Atmospheric Pollution Towards the Key Industries in Beijing-Tianjin-Hebei and the Surrounding Areas* issued by the Ministry of Environmental Protection, SGCC has sorted out the environmental renovation progress of each generator and constantly updated generators’ outage schemes for environmental renovation.All the renovation applications of the power generation companies have been arranged appropriately.



Serve direct power trades of big customer

SGCC Anhui Electric Power Company and Shanxi Electric Power Company have successfully organized the initial direct power trade of large users through the trading platform, reaching the amount of 5.2TWh and 751GWh respectively, and the average price for power generation companies was reduced by RMB26.3/MWh and RMB39/MWh.

Jointly develop with design and construction companies

Ensure law-abiding operations of construction companies.A project constraint management mechanism has been established to select the superior and eliminate the inferior.Meanwhile, the supervision on construction companies has been strengthened to ensure the quality of construction projects as well as the safety and health of the employees in construction companies.SGCC has insisted on cooperation and mutual benefits to guarantee the reasonable profit and sustainable development of the construction companies.

Serve construction companies to participate in grid construction.In 2014, SGCC revised the tendering document template for design, construction and supervision and lowered the bidding threshold to expand the competition of potential bidders and attract more social construction companies to participate in project construction.

Enhance innovation capability of design firms.SGCC conducted annual credibility evaluation for design contractors and organized quantitative evaluation for all Class-A and Class-B design firms which participated in the design of power transmission and transformation projects.SGCC also enhanced the innovation of power design institutions and stimulated the innovative capability of the technicians by launching design competitions.

Propel the independent innovation of the equipment manufacturing industry

By releasing *SGCC Application Directory for Standardization Construction Achievements (General Design and Equipment)* and publishing *SGCC 1000kV Fascicle of General Equipment for Transmission and Transformation Project* and *SGCC ± 800 kV Converter Station Fascicle of General Equipment for Transmission and Transformation Project*, the company has intensified the application of general equipment, enhanced their consistency and generalization, as well as the efficiency of project construction to optimize and innovate the technology of equipment manufacturers and to raise the level of China's equipment production.



UHV propels the independent innovation and upgrade of the equipment manufacturing industry

- **China XD Group, Ltd.** has successfully developed the world's first 1000kV stepped controllable hunt reactor (SCSR) with globally leading technical performance. Meanwhile, the company has successfully researched and developed China's first 1000MVA/1000kV loaded voltage-regulating transformer applied to UHV AC transmission projects.
- **Tebian Electricity Apparatus Stock Co., Ltd.** has obtained 11 granted patents in the process of developing 1000kV UHV transmission and transformation products, including 7 invention patents. Three have already been authorized with international licensing patents. Supported by the national key projects, TBEA has made an independent breakthrough in UHV transmission and transformation technology and possessed the world's commanding height of the technological innovation in this field.
- Having mastered the design, manufacture and experiment technology for control & protection devices and converter valves, **Xuji Group Corporation** independently developed its ± 1100 kV/5000A UHV DC converter valve with the world's highest voltage and the largest rated current, as well as a 320kV/1000MW VSC-HVDC converter valve with the world's highest voltage and the largest capacity. The overall technology is leading the world.
- As one of the first batch of construction companies to participate in UHV projects, **Pinggao Group Co., Ltd** has successively developed 1100kV fully-localized GIS, 1100kV bypass circuit breaker, 1100kV bypass circuit disconnector and 816kV DC disconnector, to break the technical monopoly of overseas companies with core technologies of UHV switchgear.



The constructors are assembling electric equipment of 1000kV Zhezhong Power Station in Lanxi

Promote responsible procurement

Promote professional supervision and carry out honest procurement. SGCC has published and updated *Material Management and Supervision Measures* covering the whole process of supply chain and organized supervisors to inspect all the processes of bidding in an all-round way. The company has also organized training programs of material management as well as theme party lectures of honest practice, enhancing the sense of honesty and discipline of the employees.

Improve procurement strategy to enhance efficiency.

SGCC has released Standard System Framework for Procurement in 2014 to propel standardized construction. The company has solidified ID application by using technical specifications and promoted procurement efficiency by "selection comes first and compilation second" of the technical specifications. Meanwhile, it has improved IT construction and assisting decision-making function and promoted e-commerce platform to conduct online bidding and procurement activities. The time of bid's opening and evaluation has been reduced by 90% and 30% respectively and the process to contract signing has also been shortened from one month to one week. It fully improved the efficiency and benefit of the group's procurement management. The ratio of responsible procurement has reached 100%.

Improve procurement organization mode and implement clean procurement. A unified electronic bidding process has been promoted to realize an online operation of the entire process and bidding suppliers' qualification certificates have been granted paperless. The company has also given priority to purchase the products with eco-mark and promoted supply chain partners' capability of environmental protection and resource saving so as to promote capability and quality of integrated value creation and to jointly create a responsible green supply chain.

Strengthen information transparency to ensure open procurement. SGCC has insisted on disclosing all the matters required to be disclosed by law and those not compulsively required as much as possible during the process of bidding. The company strictly issued bidding announcements on designated media with thorough, detailed and open tendering documents, qualifications, price calculation methods, technology and business price weights, evaluation indicators and bid-winning principles. Being open to supervision from all walks of life, the company has strengthened the rigidity of rules and maintained fair opportunities.



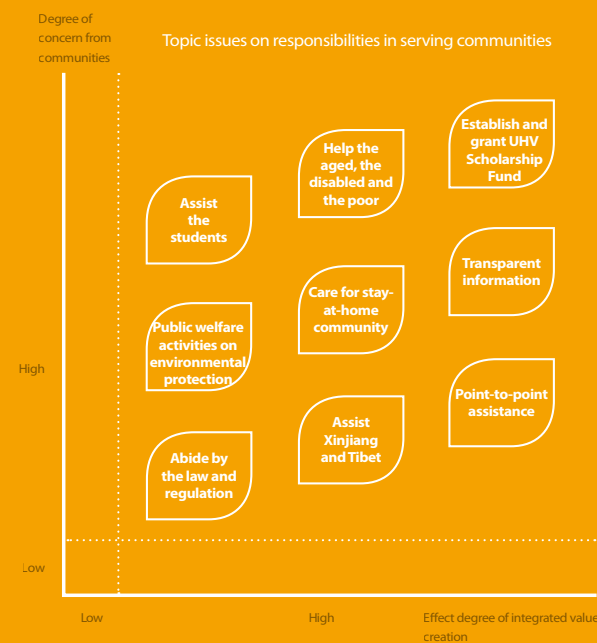
Enhance suppliers' satisfaction

In 2014, supplier service center has set up a WeChat public account named "SGCC Supplier Service", through which suppliers can acquire the latest business updates and check business processes and FAQs, greatly improving work efficiency. For the purpose of promoting supplier satisfaction, supplier service center has enlarged the business hall from 50 square meters to 800 square meters, increased service seats from 4 to 30, expanded service team members from 3 to 20, and varied means of services from single-innovation to diversified collaborative applications. Its function used to be simply answering bidding questions. Now it has been expanded to provide one-stop services covering the entire supply chain. The service network was extended from the Headquarters to 27 provincial companies, which has been fully acknowledged by the general suppliers.

Strengthen communication and realize a win-win partnership. SGCC hold supplier symposiums regularly to make clear the main measures and requirements in the perspective of material management and control by informing the product quality problems and the penalty to suppliers' misconduct, leading the suppliers to bear a sense of "quality concern, honest cooperation and joint development". The company has also provided an efficient and convenient channel for the suppliers to express their claims, query and complaints on the e-commerce platform.

Develop with suppliers. While collecting and verifying the suppliers' qualification, SGCC has sent expert teams to the production lines of the general suppliers to provide manufacturing and technical solutions and advice, supervise on the rectification of workmanship, management and safety deficiencies, as well as to increase suppliers' awareness of improving the management system as soon as possible, eliminating security vulnerabilities and cutting off quality defects. TBEA and China XD Group, Ltd. have passed system certifications of ISO9001 quality management, ISO14001 environmental management and ISO18001 occupational health and safety management.

Be Responsible for Communities



Donate RMB **115** million

Execute **100** edu-aid programs

Staff's volunteer service **2,200,000** person-times

Donate via State Grid Foundation for Public Welfare RMB **10.6** million

Initiate the establishment of UHV Scholarship Fund

To encourage the majority of students to scale new heights in world's electric power industry, expand their space for growth and dedicate themselves to UHV and the career of electric power, SGCC Chairman Liu Zhenya advocated and initiated the establishment of UHV Scholarship Fund together with 19 electric power companies and industrial organizations. He personally donated RMB3 million. It's the first scholarship fund in the energy sector. It raised RMB23 million. In 2014, after three months' nomination, observation and selection according to comprehensive performance, ability of scientific research and other indicators, the Fund granted RMB10,000 scholarship per person to 160 electric power under graduates from 17 universities after the review of the UHV Scholarship Fund Council. The event has left a vivid mark among universities, media and the masses.

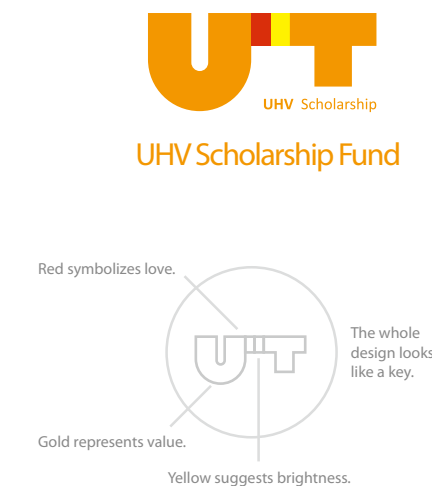
“ Advocated by SGCC Chairman Liu Zhenya and participated by the electric power sector, the UHV Scholarship Fund will definitely become a public welfare project with industrial characteristics and good reputation as an independently operated special fund. The Fund will become a collective memory for all students majoring in electric power. ”

— Liu Zhongxiang, Deputy Director of the Grassroots Organization Administration Bureau of the Ministry of Civil Affairs

“ The establishment of UHV Scholarship Fund reflects how the electric power industry concerns the students and supports the cause of education. It's also a banner of “Created by China” and “Led by China” for this industry, showcasing how we scale the heights of the electric power development in the world. UHV is an important milestone in China's electric power development, and a golden business card for China's independent innovation and globalisation. ”

— Guo Peng, Deputy Director-General of Department of Finance, Ministry of Education

UHV Scholarship Fund Logo Illustration



Logo interpretation

The main body of the logo consists of “U” and “T”.

U	T
Ultra (UHV)	Technology
Union	Teacher
University	Talent

The golden key is to help the students open the door for success in UHV and the career of electric power and sustain its healthy development.

Gold – represents the last character of the Chinese translation of “Scholarship”, and also means the pass-on of value.
Red – embodies love and care, and also the core of the Scholarship.
Yellow – is the brightest color, standing for a bright future for students and the development of UHV.

Testimonials from students

I'd like to extend my sincere gratitude to SGCC Chairman Liu Zhenya and the UHV Scholarship Fund Council. Your endearment has given me the courage to strive for new progress and the hope to pursue excellence.

- Zhang Peng, Class 14, Department of Electrical Engineering, Tsinghua University

Winning the UHV Scholarship has encouraged us to dedicate ourselves to the career of UHV and electric power with more enthusiasm. Moreover, it has imprinted us with the spirit of UHV, inspiring us to create new and greater achievements.

- Jiang Zimin, Grade 2011, Shandong University

Edu-aid programs light up students' dreams

In Ningxia, SGCC Ningxia Electric Power Company has been cooperating with Ningxia Youth Development Foundation since 2007. Every year, the company sponsored "Achieving Goals" Program for underprivileged freshmen in the area as the biggest social welfare program of the year. It has donated about RMB10 million to help 1,650 freshmen from poor families.

In Qinghai, SGCC Qinghai Electric Power Company launched a public welfare program "Chinese Dream, SGCC Love: Edu-Aid Action to Realize Dreams" for 12 poor primary schools in 10 counties of the province. It has been helping schools in poverty-stricken areas and stay-at-home children for a long time by improving teaching facilities, setting up a third class for stay-at-home children, soulful love and affection program, and one-to-one education sponsorship.

In Hebei, SGCC Hebei Electric Power Company started "Love: Hand in Hand 1+1" edu-aid program in Shunping County, Baoding City since 2009, donating over 4,000 books and 1,000 sets of stationary and office supplies. It teaches children about common knowledge on power use and conservation on an irregular basis and pairs up with primary students for better interaction.



Young volunteers are with students from Hope primary schools

Care comes along with hope.

- **SGCC Beijing Electric Power Company** held 95 "electric power love" classes to popularize knowledge on safe power consumption and conservation during semesters, holidays, or as the first lesson of the semester, which were taken by 3,000 junior high and primary school students. It cooperated with the education commission and the children's palace to construct classrooms, unify teaching materials, teaching aids, teaching plans, and set up a team of part-time lecturers. As of the end of 2014, the "electric power love" classes have covered all districts in the city.
- **SGCC Fujian Electric Power Company** has raised more than RMB10 million through various means since 1995 to donate 13 Hope primary schools of electric power, benefiting 28,000 students in mountainous areas throughout the province. To help dropouts or almost-dropouts from poor families continue their education, it has carried out pairing aid actions in SGCC's system, like "Light up Hope; Aid Education with Love", "One-to-one Assistance", "Love Comes Along with Hope", "Hand in Hand", and "Edu-Aid in Autumn", assisting 2,700 underprivileged students in total from Hope primary schools.

Point-to-point assistance promotes local stable development

Support Tibet. RMB5.04 billion has been invested in Tibet. The company started the construction of Sichuan-Tibet Interconnection Project and a bunch of key transmission and transformation projects. Promote the electric construction in areas without access to electricity. The coverage of the big grid has expanded to 51 counties, bringing electricity to 94,000 population in 26,000 households. The company allocated RMB25.5 million to support Coqen County, Ali Prefecture and prioritized to arrange projects that concern people's life, such as affordable housing for farmers and herdsmen, auxiliary projects of junior high and primary schools, and disinfection room of the county hospital.

Support Xinjiang. The investment in Xinjiang was RMB13 billion. Put into operation a bunch of high-voltage transmission and transformation projects like Wubei-Wucaiwaiwan 750kV transmission and transformation project. Upgrade the rural grids in 81 counties from 13 prefectures throughout Xinjiang. Accelerate the power construction in areas without access to electricity and bring power to 428,600 population in 107,700 households. Implement the strategic layout of "One Belt And One Road" and the essence of the second Central Work Conference of Xinjiang. Come up with 20 suggestions to support the stable development of Xinjiang grid.

Support Qinghai. RMB5.015 billion has been invested in fixed assets in Qinghai. RMB10.8 million was used to support Maduo County, Golog Prefecture to construct outdoor drainage system and auxiliary facilities of ethnic primary boarding schools, renew public transformation facilities of counties, and electrify the residential communities for herdsmen.

Committed to the poverty-relief work and enhance local self-sufficiency capacity

Innovate the methodology and enhance the strength to implement a solid work on poverty-relief in the new situation. Carried out 231 poverty alleviation projects and invested 36.56 million RMB in 2014.

Sincere poverty alleviation for 20 years

SGCC has organized poverty-relief work in Zigui County, Changyang County, Badong County, and Shennongjia Forest of Hubei province since 1995. A total of RMB2.518 billion has been invested in the grid construction poverty relief, which attracted RMB232 million local matching fund. It carried out 285 poverty alleviation projects to solve problems of access to electricity, transportation and water, improve health care, sanitation and school conditions, and proceed with industrial development, enhance people's skills to get rid of poverty. With its help, the net income for peasants in Zigui County, Changyang County, Badong County, and Shennongjia Forest has raised from RMB669.8/(person-year) in 1995 to RMB5,300/(person-year) in 2013. The GDP per capita reached RMB22,158. A total of 591,000 people overcame poverty. Leaders from the State Council Leading Group Office of Poverty Alleviation and Development affirmed its efforts by acknowledging SGCC's great emphasis on and enormous efforts in point-to-point poverty-relief assistance, which provided tremendous support to the masses in these four counties to get rid of poverty and become better off. SGCC shared its experience in this regard for many times in conferences held by the State Council Leading Group Office of Poverty Alleviation and Development and SASAC. It also won the title of "Advanced Organisation for Point-to-point Poverty Alleviation Among Central State Organs".

Investment in Tibet

RMB **5.04** billion

Investment in Xinjiang

RMB **13** billion

Investment in fixed assets in Qinghai

RMB **5.015** billion

Areas for poverty-relief	Major practices	Achievements
Mabian County, Sichuan Province	Plant 1.13 square kilometers' industrial crops. Invest in 13,100 chicks and 670 pigs. Work out poverty-relief plan during 2014 and 2016 and implement assisting programs in industry, education, labor and transportation in Gaoshitou Village, Mabian County.	Help the locals' average annual income reach RMB8,000 in 2016
Xiangshui County, Jiangsu Province	Set up 11 agricultural cooperatives and establish standardized sheep breeding base. Help build modern agricultural demonstration garden, industrial park, ecological farm, and efficient vegetable base of approximately 7 square kilometers. Support the training class for new professional farmers.	Invest RMB6 million in 2014. The Jiangsu Provincial Party Committee fully affirmed the project's influence on enhancing the local self-sufficiency capacity.
Yulin County, Shaanxi Province	Lead 9 organizations in the province to establish a poverty-relief group to engage a county and a township to help a village. Carry out terrace and bank project, and construct facilities for solar lighting, flood control and pumped irrigation.	Invest RMB2.7 million in 27 point-to-point assistance projects. Promote local economic growth by over RMB4 million.
Hefei, Anhui Province	Implement free electricity policy for poor families. Purchase all surplus on-grid electricity in addition to self-used power generated by distributed generation of the rural family. The project's property right and generation proceedings all belong to the underprivileged family.	Promote energy conservation and emission reduction and benefit poor families at the same time. Till the end of 2014, the poverty-relief project "PV in villages" has benefited 1,100 rural households.

