



STATE GRID
CORPORATION OF CHINA



Corporate Social Responsibility Report
2011

This CSR report is dedicated to illustrating SGCC's implementation of its social responsibility, and the aspiration, action and accomplishment in creating maximized economic, social and environmental value in a systematic way

Statement

State Grid Corporation of China (SGCC) did its best to ensure the **materiality and neutrality** of this CSR report, and declares that all information of the CSR report is **true, objective, timely and complete**. We insist on systematically illustrating the complete logic of creating integrated economic, social and environmental value as a standard to define the content scope in this report. We hope, by means of publishing the CSR report, to strengthen the **communication with stakeholders and the society**, establish mutual trust and cooperation based on the same value recognition, and promote sustainable development.

February, 2012



State Grid Corporation of China
CSR Report

2005~2011

Report Overview

The time frame covered by this report:

Jan. 1, 2011~Dec. 31, 2011. Certain part may go beyond this time frame.

Reporting cycle:

SGCC's CSR Report is an annual report, which is released by the end of February the next year.

Organizational coverage:

The State Grid Corporation of China as a whole (Refer to "Corporate Profile" for organization structure).

Previous reports:

SGCC released its CSR Report for 6 consecutive years on Mar. 2006, Jan. 2007, Jan. 2008, Jan. 2009, Jan. 2010, and Feb. 2011.

Note on the data:

The data for 2011 used in this report are preliminary statistics. They may be slightly different from the final results. The data for 2010 are final statistics, part of which differs slightly from the 2010 CSR Report.

Extended reading:

For information related to corporate governance, stakeholder's participation mechanisms, and index calculations, please visit the official website.

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 86-10-66598394 for a hard copy. Or you can download the report from <http://csr.sgcc.com.cn>.

Procedure for Report Preparation:

Please visit <http://csr.sgcc.com.cn> for more details.

Standards followed by the report:

State Grid CSR Performance Guide

References:

- *Guidelines to the State-owned Enterprises Directly under the Central Government on Fulfilling Corporate Social Responsibilities* by SASAC
- *SOEs' Harmonious Development Strategy Implementation Outline During the "12th Five-Year"* by SASAC
- *Guidance on Chinese Enterprises' Corporate Social Responsibility* by Research Center for Corporate Social Responsibility, Chinese Academy of Social Sciences
- *CSR Guide for China's Industrial Enterprises and Industrial Associations* by China Industrial Economic Federation
- *ISO 26000: Social Responsibility Guide (2010)* by International Organization for Standardization ISO
- *Sustainability Reporting Guidelines (2006 Version)* by Global Reporting Initiative
- *AA 1000 Assurance Standards* by Accountability Institute, Britain



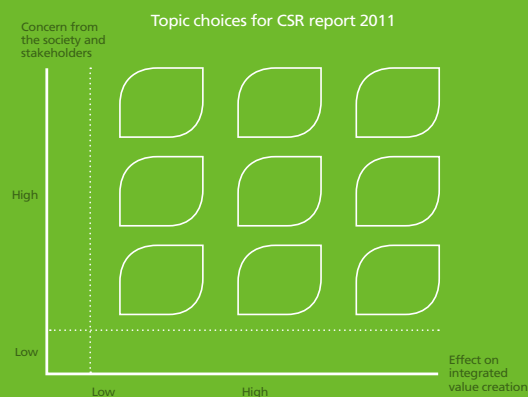
How to identify the topics for 2011

Four methods are used to collect the topics:

- Topics raised by leadership and experts
- Topics collected from all levels within the company
- Topics collected from external stakeholders
- Topics benchmarked with CSR standards and best practices

A two-dimensional matrix of "Value Creation & Social Concerns" is applied to select the topics:

- Topics significantly affecting value creation effect
- Topics greatly concerned by stakeholders
- Topics about social issues of common concern
- Topics emphasized by domestic and international standards and best practices
- Topics embodied with distinct corporate characteristics



Value Creation Dimension: assess the relevance, importance, and feasibility of specific topics to integrated value creation (It must take into consideration the company's resources, capabilities, as well as stakeholders' potentials and advantages).

Social Concern Dimension: Assess the degree of concern on specific topics by stakeholders (It must fully consider the domestic and international attention on CSR standards).

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CSR Mode

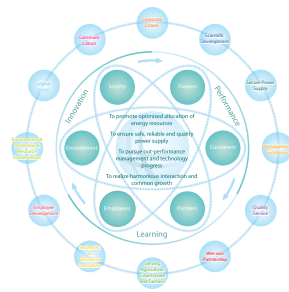


The Aspiration

The Action

The Performance

Please refer to <http://csr.sgcc.com.cn> for the constant change and innovation in SGCC's CSR mode.



2006~2007



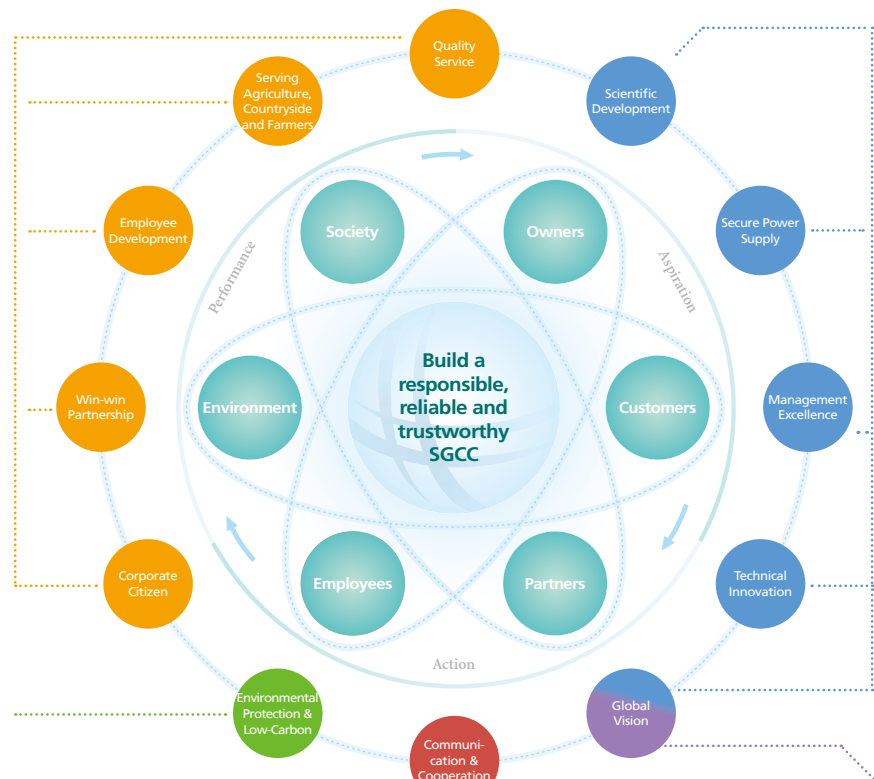
2008~2010



2011~

2. Deal with each stakeholder responsibly

1. Ensure reliable and trustworthy power supply



3. Become a model of green development

4. Implement internationalized operation responsibly

5. Guarantee operation transparency and be open to public supervision

We are connected by power. We are responsible for power.

- In the above pattern, the lines represent power transmission lines. The orbiting points represent electric currents. The central logo represents SGCC and the six circulars represent stakeholders.
- The roundness signifies SGCC's pursuit in harmonious coexistence with the society and the environment while the loop lines show the Corporation's continuous power supply as well as the ever growing responsibility.
- The 3 oval lines environing SGCC and the six stakeholders indicate the close connection between these parties by power.
- The orbit in the middle combined with three words "aspiration", "action" and "performance" declares SGCC's continuous improvement to fulfill its social responsibility.
- The 12 small circulars threaded up by outer lines represent the 12 aspects of social responsibility SGCC undertakes.

Build a responsible, reliable and trustworthy SGCC

CSR from external point of view:

The core is to guarantee reliable and trustworthy products

1.Ensure reliable and trustworthy power supply

The foundation is to be responsible to the people, the environment and the whole society during the operation

2. Deal with each stakeholder responsibly

3.Become a model of green development

4.Implement internationalized operation responsibly

The guarantee is to ensure operation transparency and be open to public supervision

5.Guarantee operation transparency and be open to public supervision

CSR from internal point of view:

Insist on ensuring safer, more economical, cleaner and sustainable power supply with the minimum economic and social cost

- Fulfill the responsibilities on scientific development to ensure power grid development in a scientific direction
- Fulfill the responsibilities on secure power supply to make sure the grid is in safe and stable operation
- Fulfill the responsibilities on management excellence to ensure a leading operational efficiency
- Fulfill the responsibilities on technical innovation to ensure outstanding scientific innovation capability
- Fulfill the responsibilities on global vision to ensure world-class global resource integration ability

Operate the company in a responsible manner to the people, the environment and the society

- Be responsible to the people, including responsibilities on quality service to customers, responsibilities in serving agriculture, countryside and farmers, responsibilities on employee development, responsibilities on win-win partnership, and responsibilities as a corporate citizen
- Be responsible to the environment and fulfill the responsibilities on environmental protection and low-carbon
- Be responsible to the society and fulfill the responsibilities on global vision

Uphold the moral of "No transparency and public supervision, no corporate action"

- Ensure stakeholders' right to know, to participate, and to supervise, and carry out the responsibilities on communication & cooperation

SGCC's 2011 CSR Model explains the company's responsibilities from the social and working perspective.



Mr. Liu Zhenya,
President of State Grid
Corporation of China

Message from President

As the first year of the “12th Five-Year Plan”, 2011 was a critical year for SGCC to be stronger and finer, and build a world-class grid and enterprise. SGCC has carried further the corporate spirit of “In search of excellence, In pursuit of outperformance”, strived for the maximized economic, social and environmental value, and built a responsible, reliable and trustworthy SGCC.

SGCC staff have been striving to maintain public safety. Large blackouts are now unbearable catastrophes in modern society. Whether it is the massive power failure in Fukushima caused by the nuclear crisis, the 2011 Southwest blackout in the U.S. or the 2011 Chile Blackout on September 24, they keep us alert. Compared to developed countries, China’s power grid faces more serious challenges to maintain a stable and safe operation. The grid is still fragile but installed capacity is increased unprecedentedly. New energies are developing at an unconventional speed. The national grid is always exposed to the risk of massive blackouts. Efforts have been doubled to strive for a controllable and in-control safe and stable grid operation. In 2011, we have honored our commitment to zero massive blackouts.

SGCC staff have been striving to guarantee reliable and quality power supply. It’s our core responsibility to ensure world-leading power reliability and quality. Grid construction has been accelerated and operation management has been strengthened to solve the bottleneck in urban grid and the low voltage problem in rural grid. The periods of electricity cut-offs in both urban and rural households have been

shortened continuously with stabilized power quality. Electrification has benefited every household. In 2011, SGCC has honored its vow to shorten the average blackout period for urban residents within 7 hours, and 30 hours for rural residents.

SGCC staff are endeavoring to serve China’s energy strategy. SGCC is a powerful national energy allocation platform. As an important component of China’s comprehensive transportation system, SGCC is an essential force to promote the transformation of energy development mode, accelerate the national energy structure adjustment, and serve the energy industry to be stronger and better. The expansion project of 1000 kV UHV AC Project has been stably transmitting 5000 MW power, which fully demonstrates the safety, economy and advantages of UHV transmission. The Qinghai-Tibet Interconnection Project, completed one year ahead of schedule, has fundamentally solved the power shortage problem in Tibet, and signified the full interconnection of the grids in China except for Taiwan Province. The first batch of smart grid demonstration projects in operation, includes the Wind and Solar Energy Storage and Transmission Demonstration Project, Tianjin Sino-Singapore Eco-City, and Asia’s first VSC-HVDC Demonstration Project. The Smart Grid World Forum was a success. SGCC is leading in smart grid construction in the world. In 2011, we have realized our commitment to take ten measures to ensure the interconnection of wind power, purchase all interconnected new energies, and increase the national power transaction by over 10%.

“ There is a start for responsibility fulfillment but there is no end. Value creation is a never-ending journey. And it can always be better. ”

SGCC staff have been striving to be responsible for the people, the community and the environment. The society will be more harmonious if we treat every stakeholder responsibly. A sense of trust will be gained if SGCC's decision and operation is transparent. Our homeland will be greener if we intend to be a model of green development, which is our unswerving responsibility pursuit.

—— We uphold the integrity concept of “Work and Be Clean”, carry forward the core values of “Integrity, Commitment, Innovation and Dedication”, fulfill responsibility even in harsh conditions, be honest and trustworthy, develop innovatively, and develop a quality connotation of persistence, adherence, durability and strength.

—— We prioritize human safety and health. The Qinghai-Tibet Interconnection Project caused no disease or death on the highland. *The Outline of State Grid Democratic Management of Employees* has been implemented to cultivate staff and deepen the democratic management as the core of SGCC's talent strategy. The outline also protects employees' rights to know, to participate, to express and to supervise.

—— We adhere to transparent operation. SGCC has released the newly revised “Ten Commitments” of power supply, “Ten Prohibitions” to modify staff behavior, and “Ten Measures” to strengthen dispatching transaction services. Stakeholder participation mechanism has been established. Regular meetings are held with all levels of governments in our business area to discuss the plan for sustainable economic and social development. The power supply companies of all levels are leading in local industrial moral evaluations.

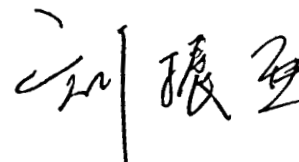
—— We have accelerated the construction of a Strong and Smart Grid, and are committed to building a national comprehensive energy transportation system for coal and electricity. We have also made great efforts to develop electric vehicles, innovate in power-conservation services, try to improve China's energy production and consumption structure which heavily depends on coal, cope with dual challenges from air pollution and carbon dioxide emission, and safeguard social and ecological civilization. In 2011, the installed wind power capacity reached 43.94 GW. 70.6 TWh of power was accommodated, saving 23.298 million tons of standard coal and reducing carbon dioxide emission by 58.082 million tons. The Corporation's line loss with the same diameter was

reduced by 0.07 percentage point, saving 2.310 TWh of power, equivalent to saving 762,300 tons of standard coal and reducing carbon dioxide emission by 1.9004 million tons.

SGCC staff have been carrying out international operation responsibly.

Whether it is to leverage global resource to improve company's ability and level of sustainable development, or to implement the “Going Out” strategy and advance in international cooperation, such as operating the National Grid Corporation of the Philippines (NGCP) and buying seven Brazilian transmission companies, the key to success is to be responsible. In the process of going global, we advocate win-win cooperation, respect international conventions and local cultural traditions, emphasize on community building, strengthen the communication with stakeholders, and realize the company's development while promoting sustainable local economic and social development.

Learn from the past and build a better future. We are fully aware that there is a start for responsibility development but there is no end. Value creation is a never-ending journey. And it can always be better. Guided by Scientific Outlook on Development, we will implement President Hu Jintao's requirement to establish the concept of global responsibility, include social responsibility in our business strategy, improve the management models, and pursue unity of economic returns and social results. We are building a modernized company with a strong grid, excellent assets, services and performances to further contribute to building up a harmonious society.



Feb. 2012

Corporate Profile

7th

on Fortune Global 500

Serving

88 %

of the national territory

Providing power to a
population of over

1 billion

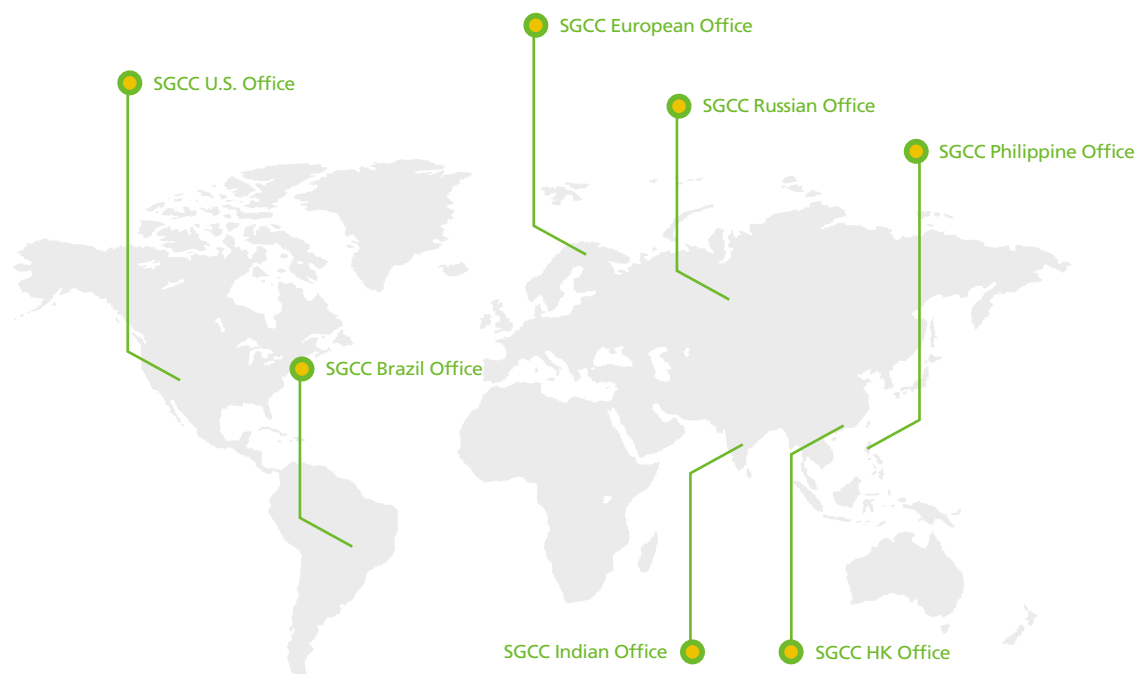
Over

1,580,000

employees

SGCC was established on December 29, 2002, a state-authorized investor approved by the State Council. As the largest utility in the world, SGCC ranked the 7th on 2011 Fortune Global 500.