Volunteer services
within SGCC
2,220,000
man-times

Conduct employee volunteer service

Exert the function of Party Member Service Team.In 2014, the SGCC Party Member Service Team offered safe and reliable power supply for over 20,000 major events, carried out 1,490,000 emergency repairs, and established 47,000 community service spots, directly serving 3,280,000 person-times, and volunteering 1,010,000 person-times.The central and provincial leaders have inspected or instructed the team for 206 times.

Deepen youth volunteer service.Conduct “Young Sunshine Action” for 12 consecutive years.Establish and improve over 500 places for caring activities, such as “Home for Stay-at-home Students”, “House of Spring Seeding”, and “Bar of Coming Hope”, benefiting 700,000 people.In the First China Youth Volunteer Service Competition co-organized by the Central Committee of China Communist Youth League, Ministry of Civil Affairs, and China Volunteer Service Federation, 9



volunteer service projects organized by SGCC’s Youth League Committee stood out.5 projects including the “Red Cell” Project from SGCC Sichuan Electric Power Company won the gold prize.4 projects including the “Small Kindness to Realize Dreams” Action from SGCC Shandong Electric Power Company won the silver prize.3 units including SGCC Henan Electric Power Company won the prize of “Excellent Group”.SGCC Jiangsu Electric Power Company won the honor of “Loving Enterprise”.



Volunteer service warms power customers

- **SGCC Chongqing Electric Power Company** began its youth volunteer service program “SGCC Houses of Spring Seeding” since 2009.It has built 100 “SGCC Houses of Spring Seeding” covering 33,000 stay-at-home children in rural areas from 38 county-level districts (21 municipal districts, 12 counties and 4 autonomous counties) of Chongqing.A management mode consisting the company, the youth league, schools, and volunteers has been set up to build and nurture these houses with joint efforts.
- To better serve customers around the scenic spot of Yinghu Lake, **SGCC Ankang Power Supply Company** provided non-stop services to 60,000 people from 68 administrative villages of 5 townships relying on a 3-dimensional service system, that is, by water, on land, and in the air.Every month, the service team will drive the “Business Hall on Water” into 10 villages on time to collect electricity fees, accept businesses, and promote knowledge on safe power use.Services are delivered to every island by water.On important occasions, such as the market day in the township, the company will provide temporary power supply services in a simple tent.The team leader has to receive visiting customers for no less than 4 days in a month, which has been implemented as a working mechanism.



Luneng’s enthusiastic sport spirit

In 1998, commissioned by the Shandong provincial government, SGCC Shandong Electric Power Company took over the provincial football team, establishing Shandong Luneng Taishan Football Club.In 2000, the company took over the former Table Tennis Team of Shandong Province, establishing Shangdong Luneng Table Tennis Club. Luneng Sports sticks to strict management, training and competition.It dares to think, to try, and to succeed.It has achieved outstanding results in major contests home and abroad.

In 2014, Luneng Football Team won the champion of FA Cup and the Luneng Table Tennis Team won the men’s and women’s team championships in China Table Tennis Super League.Luneng Football Team has won four championships of the National League of Level A , four championships of Chinese Football Association Cup, and one championship of Chinese Super League Cup.The table tennis team has won 5 women’s team championships and 3 men’s team championships in China Table Tennis Super League.World champion Zhang Jike and Li Xiaoxia both came from Luneng Sports, who won 4 gold metals at the 2012 London Olympic Games.The club is leading among other clubs in China in



terms of the number of its cultivated football players, table tennis players and coaches selected in the national teams.

Luneng’s sport spirit includes the patriotic spirit of loyalty to serve the country, the fighting spirit of scaling new heights, the indomitable spirit, and the team spirit of faith and dedication.It is a vivid interpretation of SGCC’s corporate spirit of “In search of excellence; in pursuit of outperformance”.The achievements Luneng Sports has made so far are so profound and extensive that it has greatly enhanced the company’s brand value.“Luneng” was rated as “most recognizable trademark in China”.

Adhere to the law and operate business with integrity

Fulfill the accountability for the construction of a clean government.Refine the penalty and prevention system against corruption.All units within SGCC system have established a penalty and prevention team whose main person in charge is the head of the unit.Leaders of the anti-corruption teams will give regular reports.Innovate the construction of collaborative supervision and formulate *Opinions on Establishing Collaborative Supervision Mechanism* to Further Refine the Penalty and Prevention System. Stick to the liaison meeting system for the supervision committee and deploy specific supervision and examination. Conduct efficiency supervision on key links, such as project management, waste material disposal, meter reading and fee collecting, and inventory clearance so as to discover and solve existing problems in operation and management in time.

Strengthen moral rectification and construction.Combine with the second wave of the Party’s mass line educational practice.Strengthen the supervision and control in key

job positions and businesses in the power supply service sector.Solve the problem of “the Last Kilometer” for the public.Intensify moral complaints and reports.SGCC processed 3,273 pieces of moral complaints.264 of them were verified or partly verified.Related people were questioned and held accountable.Organize normalized thorough investigations.The supervision departments of all levels conducted 13,385 thorough investigations, checking 33,750 service counters, coming up with 18,469 pieces of advice regarding work, and promptly correcting and punishing violating behaviors.

Deepen “6 Unifications” contract management.Improve the system of general contracts, which are practical, consistent, and feasible.Orderly advance the construction of unified contract text and enhance the system of unified contract text.The first-level deployment of the whole-process contract management system goes online.A corporate-level contract management IT platform basically comes into being.All contracts of the company are reviewed from a legal perspective.

13,385
thorough investigations
by supervision
departments

Inspect
33,750
service counters

Become a Model of Green Development

Responsibility on Environmental Protection and Low Carbon Emission

+ Promote clean replacements

- Trans-regional clean energy accommodation
- Serve the integration of distributed generation
- Promote bulk hydropower and bulk nuclear power
-

+ Accommodate
921.8 TWh
of clean energy in 2014

+ Urge for a resource-conserving and environmental-friendly development

- Boost the EV industry development
- Promote comprehensive environmental management
- Construct a resource-conserving and environmentally-friendly project
-

+ **618**
EV charging & battery swapping
stations have been built

+ Promote electricity replacement

- Replace coal with electricity to lower emission
- Replace oil with electricity to promote transportation electrification
- Conduct generation rights transaction to conserve energy
-

+ **6,948,000** tons
of standard coal saved by generation
rights transaction in 2014

+ Boost social energy conservation in an all-round way

- Conduct social energy-conservation service
- Set up a power efficiency service team
- Construct power service management platform
-

+ Organize
118
environmental training
sessions in 2014

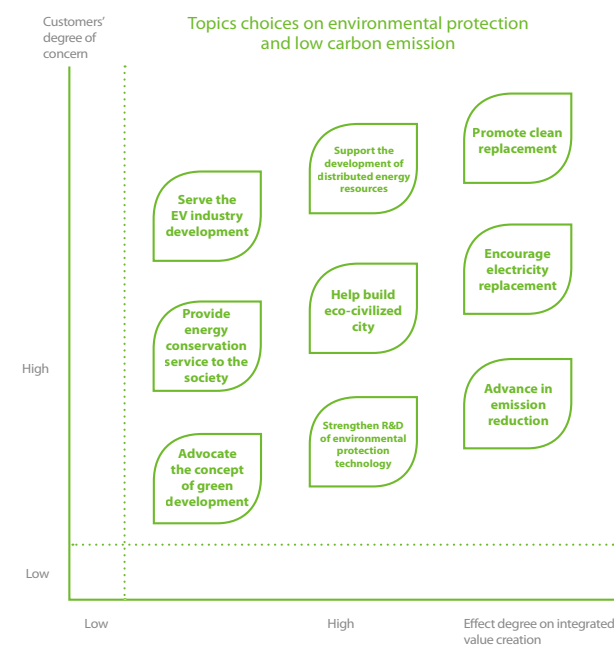
+ Combat global climate change

- Promote energy conservation and emission reduction from the company
- Encourage industrial energy conservation and emission reduction
- Promote social energy conservation and emission reduction
-

+ Energy conservation reconstruction
projects in 2014 saved
2.25 TWh
of electricity

Promote the green transformation of energy development

Promote energy revolution by establishing a Global Energy Outlook. Insist on coordinated development of energy, politics, economy and environment. Insist on coordinated development of centralized and distributed generation. Stick to clean replacement and electricity replacement. Coordinate the development, allocation and utilization of global energy resources to guarantee safe, clean, efficient, sustainable energy supply by constructing a Global Energy Interconnection.



Integrated capacity of wind power

75.52 GW

Total accommodation of hydropower in 2014

651.1 TWh

Integrated capacity of PV power

21.92 GW

Accomplish

50.3 TWh

of electricity replacement

Actively promote green development, cyclic development and low-carbon development. Explore a win-win scientific path for the social-economic development and ecological environment protection. Strengthen ecological construction with systematical framework. Guarantee the "ecological red line" by institution construction. Comprehensively improve resource conservation.

Focus on solving environmental problems which are harmful to people's health. Strengthen ecological environment protection with the implementation of the strictest regulation.

UHV transmission is included in Air Pollution Prevention and Control Action Plan. It has been widely agreed that UHV transmission plays an important role in guaranteeing energy safety, solving smog problem, improving efficiency, and supporting social-economic development. 8 UHV projects have been included in Air Pollution Prevention and Control Action Plan. In May 2015, the state approved to carry out 12 key transmission channels as parts of Air Pollution Prevention and Control Action Plan. 11 of them are in the business area of SGCC. Clean energy such as wind power and solar power can be accommodated in a wider range.

Make the best effort to accommodate clean energy. Initiate new institution for coordinated development of wind power, PV generation and the grid. Optimize workflow and service standard with emphasis on new energy integration problem which is of great social concern. Guarantee projects that meet criteria can be fed into grid in time. Make the best use of trans-regional and trans-provincial transmission channels with the support of UHV technology. Improve accommodation of clean energy such as hydropower from southwest and the wind power from the Three Norths. Minimize abandoned water, wind and solar energy.



Support the accommodation of clean energy such as wind power and PV power.

- **SGCC Qinghai Electric Power Company** is conducting thorough research on key technologies such as integration of PV stations, electricity accommodation and grid's safely operation. It provides "one-stop service" for grid integration procedure, "tracking service" for project construction, all-round service for technology support and personalized service for integration inspection. In 2014, It has ensured the integration, accommodation and transmission of over 1GW newly added installed PV capacity.
- **SGCC Gansu Electric Power Company** has strengthened its new energy integration service. It helped Gansu Energy Supervision Office with the publication of *Provisions for Monitoring and Managing Newly Constructed Energy Integration into Power Grid in Gansu (trial)*, which illustrates the process of grid integration and time limit for each procedure to improve management of the whole process of new energy integration service.
- **SGCC Jibei Electric Power Company** keeps promoting the construction of Phase 2 of the National Wind/PV/Energy Storage and Smart Transmission Demonstration Project. The project will construct 0.4 GW of wind power, 0.06 GW of PV generation and 0.05 GW of energy storage. In 2014, the PV stations in Phase 2 extension project were successfully integrated into grid and started generating. All 98 wind turbines have been put into use.

Promote clean replacement

Make the greatest effort to accommodate hydropower.

Take advantage of the transmission channel to export hydropower in Sichuan, increase trans-regional and trans-province power transmission to maximize hydropower accommodation. Total hydropower accommodation reached 651.1 TWh in 2014, increased by 14.64% than last year. The trans-regional hydropower accommodation from Sichuan accounted for 40% of the total amount.

Support wind/PV power integration.


Establish over 10 management systems and service regulations to construct a comprehensive integration service system including working procedure, time limit, service mode and regulation. Construct and promote consulting service platforms such as 95598 call center, website, and Wechat. Appoint personal customer managers and provide service for wind/PV power technology consultancy and integration generation. In 2014, the installed capacity of wind power within SGCC's service area is 87.9GW and that of PV generation was 24.45GW.

Strengthen R&D and standardization system construction.

SGCC has invested RMB4 billion in conducting research on new energy integration, operation, and control technology. The Wind/PV/Battery Storage and Smart Grid Demonstration Project which is the largest in the world has been constructed. World-leading National Energy R&D and test Center for Large-scale Wind Power Integration has been established. The company has led the compilation and revision of 53 enterprise standards, and participated in the compilation or revision of 39 industrial standards and 24 national standards. It published a series of regulations and standards, such as *Technological regulation for Wind Power Integration into Grid* and *Typical Design for Wind Farm's Electrical System*.



Power supply employees are serving the PV sheds with the world's largest installed capacity in single unit at Volkswagen's Nanjing plant



New energy generation shows remarkable benefit

- Beijing Lujiaoshan Waste-to-Energy (WTE) Power Plant is the largest WTE project in Asia. It generated 420GWh of electricity annually, which saved 130,200 tons of standard coal each year. To support new energy development, **SGCC Beijing Electric Power Company** has timely constructed integration infrastructure for 6 biomass power generation projects including Lujiaoshan. Meanwhile, it has promoted the integration process of 7 planned or under-construction projects such as Nangong in Daxing District. In 2014, electric generation capacity of new energy like wind, PV, biomass power reached 512GWh in areas where new energy is fully accommodated, which saved 158,700 tons of standard coal and reduced 415,700 tons of CO₂ emissions.
- Xiamen Pioneer Park Roof PV Station is the first megawatt-level PV station in Fujian Province. Its installed capacity reached 1.0082MW. The station covers 14,000 square meters of roof area. It generates 1.03GWh of electricity annually, which could help save 319 tons of standard coal and reduce 795 tons of CO₂ and 279 tons of dust emissions each year. **SGCC Xiamen Electric Power Supply Company** provides a full chain of door-to-door services including policy consultancy, technology support, business process, procedure simplification, integration service, along with regular return visits and meter reading and checking to meet customer's needs in an all-rounded way.

Actively promote electricity replacement

Replace coal by electricity to reduce direct coal-fired emission.

According to the state's requirement on regulating the use of small coal-fired boiler and pursuing negative coal consumption growth, SGCC prioritized 2,106 projects of replacing coal-fired boilers by electric boilers, and promoted 1,300 projects of electric furnace renovation.

Replace oil by electricity and promote transportation electrification.

SGCC tries to promote electricity replacement in transportation. In coastal areas such as Tianjin, Shandong, Jiangsu, Zhejiang, and Fujian, handling facilities fueled by oil have been replaced by electrical equipment on dock. Over 900 projects have been carried out and 36,000 tons of fuel has been substituted.

Replace coal by surplus clean energy. During rainy season in Sichuan, replace coal by surplus hydropower to generate self-used electricity in power plants. Shut down 480MW coal-fired-only self-owned generators, which reduced 710,000 tons of coal consumption.

Unleash the potential of electricity replacement; promote construction of eco-civilized city. Encourage replacing traditional ways of energy consumption by using electric cooker, electric water heater and decentralized electric heater. Advocate a life style with "zero emission".



Support the industry and the society to carry out electric energy replacement project

- **SGCC Hebei Electric Power Company** is constructing the demonstration project of "charging boat by shore power" on the dock of Huangye Port. 3000 tonnage of the dock has been constructed as low-voltage shore power demonstration project. According to volume estimate, the project is expected to consume 624MWh of power annually, which might reduce 482 tons of CO₂ emissions. It is estimated that in 2020, the comprehensive Huangye Port can reduce 239,000 tons of CO₂ emissions by carrying out this project.
- **SGCC Tongliao Electric Power Supply Company** is actively promoting wind power heating project. In 2014, SGCC Tongliao Electric Power Supply Company invested RMB175 million in wind power heating project in Jarud Banner in Tongliao City. The project includes the construction of heating resource, power grid and transmission lines. The Phase 1 project that has been put into use has provided clean, stable wind power heat to over 50,000 residents in Lubei County in Jarud Banner.

Uphold ecological civilization

Construct resource-saving and environment-friendly project.

In 2014, SGCC has invested RMB5.43 billion in environmental protection. All projects in planning scored 100% in environmental impact evaluation. Biological diversity, noise control, water pollution prevention, harmony among power supply facilities, urban landscape, residential environment and human settlement are all considered in the process of planning and construction. The Sichuan-Tibet Interconnection Project is considered a good example in environmental protection. It constructed an environment and water protection management system, reasonably planned construction paths for forest and grassland, and restored green vegetation. RMB188 million has been invested in environment and water protection management.

Reduce the impact of grid operation on environment.

Reduce the impact of transmission and transformation facilities on environment. Improve operation and maintenance of environmental protection facility. Orderly promote CDM project. Comprehensively reinforce the construction of provincial-level SF₆ recycling and disposal centers. 14 provincial-level centers have been put into use. They have recycled and disposed 46.6 tons of SF₆, which is equivalent of reducing 1.114 million tons of CO₂ emissions.

Advocate "green and low-carbon office" Video and tele conferences in SGCC have increased by 200%, which account for 50% in the total number of conferences. The company is also working on reduce paper consumption by using the internet to deal with official documents, mails and faxes.

Strengthen management on waste and used material disposal.

Standardize the process to recycle, hand over, dispose, and sell waste and used material, and regulate the return of funds. The disposal of hazardous waste, chemical and environmental pollutants are under the guide of national laws and regulations such as *Environmental Pollution Prevention and Control Law of Solid Wastes* and *Hazardous Chemicals Control Ordinance*.

Strengthen environmental protection awareness and training.

Compile and publish a brochure named "ABC of Grid Environmental Protection". Organize a series of activities such as "June 5 World Environment Day" and publicity program for grid environment protection. Organize a series of trainings about environmental protection for managements, operational staff, and environment inspection staff. In 2014, SGCC has organized 118 training programs involving 4,730 employees.