SGCC's mission is to provide safer, more economical, cleaner and sustainable power. Its service area covers 26 provinces, autonomous regions and municipalities, serving 88% of the national territory. SGCC provides power to a population of over one billion. The company has more than 1,580,000 employees. Meanwhile, SGCC also runs the NGCP and seven Brazilian transmission companies.





Organizational Structure—Corporate headquarters

1	General Office	12	Department of DC Construction	23	Department of Retirement Affairs
2	Research Office	13	Department of Information and Communication	24	Department of Logistics
3	Department of Strategic Development and Planning	14	Department of Supply Chain Management (Bidding Management Center)	25	Department of Corporate Culture
4	Department of Finance	15	Department of Affiliates Management	26	Supervision Office (Anti-Corruption Team)
5	Department of Safety Supervision	16	Department of Public Relations (Brand Building Center)	27	Labor Union
6	Department of Production & Technology	17	Department of International Cooperation	28	National Power Dispatching Center
7	Department of Marketing	18	Department of Auditing	29	SGCC Power Exchange Center (Zhong Neng Power Industry Fuel Co.)
8	Department of Rural Electrification	19	Department of Legal Affairs	30	Association of Enterprise Management
9	Department of Science & Technology (Department of Smart Grid)	20	Department of Personnel		
10	Department of Construction	21	Department of Human Resource		
11	Department of AC Construction	22	Restructuring Office(Office of Main Business and Secondary Business Separation)		

Organizational Structure—Branches

1	North China Branch	2	East China Branch	3	Central China Branch
4	Northeast China Branch	5	Northwest China Branch		



Electricians from Heilongjiang Daqing Electric Bureau are carrying out line patrol

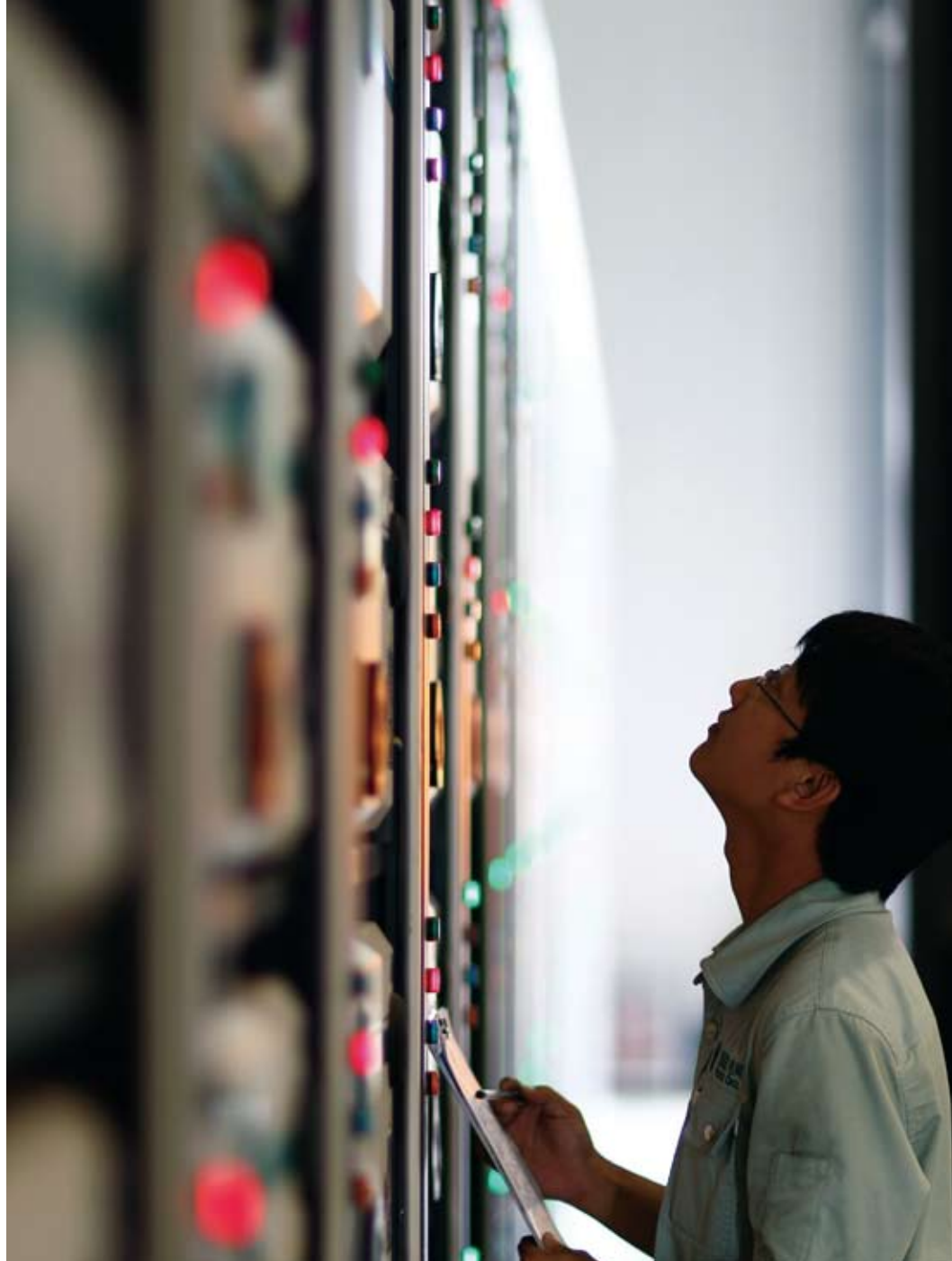
Organizational Structure—Subsidiaries directly managed by SGCC

1 State Grid Operation Branch	11 State Grid Electric Power Research Institute	23 Yingda Business Services Co., Ltd.
2 State Grid DC Engineering Construction Branch	12 State Grid Energy Research Institute	24 Yingda Media Investment Group Co., Ltd.
3 State Grid AC Engineering Construction Branch	13 State Power Economic Research Institute	25 Zhongxing Power Business Development Co., Ltd.(State Grid Logistics Center)
4 State Grid General Aviation Co., Ltd.	14 Yingda International Holdings Group Limited	26 State Grid Information & Telecommunication Company
5 State Grid Xin Yuan Co., Ltd. (State Grid Xin Yuan Hydropower Co., Ltd.)	15 China Power Finance Co., Ltd.	27 State Grid Management School (Advanced Training Center and Party School)
6 State Grid Energy Development Co., Ltd.	16 Yingda Taihe Property Insurance Co., Ltd.	28 State Grid Institute of Technology (Youth League School)
7 State Grid International Development Limited.	17 Yingda Taihe Life Insurance Co., Ltd.	29 China Anneng Construction Corporation
8 Shandong Luneng Group Co., Ltd.	18 Yingda International Trust Co., Ltd.	
9 China Power Technology Equipment Co.,Ltd. (Smart Grid Research Institute of State Grid)	19 Yingda Security Corporation Ltd.	
10 China Electric Power Research Institute	20 Yingda Chang'an Insurance Brokers Co., Ltd.	
	21 Yingda Futures Co., Ltd.	
	22 Yingda International Leasing Co., Ltd.	

Main Associations and Organizations SGCC Participated

Associations / Organizations	SGCC's Role	Associations / Organizations	SGCC's Role
China Enterprise Confederation Vice Chairman	Chairman	China Electricity Council	President
China Federation of Industrial Economics (CFIE)	Chairman	China Society for Electrical Engineering Vice	President
China Business Council for Sustainable Development	Councilor	China Electric Equipment Management Association	Vice Chairman
China Association for the Promotion of Industrial Development	Councilor	China Society for Hydropower Engineering	Vice President
China Association of Work Safety	Vice Chairman	China Electric Power Construction Association	Vice Chairman
China Accounting Society	Standing Councilor	CIGRE	Member
China Institute of Internal Audit	Councilor	International Commission on Large Dams	Member
China Supervision Society	Councilor	IEC	Secretariat of 3 Standard Committees
China Price Association	Councilor	CIGRE	Member
China International Public Relations Association	Councilor	IEEE	Senior Member
Chinese Public Administration Society	Councilor	VLPGO	Member
Chinese Nuclear Society	Councilor	UWIG	Member
China Bidding Association	Standing Councilor	G-SEP	Member
China Association of Plant Engineering Consultants	Vice Director	WBCSD	Member
China Chamber of Commerce for Import and Export of Machinery and Electronic Products	Councilor		
China Machinery and Electronic Products Certification Association	Councilor		
China International Contractors Association	Councilor		
National Society for Party Building Studies	Councilor		

National associations
 Associations of the power industry
 International organizations



Key Performance Indicators	2006	2007	2008	2009	2010	2011
Electricity sales (TWh)	1,709.7	1,974.2	2,123.5	2,274.8	2,689.1	3,092.5
Length of transmission line * (km)	413,219	457,104	496,332	561,456	618,837	655,131
Transforming capacity ** (MVA)	1,137,790	1,342,700	1,601,420	1,886,540	2,131,930	2,391,620
Revenue (RMB billion Yuan)	854.5	1,010.7	1,140.7	1,258.0	1,531.8	1,676.0
Total assets (RMB billion Yuan)	1,212.8	1,361.8	1,643.5	1,841.9	2,077.5	2,209.3
Reliability of urban power supply (%)	99.839	99.880	99.865	99.903	99.906	99.921
Reliability of rural power supply (%)	99.491	99.541	99.545	99.615	99.636	99.665
Line loss (%)	6.40	6.29	6.10	6.12	5.98	6.53***