Total investment in environmental protection

RMB **54.3** billion

Organize environmental training sessions in 2014

118

Serve the development of EV industry

Process

3,140

households' applications for charging/swapping facility installation


Signed contracts on energy conservation projects

433

Support the construction of EV charging and battery swapping facilities. According to the requirement of national policy, which asks for a fully open EV charging/swapping facility market and supports social capital to invest on construction, SGCC issued a series of principles including *Advice on Power Use Application for EV Charging/Swapping Facility Installation* and *SGCC's guideline on Procedure Simplification of Business Expansion* to Improve Efficiency and Better Serve the People. The Company simplified business procedure and shortened the application process for installation. The company has processed 3,140 households' applications for charging/swapping facility installation. The applied installed capacity reached 113.9MW. 2,826 households have been electrified with power connection capacity of 95.7MW.

Guarantee power supply for EV charging/swapping facility. Strengthen unified planning of distribution grid. Ensure its coordination with the grid's overall planning and the construction of new urbanization. Ensure its adaption with the development of distributed power and electric vehicle. Improve the structure of distribution grid and eliminate weaknesses.

Improve standardized system of charging/swapping facility. Promote the revision of national standards on charging interface. Insist on popularizing the Chinese standard to raise China's voice in standardization system, and benefit the national industry development. Until the end of 2014, SGCC has compiled 78 standards for charging/swapping facilities, including 13 national standards, 18 industrial standards and 47 enterprise standards.



Serve the development of EV industry

SGCC has accumulatively built 618 charging and battery swapping stations with 24,000 charging poles. The quick charge network covering Beijing-Shanghai Highway, Beijing-Hong Kong-Macao Highway, and Qinghai-Yinchuan Highway (two vertical and one horizontal) has basically been constructed. It provided 4.88 million times of charging services with a quantity of 296GWh. Cars charged in the stations have driven 340 million kilometers, which helped reduce 81,200 tons of oil consumption and 228,700 tons of CO₂ emissions. The 1,262km-long Beijing-Shanghai Highway became the first expressway with EV quick charging service in China. There is a quick charging station available every 50km in one direction along the highway.

Promote comprehensive energy conservation in society

Actively provide energy conservation service. Keep on strengthening construction of energy conservation service system centered on energy conservation service companies, energy efficiency assessment institutions and energy efficiency service network. SGCC has set up State Grid Energy Conservation Service Co., Ltd. and 27 provincial-level energy conservation companies. Until the end of 2014, it has signed 433 contracts on energy conservation projects, which involved 192 energy management projects and a total investment of RMB1.25 billion. These projects are expected to save 2.25TWh of electricity annually.

Set up energy efficiency service group. Set up 659 energy efficiency groups in prefecture and county level companies, which attracted 5834 members from industrial enterprises to form an energy efficiency service network covering SGCC's business area. It organized 1,659 activities such as policy seminars and energy conservation exchanges. The energy conservation renovation projects carried out by enterprises in the society have helped save 120 GWh of electricity.

Establish electric power service management platform. According to the guideline of "two-level deployment and multi-level application", SGCC is constructing the electric power service management platforms in the Headquarter and 26 provincial-level companies, realizing the application of 7 function modules such as responsibility assessment in power demand-side management objectives, energy conservation business management, customers and energy consumption management, and energy collection management.



Electric vehicles are driving between Beijing and Shanghai

Deal with global climate change

It is roughly estimated that in 2014 SGCC has helped the industry and the society reduce over 800 million tons of CO₂ emissions.

Serve the development of clean energy. The accommodation of clean energy reached 921.802 TWh, equivalent to 300 million tons of standard coal, reducing the emission of 740 million tons of CO₂.

Conduct generation rights transaction and efficient generation and dispatching. The promotion of generation rights transaction helped save 6,948,000 tons of standard coal. The pilot projects of efficient generation and dispatching in three provinces helped save 3,702,000 tons of standard coal. They serve to reduce 26.55 million tons of CO₂ emissions in total.

Encourage energy conservation and emission reduction on the generation side

Lower the line loss rate to save 17.1TWh of power, equivalent to 530,000 tons of standard coal and reducing carbon dioxide emission by 13.21 million tons.

Boost cross-regional and inter-provincial power transaction. The cross-regional and inter-provincial power transaction amounted to 725.216 TWh, of which 136.719TWh 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 200 thousand tons of steel, equivalent to 120 thousand tons of standard coal, reducing carbon dioxide emission by 300 thousand tons.

Recycle resources. A total of 46.6 tons of SF₆ gas was purified and recycled, which equals a reduction on emission of 1,114 thousand tons of carbon dioxide.

Promote user-side energy conservation and emission reduction

Construct an energy-saving service system, which has saved 23.84TWh of power, equivalent to 7.39 million tons of standard coal, and reduced carbon dioxide emission by 18.4242 million tons.

Implement electricity replacement strategy. Substitute 50.3 TWh of power, which equals to reducing the direct burning of 21.83 million tons of coal in the load center. It also reduced CO₂ emission by 38.8733 million tons.

Develop Overseas Business with Responsibility

Establish a global vision

+ Advance internationalization strategy with responsibility

- Coordinate energy development strategy with a global vision
- Develop overseas business with responsibility
- SGCC has won the bid of UHV transmission project in Brazil
- ...

+ SGCC's overseas transmission lines in operation are
106,608 km

+ Operate State Grid Brazil Holding Co.(SGBH) with responsibility

- Stick to sustainable and harmonious development
- Boost cooperation among stakeholders
- Continuously participate in social welfare undertakings
- ...

+ SGBH supplies power to an area of
2.9315 million square kilometers

+ Operate Australian assets with responsibility

- Operates power grids safely and efficiently
- Actively improve community environment
- Encourage stakeholders' cooperation
- ...

+ SGCC's Australian assets serve
2.2 million people

+ Jointly cope with the major global issues and challenges

- Initiate to establish a Global Energy Interconnection
- Participate in the international standard formulation
- Communicate and cooperate with international organizations
- ...

+ Participate in the formulation of international standards
21

*The statistical cutoff ranges slightly varied by different countries' fiscal year scope due to the various forms of company's overseas assets, including wholly-owned subsidiaries, holdings, joint-stock, and etc.

Advance internationalization strategy with responsibility

Coordinate energy development strategy with a global vision.

Ensuring safer, cleaner and more efficient energy supply is a common challenge faced by human beings.SGCC has established a Global Energy Outlook to exert its technological and management advantages to import avant-garde technologies and talents and go global in a large scale.It extensively participates in global competition, strives to enhance communication and maintains operational transparency.While upgrading its value creation capability of the industrial chain, it also builds up a responsible, international corporate image.



SGCC's overseas assets
29.8
billion US dollars

The overseas transmission lines of State Grid Brazil Holding Co.(SGBH) are
6,748 km

SGCC's overseas projects
435

NGCP built cooperative partnership with
278
electric power customers



Advance in global energy cooperation.

On July 17th, 2014, the cooperation agreement on Brazil's Belo Monte Hydropower UHV Transmission Project was signed by SGCC Chairman Liu Zhenya and Eletrobras CEO Costa Carvalho Neto at the Brazilian presidential palace.The cooperation agreement was signed under the witness of Chinese President Xi Jinping and Brazilian President Dilma Rousseff.It is the first overseas UHV DC transmission project of SGCC.



On December 14, under the witness of Chinese Premier Li Keqiang and Kazakhstan Premier Massimov, SGCC Chairman Liu Zhenya signed a strategic cooperation agreement with Mr.Umirzak Shukejev, Chairman of the Management Board of Samruk-Kazyna (SK) Fund to promote the interconnection of the grids in two countries and implement the "One Belt And One Road "(OBAOR) Strategy.

Australia	Purchase a 60% stake in Singapore Power International (Australia) Assets (SPIAA) and 19.9% stake in SP AusNet.
Italy	Acquire 35 percent stake of Italian state-owned lender Cassa Depositi e Prestiti (CDP)'s energy grid holding company CDP Reti.
Russia	Supply 3.38TWh of power to China
Hong Kong, China	Purchase a 20% stake in Hong Kong Electric Co.Ltd.
Pakistan	Sign the MOU on three ±600kV DC transmission lines
Mozambique	Sign a Joint Cooperation Agreement with EDF, ELETROBRAS and ESKOM, which are stockholders of MPNK hydroelectric project.



On July 31, 2014, SGCC signed a contract with Italian state-owned lender Cassa Depositi e Prestiti (CDP), buying 35 percent stake of its energy grid holding company CDP Reti. Italian Prime Minister Matteo Renzi attended the signing ceremony. Italian Prime Minister Matteo Renzi, Chinese ambassador to Italy Li Ruiyu and SGCC Chairman Liu Zhenya attended the signing ceremony held at Palazzo Chigi. This acquisition is SGCC's largest single foreign investment as well as the largest single investment to Italy among Chinese companies. The equity delivery has been formally completed on November 27.

Operate NGCP with responsibility

Improve the safe operation and management of power grid. Take full advantage of management experience, technical strength and R&D capability, the company exports power grid planning and construction, operates and maintains advanced technology and experience to propel power grid's development and upgrade. Meanwhile, throughout the Philippines, the company popularized the knowledge on safe power transmission to residents in communities covered by its 76 assets.

Enhance customer satisfaction. NGCP established cooperative partnerships with 278 electric power customers through partnership forums and regular interactive communications. In total, it held 63 customer meetings, and visited about 50% clients nationwide.

Continuously participate in social welfare undertakings. The company actively carried out social assistance and built 44 schools while restoring power supply in the areas affected by typhoons, and cooperating with University of the Philippines to organize related seminars, establish scholarships, provide internships, and share training laboratories.

Operate State Grid Brazil Holding Co.(SGBH) with responsibility

Stick to sustainable and harmonious development. SGBH complies with local laws and regulations, respects local religious practices and national culture taking long-term localized development as its strategic objective. It's oriented to people and strives to build an international team with mutual integration, complementation and promotion among Chinese and Brazilian personnel. The company also protects employees' interests, cares for their development and has completed the construction of production office building and the second phase of integrated control center.

Boost cooperation among stakeholders. The company has strengthened the exchanges of visits with senior officials from the Brazilian Ministry of Mines and Energy, ANEEL, ONS, and EPE. The company has also promoted technical communication and cooperation with industrial counterparts and participated in the bidding and construction of the transmission greenfield concession projects to take root in Brazil and stick to long-term development.

Participate in social welfare undertakings. The company actively participates in social welfare activities and fulfills its social responsibility. Relying on the "tax incentives" policy, SGCC invested BRL3.4 million to sponsor social responsibility programs. The company serves the local community by organizing social welfare activities, including "Cultural Exploration- Symphony of Male" program, Rio Tour of International Youth Table Tennis, "Sino-Brazil Culture Month", "Rio de Janeiro Four Seasons Long-distance Race" and so on.



NGCP subsidizes the dropout children from Pendulunan Primary School

Operate SGCC's Australian assets with responsibility

Founded in January 2014, SGSPIAA runs gas transmission and distribution, power distribution, water supply and infrastructure service for the States of Victoria, Queensland, New South Wales and Sydney area, covering more than 2.2 million people.

Emphasize on safety-health-environment management. Departments and committees of health-safety-environmental quality have been established to review the related system, plan and operational performance, to promote "Best Practices" and to recruit environmental protection specialists from the staff.

Promote measures of conserving and recycling. The company has conducted strict safe processing and recycling towards hazardous material generated in the operational process of the power grid. Moreover, green design has been applied to workplace in order to reduce energy consumption, increase recycling and get full accreditation of ISO 14001.

Organize employees to participate in volunteer services and social welfare activities. The company organizes employees to participate in the environmental protection and social welfare activities in Australian Capital Territory, New South Wales, Queensland, Tasmania, and Victoria. Meanwhile, the company also jointly organizes activities with 11 NGOs and projects, including basketball games for the disabled, fire insurance service in rural areas, cross-

cultural youth centre as well as Australian engineers without national boundaries.

Cooperate with stakeholders to improve community environment. Under the emergency management procedures, the emergency coordination center and an emergency management team have been established to professionally conduct disaster warning, rescue and relief and to protect personal and property safety of the local residents. The company also has a long-term partnership with Landcare, an Australian environmental protection organization, to promote plant diversity. It has donated and planted over 13,500 trees, and helped reconstruct the "green corridors" in the urban area of Melbourne and Sydney.

Support the sustainable development of ElectraNet and SP AusNet

Support the sustainable development of ElectraNet. Investing in ElectraNet in December 2012, SGCC has been insisting on a mutually beneficial strategy of sustainable development to reduce the negative influence on society and environment by reasonably planning for power grid. The company accelerates the development of renewable generation and annually provides electricity worth of 150 million Australian dollars for South Australian residents. The company also actively protects the ecological environment and reduces the bad influence on native flora, fauna and river channels. Meanwhile, for the purpose of employees' cultural integration and a harmonious working environment, SGCC has been committed to providing a healthy and safe workplace for the staff as well as organizing intercultural communications.

Support the sustainable development of SP AusNet. Since SGCC's investment in SP AusNet in January 2014, the company has supported social welfare activities and benefited local society and residents by setting up a trust fund and participating in the activities of community development, education, and charity. Complying with local laws and regulations, the company recycles the wastes by a variety of environmental protection measures.

Support the sustainable development of REN

Redes Energeticas Nacionais (REN), Portugal's only national energy transmission company, is an energy transmission operator providing comprehensive services, which includes electricity and natural gas. Since SGCC's investment in REN in 2012, it has been promoting REN to provide reliable, safe, efficient and economical public services to Portugal and local customers. It pays attention to innovation and environmental protection as an important practitioner of sustainable energy development in the international market. It is actively involved in social welfare activities to support the cause of health, family, environment, education and social aid. It won the Best Corporate Award for Social and Environmental Sustainability from International Best Business Award. REN obtained a B+ rating for its sustainability performance from OEKOM, one of the leading international rating agencies for the social responsibility field headquartered in Germany.

Jointly combat major global issues and challenges

Propose to build a Global Energy Interconnection.

On May 2014, SGCC Chairman Liu Zhenya came up with the strategic concept of Global Energy Interconnection at the 2014 GSEP Moscow Summit. In July, Chairman Liu Zhenya further pointed out at the 2014 IEEE PES General Meeting held in the U.S. that the only way out for human society to tackle the challenges of energy security, environmental pollution and climate change was to promote clean replacement and electricity replacement. We need to establish a Global Energy Outlook, construct a Global Energy Interconnection, and coordinate the development, allocation and utilization of global energy resources, so as to ensure a safe, clean, efficient and sustainable energy supply.

Participate in international standard formulation.

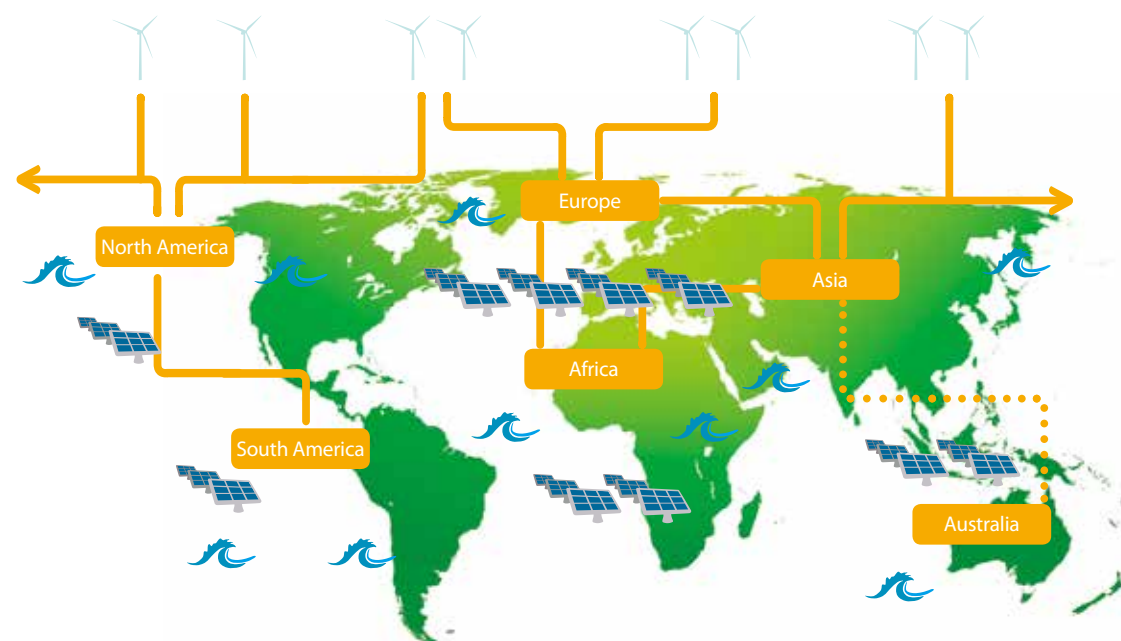
- The microgrid project proposed in IEC was approved. SGCC took the lead to establish the microgrid system evaluation team.
- The IEC White Paper "Internet of Things: Wireless Sensor Networks", led by SGCC, was published.
- Establish two international standards regarding EV battery swapping in IEC.
- Submit two IEC standard proposals "EV charging stations- monitoring system" and "EV conductive charging system - two way DC electric vehicle charging station".
- Publish three UHV AC international standards in IEEE, such as "Overvoltage and Insulation Coordination of Transmission Systems at 1000 kV AC and Above", and "Guide for Voltage Regulation and Reactive Power Compensation at 1000 kV AC and Above".
- CIGRE working committee of "Systematic Framework Design for Power System Stability Control" was officially established.
- Won 2014 IEEE-SA Corporate Award.

Establish overseas research institutions.

The U.S. research institute Establish the U.S. branch of State Grid Smart Grid Research Institute at the Silicon Valley to mainly conduct research on smart chips, semiconductors, and power grid big data application. It is to develop important and original S&T achievements in the field of electric power and forge an internationally renowned expert team in the industry to lead and guide the development of the power sector.

European research institute Establish the European branch of State Grid Smart Grid Research Institute in Berlin, Germany. Relying on rich talent pool in Europe, the institute mainly conducts research on new energy storage, smart distribution, new energy integration, smart metering, and common technology of large-capacity converter, working on important and original S&T findings.

Global Energy Interconnection



The Global Energy Interconnection includes cross-border interconnection, intercontinental interconnection and global interconnection. The emphasis is to develop large energy bases at the North Pole and the Equator, construct global UHV backbone network, promote the extensive application of smart grid around the world, and enhance the technical innovation of energy and electric power. Construction of Global Energy Interconnection has significant implications of economies of scale and economies of network.

Strengthen the exchange and cooperation with international organizations

Major participated international organizations

UN Global Compact, business participant
GSEP, member
WBCSD, member
IEEE, member
CIGRE, member
Good-neighboring and Friendly Cooperation Committee, SCO, corporate member
APEC China Business Council, member
ICOLD, corporate member

Key international conferences in 2014

UN Climate Summit 2014: made a keynote speech of "Global Energy Interconnection Promotes Green, Low-carbon Development"
Global Sustainable Electricity Partnership (GSEP) Moscow Summit: raised the concept of "Global Energy Interconnection"
IEEE PES General Meeting: illustrated the concept of "Global Energy Interconnection" and the strategy of "Two Replacements"
Luncheon of APEC Energy Ministers and Entrepreneurs: made a keynote speech "Global Energy Interconnection Serves the Sustainability of Human Society"
APEC China Business Council: made a speech at the sub-forum "Accelerating trans-regional interconnection, investment, infrastructure construction, and prioritized policies"
IEC: organized and participated in senior management meetings for China to better participate in and exert its influence on IEC strategies and policies
Africa Smart Grid Forum: participated and made a keynote speech
CIGRE Session 2014: made technical presentations and released a number of high-level papers

Guarantee Operation Transparency and Be Open to Public Supervision

Implement Responsibility on Communication and Cooperation

+ Continue giving advice on sustainable energy development

- Give advice on the National "Two Sessions"
- Discuss on grid construction with all walks of life
- Strengthen the communication with government bodies
- ...

+ The delegates and members of the National "Two Sessions" from SGCC brought up

75

proposals in 2014

+ Strengthen social communication

- Release annual CSR report
- Strengthen communication on topics of great public concern
- Innovate communication methods
- ...

+ Be the first one to release CSR reports for

9

consecutive years

+ Be open to social supervision

- Accept the supervision from higher authorities
- Be open to social supervision
- Strictly implement corporate regulations according to the law
- ...

+ Hold

580

press conferences

+ Encourage stakeholders' participation

- Develop stakeholder engagement strategies
- Improve managing mechanism for stakeholders' participation
- Establish a long-term mechanism for stakeholders' participation
- ...

+ Open

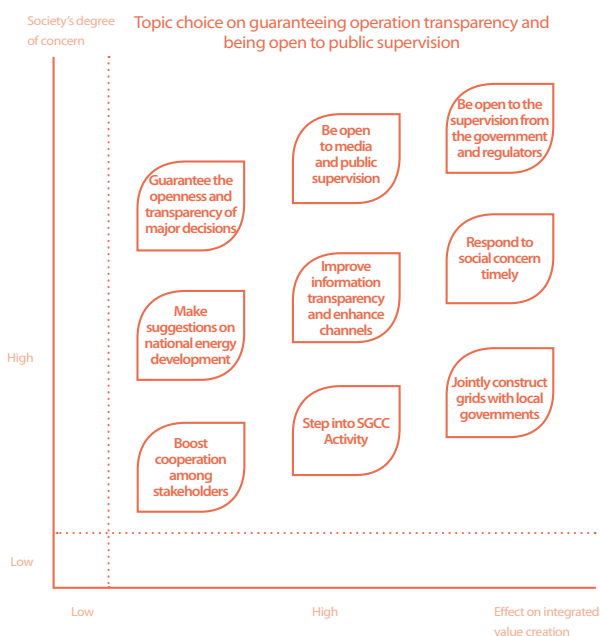
623

corporate Weibo accounts in SGCC system



Strengthen management in corporate communication to ensure the transparency of company's operation

Integrate social responsibility into the communication with stakeholders and adhere to the concept that trust built on communication can enhance cooperation to create value. Explore and establish a systematic and institutionalized social communication mechanism. Enhance system construction and establish a long-term mechanism to ensure transparent and ethical corporate behaviors. Transform the ways to communicate and enhance the company's operation transparency to win the interest, emotion and value recognition from stakeholders.



Hire
21,195
social moral supervisors

Over
10 million
followers
on SGCC's official Weibos

Visits to SGCC website
12,810,000

First Place
of Top 500 Chinese Service
Enterprises



Take transparency as an important strategic objective and internal requirement for SGCC's scientific development. Adhere to operation transparency and be open to public supervision. Build trust, enhance consensus and boost cooperation by communication. Actively encourage stakeholders' participation to promote sustainable development.

Make suggestions on sustainable energy development

Come up with energy proposals on the National "Two Sessions". During the 2014 National "Two Sessions", SGCC Chairman Liu Zhenya made a speech on the Second Session of the 12th National Committee of the Chinese People's Political Consultative Conference (CPPCC) and published a signed article on the newspaper, calling out to seize this opportunity in the third industrial revolution, and promote the strategic transformation of energy development. There were 75 proposals and suggestions on UHV from the delegates of the two "Sessions", including 16 from SGCC delegation. "The Development of UHV Grid" was listed as the key proposal of both the NPC and the CPPCC.

Form a consensus on grid development. On May 15th, SGCC Chairman Liu Zhenya held discussions on "developing UHV transmission and optimizing electric power layout" with relevant guests at the biweekly consultation meeting of the National Committee of CPPCC, to illustrate the importance of UHV on governing the smog and the significance of electricity replacement.

Strengthen communication and reporting. SGCC strengthens communication on the key obstacles of grid development. It has submitted 198 issues of SGCC Special Report to the General Office of the CPC and the General Office of the State Council. 168 issues were adopted by higher authorities. 12 issues were commented by leadership from the central government and ministries.

Deepen specific research. undertake over 30 research and consulting projects from the National Development and Reform Commission, the National Energy Administration, and the SASAC. Accomplish the preliminary research on major problems like changes in energy demand and non-fossil energy source development for the Thirteenth Five-Year Plan of the national energy. Strengthen the policy research on distributed PV generation and electricity replacement. Carry out specialized research on the Thirteenth Five-Year Plan for electric power companies, the internationalization strategy for SOEs and the scientific development strategy, and obtain a series of important achievements.

Intensify social communication

Release CSR Report for 9 consecutive years. It is the first SOE to ever disclose concrete practices in implementing comprehensive CSR management and promoting CSR penetration, giving a more prominent role to the requirements from the central government, the spirit of the times and the CSR work deployment for SOEs. It also gives more weight to the substantiality, comprehensiveness and comparability of the disclosed information in the report.

Take the initiative to strengthen communication. Respond to social and media concerns in time. Conduct the research on the topic of KOLs' operation and maintenance. Build a database for media materials, experts, and views. Hold seminars with renowned experts. SGCC has been interviewed by the media and given lectures at external forums for more than 50 times.

The publicity for major topics gets remarkable results. Deepen themed publicity. Invite various media to report on SGCC's key themes. The concepts of UHV, Global Energy Interconnection, "Two Replacements" and serving new energy development are rooting in the public's mind. Innovate communication methods

and use animation, posters, and artistic works to carry out "Perceiving SGCC" series publicity campaign.



Themed series promotion activities become the platform for communication with various parties

The series promotion activity "New urbanization and First-class Distribution Grid" set up a communication platform to promote SGCC's achievements in constructing first-class distribution grids and making the public better understand their importance in serving the people's livelihood. It created a favorable environment of public opinion to support the development of distribution grid. Over 800 people from the government, power supply companies, research institutes, power clients, equipment manufacturers, and mass media, participated in this event. Over 600 pieces of news could be found online regarding this event, including on Xinhuanet.cn and people.com.cn.

Major Reports

Journal of the CPPCC dedicated a four-page feature report on "Strong and Smart Grid" illustrating the achievements SGCC has made on UHV development and the significance of electricity replacement strategy. The report says, "Accelerating UHV development is a fundamental solution to the smog problem. China has fully mastered the core technology of UHV and is able to produce the full range of key equipment. It is created and led by China. Electricity replacement can greatly enhance our energy efficiency and will lead a revolution of end energy consumption in the society."

S&T Daily published two articles, namely, "Why SGCC Leads" and "Replace Coal by Electricity, Right Now!", emphasizing that UHV is the only thing that is publicly acknowledged to be led by China in this industry in the world so far and that it is a model of China's innovation-driven development.



Print UHV grid on the mind of the public

The film "Perceiving Chinese Companies" sets UHV grid as the only content for "Created by China". The film was broadcast at New York's Times Square as well as at major European airports for a month.

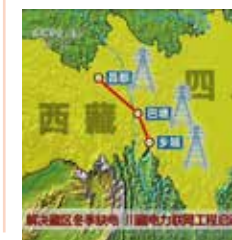


The first episode "Chinese Wonders Amaze the World" of CCTV's National Day special program "China in 65 Years" gave an elaborated introduction on UHV grid.

Economic Daily published a cartoon series "Mao Mao Explores UHV", in which Mao Mao, the main character, tells us about the history, the present and the bright future of UHV grid.



On January 31, CCTV News broadcast a piece of news of the first Spring Festival with electricity access for villagers in Huangniba Village, Muli County, Sichuan Province. Villagers were singing and dancing to show their gratitude to electric constructors.



On March 19th, CCTV News did a report on Accelerated Power Grid Lights Up People's Life in Tibetan Areas, saying that the grid construction was in a fast lane and the upgrade of the power grid in Tibetan areas lit up people's life.



On March 23rd, Dialogue of CCTV did a feature on "Fierce Debate on UHV", inviting Mr. Xue Yusheng, Academician from the Chinese Academy of Engineering to analyze how smog came into being and how it could be solved, and finally getting to the conclusion that UHV is the way out to mitigate the smog problem.

On June 12th, Topics in Focus of CCTV did a program on "Investigation: Is Power Meter Accurate?", answering the social concern about the accuracy of power meters. It cleared the rumors online and made the truth surfaced.



1,203
economic responsibility
audits

572
financial audits

2,595
profit audits

Govern the enterprise by law and be open to social supervision

Implement the long-term mechanism construction requirements strictly according to the law. 43 audit groups were organized to continue the comprehensive examination of the company's 64 units. Major efforts were made to complete the HR management special audit, the economic responsibility audit and the internal and external audit and to rectify the related problems. No major audit problem was detected in the whole year.

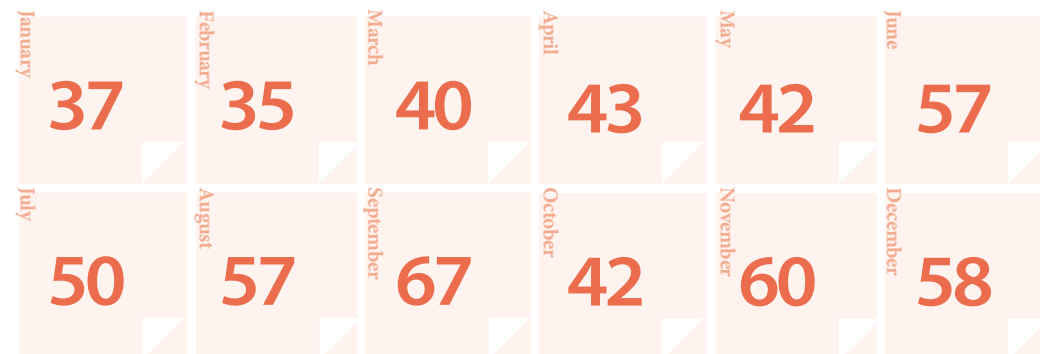
Be open to social supervisions. By inviting media, industry supervisors and ordinary citizens and our customers to tour power plants, the activity was held in many units to help people understand the power enterprise's operation mode.

Encourage stakeholders' all-round participation

Normalize press conference. The press conference normalization mechanism was applied to further communication between the company and media as well as the society, resolving their concerns. A four-tier spokesman system consisting 2,032 persons has been set up and over 580 various kinds of news conferences have been held.

Build a new media platform to facilitate the stakeholders' participation. Explore the dissemination laws of new media, such as Weibo (microblog) and Wechat, to enhance communication with all walks of life and to release information to the public, for example electricity supply services and common knowledge on power use, and to promote the stakeholders' participation in the company's management.

Number of press conferences held in 2014 by SGCC



Main Associations and Organizations SGCC Participates

Type	Associations / Organizations	SGCC's Role
National Organization	China Enterprise Confederation	Vice Chairman
	China Federation of Industrial Economics (CFIE)	Chairman
	China Business Council for Sustainable Development	Councilor
	China Association for the Promotion of Industrial Development	Councilor
	China Association of Work Safety	Vice Chairman
	China Accounting Society	Standing Councilor
Industrial Associations	China Electricity Council	President
	China Society for Electrical Engineering	Vice President
	China Electric Power Promotion Council	Vice chairman
	China Electric Equipment Management Association	Vice Chairman
	China Society for Hydropower Engineering	Vice President
	China Electric Power Construction Association	Vice Chairman

Up to now, there are 623 official Weibos of different purposes, such as customer service or corporate activities, 20 of which belong to provincial companies and 491 to the prefecture-level ones. There are altogether 10 million followers. Two Wechat official accounts "Grid Pioneer" and "Your Power, Our Care" have already been put into operation.

1
official Weibo of Headquarters

20
Official Weibos of provincial companies

623
official Weibos of varies organizations within SGCC system





Power Wechat provides fingertips' platform for customers

Since its opening in August 2013, over 2 million users registered on the official Wechat of Jiangsu Electric Power Company SGCC. This platform is oriented to public service, providing one-stop services such as real-time check of consumption & tariff, as well as on-line rate payment, ultimately providing convenient, accurate and secure "fingertip services" to customers.



Meet the needs of stakeholders and the public's right to know

Heilongjiang Electric Power Company, SGCC, has established official Weibo matrix, which covered two-tier structure (provincial and prefecture level), consisting of 20 grass-root subsidiaries. This platform discloses power supply information regularly, answers customer consultation and popularizes ABCs of energy consumption. 20 thousand messages have been released, 400 customer consultation have been replied, and 240 thousand fans followed.



"Power Man" publicizes positive energy through Weibo

Since the establishment of official Weibo of Chongqing electric power company, SGCC, more than 30 theme activities have been broadcasted such as power supply during summer peak period and power failure maintenance etc. "Power Man" is an animated image at the Weibo, to conduct themed activities, which has attracted more than 1.3 million times of on-net reviews and 11 thousand message retransmissions or comments.

The Performance

Performance is the basics for sustainable development

217000

Support Socio-
Economic Sustainability

UHV in
a Decade

By 2014, SGCC's UHV transmission has reduced
carbon dioxide emission by
217 million tons



“Wind power, hydropower and the solar energy are all not stable, sometimes even intermittent. Only by using strong interconnection network and some energy storage technology can we better bring forth the potential of the renewable energy. Applying higher transmission voltage such as UHV can increase the electricity transmission capacity and decrease loss and the infrastructure investment.”

—— CIGRE Secretary General Jean Kowal

- **UHV transmission can bring noticeable economic benefits.** The investment on UHV AC is only 70% of that of 500kV and the transmission loss is only 1/3 per unit transmission capacity. Assuming that 200TWh of electricity will be sent one year, UHV AC transmission can save electricity transmission loss by RMB5-6 billion.
- **UHV transmission can bring noticeable environmental benefits.** With 0.1TWh of electricity transmitted via UHV, the load center can reduce PM_{2.5} emission, PM₁₀, and NO_x by 7 tons, 17 tons and 450 tons respectively. By expanding the capacity to accommodate clean energy through long-distance trans-regional interconnected transmission, the exploitable wind power will be doubled, surpassing 0.2TWh.
- **UHV transmission can bring noticeable social benefits.** Over 90% UHV AC/DC equipment was domestically produced. China's UHV AC voltage has become the international standard. Chinese electrical equipment manufacturers have broken the long-term monopoly of multi-national corporations.

Economic Performance

Financial Performance

	2010	2011	2012	2013	2014
Revenue (billion RMB)	1531.8	1675.4	1883	2049.8	2096.1
Total assets (billion RMB)	2077.5	2211.6	2333.5	2570.1	2900.9
Total profits (billion RMB)	45.07	53.78	109.03	70.58	81.01
Pre-tax profits (billion RMB)	130.87	137.11	210.15	173.96	203.48
Return on equity (%)	4.45	4.54	8.36	4.72	4.98
Asset-liability ratio (%)	61.83	60.02	57.02	57.00	56.20
SASAC Evaluation on Operation Performances (Class)	A	A	A	A	A

Operation Efficiency

	2010	2011	2012	2013	2014
Overall productivity(RMB yuan per person per year)	403000	493200	550600	609000	644000
Total asset turnover period (Day)	468	462	444	439	474*
Line loss rate (%)	5.98	6.53	6.73	6.83	6.81
Transmission capacity upgrade over the years (GW)	188	200	213	241	266
Number of equipment accidents	20	9	0	0	0
Number of power grid accidents	2	5	0	0	0

*Affected by Australian assets M&A and added assets from National Bio Energy Co.Ltd., the total asset turnover period in 2014 is 35 days more than that of 2013.