*110 (66) kV and above transmission line **110 (66) kV and above transforming facilities
 *** the line loss increase is due to data combination of holding companies since January of 2011

Honors and prizes for CSR fulfillment in 2011

A-Class Enterprise by SASAC Evaluation on Operation Performances for 7 consecutive years	National Advanced Collective of Legal Promotion and Education
First Prize of National Award for Science and Technology Progress	Second Place of IT Empowered SOEs
First Prize of China Power Science and Technology	Advanced Enterprise by SASAC Evaluation on Security Work
7th on 2011 Fortune Global 500	Excellent SOE Website
82nd on Top 500 World Brands	1st Prize of SOE Project Management Innovative Skills Competition
Second Place of China's Top 500 Most Valuable Brands	Outstanding Contribution Award for SOEs in the World Expo 2010 Shanghai
China Industry Award	National Model of Harmonious Labor Relations (23 SGCC subsidiaries)
Classic Project for 30 Years of National Quality Project Award	3rd batch of National Civilized Units (23 SGCC subsidiaries)
National Soil and Water Conservation Demonstration Project of Production and Construction	National Labor Medal (21 SGCC subsidiaries)
Excellent SOE for Energy Conservation and Emission Reduction During the "11th Five-Year "	Title of National Workers' Pioneer (55 teams in SGCC)
Advanced SOE by SASAC Evaluation on Operation Performance

Honors and prizes for promoting CSR in 2011

Excellent Practice in Social Responsibility by Central Government Owned Enterprises	UN Global Compact Chinese Network Report— Chinese Enterprises' Model CSR Reports
Chinese Outstanding CSR Enterprise	Evergreen Award of Outstanding CSR Reports
Special Award for Chinese Enterprises' Social Responsibility	Chinese CSR Report Leadership Enterprise Award
Second place of SOEs in Top 100 Green Enterprises of China	China Charity Award (the 4th time)
Top 3 in the Chinese Top 100 CSR Development Indicator



The Aspiration

Responsibilities originate from mission and are accomplished through mechanism

Responsibilities originate from strategy and are accomplished through management



Awareness comes first in
responsible development

We are always exploring a
scientific outlook on CSR

Responsibilities originate
from system and are
accomplished through
culture



Explore a scientific outlook on CSR

—Learn and practise the “3 Fours” of CSR

Definition of Social Responsibility by ISO 26000

Social Responsibility means that organizations take responsibility for the social and environmental impact of their decisions and activities through transparent and ethical behavior. These actions:

- are committed to sustainable development, including health and social well-being;
- respect stakeholders’ interests;
- comply with applicable laws and are in line with international norms of behavior;
- are integrated into all aspects of how a company conducts its business.

Note 1: Activities include products, services and processes.

Note 2: Relation refers to organizations’ activities within their sphere of influence.

Note 3: Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development implies a stable relation between objectives of high-quality life, health, prosperity, and social justice, as well as the ability of preserving the environment for other species. These social, economic and environmental objectives are inter-independent and mutually reinforcing. Sustainable development can be regarded as an expression more expected by the society.

SGCC’s Definition on CSR

Corporate Social Responsibility (CSR) refers to the actions of the corporation to realize the sustainable development for the society and its own, abide by laws, regulations, social norms and business ethics, effectively manage the effects of corporate operation on stakeholders and the environment, and maximize the integrated economic, social and environmental value.

—SGCC Guidance for the Implementation of CSR

Acknowledge the “Four Dimensions” of CSR

Contents of Responsibilities

CSR means the responsibilities taken by the organizations for the impact of their decisions and activities on the social and environmental impacts

- CSR originates from internal corporate operation
- As long as there is impact on the society and the environment due to corporate operation, there is responsibility
- The types of impact define the contents of responsibilities

Nature of Behavior

CSR means to maintain the transparency and ethics of the corporate behavior

- CSR relates to all corporate behaviors
- CSR requires that an organization’s behavior is ethical, legal, abided by international norms, and dedicated to sustainable development
- CSR requires corporate behavior to be transparent and in line with stakeholders’ interests and expectations

Judging Standards

CSR refers to a corporate’s aspiration, action and performance that make the most contribution to its sustainable development

- The aspiration to be responsible for the society originates from the internal corporate system
- To undertake the responsibility refers to the activities of a corporate to create social values based on honesty, fairness and integrity
- Performance to create integrated value should be seen as the standard to judge whether a corporate is responsible or not to the society

Implementation Mechanism

CSR is the management mode to make sure an organization is operating responsibly by implementing its CSR

- Pushing the staff to adopt new working methods through management reform
- Pushing the company to adopt new development mode through management reform
- Pushing the company to adopt new communication methods through management reform

Implement the "Four DOs" and "Four DON'Ts" of CSR

Implement the "Four DON'Ts" of CSR

- **CSR implementation IS NOT merely for public welfare,** but to be responsible for its social and environmental effect during its operation.
- **CSR implementation IS NOT selfless dedication,** but rather to enhance social communication and a win-win cooperation with stakeholders.
- **CSR implementation IS NOT to advocate enterprises with social burden,** but to require companies to sort out its responsibilities and focus on what they do best.
- **CSR implementation IS NOT to emphasize the launch of new businesses,** but rather to require business to be conducted in a novel, transparent and ethical way.

Implement the "Four DOs" of CSR

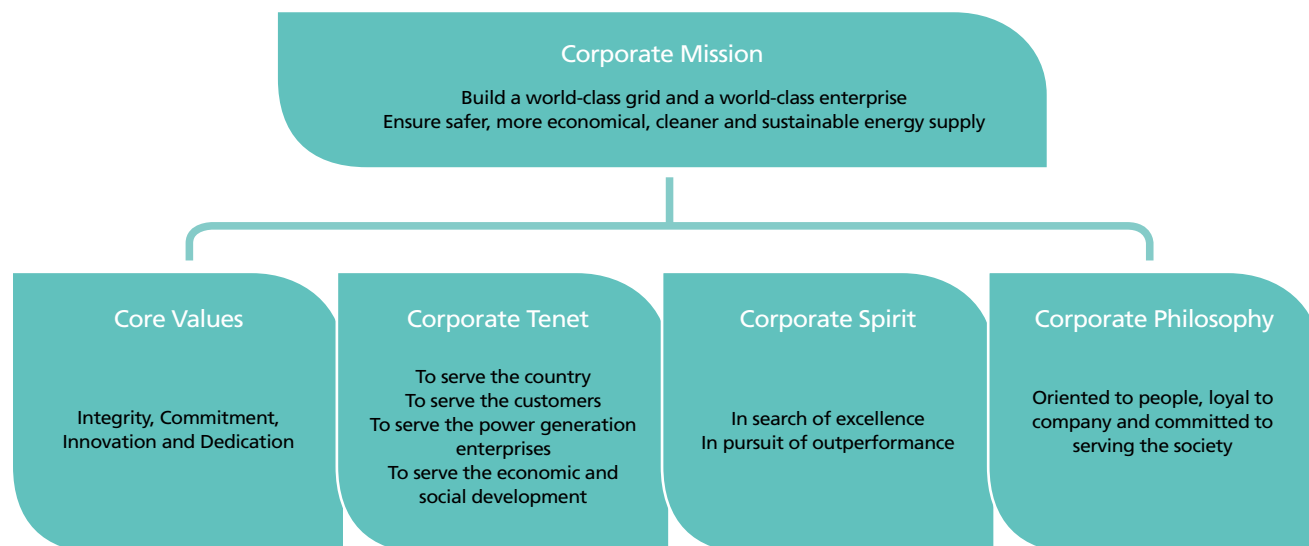
- **CSR implementation is a new way of working for the staff,** which requires them to set a perspective of the integrated value and stakeholders, build a concept of transparent operation and green development, turn internal work into social contribution and social expectation into work demand, and realize the externalization of internal work and internalization of external expectation.
- **CSR implementation is a new corporate development method,** which requires the corporate to pursue integrated value maximization instead of maximized profits as their management objective, to expand their managing scope from internal affairs to external and natural environment, and to shift management mechanism from optimizing corporate resource development to optimizing social resource allocation.
- **CSR implementation is a new way of communication,** which is to change work communication into value communication, alter the focus on reports to authorities and media publicity to the construction of a comprehensive communication relation with stakeholders and media relations, substitute the theory of "Communication builds trust; trust enhances cooperation and cooperation creates value" for simple information output.
- **CSR implementation is a new corporate management mode,** which is to develop and improve the concept of corporate value, development strategy, management mechanism, systems, management processes and assessment mechanism, create a harmonious relationship with stakeholders, and build an outstanding organization in pursuit of maximized integrated value.

Responsibilities originate from mission and are accomplished through mechanism

Introduction of CSR concept optimizes the corporate mission

The mission is comprehended from **the perspective of external social value**, rather than from the angle of the internal business. The description has changed from “grid construction and operation as the core business” to “**ensure safer, more economical, cleaner and sustainable power supply**”

The mission is understood from **the perspective of integrated value creation**, rather than state-owned assets maintenance and increase. The expression has changed from ‘serve to maintain and increase the value of state-owned assets and pursue maximized profits’ to “**serve the economic and social development and pursue the maximized integrated value**”



A nine-step scientific responsibility implementation mechanism to fulfill the corporate mission

- **Choose prioritized topics:** take into consideration resources and capacity, and choose the SR topics that contribute most to sustainable development.
- **Determine implementation concept:** fully consider economic, social and environmental factors, and ensure transparency and stakeholders' participation.
- **Formulate the fulfillment strategy:** determine the strategy to realize the maximization of integrated economic, social and environmental value.
- **Improve institutional guarantee:** make sure the implementation concept and strategy for prioritized topics will be fulfilled.
- **Plan implementation action:** plan and implement major CSR projects to make sure sufficient resources are invested.
- **Identify performance standard:** identify an indicator system and an effective standard to measure and monitor CSR implementation performance.
- **Regular benchmarking feedback:** acknowledge and monitor topic progress, performance and existing problems and challenges in a timely manner.
- **Ensure operation transparency:** ensure stakeholders' rights to know, to participate and to supervise.

Necessary improvements: make topic selection more scientific, topic implementation better, and topic communication more effective

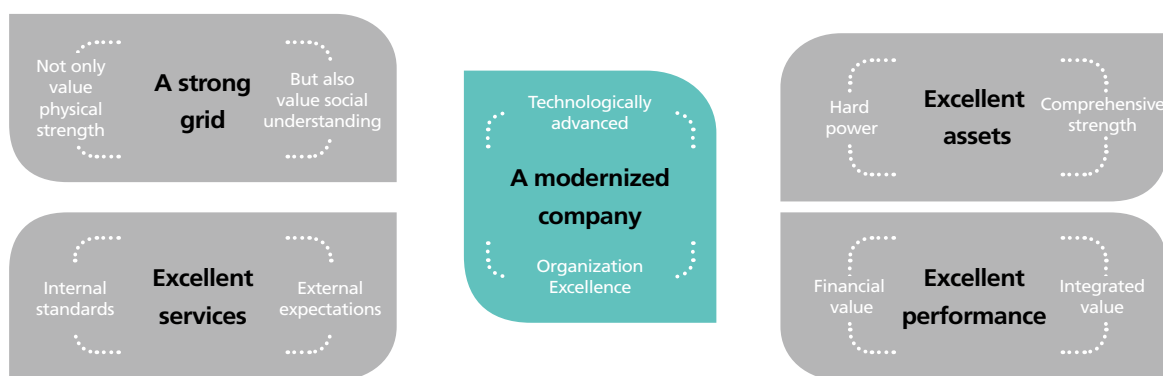
Demonstration of Implementation Mechanism

Responsibilities are accomplished through implementation mechanism	Ensure reliable and trustworthy power supply	Deal with each stakeholder responsibly	Endeavor to become a model of green development	Implement internationalized operation responsibly	Guarantee operation transparency and be open to public supervision
Choose prioritized topics	Develop UHV	Upgrade service satisfaction	Promote wind power development	Operate NGCP responsibly	Release CSR reports.
Determine implementation Concept	<ul style="list-style-type: none"> UHV power grid is the only way for China to break through long-distance transmission technology and realize large-scale optimal energy allocation UHV grid is the biggest environmental-friendly project UHV grid is a strong engine to lead independent innovation and promote the upgrading of power equipment industry 	<ul style="list-style-type: none"> There are finite power supply standards, but infinite efforts It starts with customer demands and ends in customer satisfaction Supervision contributes to high quality services 	<ul style="list-style-type: none"> National conditions decide on the necessity of large-scale wind power development Strong and Smart Grid is the only way to realize wind power development Unified planning and standards promote the scientific development of wind power 	<ul style="list-style-type: none"> The overall improvement of power supply reliability and quality can support local economic and social development Respect local culture and customs and comply with the international code of conduct Contribute to local job creation and community development 	<ul style="list-style-type: none"> Comprehensive value communication is established on trust Communication builds up trust. Trust promotes cooperation. Cooperation creates value CSR report is an important managing tool
Formulate the fulfillment strategy	<ul style="list-style-type: none"> Win-win cooperation researches UHV key equipment Independent innovation ensures the domestication of key equipment Communication and report strives for a consensus on UHV development 	<ul style="list-style-type: none"> Service efficiency enhancement strategy Service resource integration strategy Service branding strategy 	<ul style="list-style-type: none"> Strategy of "One Ultra, Four Larges" Strategy of wind power accommodation Strategy of key wind power interconnection technology and key equipment 	<ul style="list-style-type: none"> Build a smart modernized power grid Implement "6S" management strategy Grid safety emergency strategy 	<ul style="list-style-type: none"> Transparency strategy Strategy to identify report topics Strategy to construct performance indicators
Improve institutional guarantee	<ul style="list-style-type: none"> UHV Power Grid Development Plan Methods to Make Breakthroughs in UHV Core Technologies Research and Manufacture Plan of Key UHV Power Grid Equipment 	<ul style="list-style-type: none"> Release the "Ten Commitments" of power supply and "Ten Prohibitions" to modify staff behavior Evaluate power supply service quality Establish complaints management Formulate the wind power connection plan 	<ul style="list-style-type: none"> Set up standards, such as <i>Wind Power Generation Output Prediction System Standard</i> Make breakthrough programs for key wind power interconnection technologies 	<ul style="list-style-type: none"> Prepare interconnection technical standard for Philippine wind power and PV generation Launch the Integrated Management System (IMS) certification Develop safety regulations and emergency plan 	<ul style="list-style-type: none"> Transparency management measures The annual CSR report release system CSR report index-building approaches
Plan implementation action	<ul style="list-style-type: none"> Make plans to organize the discussion with experts Construct UHV AC/DC pilot projects Organize core technology research and intensive R&D of key equipment Apply 95598 service hotline 	<ul style="list-style-type: none"> Carry out user satisfaction surveys and third-party evaluation Carry out special control of "Three Specifications" (specified project design organization, specified construction group, and specified equipment and materials) 	<ul style="list-style-type: none"> Release the <i>White Paper on Wind Power Development</i> Support the construction of Jiuquan 10-GW Wind Power Farm in Gansu Province Promote the construction of the Wind and Solar Energy Storage and Transmission Demonstration Project 	<ul style="list-style-type: none"> Draw NGCP's first grid plan for the mid-and-long-term target (2010 to 2030) Implement "6S" management system Launch the research on wind and solar power grid integration in the Philippines and PV 	<ul style="list-style-type: none"> Establish a news spokesman system Release the annual CSR report Carry out the research on CSR indicator system
Identify performance standard	<ul style="list-style-type: none"> UHV AC Pilot Project was put into operation with stable transmission load of more than 5 GW Decide on UHV grid's economic, social and environmental value with planning Promote the technological upgrade of power equipment industry 	<ul style="list-style-type: none"> 100% feedback for customer inquiries and complaints The fulfillment rate of "Ten Commitments" is 99.99% 	<ul style="list-style-type: none"> Release wind power development standard Construct wind power output project simultaneously Purchase all interconnected wind power 	<ul style="list-style-type: none"> Significant enhancement in power supply security Increase of Corporate's comprehensive power Enhancement in corporate management 	<ul style="list-style-type: none"> "SGCC" brand value continues to grow The exemplary image of a responsible SOE gains more and more depth CSR report is recognized by all sides of the society
Regular Benchmarking Feedback	<ul style="list-style-type: none"> The stable operation of the UHV AC Pilot Project verifies UHV grid's safety, economy and superiority UHV grid's economic, social and environmental value is recognized gradually The UHV Demonstration Project wins several big awards 	<ul style="list-style-type: none"> Power supply quality assessment Customer satisfaction investigation Evaluation of "Ten Commitments" 	<ul style="list-style-type: none"> Objective assessment to support wind power development Inspect the effect of demonstration projects Core technological results of wind power interconnection 	<ul style="list-style-type: none"> Benchmark with international counterparts Benchmark with historical performance Benchmark with social promises 	<ul style="list-style-type: none"> Benchmark with world-class utilities' communication performance Benchmark with top enterprises' communication performance in China Benchmark with international standards
Ensure operation transparency	<ul style="list-style-type: none"> All parties participate in UHV grid development Listen to every piece of advice and suggestion and take opposing ones as a drive for advancement Report regularly to leadership and supervisors of all levels 	<ul style="list-style-type: none"> Visit customers regularly Institute third-party evaluation Employ integrity supervisors 	<ul style="list-style-type: none"> Visit power generation companies regularly Develop the wind power development plan with jointed efforts Listen to the plans for wind power development from all sides 	<ul style="list-style-type: none"> Sincere cooperation with partners Good communication with regulatory agencies Good communication with the media and the communities 	<ul style="list-style-type: none"> Invite stakeholders to participate in the report compilation Understand the responsibility topics concerned by stakeholders Be open to social supervision
Continue improving	<ul style="list-style-type: none"> Continue revising and improving the plan. Continue tackling core technologies and key equipment Continue upgrading operation and management level 	<ul style="list-style-type: none"> Optimize service resource allocation Improve service efficiency and satisfaction Forge a brand with characteristic services 	<ul style="list-style-type: none"> Optimize wind power transmission plan Improve the construction deployment of wind power base outgoing project Enhance technical standards for grid integration 	<ul style="list-style-type: none"> Optimize grid development plan Improve management system Upgrade emergency response capability 	<ul style="list-style-type: none"> Optimize report topics Optimize report release Optimize report contents