Grid Capability

	2010	2011	2012	2013	2014
Investment in power grid construction (billion RMB)	264.37	301.92	305.4	303.482	385.5
Length of transmission lines (km)	619000	655000	713000	1045300	1095000
Transformation capacity **(kVA)	213000	239000	281000	324000	343000
Integrated capacity (GW)	744	818	880	962	1049
On-grid electricity of integrated capacity (TWh)	2880	3240	3390	3690	3650***
Technical R&D input (billion RMB)	6.129	6.452	7.940	5.787	7.08
Total patents	6528	10538	16399	28311	40646
Total National Science and Technology Awards	32	36	39	43	46
Annual UHV transmission volumn (TWh)	26.913	39.754	72.034	72.788	136.7
National and industrial standards led and compiled by SGCC	97	126	176	206	143

*Transmission lines of 110 (66) kV and above levels;**Transforming facilities of 110 (66) kV and above levels.***The on-grid electricity of integrated capacity in 2014 doesn't include the capacity purchased and marketed by the state in a unified way from captive power plants. There is an increase of 2.12% if calculating with the same diameter.

Power Supply Performance

	2010	2011	2012	2013	2014
Electricity sales (TWh)	2689.1	3092.5	3253.9	3522.7	3469.4
Maximum load within SGCC's service area (MW)	484100	535500	561200	654000	659950
Number of customers (millions)	258	286	309	343	378
Reliability rate of urban power supply (%)	99.906	99.921	99.941	99.956	99.967
System average interruption duration for urban users (Hour/ household)	8.234	6.92	5.18	3.854	2.891
Voltage qualification rate of urban users (%)	99.498	99.759	99.824	99.949	99.999
Reliability rate of rural grid power supply (%)	99.636	99.665	99.735	99.852	99.878
System average interruption duration for rural users (Hour/ household)	31.89	29.35	23.21	12.965	10.687
Voltage qualification rate for rural users (%)	97.477	97.688	98.074	98.567	98.808
Electricity Trading Volume in the National Power Market (TWh)	358.5	399.87	515.890	601.9	678.9
Fulfillment rate for the "Ten Commitments" on power supply service (%)	99.99	99.99	99.998	99.999	99.999

Note: The statistics for 2013 are final, which may differ from the ones in 2013 CSR Report.

The statistics for 2014 financial performance are from the financial express reports, which may differ from the final statistics.

Social Performance

General Service	2010	2011	2012	2013	2014
Investment in the rural grid (billion RMB)	70.0	73.0	80.74	50.73	46.45
Incremental number of households connected to electricity (Thousand)	1340	1375	1490	1659	1873
Incremental number of people connected to electricity in rural areas (Thousand)	5090	5226	5720	6419	7285
The average gap between urban and rural annual interruption time (Hour/household)	23.66	22.43	18.03	9.11	7.796

Public Donations	2010	2011	2012	2013	2014
Donations (Million RMB)	230	108	147	116	114
Via State Grid Foundation for Public Welfare	21	33	64	8.5	10.6
Staff's volunteer service (Person-times)	630000	640000	650000	713000	2200000

Win-win Partnership	2010	2011	2012	2013	2014
Centralized tendering volume (billion RMB)	175.12	230.6	322.96	334.3	369.0
Total Luban Awards	14	17	18	20	22

Transparent Operation	2010	2011	2012	2013	2014
SGCC website's traffic statistics (Visits)	5531000	5596000	5620000	8664000	12810000
Information reported to governments from SGCC Headquarters (Piece)	329	245	205	203	198

Employee Development	2010	2011	2012	2013	2014
Direct investment in employees' training (billion RMB)	1.78	1.823	2.125	2.262	2.467
Training coverage rate (%)	92	93	93.5	94	94.3
Employee training Person-times (Thousand)	3120	3280	3350	3400	3600
Proportion of female employees	26.2	27.1	27.3	26.9	27.18
Labor unions	1175	1236	1252	1936	1965

Environmental Performance

Serve Clean Energy Development	2010	2011	2012	2013	2014
Integrated capacity from clean energy generator units (GW)	175.85	202.60	240.04	274.26	316.81
Including integrated capacity of hydropower	144.58	156.17	168.16	185.37	198.82
Integrated capacity of nuclear power	5.74	6.4	6.4	8.49	12.75
Integrated capacity from new energy generator units (MW)	25530	40030	65480	92470	120000
Including integrated capacity of wind power	22140	35190	56760	59590	75520
Integrated capacity of PV power	240	2320	3330	14290	21920
On-grid power from clean energy generator units (TWh)	490.3	594.3	717.7	767.9	896.2
Including on-grid hydropower	410.3	437.3	551.8	568.3	651.1
On-grid nuclear power	30.8	41.6	47.5	60.6	73
On-grid power from new energy generator units	49.2	115.4	118.4	139.0	172.1

Comprehensive Power Conservation	2010	2011	2012	2013	2014
Power saved by lowering the line loss (TWh)	4	2.310	1.05	1.89	17.1
Generation rights transactions (TWh)	141.457	105.939	109.748	113.848	116.785
Electricity replacement capacity (TWh)	-	-	-	14.0	50.3

EV Development	2010	2011	2012	2013	2014
Total EV charging and battery swapping stations	87	243	353	400	618
Total EV charging and battery swapping poles	7000	13000	15000	19000	24000

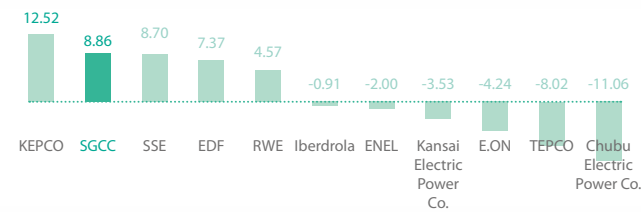
Carbon Dioxide Emission Reduction	2010	2011	2012	2013	2014
Emission reduced by clean energy accommodation (Thousand tons)	447000	442854	552649.3	668291.3	737700
Emission reduced by lowering the line loss (Thousand tons)	3300	1900.4	853.2	1500	13700

Comprehensive Analysis of Key Indicators

Economic Performance

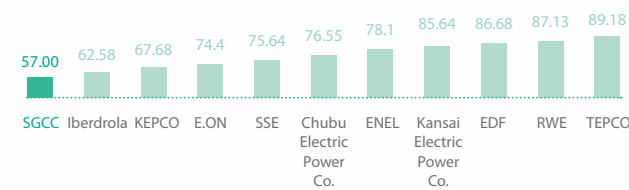
Revenue Growth (%)

SGCC ranked 2nd among the global top 10 energy and electric power companies of 2013.



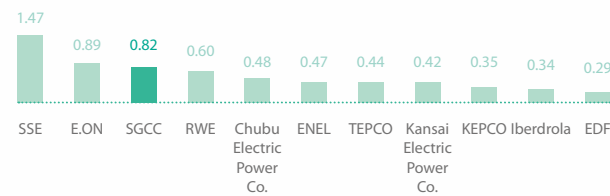
Asset-Liability Ratio (%)

SGCC ranked 1st among the global top 10 energy and electric power companies of 2013.



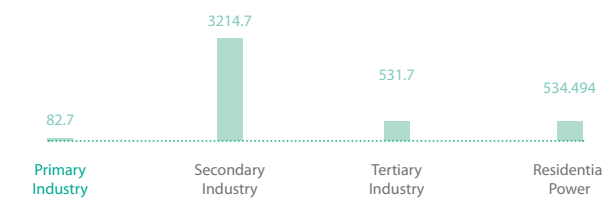
Total Assets Turnover (Times)

SGCC ranked 3rd among the global top 10 energy and electric power companies of 2013.

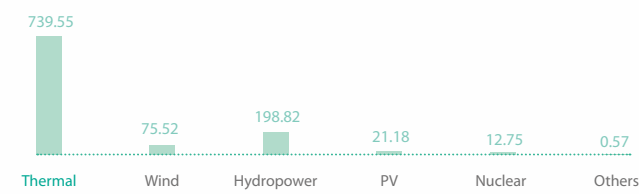


Social Performance

Power Consumption of Different Industries in 2014 (TWh)



Power Source within SGCC's Business Area in 2014 (GW)



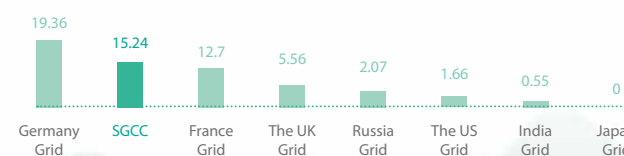
Revenue Growth (%)

Company	2009	2010	2011	2012	2013	Average annual growth rate between 2009 and 2013
SGCC	10.28	21.76	9.37	12.39	8.86	12.53
KEPCO	-7.22	28.04	15.2	10.99	12.52	9.34
E.ON	-10.52	9.85	25.58	8.09	-4.24	4.17
Kansai Electric Power Co.	1.1	15.19	10.11	-3.31	-3.53	3.03
ENEL	-0.75	8.79	13.76	-1.33	-2	2.91
Iberdrola	-7.44	18.07	9.18	-0.12	-0.91	2.81
Chubu Electric Power Co.	-3.5	12.88	13.99	2.83	-11.06	2.14
SSE	-19.83	28.23	14.88	-11.68	8.7	2.11
TEPCO	-7.81	16.02	8.09	6.22	-8.02	2.05
EDF	-2	-6.39	5.21	2.93	7.37	1.08
RWE	-9.82	3.68	1.72	-4.52	4.57	-0.86

Environmental Performance

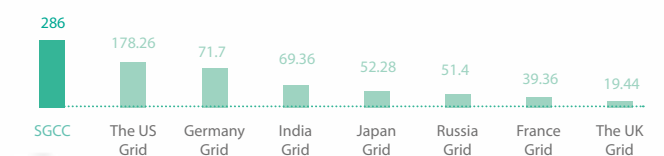
Ratio of Trans-regional and Trans-national Power Transmission (%)

SGCC's trans-regional and trans-national power transmission reached 647.3TWh in 2013, accounting for 15.24% of the total power consumption at 4,246.8TWh.



Integrated Capacity of Clean Energy (GW)

SGCC's integrated capacity of clean energy (excluding nuclear power) reached 286GW, topping the world.



The Commitment

Never stop improving

65000

Experience “UHV Blue” — UHV in a Decade

— **By 2017, we will complete the key transmission channels of the National Air Pollution Prevention and Control Action Plan.** At that time, the UHV AC grid of North China Branch would be preliminarily formed, which adds a bearing capacity of 32GW in Beijing, Tianjin, Hebei and Shandong. A UHV AC loop will be formed in East China to increase a bearing capacity of 35GW in Yangtza Delta region. In addition, By reducing 520 thousand tons of SO₂, 600 thousand tons of SO₂ NO_x and 100 thousand of smoke and dust emission every year, we plan to lower the PM_{2.5} density in East and Central China by 4% ~ 5%.



— **By 2020, over 650GW of clean energy will be accommodated by our UHV grid, and the “Four Vertical and Seven Horizontal” UHV AC backbone grids and the 19 loops of UHV DC projects will be completed.** By then, the cross-provincial power transmission capacity will reach 380GW to ensure that 650GW of clean energy will be sent out. Moreover, instead of using 714 million tons of standard coal, 2,100TWh of clean energy will be accommodated every year to eliminate the emission of 1.78 billion tons of CO₂ and 840 thousand tons of SO₂.

— **By 2050, grids will be internationally interconnected and the Global Energy Interconnection will come into being.** We will develop large energy bases at the North Pole and the Equator, construct global UHV backbone network, and promote the application of smart grid worldwide. By replacing fossil energy that equals to 24 billion tons of standard coal, we aim to make renewable energy consumption account for 80% of the global total, thus reducing emission of 66.7 billion tons of CO₂ and 580 million tons of SO₂ and then effectively control the Greenhouse Effect.

“Talking about UHV, IEC is convinced that this kind of electricity transmission technology, to a large extent, is able to solve the future energy crisis. The reason is that it can transmit electricity in large capacity over long distances with high efficiency, which are the key of solving this problem.”

—— Enno Liess, IEC Vice-President

In 2020, UHV project will transmit
650GW of clean energy

Note:  Accomplished
 Unaccomplished

Commitments for 2014

Economic Performance

- Return on equity (%) is no less than 2013
- Keep the asset-liability ratio under 60%
- Invest over RMB380 billion in power grid construction
- Invest over RMB75 billion in smart grid construction and upgrade
- Invest over RMB150 billion in distribution grid construction and upgrade
- Upgrade 100 smart substations
- Put into operation 50,000km AC lines of 110(66) kV (and above)
- Put 1,570km DC lines into operation
- Speed up the construction of 750kV
- Main Grid in Northwest 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 RMB7 billion in R&D
- Overall productivity exceeds RMB660,000 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
- Install 60 million smart meters throughout the year

Social Performance

- Prevent massive blackouts
- Provide electricity to 260 thousand households and 1.04 million people without access to electricity
- Reliability rate of urban power supply reaches 99.966%
- Reliability rate of rural power supply reaches 99.875%
- The average gap between urban and rural annual interruption time is reduced to 8 hours per household
- The donation budget is over RMB100 million
- Solve the lowvoltage problem for 1.6 million rural households within the year
- Employees' volunteer service is no less than 700,000 person-times
- Invest RMB2.32 billion in staff training

Environmental Performance

- Prioritize wind power and PV power grid integration and realize purchase in full amount.
- Accomplish 30TWh 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.

Fulfilled commitments for 2014

Economic Performance

- Return on equity (%) is no less than 2013
- The asset-liability ratio is 56.2%
- Grid investment was RMB385.5 billion
- Investment in smart grid construction and upgrade was RMB77.5 billion
- Investment in distribution grid construction and upgrade is RMB85.85 billion
- Upgrade 200 smart substations
- Put into operation 52,000km AC lines of 110(66) kV (and above).
- Put 1,653km DC lines into operation
- Put into operation Wubei-Wucaiwan and Fenghuang-Xishan-Dongjiao (Dabancheng) 750kV transmission and transformation projects
- Lower the average household interruption time in 30 municipal downtown areas to 4.8 minutes
- Solve isolated operation of 10 grids and the weak links between 38 county-level grids with the main grid
- Invest RMB7.08 billion in R&D
- Overall productivity exceeds RMB644,000 per person-year
- Line loss was 6.81%
- Complete the construction of the market platforms of the Headquarters, branches and 20 provincial companies
- Accomplish the business conglomeration of 95598 Call Center
- Electricity sales reach 3,469.4TWh
- Complete power trade of 678.9TWh in the National Power Market
- Install 66 million smart meters throughout the year

Social Performance

- No massive blackouts throughout the year
- Provide electricity to 210 thousand households and 870 thousand people without access to electricity
- Reliability rate of urban power supply reaches 99.967%
- Reliability rate of rural power supply reaches 99.878%
- The average gap between urban and rural annual interruption time is reduced to 7.796 hours per household
- Donate RMB 114 million
- Invest RMB13.03 billion in rural undervoltage upgrade and solve this problem for 3.36 million households
- Employees' volunteer service is 2,200,000 person-times
- Invest RMB2.467 billion in staff training

Environmental Performance

- Prioritize the integration of wind and PV power and realize purchase in full amount
- Accomplish 50.3TWh of electricity substitution
- Build 218 EV charging and battery swapping stations within the year
- Put Xiangjiaba-Shanghai, Jinping- Sunan, Haminan-Zhengzhou, and Xiluodu-Zhexi 4 UHV DC transmission projects into operation to deliver the hydropower from Southwest China. Put Haminan-Zhengzhou ± 800kV UHV DC project into operation. Start constructing Nindong-Zhejiang UHV DC project as a new transmission channel for new energy bases

* Affected by the fact that power supply companies were transferred up.
** Affected by the adjustment in national investment plan.

Commitments for 2015

Economic Performance

- Keep the asset-liability ratio under 56.7%
- Invest over RMB400 billion in power grid construction
- Invest over RMB80 billion in smart grid construction and upgrade
- Build 50 new-generation smart substations
- Put into operation 46,000km AC lines of 110(66) kV (and above) with a transformation capacity of 240GVA
- Improve 750kV backbone grid construction in Northwest
- Kickoff two 500kV projects for Air Pollution Prevention and Control Action Plan
- Enhance the reliability and improve management in 30 key cities and 30 non-key cities

- Urban distribution automation reaches over 50% in key cities
- Invest RMB7.08 billion in R&D
- Overall productivity exceeds RMB690,000 per person-year,
- Line loss is no more than 6.9%
- Electricity sales reach 3,635TWh
- Complete power trade of 720TWh in the National Power Market
- Install 60.6 million smart meters

Social Performance

- Prevent massive blackouts and accidents and reduce security incidents.
- Provide electricity to 450 thousand households and 188 thousand people without access to electricity.
- Reliability rate of urban power supply reaches 99.975%.
- Reliability rate of rural power supply reaches 99.90%.
- The average gap between urban and rural annual interruption time is reduced to 6.57 hours per household.
- Solve the undervoltage problem for 5.05 million rural households within the year.

- Solve the weak links between 21 county-level grids and the main grid.
- Accomplish 330 thousand tasks with power uninterrupted on the distribution grid.
- Speed up the construction of 41 smart grid innovation demonstration projects of 6 categories.
- Employees' volunteer service is no less than 2,500,000 person-times.
- Staff training coverage rate is over 94.5%.
- Conduct lean evaluation on 249 330kV (and above) substations and carry out the second round of lean evaluation on 29 converter stations.

Environmental Performance

- Accomplish 65TWh of electricity substitution
- Build three lines and one circle of inter-city highway quick charge network (Beijing-Taipei Highway, Shanghai-Chengdu Highway, Shenyang-Haikou Highway, and Yangtze-River Delta region).
- Speed up the construction of transmission channels for hydropower from Southwest China and from new energy bases.

- Accelerate the construction of pumped storage power stations in Xianju of Zhejiang, and Wendeng and Yimeng of Shandong.
- Complete the acceptance of provincial SF₆ recycling centers.