Responsibilities originate from strategy and are accomplished through management

Implement an overall SR management. Optimize the sustainable development strategy of building a modernized company with “A Strong Grid, Excellent Assets, Services and Performance”

Build a modernized company with “A Strong Grid, Excellent Assets, Services and Performance”
Maximize the creation of integrated economic, social and environmental value



Implement an overall SR management. Further develop the “Two Transformations”

Transform the development mode of the power grid to build a world-class grid

From promoting and exploring the construction of a Strong and Smart Grid with excellent capacity of optimal energy allocation, to further develop a consensus on the Strong and Smart Grid development internally and externally

Transform the enterprise development to build a world-class enterprise

From promoting and exploring the construction of a conglomerate operation mode with excellent capacity of integrated value creation, to further form a consensus on grid enterprise management principles internally and externally

Implement an overall SR management to realize “full-process blending, all-round coverage, and all employees’ participation in the SR concept”

Full-process blending: inject the CSR management concept in the grid construction operation system, function management, and asset life-cycle management system.

All-round coverage: integrate the CSR management concept into the corporate’s core values, strategy, plan, annual comprehensive plan, and the management of budget and staff performance.

All employees’ participation: inject SR management concept into the leadership, executives, all staff and external stakeholders.

Strategy for Sustainable Development

Strategic Objectives

Build a modernized company with "A Strong Grid, Excellent Assets, Services and Performance", and maximize the creation of integrated economic, social and environmental value.

Strategic Focuses

Transform the development mode of the power grid to build a world-class grid.

Transform the enterprise development to build a world-class enterprise.

Strategic Measures

Promote ideological innovation

Promote management innovation

Promote technical innovation

Promote cultural innovation

Strategy Analysis

Opportunities and risks

- China's long-term economic development is in good shape and electricity demand is still growing steadily in the future.
- The world energy development revolution provides an important opportunity for the industrial transformation and upgrading.
- The in-depth development of economic globalization promotes the company's ability to enhance the integration of global resources.
- Low-carbon, clean and harmonious development puts forward higher requirements for the change of development mode.

Advantages

- As the biggest utility in the world, SGCC possesses strong comprehensive power, scientific innovating capability and industrial driving force.
- Operating the largest grid with the highest voltage level and most complex management expertise in the world, SGCC has its technological and management advantages.
- Withstanding some severe tests, such as accommodating new energy's exceptional development, SGCC has accumulated top-notch ability to operate the Strong and Smart Grid.

Challenges

- The company faces the big challenge of ensuring the safe and stable operation of the world's biggest power grid.
- The company is confronted with the pressure to respond to the social transition, maintain the team's stability, and optimize the environment of public opinion.
- The company faces many problems, such as core technology innovation, hindered standard construction, and the standing-out electricity price difficulties.

"3I Plans" for thorough CSR management (3 five-year phases)

Phases	Objectives	Actions
Introduction 2006~2010	<ul style="list-style-type: none"> • Establish a CSR report release mechanism. • Enact pilot programs in four levels: HQ, provincial level, prefecture level and county level • Develop a general pattern of comprehensive CSR management 	<ul style="list-style-type: none"> • SGCC released China's first CSR report in March 2006. • The company released <i>SGCC Guidance for the Implementation of CSR</i>, initiating the "Corporate Comprehensive CSR Management Mode" in December 2007. • Provincial, prefecture-level and county-level CSR Pilot programs were carried out in Tianjin Electric Power Company, Jiangsu Wuxi Power Supply Company, and Zhejiang Jiashan Power Supply Company since April 2008. • The company conducted national science-supporting program research and the search on "Corporate Comprehensive CSR Management Mode" of the National Soft Science Research Program in 2009. • SGCC released China's first <i>White Paper on Green Development</i> on April 19, 2010.
Initiative 2011~2015	<ul style="list-style-type: none"> • Focus on introducing comprehensive CSR management professionally • Conduct comprehensive CSR management in provincial, prefecture-level and county-level companies • Summarize a general pattern of comprehensive CSR management for utilities 	<ul style="list-style-type: none"> • The company released <i>The Future of Corporate Management: Comprehensive CSR Management Golden Bee 2020 Initiative</i> in June 2011. • At least one prefecture-level company was selected from each provincial company to be the pilot for comprehensive CSR management in July 2011. All provincial companies were required to establish an annual CSR practice report release mechanism. • SGCC released China's first <i>White Paper on Corporate Value</i> on January 12, 2012. • SGCC held a meeting to communicate and exchange CSR pilot experience, summarizing and promoting power grid companies' CSR management mode. • Staff training on comprehensive CSR management was carried out to promote the company's development transformation.
Integration 2016~2020	<ul style="list-style-type: none"> • Realize all employees' participation, all-round coverage, and full-process blending of CSR in every level, profession, and position of the company • Develop a new generation of CSR management mode • Cooperate to promote comprehensive CSR management mode 	<ul style="list-style-type: none"> • Improve the company's comprehensive CSR management system. • Deploy widespread implementation of the comprehensive CSR management in all professions and levels. • Join hands with national and international institutes to release the new generation of management mode: Corporates' comprehensive CSR management. • Build a sound corporate transparent operation system and mechanism. • Participate in the development of domestic and foreign corporations' CSR management standard.

Responsibilities originate from system and are accomplished through culture

Implement overall CSR management, and optimize corporate governance

Implement the *Management Regulations of State-owned Property Supervision*, accept the supervision of the Supervisory Board of the State Council

Establish *Staff Congress* of all levels in the company, implement democratic management and supervision

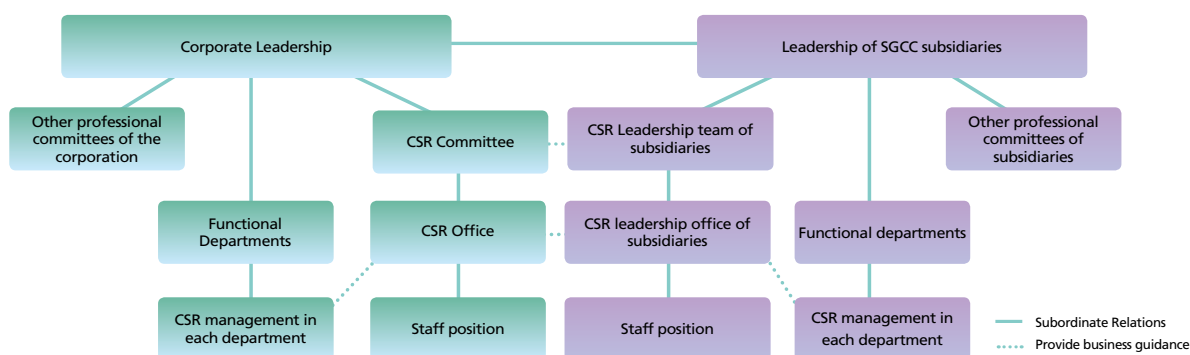
Ensure the transparency of the operation, be open to government regulation and public supervision

The company performs investor responsibility to its owned or managed organizations, and appoints or removes directors, supervisors and executives

SGCC adopts a president responsibility system. Major decisions are collectively made by the corporate leadership

Establish several leadership groups and professional committees, establish a scientific, democratic and lawful decision-making mechanism

Implement overall CSR management, and explore the establishment of the SR promotion institute



Implement overall CSR management, and improve corporate code of conduct and development principle

- The power grid and power industry security
- Health and safety of the staff and customers

Safe

Efficient

Be a reliable and trustworthy SGCC staff

Green

Harmonious

- Save power and develop clean energy
- Low-carbon development and environmental-friendly in operation process

- Promote energy resources' optimal allocation
- Ensure reasonable powerprice

- Interpersonal harmony, and the harmony between human and the nature
- Harmonious development of the enterprise, the society and the environment

Continuous improvement

Sustainable development

Transparency and openness

Value creation principles

Risk prevention

Law adherence

Honesty and trustworthiness

Human orientation

Explore a comprehensive CSR management system

SR Promotion System

Construct an organization and operation program to direct, serve and promote CSR management implementation.

SR Daily Management System

Integrate SR concept into the company's operation and daily management. Improve the job responsibilities, management requirements and code of conduct for every profession, level and position.

SR Performance Evaluation System

Evaluate responsibility implementation of the corporate, departments, units and individuals according to the requirements and targets, and make incentive and constraint mechanisms for comprehensive CSR management implementation.