CSR fulfillment in 2014 and commitment for 2015 from provincial companies

SGCC CSR Commitment and Fulfillment			
Featured CSR Fulfillment From Provincial Companies In 2014		Featured CSR Commitment From Provincial Companies For 2015	
Beijing Electric Power Company, SGCC		Tianjin Electric Power Company, SGCC	
2014	2015	2014	2015
Implement Beijing Clean Air Action Plan and replace coal by electricity in 296.5 thousand households	Accomplish 6 auxiliary transmission and transformation projects for 4 thermoelectric centers. Reduce annual coal consumption by 9.2 million tons in the capital	2 smart substations have begun their civil construction	Launch installation application services for individual new energy vehicle charge in 112 business halls in the city
296.5 thousand households	9.2 million tons	2	112
Hebei Electric Power Company, SGCC		Jibei Electric Power Company, SGCC	
2014	2015	2014	2015
Accomplish the upgrade of power supply facilities in 1,549 key villages	Construct 34 EV quick charge stations on highways, covering Beijing-Shanghai Highway, Beijing-Hong Kong-Macao Highway, and Qinghai-Yinchuan Highway	Integrate over 9GW of installed capacity of new energy in the region	Support the development of new energy. Integrate over 10GW of installed capacity of new energy in the region
1,549	34	9 ^{GW}	10 ^{GW}
Shanxi Electric Power Company, SGCC		Shandong Electric Power Company, SGCC	
2014	2015	2014	2015
Make public all the affairs of the enterprise	Obtain the preliminary land clearance documents for 3 UHV stations, namely, Jingbei converter station, Jingbei AC station, and Jingzhong AC station	Import over 50TWh of electricity into Shandong	Upgrade distribution grid and improve rural grids in 25 thousand administrative villages
100%	3	50 ^{TWh}	25 thousand
Shanghai Electric Power Company, SGCC		Jiangsu Electric Power Company, SGCC	
2014	2015	2014	2015
Maintain world-level reliability rate of power supply. Keep the average interruption duration for urban users under 0.986 hours	Accomplish the maintenance and upgrade of power supply facilities before power meters in more than 6,500 old residential communities	The overall productivity is RMB1.29 million per person per year	Improve marketing and interactive services. 90% residential customers pay in means other than cash
0.986 hours	6,500	RMB 1.29 million per person per year	90%

Zhejiang Electric Power Company, SGCC		Anhui Electric Power Company, SGCC	
2014	2015	2014	2015
Support the development of new energy and distributed generation and ensure all integrated new energy to be accommodated	Finish the rural power line upgrade in 12,900 villages in the province	Build 15 EV charging and battery swapping stations and 2,405 charging poles	Promote the plan of "PV Generation in Rural Areas" and intend to implement this program in 1,100 households
100%	12,900	15	1,100 households
Fujian Electric Power Company, SGCC		Hubei Electric Power Company, SGCC	
2014	2015	2014	2015
Employees' volunteer service exceeds 31,000 person-times throughout the year	Improve the reliability of distribution grid at medium and low voltage. Achieve power supply in 10kV double-circuit lines covered all villages and towns	Accommodate a total of 48.2TWh of hydropower within the province or power purchased outside the province, accounting for 37.8% of the total power consumption	Invest at least RMB4 billion in rural distribution grid construction, benefit 700 thousand households
31,000 person-times	100%	48.2 ^{TWh}	700 thousand households
Hunan Electric Power Company, SGCC		Henan Electric Power Company, SGCC	
2014	2015	2014	2015
Solve undervoltage problem for over 370,000 rural households and benefit 1,295,000 people	Construct 4 smart-grid projects and reduce environmental pollution in production and maintenance	Electrify 211,000 rural agricultural wells and benefit 8,400-square-kilometer farmland	Deploy 4.5 million smart meters
1,295,000 people	4	211,000	RMB 4.5 million
Jiangxi Electric Power Company, SGCC		Sichuan Electric Power Company, SGCC	
2014	2015	2014	2015
Accomplish the investment of RMB2.7 billion in electric power infrastructure	Accelerate the roof-top PV Generation project on urban and rural residential buildings. Strive to install this project for 10,000 households in three years	Export over 70TWh of hydropower out of Sichuan	Construct power facilities in areas without electricity and supply power to 44,140 addition rural households
RMB 2.7 billion	10,000 households	70 ^{TWh}	44,140 households
Chongqing Electric Power Company, SGCC		Liaoning Electric Power Company, SGCC	
2014	2015	2014	2015
Upgrade and transfer power facilities in 702 neighborhoods without proper management	Solved undervoltage problem for 6,000 districts	Invest RMB4.5 billion in distribution grid and enhance the power supply reliability of urban and rural grids	Serve the development of new energy and integrate over 9.2GW of installed capacity of new energy in the region
702	6,000	RMB 4.5 billion	9.2 ^{GW}

Jilin Electric Power Company, SGCC		Heilongjiang Electric Power Company, SGCC	
2014	2015	2014	2015
Ensure power supply for heating system of 3,838,000 households and guarantee safe power consumption for 12,206,200 households in the province.	Solve the undervoltage problem for rural areas and the investment in upgrading rural grid reached RMB268 million.	Purchase 3.6TWh of power overseas.	Accommodate 7TWh of wind power, accounting for 10.5% of the total electricity sales.
12,206,200 households	RMB 268 million	3.6TWh	7TWh

East Inner Mongolia Electric Power Company, SGCC		Shaanxi Electric Power Company, SGCC	
2014	2015	2014	2015
Accommodate 12.8TWh of wind power, accounting for 48.5% of the total electricity sales.	Accommodate 15TWh of wind power, accounting for 49% of the total electricity sales.	Install over 2 million smart meters.	Support the relocation of Shaanxi immigrants and provide electric power to over 1,000 relocation settlements.
12.8TWh	15TWh	2million	1,000

Gansu Electric Power Company, SGCC		Qinghai Electric Power Company, SGCC	
2014	2015	2014	2015
Accommodate 16TWh of electricity fueled by new energy.	Serve the development of new energy and integrate over 17GW of installed capacity of new energy in the region.	Integrate over 1GW of PV generation throughout the year.	Implement the reconstruction of “One Household, One Meter” project that benefits the people. Finish this task for 40,000 households with high quality.
16TWh	17GW	1GW	40,000 households

Ningxia Electric Power Company, SGCC		Xinjiang Electric Power Company, SGCC	
2014	2015	2014	2015
Installed capacity of wind and PV generation accounts for 20.88% of the total integrated installed capacity in Ningxia.	Set time limit for customer's installation application and electricity access. Undervoltage residential customers will get electricity access within two working days since the day they apply for service.	Export 16.8TWh of electricity out of Xinjiang.	Export 32.5TWh of electricity out of Xinjiang.
20.88%	2working days	16.8TWh	32.5TWh

Tibet Electric Power Company, SGCC	
2014	2015
Provide electricity access for 270,000 people.	The main grid supplies power to 524,800 households in 58 counties.
270,000 people	524,800 households

CSR Fulfillment in 2014 and Commitment for 2015 from Affiliates Directly Managed by SGCC

Fulfillment in 2014		Commitment for 2015
China Electric Power Research Institute	The accuracy rate of test reports issued for the third party reaches 100%.	The accuracy rate of test reports issued for the third party reaches 100%.
State Power Economic Research Institute	Construct a nationally leading planning and consulting agency to serve the construction of the Strong and Smart Grid.	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 electricity.	Release at least 8 fundamental research annual reports on energy and power.
SGCC Advanced Training Center	Organize trainings of 15,000 person-times.	Organize trainings of 100,000 person-day.
State Grid Institute of Technology (Youth League School)	The satisfaction rate of training quality is 98.95%.	The satisfaction rate of training quality is over 90%.
State Grid Operation Company	The forced energy of UHV DC transmission is zero.	The forced energy unavailability of UHV DC transmission is lowered to under 0.08%.
State Grid DC Engineering Construction Company	Accumulatively accomplish construction of 4 ±800kV UHV DC projects.	Plan to construct 4 UHV DC transmission projects, three of which, such as Shanghaiiao-Shandong UHV DC project, were listed in the Air Pollution Prevention and Control Action Plan.
State Grid AC Engineering Construction Company	Accumulatively accomplish 39GVA UHV transformation capacity from directly managed projects. Construct 1,937.4km UHV lines in total.	Build two new UHV substations and upgrade two UHV substations. Comprehensively support the construction of four UHV projects and accumulatively accomplish UHV transformation capacity of 75GVA and 6,408.6km UHV lines.
SGCC Call Center	Accessibility rate of 95598 call center service is no less than that in 2013.	Ensure customer satisfaction rate is over 98%.
NARI Group Corporation	Supply 1,415 equipment sets for wind and PV power integration.	Supply 2,400 equipment sets for wind and PV power integration.
China Electric Power Equipment and Technology Co., Ltd. (State Grid Project Management Company)	International EPC projects amount to 25.	8 incremental EPC projects throughout the year.
State Grid Xinyuan Co., Ltd. (State Grid Xinyuan Hydropower Co., Ltd.)	Installed capacity in operation or under construction reaches 25.43GW.	Controllable installed capacity reaches 32.03GW.
State Grid Smart Grid Research Institute	Process 218 patents, including 160 patents for invention. Acquire authorization of 99 patents and apply for 8 international patents.	Process 220 patents, including 26 patents for invention. Acquire authorization of 100 patents and apply for 10 international 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%.	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 for 7,000km.	Inspect over 110,000km power lines. Safe flight for over 8,000 hours. Take off and land for a total of 2,500 times.
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.	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.	Advance in digitalization transformation and upgrade and develop a series of digital media products. Hold branding events and enhance brand influence.
State Grid XJ Group Corporation	Complete 50 S&T innovation projects.	Carry out 60 S&T innovation projects.
State Grid Pinggao Group	Further improve management and increase productivity by 10%.	Ensure 100% high quality supply according to the milestone plan.
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.	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 99.96%.	Fully exert its function as a finance company with a fund accumulation rate of 99.96%.
State Grid Energy Conservation Service Co., Ltd.	Accomplish 5.52TWh of biomass power generation. Reduce the burning of 7.916 million tons of straw in open space, and save 2.366 million tons of standard coal.	Accomplish 6.5TWh of biomass power generation. Reduce the burning of 9.32 million tons of straw in open space, and save 2.78 million tons of standard coal.

Note: The commitments for 2014 from State Grid Management Academy, State Grid Information & Telecommunication Technology Company, SGCC International Service Company, State Grid Zhongxing Co., Ltd., State Grid Yingda International Holdings Group Ltd., Yingda Taihe Property Insurance Co., Ltd., Yingda Taihe Life Insurance Co., Ltd., Yingda Chang'an Insurance Brokers Co., Ltd., Yingda International Trust Co., Ltd., and Yingda Security Corporation Ltd., have been included in SGCC's overall commitment for 2014.

Cast A Monument of The Times UHV in a Decade

2,500 - 5,000km

UHV's effective transmission distance can reach

2500 5000

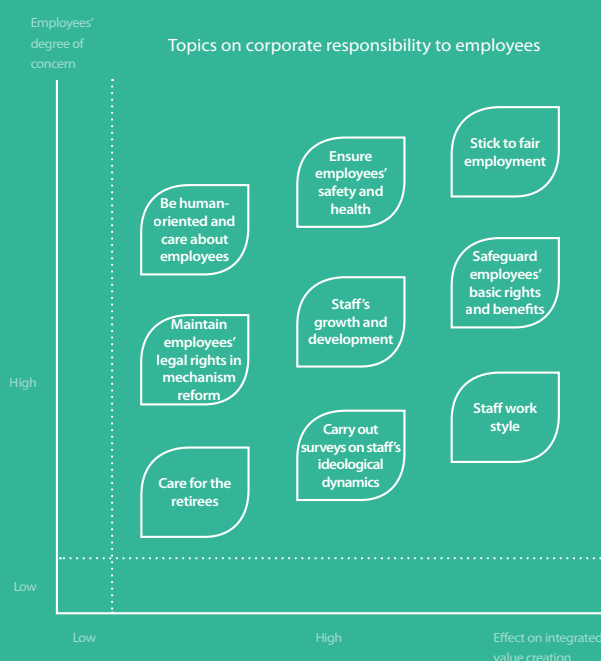
Performing Subject

In search of excellence
In pursuit of outperformance

In 2014, SGCC Chairman Liu Zhenya advocated and initiated the establishment of UHV Scholarship Fund together with 19 electric power companies and industrial organizations. SGCC donated RMB3 million. The scholarship has promoted “UHV spirit” to become an important intangible heritage in the industry and for all walks of life.

- **Great career makes a strong team.** UHV construction has cultivated a very holistic, responsible, combative, hardy and dedicated team which highlights the enterprise spirit of “in search of excellence; in pursuit of outperformance” and promotes the core value of “integrity, commitment, innovation and dedication”.
- **Great career cultivates lofty spirit.** UHV spirit means to be responsible to repay the country with supreme loyalty, be scientific to seek truth from facts, be innovative to dare to be the first, be perseverant, and be cooperative to have team spirit.
- **Great career needs hard work.** SGCC Staff are sticking to and striving for value and significance of the cause of power grid, making contribution to the state and people by creation, and gaining the world’s respect and national dignity.

Corporate Responsibility to Employees



Investment on staff training
RMB **2.467** billion

Overall productivity
RMB **644,000** /(person-year)

Staff training
3.6 million man-times



Safeguard employees' legitimate rights

Ensure decent labor.

- **stick to equality in employment.** By the end of 2014, SGCC's total employees account to 1,867,300. There are 424,400 retirees and 260,800 female employees. 21,200 people began to work for SGCC in 2014. Staff turnover rate is less than 0.7%. The company implements the policy of equal pay for equal work to men and women. Salary level is defined by job positions, performance and capability. All employees participate in the Labor Union.
- **Fully implement welfare guarantee system.** Establish a sound, scientific, standardized, reasonable and transparent employee welfare guarantee system under the law. Pay the pension, medical care, employment injury insurance, maternity insurance, unemployment insurance and housing fund for all employees in time and in full amount. Ensure all staff have social insurance and sign labor contract.
- **Establish a reasonable paid leave system:** 5 working days of annual paid leave for employees who have served over 1 year but less than 10 years accumulatively; 10 working days if they have served over 10 years but less than 20 years; and 15 working days for 20 years' employment or longer. Protect employees' rights for maternity leave/paternity leave.
- **Protect staff's privacy.** Improve and implement confidentiality management.

Ensure staff's health and safety.

- **Strengthen safety education for staff.** Raise their awareness and safety skills. Create a standardized, clear and safe operating environment and prevent them from being injured during operation.
- **Care for employees' physical and psychological health.** Carry out regular health checks for the staff and establish health archives. Ensure all employees can get health check once a year at least. Analyze staff's ideological dynamics through questionnaires, group discussions, targeted interviews, and field visits. Get to know the working conditions and mainstream claims of staff at the production line. Implement EAP psychological support plan, unify thoughts, raise awareness and ensure their mental health.
- **Deliver special care to the staff.** Promote labor unions of all levels to build up "Staff Home" trusted by the staff. During New Year's Day and Spring Festival of 2014, the company paid a visit to 48,930 employees from the production line or in difficulty.
- **Care for the retirees.** Enrich their spiritual and cultural lives. SGCC has built 2,192 event venues and 56 retiree universities. The average daily number of participants reaches nearly 54,800.

Number of employees in SGCC
1867300 people

100 %
social insurances coverage for all employees



It's the company's most important economic and social contribution to ensure its employees to improve their living standards through safeguarded and decent job. 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.



Lin Zhongliang
SGCC Fujian Transformation/
Transmission Co.
Staff of the 2nd Operation and
Inspection Branch

He's been working at the frontline of electricity production for over 30 years. He has climbed electric poles and built electric lines. After all these years' efforts, he has fought his way up from an ordinary worker to a grass-root expert. Now he's become a live-work expert of the company, known as "the most beautiful worker at the production line". He was given the honor of Master of Skills of Fujian Province.



Xu Qijin
SGCC Suzhou Power Supply Company
Line worker

He takes his ordinary post as a platform to realize and demonstrate his value of life. Known as a diligent person to serve the people wholeheartedly in this new era, he has won many honors, such as the National Labor Award, SGCC Special Model Worker and Expert of skills, Model Worker of Anhui Province.



EAP psychological support plan help staffs build right and positive mindset

The customer representatives from SGCC Call Center are mostly young people born after 1985. As the team gets younger and customer requests get varied, they tend to be more subject to negative emotions. In 2014, SGCC Call Center conducted psychological health survey on 3,764 employees, had 112 man-times talks, and 153 man-times one-on-one consulting. It also held 23 lectures themed at emotional release, psychological health and self-cognition, etc. 58 group activities were carried out for team cooperation, inter-personal communication, and sand table experience. SGCC Call Center effectively relieved work pressure for staffs and guided them to build a positive mindset by psychological health survey and analysis, EAP publicity, psychological consulting, psychological improvement training, group guidance, and the team building of EAP specialists.



Ensure employees' development

Advocate the strategy of vitalizing the company by human resource development.

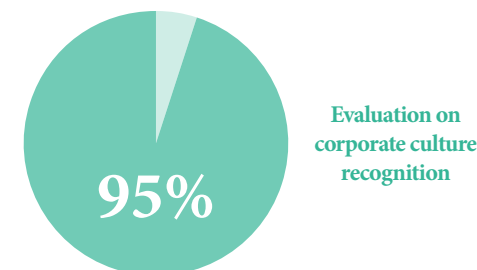
In 2014, the company recruited 14 national talents, including 1 S&T top-notch innovative talent from "Ten Thousand Talent Program", 3 talents from the Recruitment Program of Global Experts, 3 candidates from National Excellent Talent Project, and 3 young and middle-aged S&T innovative banner-bearers from "Innovative Talent Promotion Program", 1 winner of Skills Awards of China and 3 winners of the title "National Technical Master-Hand". The company also selected and recommended 33 candidates to be national talents. It selected 10 S&T top-notch talents, 506 professional banner-bearers, and cultivated and imported 1,000 talents in special fields, such as UHV and smart grid. 12 units and 8 individuals gained the honor of model group and individual in the national campaign "Dream and Contribution". 2 units and 1 individual were awarded National Talent of Skills Cultivation Organization with Outstanding Contribution and National Talent of Skills with Outstanding Contribution.