Comprehensive CSR Management Index System

It is a standard system to reflect and measure the effect and efficiency of CSR management implementation of the company, subsidiaries and staff. It's an important tool to promote comprehensive CSR management and evaluation, strengthen SR communication, and upgrade fulfillment performance.

SR Capability-Building System

Ensure the company and its staff to have the necessary knowledge, skills and willingness to implement comprehensive CSR management.

SR Information Release System

Ensure stakeholders to understand the implementation practice and performance in a timely and comprehensive manner. Fulfill stakeholders' rights to know, to participate, and to supervise. Construct an SR information release method, channel and program built on trust and consensus.

Stakeholder Participation System

To fulfill stakeholders' right to know, to supervise and to participate. Build a harmonious collaboration relationship. Promote the system arrangement, resource guarantee and action deployment for sustainable development with stakeholders.

Implement comprehensive CSR management, and enrich the corporate culture of "Integrity, Commitment, Innovation and Dedication"

Enterprise

Harmony

Green

Model

Integrity, Commitment, Innovation and Dedication

Compliance

Human-orientation

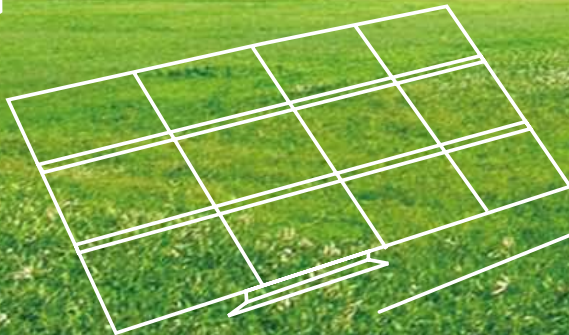
Transparency

Cooperation

The Action

Ensure reliable power supply

Corporate ethics relies on
transparency and public
supervision



Walk the talk A responsible, reliable and trustworthy SGCC

Operate the company in a
responsible way for the people, the
environment, and the society



Ensure reliable and trustworthy power supply

Main topics on ensuring reliable and trustworthy power supply:

Serve the national energy strategy

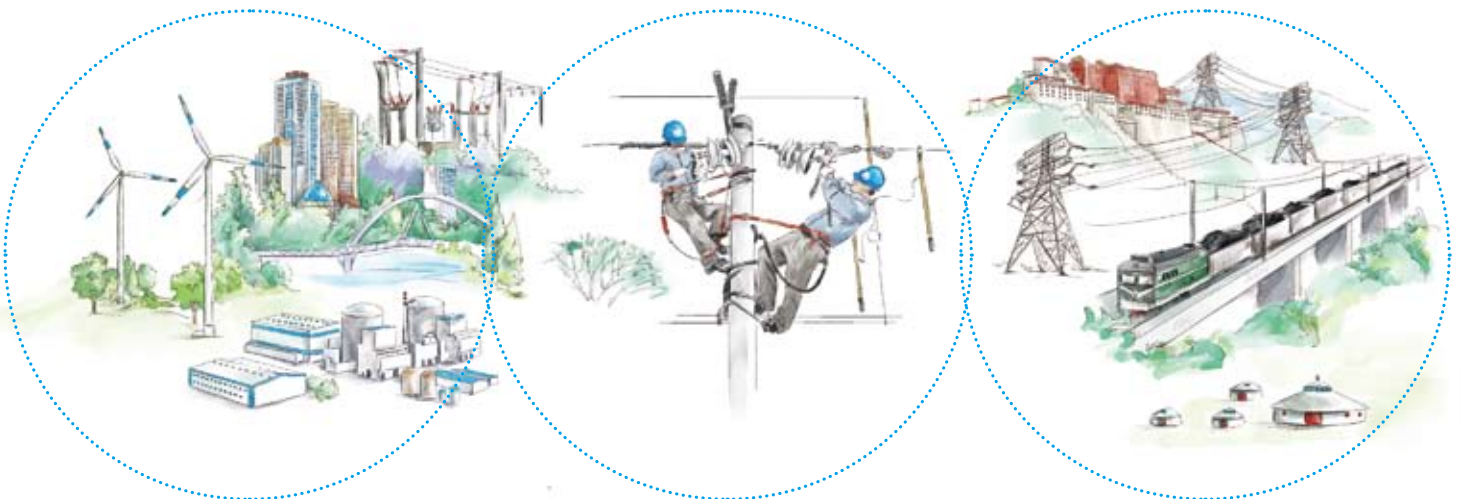
- Construct an energy allocation platform
- Optimize cross-regional power resource allocation
- Serve the construction of energy bases
-

Ensure reliable power supply

- Avoid large-scale blackout
- Accomplish important power supply guarantee
- Upgrade emergency responding ability comprehensively
-

Enhance resource allocation capability of the power grid

- Optimize the development plan for the power grid
- Bring the e-market into play
- Unleash the potential of the current power grid
-





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

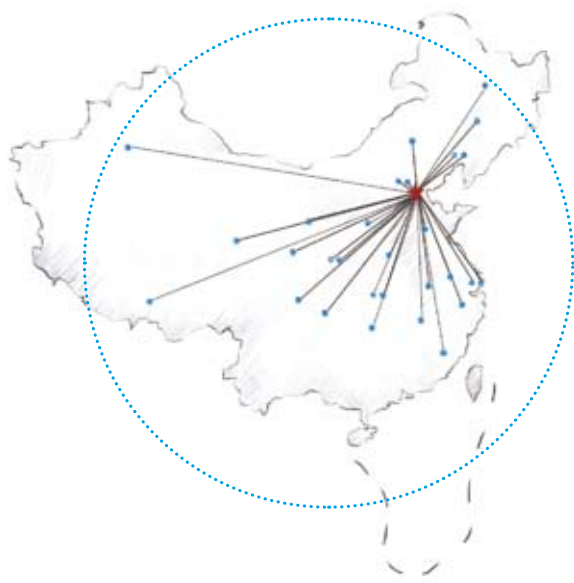
Maximize the creation of integrated economic, social and environmental value: **highly motivated**

Ensure top operational efficiency

- Build the system of "Intensive Management on Human Resource, Materials and Finance and Grand Planning, Construction, Production, Operation and Marketing"
- Coordinate the financial industry and comprehensive industry
- Speed up IT construction

Lead in independent innovation

- Construct a first-class scientific innovation system
- Independently develop key technical equipment
- Promote the industrialization of the R&D achievement





Build a strong energy resource allocation platform

Investment in UHV AC projects

5.35 billion yuan

Investment in UHV DC projects

6.54 billion yuan

UHV grid speeds up its development. The investment in UHV AC/DC projects in 2011 was 5.35 billion yuan and 6.54 billion yuan respectively.

- The extension project of 1000 kV Jindongnan-Nanyang-Jingmen UHV AC Demonstration Project was constructed.
- The Anhui-to-East UHV AC Demonstration Project started construction.
- The Jinping-Sunan UHV DC Transmission Project was accelerated.
- The preparation work of Xiluodu-Western Zhejiang, Hami-Zhengzhou UHV DC projects was in smooth progress.

The construction of smart grid is rolled out. 287 smart grid pilot projects were implemented. The Shanghai Expo Smart Grid Comprehensive Demonstration Project and Tianjin Sino-Singapore Eco-city were constructed. The Wind and Solar Energy Storage and Transmission Demonstration Project was put into operation.

- Pilot forecasting and operation control of large-scale wind power was accomplished in Northwest China grid, Jilin grid, and Gansu grid.

- SGCC initiated a series of technical standard of smart substations, built 65 110 kV to 750 kV smart substations with 9 more in construction.
- 156 charging stations and 6,252 recharging poles were in operation.
- World advanced smart grid dispatching technology support system was developed and constructed.
- Robots and unmanned intelligent aerial inspection technology made a breakthrough.
- Smart meters are applied in an extensive scale, with functions such as automatic meter reading, fee management, remote cost control, line loss management, and sequenced power usage.
- Smart distribution network was built in 23 urban core areas, and the power reliability of the distribution network was greatly enhanced.
- 28 smart power communities were constructed, providing a real experience of future lifestyle for residents.



The center of energy production are moving to the West and North of China. Two thirds of China's primary energy will come from five national comprehensive energy bases, such as Shanxi and Xinjiang. Two thirds of newly added power supply during the "12th Five -Year" will come from big energy bases.

—The construction of the Strong and Smart Grid has to be accelerated to ensure the intensive development and reliable output of energy bases and adapt to the safe interconnection and accommodation of large-scale clean energy.

The Integrated Demonstration Project of Smart Grid in Tianjin Sino-Singapore Eco-City was put into operation

Tianjin Sino-Singapore Eco-City is world's largest and comprehensive smart grid demonstration projects, the first to cover all sections including smart generation, transmission, transformation, distribution, and consumption. It has also made breakthroughs in renewable energy interconnection into the urban grid, interactive service, highly efficient power consumption, and the upgrade of the safety and reliability of power supply. The operation of the project has met the target of no less than 20% renewable energy in the area. Carbon emission per kV was decreased by 20% compared to the conventional grid. The coverage of smart meter reached 100% and power supply reliability was 99.999%, both up to international advanced level. The project provides safe, reliable, high-quality, clean, efficient and interactive power supply and service to the Eco-city, and demonstrates China's latest achievement in smart grid construction.