Attach importance to employees' career growth.

- Construct a unified, efficient online university of the company, which consists of 13 colleges covering such fields as operation, management, technology, skill and others. There are 3,194 subjects, 230 thousand test questions, 58 training books and 66 training materials. All these materials will be launched for application in the Headquarters, branches and all divisions.
- Build up a platform for management exchange and training. The 8th and 9th batches of leaders and leader candidates (totally 9 people) from West China haven been appointed to take a temporary post for 3 months in East China. The company launched the 3rd batch of exchange program for 22 managers to take a temporary post in Tibet, Xinjiang, and Inner Mongolia.
- Carry out training for all employees. In 2014, SGCC organized training of 3.6 million man-times. The training coverage reached 94.3%. It also organized relevant divisions to carry out various kinds of on-site trainings. 14,000 new employees participated in a unified orientation training.

Build an excellent corporate culture

Promote innovative practices for corporate culture project management. Execute the program of "implementing the socialist core values- Outperformance Practice" to promote the penetration of outstanding corporate culture.



The staff recognition rate is over 95% according to a professional survey on corporate culture.

Deepen staff democratic management

Reinforce the construction of Staff Congress.

Continuously strengthen democratic management and the construction of Staff Congress, and form an integral, standardized and effective democratic management system, to eventually ensure employees' rights and interests.

Enhance the work to handle proposals from staff representatives.

Finish replying 200 proposals. All proposals have been responded to. Carry out 2 inspections for staff representatives to ensure key tasks of the company are completed.

Strengthen the construction of democratic management system.

Draft Procedures for Employee Directors and Supervisors, and Staff Congress Proposal Procedures. Promote the implementation of the Outline of Democratic Management in grass-root level, and the establishment of democratic management system in which democratic management standard is promoted by institutional guarantee, democratic management is orderly deployed by organizational guarantee, and democratic management is driven by cultural guarantee. All these will be achieved through Staff Congress and operational transparency.

Conduct staffs' satisfaction survey.

Collect, analyze and respond to major claims of the staff via field investigations and questionnaire surveys, to ensure smooth communication channel.

Construct and promote outstanding corporate culture

One principal line

Unification is the basis.
Outperformance is the goal.

Two Principles

Communication Project
Implementation Project
Evaluation Project

Three Projects

Integration Into key work
Integration Into operation management
Integration Into regulatory standards
Integration Into staff behavior

Four Integration

Unify values and concepts
Unify development strategy
Unify system standard
Unify behavior standard
Unify corporate brand

Five Unification



Build
1,100
model worker
innovation labs

Collect
240,000
pieces of reasonable
advice in the program of
“Make a Suggestion for
the Company”.

Construct the team of CSR penetration

SGCC Shandong Electric Power Company started with basic teams, to incorporate team construction into professional management scope. The company separated irrelevant management work from the team so that the team could complete core tasks at full strength and were well relieved from their burden. The number of innovation achievements of the staff at production line grew like a rocket, including 2,820 patents. 389 outstanding technical innovation achievements are vigorously promoted and applied in the company.

SGCC Jiangsu Electric Power Company carried out CSR open classes for team leaders and directors during “the CSR Week” in the provincial and prefecture-level companies. It modified and optimized business process and work procedures for marketing and power distribution by means of the mini-film of CSR fulfillment, open class, expert analysis, responsibility discussion, group discussion, and practical deduction, so as to promote thorough CSR penetration into the basic level and businesses. The company compiled typical teaching materials to be distributed in the province.

SGCC Heilongjiang Electric Power Company established a social responsibility training system covering teams and groups. The PR department and relevant business departments organized CSR trainings, lectures and seminars for prefecture-level companies to strengthen social responsibility awareness of teams, promote associated combination of CSR management and business, and create a working environment to internalize external work.

SGCC Gansu Electric Power Company takes improving employees’ CSR fulfillment awareness as a key point for team construction. It organized the activities of “CSR Week”, “Be a Pioneer in the Promotion Project”, “Outstanding Team Building”, “Footprint of Staff from SGCC Gansu Electric Power Company”, “Inspirations Around You” and “Who’s the Most Beautiful Person in the Company” to promote CSR management achievements, such as the CSR Management Manual for Electricity Supply Enterprises in Townships.

Enhance the organizational vitality of grassroots employees

Eventually reduce burden of teams and groups.

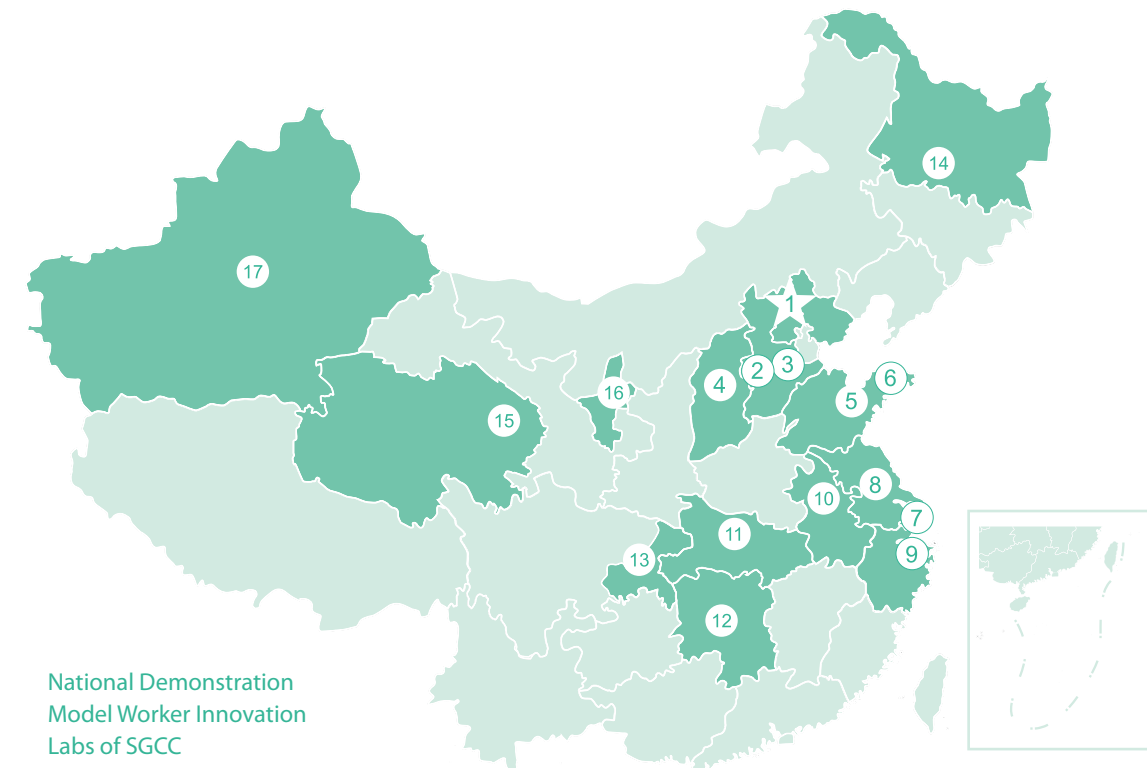
Study and formulate the Instructions of Strengthening Team Construction, and Reducing Their Burden and put forward 30 key requirements. Further reduce burdens of technology, management, equipment and quality. Eliminate 4,360 self-built information systems, cancel 6,028 assessment indexes, and simplify, clear and optimize more than 23,000 records. All these efforts have practically eased the burden for grass-root organizations.

Encourage the majority of the staff to make contributions.

- **Labor contests can motivate employees to work.** Organize meritorious competitions during the construction of Northern Zhejiang-Fuzhou UHV AC project and Sichuan-Tibet Interconnection Project, to integrate contests into major project management and throughout all processes, such as construction, supervision, equipment installation, and logistics.
- **Collect suggestions in the campaign of “Make a Suggestion for the Company”.** 618,000 employees took part in this activity and offered more than 240,000 suggestions which have helped enhance company management.

Exert the effect of model worker innovation labs.

Bring the conglomerate, radiating and branding effects of model workers into play. Establish model worker innovation offices, and promote their standardization, institutionalization and normalization. The company has established 1,100 model worker innovation offices in total, 76 of which were nominated as pilots, 5 were awarded as “Demonstration Model Worker Innovation Office of China’s Energy Chemistry Industries”, and 17 were honored as “National Demonstration Model Worker Innovation Office”.



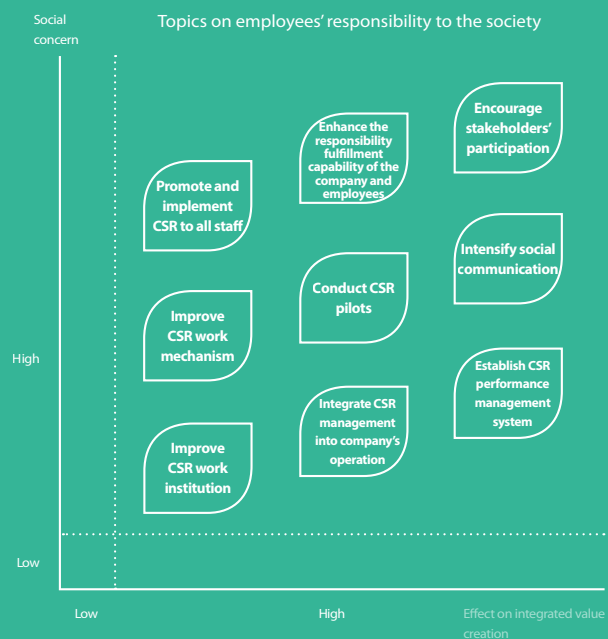
National Demonstration
Model Worker Innovation
Labs of SGCC

1. Zhang Wenxin Model Worker Innovation Lab, SGCC Beijing Electric Power Company	10. Xu Qijin Model Worker Innovation Lab, SGCC Suzhou Electric Power Company
2. Shan Dongyang Model Worker Innovation Lab, SGCC Shijiazhuang Electric Power Company	11. Lou Xianyi Model Worker Innovation Lab, SGCC Xiangyang Electric Power Company
3. Liang Jianzhi Model Worker Innovation Lab, SGCC Cangzhou Electric Power Company	12. Zou Dehua Model Worker Innovation Lab, SGCC Loudi Electric Power Company
4. Fan Chunyan Model Worker Innovation Lab, SGCC Taiyuan Electric Power Company	13. Zhang Yi Model Worker Innovation Lab, SGCC Chongqing Nan'an Electric Power Company
5. Gao Peng Model Worker Innovation Lab, SGCC Zibo Electric Power Company	14. Jin Weizhi Model Worker Innovation Lab, SGCC Harbin Electric Power Company
6. Li Hongxin Model Worker Innovation Lab, SGCC Yantai Electric Power Company	15. Qian Jianhua Model Worker Innovation Lab, SGCC Qinghai Electric Power Company
7. Yang Qinghua Model Worker Innovation Lab, SGCC Shanghai Electric Power Company	16. Jin Shuling Model Worker Innovation Lab, SGCC Ningxia Electric Power Company
8. Xu Xintao Model Worker Innovation Lab, SGCC Taizhou Electric Power Company	17. Aibi Bule Model Worker Innovation Lab, SGCC Urumqi Electric Power Company
9. Ye Meng Model Worker Innovation Lab, SGCC Ningbo Electric Power Company	

Enrich cultural construction for employees.

- Organize singing, calligraphy, painting, photography activities for the staff in construction sites together with grass-root teams so that workers can also enjoy cultural activities.
- Hold exhibition of staff’s literature and art works, on the theme of “Voice of SGCC”.
- Co-organize the 7th SOE “SGCC Cup” table tennis competition, and delegation of the company has been the collective winner for the 6th time.
- Conduct campaigns on excellent songs and mini dramas among the staff. These art works showcase the features of the power grid and also cater to employees’ taste, satisfying their spiritual and cultural needs.
- Strengthen the IT construction of staff library. Hold training classes for staff cultural construction and managers in the Labor Union to enhance their expertise and business performance.

Employees' Responsibility to the Society



Be staff's new working method

Require employees to have the view of comprehensive value and stakeholder, and the concept of transparent operation and green development. Convert internal work into social contributions and social expectation into work requirement, so as to realize "externalization of internal work and internalization of external expectations".

Be the company's new development mode

Convert enterprise management goal from profit maximization into comprehensive value maximization. Change management object from internal part to external part and natural environment. Management mechanism shifts from optimized allocation of corporate resources to social resources.

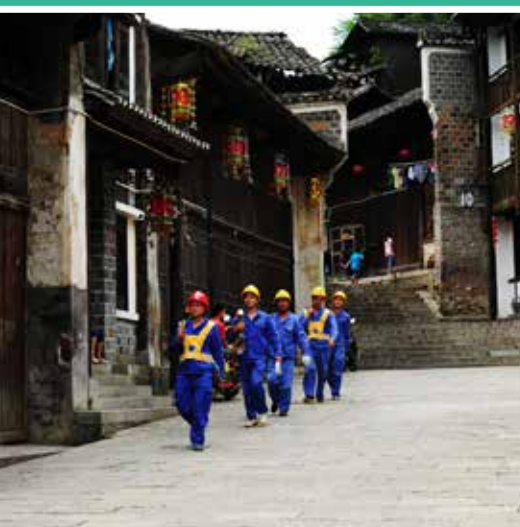
Four "Be" In Practicing CSR

Be the company's new communication method

Require the company to convert work communication into value communication. It used to only pay attention to reporting to higher authorities and media publicity. Now, the company has to carry out overall communication with stakeholders and media. The old method of information output has to give way to the concept that trust built on communication can enhance cooperation to create value.

Be the company's new management mode

According to requirement to maximize the company's contribution to sustainable development, develop and improve the corporate value, development strategy, governance mechanism, institutional system, management process, and assessment mechanism. Build a harmonious relation with stakeholders and become an excellent organization pursuing maximized integrated value.



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.

$$\Sigma (\text{Business+Improvement})^{\text{Re}} = \text{Work} \cup \text{Value}$$

Σ
refers to every business and improvement.

Re
is the abbreviation of Responsibility and Rethink.

\cup
is the logic operator meaning "and".

$\Sigma (\text{Business+Improvement})^{\text{Re}}$
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.

CSR Practice is employees' new working style

CSR Practice requires them to

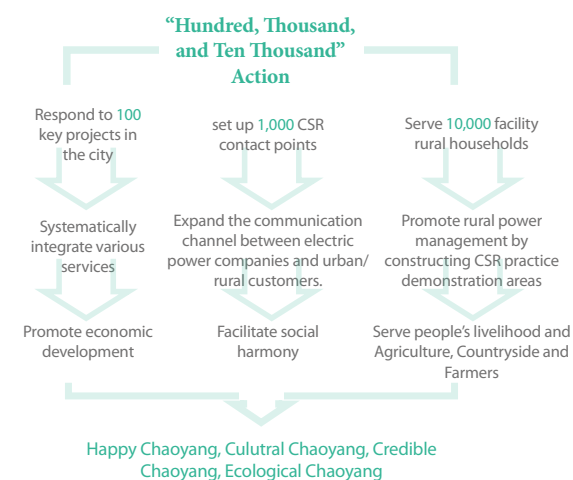
Discover value: take the initiative to turn work into economic, social and environmental value.

Add value: Expand work from its financial dimension to the dimension of integrated value.

Enhance value: Upgrade work's competence and quality of integrated value creation.

Popularize value: Advocate work's contribution to stakeholders and the society.

Based on industrial characteristics, regional realities and industrial features, **SGCC Chaoyang Electric Power Supply Company** developed "Hundred, Thousand, and Ten Thousand" CSR fulfillment action to respond to 100 key projects in the city, set up 1,000 CSR contact points, and serve 10,000 facility rural households to accelerate industrialization, urbanization and agricultural modernization. In 2014, 21 social responsibility practice demonstration areas were established, including 13 agricultural areas, 5 cultivation bases, 2 flower planting bases, 1 integrated agricultural cultivation area, which service totally 21 thousand farmers.



SGCC Nanjing Electric Power Supply Company innovatively used "responsibility leverage" to fulfill its responsibility, and stakeholder management mechanism of "responsibility 1+N" to conduct CSR initiative "Provide Clean Energy with Responsibility; Build Our Beautiful Homeland Together". The company signed the initiative together with 49 stakeholder representatives from the government, communities, customers and partners, including Nanjing municipal government, Sinopec Yangzi Petrochemical Co., Ltd., and Nanjing Affordable Housing Construction & Development Co., Ltd. They promised to create comprehensive value and make efforts for Nanjing's development jointly by focusing on substantive issues like improving power supply quality, supporting the development of new energy industry, and building a beautiful and harmonious Nanjing.

SGCC Zhangzhou Electric Power Supply Company established a work mode to improve internal work by external feedbacks. All connection dots were sorted out between the company and all stakeholders to diagnose the current situation of social responsibility. The company also did research on and interviewed with 7,015 people from village committees and regional Party committees and governments, 320 residential districts, 436 on-grid power stations, and 62 outsourced construction teams. By scoring satisfaction and expectation, the company evaluated current situation of social responsibility and found the weakness in current practices. It prepared *Diagnostic Analysis Report of Current Situation of Social Responsibility Management* as a guideline for the enterprise to improve management.

CSR practice is the enterprise's new development mode

Change the development mode for the power grid

=realize the maximized integrated value of grid development + form a consensus on grid's scientific development

Change the development mode for the company

=realize the maximized integrated value of company development + form a consensus on company's scientific development.

Promote two transformations, build two world-class

=Purse maximization of comprehensive value+ form scientific development cosensus
=fully implement social responsibility management+ contribute to sustained development
=promote sustained development of the company and society

SGCC Beijing Electric Power Company published the white paper Electricity Action For Clean Air in Beijing to disclose key deployment for the capital's clean air action, for which totally 200 reports have been released on media.

With the guidance from SGCC Tianjin Electric Power Company, Binhai Power Supply Company released The White Paper on Serving the Socio-Economic Development in Binhai New District to target at regional development, and push the government to set up compensation fund for electric power construction.

SGCC Shanxi Electric Power Company published Shanxi Electric Power with Responsibility to present the achievements of the company in fulfilling its social response regarding delivering electricity from Shanxi via UHV and actively implementing its corporate citizen's responsibility.

SGCC Jiangsu Electric Power Company published White Paper on Serving "Double Leads" (taking the lead in building a well-off society and achieving modernization) and Lighting Up a Beautiful Life at the provincial and prefecture level. It held informal meetings to serve the local economic and social development, and invited key stakeholders such as the government, media, VIP clients, power generation enterprises to offer advice and suggestions on providing better service for the local development.

SGCC Zhejiang Electric Power Company prepared and published Whiter Paper on Serving the Socio-Economic Development in Zhejiang. It also guided SGCC Yiwu Electric Power Supply Company to publish the first white paper on CSR fulfillment for county-level power supply companies. Its practice and performance was recognized by the provincial government.

SGCC Anhui Electric Power Company published Whiter Paper On Serving the Construction of a Beautiful Anhui to match the development strategy and key work of Zhejiang Government.

SGCC Hubei Electric Power Company held a press conference to release White Paper of SGCC Hubei Electric Power Company Serving the Provincial Socio-Economic Development at the media office of the provincial government.

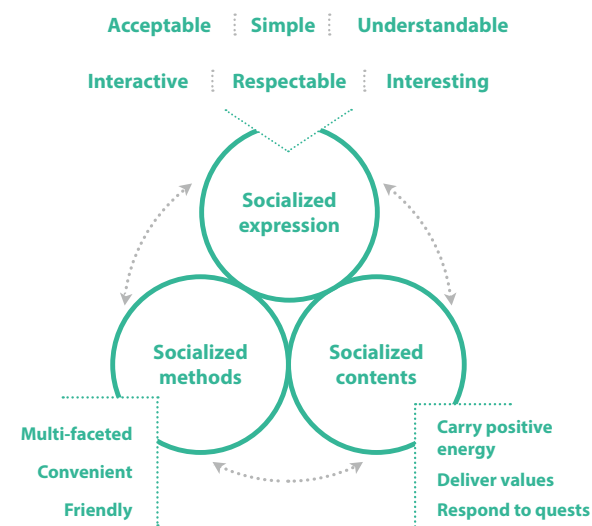
SGCC Liaoning Electric Power Company prepared and published White Paper on Green Development to comprehensively demonstrate its actions and performance in fulfilling its social responsibility and promoting green development. Provincial leaders and experts, as well as KOLs were invited to the event.

Sustainable Development Strategy of SGCC Shandong Electric Power Company



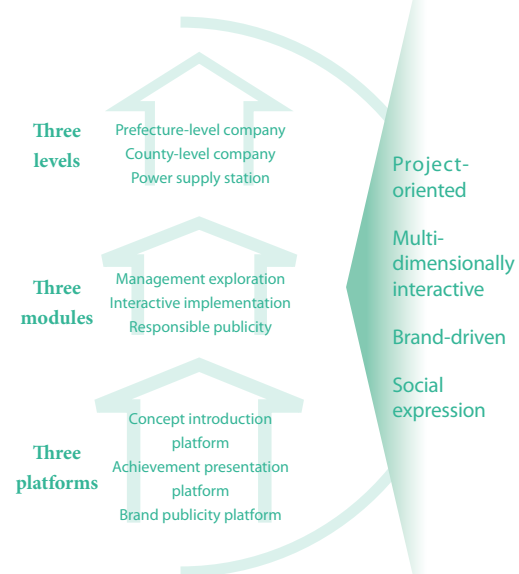
CSR practice is the company's new communication method

Actively explore a systematic, standardized, structured and institutionalized communication mode. Sort out different communication requests, purposes and orientations from the government, community, media and staff. Determine the frequency and timing for communication, design differentiated processes, contents and methods, and formulate result evaluation process and indicators. Form a standardized and structured communication package targeting at different audiences and institutionalize it into a communication mechanism.



SGCC Chongqing Electric Power Company laid emphasis on socialization of expression, methods and contents. It shifted its corporate strategy into the work concept suitable for the local economic and social development. Its implementation practice was changed into topics of high public concern. The company business was changed into social, economic and environmental benefit. Technical terms were replaced by language understandable to the people. All these efforts have boost the social understanding, trust and support to the company.

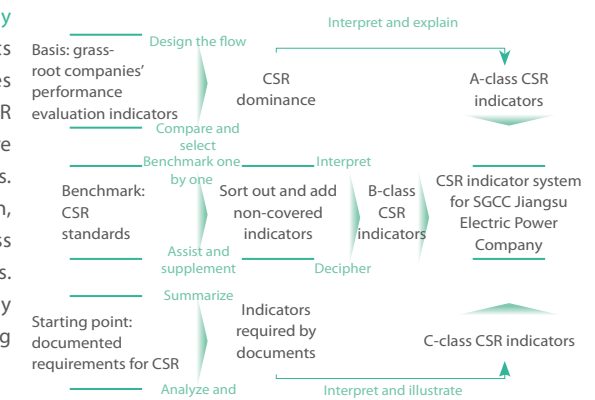
SGCC Beijing Electric Power Company carried out "CSR Promotion Month" for three consecutive years. It improved employees' awareness on CSR management and their motivation to fulfill the responsibilities, expanded the communication methods and channels with key stakeholders. The company formulated the *Action Plan of CSR Promotion Month* at the beginning of every year to set the time, content, procedures, and coordination among grassroots organizations. While popularizing the CSR concept, it also realized intensive communication with stakeholders.



CSR practice is the company's new management mode

Comprehensive CSR Management is a brand new management mode to ensure full consideration of social and environmental factors, requirements for sustainable development, and to pursue maximized integrated value in the course of the corporate development.

SGCC Jiangsu Electric Power Supply Company established a CSR index system to strengthen its connection with development layout and objectives of the company and the region. It discovered the CSR connotation in staff's work, systematically manage core performances, and selected 37 A-class CSR indicators. Based on external perception and internal evaluation, the company filled in the blank of selected A-class indicators, and established 11 B-class CSR indicators. Based on CSR promotion requirement, the company further established 10 C-class CSR indicators according to the logic of CSR work.



SGCC Zhejiang Electric Power Company focuses on building CSR organizational institution including six systems of capability construction, operation management, communication, indicators, and assessment to solve electric power suppliers' problems in how to place themselves, assign jobs, advance and implement work, and finally evaluate the performance in CSR. Based on ISO 26000: Social Responsibility Guide and characteristics of power supply companies, the company pinned down 53 topics of 14 core subjects, and built a comprehensive CSR indicator pool of 276 detailed index to identify relevant quality and quantity and make the system operate in a more effective way.

SGCC Yichang Electric Power Supply Company explores the construction of the village and power grid together, and promotes standardized services on rural grid. It has built grid staff's job responsibilities, work standards, management system, assessment methods to form a scientific grid management system. The annual assessment on grid staff is based on their fulfillment surveys, which are filled out by village leaders, key households, and business representatives within the grid to serve as a reference for the assessment. The company has regulated grid staff's detailed ledger, built standardization work manual for grid staff in rural area to keep a record of their daily job, which will be reported to the electrician team every week for a unified ledger. Besides, it has also strengthened training for grid staff on service process, responsibility scope, work standard, and communication ability to improve their service capability.

UN Global Compact: Initiatives and Performance



Ten principles of the UN Global Compact	Action performance
Human Rights Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and Principle 2: make sure that they are not complicit in human rights abuses.	<ul style="list-style-type: none"> 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. Make sure that SGCC is not complicit in human rights abuses. Improve power construction projects in areas without electricity access, and solve the power problem for 210,000 households and 870,000 people without electricity. Integrate rural and urban power supply and accumulatively solve the undervoltage problem for 3.36 million households. Provide barrier-free service to the disabled at business premises to ensure their rights.
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.	<ul style="list-style-type: none"> Promote frequent and normalized democratic management through the Staff Congress, President's Liaison Meeting, and seminars to make public the affairs of the company. All 200 pieces of rational advice from employees have been processed and replied. Eliminate forced labor and child labor. Reject discrimination by nationality, gender, sex orientation, age, disease, race or religion, pay staff on their performance and their position, and implement of the principle of equal pay for equal work to men and women. Ensure decent work, provide payment and treatment in line with the national and the company's conditions, pay attention to the balance of employees' life and work, establish a reasonable paid-leave system, pay the pension, medical care, unemployment insurance and other social insurances for all employees.
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.	<ul style="list-style-type: none"> Installed capacity of wind power within SGCC's business area is 87.9GW, realizing a leapfrog development. Promote large-scale development of PV generation with an installed capacity of 24.45GW. Give full play to trans-regional and trans-provincial transmission channels based on UHV technology. Depend on big grid and the big market to accommodate clean energy, such as the hydropower from Southeast China and the wind power from Three North Regions, to minimize surplus hydropower, wind power and solar power. Continuously strengthen the construction of energy conservation system centered on energy conservation service company, power efficiency assessment institute, and power efficiency service network. Now SGCC has established State Grid Energy Conservation Service Co., Ltd. and 27 provincial energy conservation companies.
Anti-Corruption Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.	<ul style="list-style-type: none"> Refine the penalty and prevention system against corruption. All units within SGCC system have established a penalty and prevention steering team whose main person in charge is the head of the unit. Leaders of the anti-corruption teams will give regular reports. Carry out anti-corruption education among all employees, and establish a diligent and clean corporate culture. Normalize thorough investigation. All discipline and anti-corruption departments have conducted 13,385 thorough investigations, checked 33,750 service counters, and come up with 18,469 pieces of advice to rectify and deal with violations in time. Promote transparent and fair operation. Be open to social supervision. Guard against the risk of corruption.

Sustainability Reporting Guidelines index

Note: the index can be found on
<http://csr.sgccc.com.cn>.

	G4	G3.1	Index		G4	G3.1	Index		G4	G3.1	Index
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Organizational Profile	G4-3	2.1	Cover/Statement/ P6		G4-EN3	EN3/EN4	P62~P67/P94~P95		G4-PR3	PR3	P38~P43/P45~P49
	G4-4	2.2	Cover/Statement/ P6		G4-EN4		N/A		G4-PR4	PR4	N/A
	G4-5	2.4	P6		G4-EN5		P62~P67/P94~P95		G4-PR5	PR5	P40/P72
	G4-6	2.3/2.5	P6~ P7 /P68~P75		G4-EN6	EN5	P62~P67/P94~P95		G4-PR6	PR6	N/A
	G4-7	2.6	P6~P7 /P10~P11		G4-EN7	EN6	P62~P67/P94~P95		G4-PR7	PR7	N/A
	G4-8	2.7	P6~P7 /P66~P73 /P86/P91		G4-EN8	EN8	N/A		G4-PR8	PR8	N/A
	G4-9	2.8	P6~P7 /P66~P73 /P86/P91		G4-EN9	EN9	N/A		G4-PR9	PR9	N/A
	G4-10	LA1	P6~P7 /P88/P102~P107		G4-EN10	EN10	N/A				
	G4-11	LA4	P6~P7 /P88/P102~P107		G4-EN11	EN11	P65/P72~P73				
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	G4-18	3.5	P66~P73	G4-EN19	EN19	P65/P67/P95					
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	G4-20	3.7	P2/P22/P38/P44/P50/P54/P62/	G4-EN21	EN21	P65/P73					
			P70/P78/P102/P108	G4-EN22	EN22	N/A					
			P2/P22/P38/P44/P50/P54/P62/	G4-EN23	EN23	N/A					
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		G4-38	4.3		Report Overview/P4~P5/P6~P7	G4-LA11	LA12	N/A			
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G4-45		4.9	P78~P83/P110/P112								
G4-46			Report Overview/P4~P5/P6~P7	Human Rights Performance Indicators	G4-HR1	HR1	N/A				
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	G4-EC3	EC3		P103	G4-SO4	SO3	P59/P114				
	G4-EC4	EC4		P42/P47~P49/P57/P110~P111	G4-SO5	SO4	N/A				
	G4-EC5	EC5		N/A	G4-SO6	SO6	P54/P88				
	G4-EC6	EC6		P72/P104	G4-SO7	SO7	N/A				
	G4-EC7	EC7		P5/P55~P59/P72~ P73/P88	G4-SO8	SO7	N/A				
	G4-EC8	EC8		P55~P59/P72~ P73	G4-SO9	SO8	P52~P53				
	G4-EC9	EC9		P52~P53	G4-SO10	SO11	P52~P53				
				G4-SO11	SO10	N/A					

*Electric utility supplement GRI index

*Electric utility supplement GRI index

DNV GL

ASSURANCE STATEMENT

Introduction

DNV GL Business Assurance Group ("DNV GL") has been commissioned by State Grid Corporation of China ("SGCC") to carry out an independent verification of the SGCC 2014 Corporate Social Responsibility Report ("the Report") against the AA1000 Assurance Standard (2008) ("AA 1000AS 2008"). SGCC 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 SGCC only and in accordance with terms of reference agreed. The stakeholders of SGCC 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 SGCC includes the following:

- The economic, social and environmental data, as well as the social responsibility performance in the period January to December 2014, as presented in the Report.
- On-site verification at SGCC headquarter, and below subordinate companies:
 - Beijing Electric Power Company, SGCC.
 - SGCC Advanced Training Center.
- Without visiting the external stakeholders
- Evaluation of Accountability principles and performance information, as required for a Type 2, moderate level of assurance in AA1000AS2008.
- The specified sustainability performance information includes:
 - Reported progress against the company's targets specified in the "Commitment for 2014" as disclosed in its 2014 Report.
 - Performance and information about the development of UHV grids
- The sustainability performance information which presented in the Report against GRI 3.1
- DNV GL has not observed significant factors to limit our assurance activities
- DNV GL has not verified the financial data disclosed in the Report.
- The verification was completed by DNV GL in January 2015

Verification Methodology

Our verification was planned and carried out in accordance with the DNV GL Protocol for Verification of Sustainability Reporting. The Report has been evaluated against the following criteria:

- Adherence to the principles of Inclusivity, Materiality and Responsiveness, as well as Reliability of specified sustainability performance information, as set out in the AA1000AS2008;
- Adherence to additional principles of Completeness and Neutrality, as set out in DNV GL's Protocol.

As part of the verification, DNV GL has challenged the statements and claims made in the Report and assessed the robustness of the underlying data management system, information flow and controls. For example, we have:

- Examined and reviewed documents, data and other information made available to DNV GL by SGCC.
- Performed sample-based reviews of the mechanisms for implementing SGCC'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 Our opinion, SGCC's Sustainability Report 2014 provides a credible and objective presentation of SGCC's overall sustainability performance and application of the AA1000 Accountability Principles 2008. Within the scope of assurance, DNV GL has not observed any untrue statements of systemativeness and Materiality.

We use 'Good', 'Acceptable' and 'Needs Improvements' to evaluate the Report's adherence to the following principles according to VeriSustain:

Inclusivity: Acceptable. The Report disclosed stakeholder engagement mechanism established by SGCC, and systematic methods to assure stakeholders' complete and objective participation by different ways, which has influenced the enactment of SGCC's sustainable development strategy in a degree. The Report completely considered key stakeholders' expectation, including users, three rural (agriculture, countryside and farmers), employees, commercial partners and communities etc., which has been reflected in screening and disclosure of key social responsibilities issues in the Report.

Materiality: Acceptable. SGCC has established process on how to determine sustainable development materiality issues. The Report disclosed sustainable development background related to corporation and identified materiality issues by the established process, also it disclosed dynamic and continuing improving management mechanism and performance result on implementation of these materiality issues. The Report demonstrated these key sustainability performance information transparently.

If there is any inconsistency between the Chinese and English versions, the Chinese version will prevail.

DNV GL

ASSURANCE STATEMENT

Responsiveness: Acceptable. Information disclosed in the Report was established by identification and analysis of different materiality issues which will influence on SGCC's sustainable development strategy. By setting up a series of responding mechanism which includes sustainable development policy, objective and responsibility fulfillment action plan, adding continuous 3 years plus performance data and detailed description, SGCC responded sustainable development issues concerned by key stakeholders on economy, society and environment, especially on the development of UHV power grid.

Reliability: Acceptable. DNV GL validated certain performance information disclosed in the Report during audit. SGCC demonstrated the collection and statistics process of sustainable development performance information to DNV GL, and there is no systematic errors found during audit. Therefore, certain performance data and information disclosed in "Report" is regarded reliable generally.

Completeness: Acceptable. Within the reporting scope and boundary defined by SGCC, 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.

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 SGCC. However, these do not affect our conclusions on the Report, and they are indeed generally consistent with the management objectives already in place.

- It is suggested to enriching the CSR website, further defining website related management obligation and management process;
- It is suggested to further define and regulate definitions, statics scope and approaches of each performance data, and to amend data calculation method timely;
- It is suggested to disclose responsibility fulfillment plan and performance more completely on identified key responsibility issues.

Statement of DNV GL's Competence and Independence

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

For DNV GL - Business Assurance Group

Di Wu
Lead Verifier

David Hsieh
Sustainability Service Manager,
Greater China

Beijing, China, January 2015



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