The grids at all levels are developed with coordination. In 2011, 54,900 kilometers AC lines of 110(66) kV and above levels with 264 GVA transformation capacities kicked off construction and 54,800 kilometers DC lines of 110 (66) kV and above levels with 256 GVA transformation capacities were put into operation.

- The Qinghai-Tibet Interconnection Project, or "the heavenly electricity road", completed one year ahead of schedule, has fundamentally solved the power shortage problem in Tibet, and signified the full interconnection of the grids in China except for Taiwan Province.
- World's first ± 660 kV DC Demonstration project was in bi-polar operation.
- Provincial backbone grids were further improved. 220 kV and 110 kV grids have gradually realized hierarchical and partitioned operation with grid structure further strengthened.
- Distribution network construction was emphasized to solve the bottle-neck of power supply in key cities. Distribution automation was promoted in 23 major cities, and first 6 urban high-reliability demonstration areas were constructed.



Unleash the full capabilities of the power grid in optimizing energy allocation

672 GWh

Power transported to China Southern Grid in 2011

Power transmission capacity was up to

5 GW

after the expansion of UHV AC Pilot Project

Cross-regional large grid interconnection was fully taken advantage of. During the peak load time in the summer, cross-regional transmission to North China, East China and Central China was up to 22.40 GW, 14.55 GW, and 10.19 GW respectively, which greatly eased the power shortage pressure in East China and Central China.

- ± 660 kV DC Yindong line has been operating at full capacity of 4 GW to meet the power demand for Shandong Province.
 - Sichuan Xiangjiaba-Shanghai Fengxian ± 800 kV UHV DC Transmission Project provided strong support to the power consumption in East China grid.
 - To optimize the dispatching of the cascade hydropower stations and hydro-thermal power system, SGCC fully made use of cross-regional power grid to accommodate hydropower in a larger scale. 15.103 TWh power was added by dispatching and coordinating hydropower stations in 2011. Hydropower enhancement rate was up by 7.83%.
 - Giving full play to the channel capacity, SGCC sent 1.2 GW to China Southern Grid at maximum.
- The construction of energy bases' output channels was sped up to promote the Strategy of "One Ultra, Four Larges" and serve optimal national energy allocation.
- The expansion project of 1000 kV Southeast Shanxi-Nanyang-Jinmen UHV AC Transmission Demonstration Project was constructed, with a stable transmission capacity of 5 GW.
 - The first-phase output project of Jiuquan 10-GW Wind Power Base has been completed, giving strong support to the development of the wind power base.
 - The Sichuan Jinping- Sunan ± 800 kV UHV DC Transmission Project accelerated its construction to support the hydropower base construction in West China.
 - ± 660 kV Yindong DC Demonstration Project has been completed to support the development of Nindong coal-fired energy base.
 - Huainan-South Anhui-North Zhejiang-Shanghai UHV AC Project to deliver power from Anhui to East China was launched to support the coal-fired energy bases in Huainan and Huaibei.



An electrician from Shanghai Company of SGCC is working on the UHV DC line

Give full play to the market to allocate the power resources. SGCC enabled 399.867 TWh of national power transaction in the market, up by 11.54%.

- 12.841 TWh of UHV power was transacted.
- 122.440 TWh of large coal-fired power was transacted.
- 100.668 TWh of large hydropower was transacted.
- 39.254 TWh of large nuclear power was transacted.
- 124.664 TWh of other power was transacted.
- 105.939 TWh of generation rights was transacted.

The grid's transmission capacity has been constantly improved. Since projects were implemented to upgrade the transmission capacity in 2005, 3,559 projects have been carried out in various voltage levels, adding new transmission capacity of 200 GW.

Projects for transmission capacity upgrade over the years

Year	Number of projects	Accumulated Increased Capacity (Unit: MW)
2005	1252	44,480
2006	912	40,790
2007	600	34,236
2008	356	34,104
2009	190	17,190
2010	145	16,977
2011	104	12,090
In Total	3559	199,867

Ensure the safe and stable operation of the power grid



Total grid and equipment accidents down to

14

Lowered by

36 %

compared to 2010

Learn from the Japanese Fukushima nuclear crisis, massive power failure and restrictions, and avoid large-scale blackouts. Research and develop specific measures to strictly implement safety responsibilities, comprehensively prevent and control risks, ensure the safe and stable operation of the power grid, and maintain public social security.

Carry out safety risk control by emphasizing implementation and process, and establishing the mechanism. Complete a sound safety standard system, develop *Basic Standards on Safety Risk Management* and *Risk Management and Control Specifications of Production Risks*, sort out optimized safe production procedure, start a new round of safety evaluation, and deepen the company's security risk management. No significant grid and equipment accidents occurred throughout the whole year.

Special funds were made available to normalize actions on checking and controlling potential dangers. Improve on sound troubleshooting management on checking safe operation accident risks, establish a management evaluation system, build an accident and risk database, and report investigation regularly. 10,132 potential accidents have been investigated with 9,572 rectified in 2011.

Accomplish important power supply guarantee. SGCC has done an excellent job to guarantee power supply for the commemoration of the 90th Anniversary of Founding of CPC, peaceful liberation of Tibet, the launch of God eight Airship, and the International Horticultural Expo, with zero power supply accident and zero fault, fully demonstrating SGCC staff's ability.

Safety Challenges faced by SGCC

- The risk of massive blackouts of the power grid always exists. Electricity transmits in the speed of light. Generation, transmission, distribution and consumption take place simultaneously. Any local risk or failure in the generation companies, grid companies or power consumers can spread to the whole power system. Therefore, the risk of large-scale blackout does exist, especially with the hanging problems of backward grid construction. At the same time, there are many hidden risks to some high-risk and important customers. The pressure on secure power supply cannot be ignored.
- Natural disasters and external damages threaten the power grid's safe and stable operation. In recent years, China has suffered from severe weathers and rare natural disasters, which are common, persistent, and frequent. Other external damages, such as municipal construction, crane operation, blasting out mountains, illegal construction, and power theft, pose serious threats to the safe and stable operation of the power grid. During 2005 to 2010, there were 247 accidents of damaging grid and equipment by severe weather and external forces, accounting for 40% of the total accidents. First-grade grid and equipment damages by external forces accounted for more than 40% damages of transmission lines.
- Unbalance of power supply and demand and the backward grid construction affect power supply safety. China's power demand remains a rapid growth. Insufficient power supply happens. SGCC's biggest power shortage was 27.16 GW in 2011. Fourteen provincial grids took measures, such as orderly power consumption and load restriction. The power supply fell short by a large amount of electricity, involving a lot of areas and lasting for a long time. Therefore, the safe operation of the power grid was under great pressure. At the same time, the external environment of grid construction became more complicated. The coordination to cross railways, highways and buildings was more difficult with high compensation. Construction obstacles became the new bottleneck for grid construction. The fact that grid construction projects could not be put into operation on time brought a negative effect on the stable operation of the grid.
- The company needs to accelerate its development mode transformation to strengthen safety management. To fully unleash the overall advantage of the grid and SGCC and enhance the grid's intrinsic safety, SGCC needs to speed up its mechanism reform, enhance conglomerate operation, and fundamentally change the unfavorable situation of unbalanced safety management in different areas and the management skills that are to be improved.



A staff from Beijing Electric Power Company, SGCC, was ensuring the power supply for the Celebrations on 90th Anniversary of Founding of CPC at the Tian'anmen Square

Improve the company's emergency responding capability. SGCC set up the HQ-level and provincial-level emergency expert teams and emergency rescue sub-teams of provincial companies, completed the 2nd facelift of HQ Emergency Command center, constructed and operated two emergency training bases in Tai'an, Shandong, and Longquanyi, Sichuan. It successfully held the 2011 joint emergency response exercise and North China earthquake emergency rescue drill.

Cope with severe natural disasters and ensure safe power supply. SGCC has been actively dealing with the storm, ice and snow disasters in Southern China, mobilizing 12,000 man-times and 2,000 vehicles, 5 sets of large AC/DC ice-melting equipment, and 189 sets of special emergency repair tools to resume the power supply in a short time. As well as to the floods in Zhejiang, Anhui, Hubei, Hunan, Jiangxi, Sichuan and Beijing, SGCC mobilized 44,507 man-times and 6,998 vehicles to repair day and night and restore the damaged facilities promptly.

A job well done to ensure power supply for the International Horticultural Expo

SGCC invested nearly 80 million yuan to build the auxiliary power service projects, providing a concrete material base for secure power supply. Besides, SGCC actively responded to the continuous high temperatures, intense receptions, and stormy days, sending out 111,000 man-times staff and 17,000 vehicles to ensure the power supply. 13 safety inspections were conducted. 32 potential dangers were eliminated by checking. SGCC also accomplished 5 emergency repairs, assisted and guided clients from the expo to properly handle 7 consumer-side safety risks, and completed first-grade power ensuring task for 25 days including the opening and the closing ceremonies, as well as second-grade power ensuring task for 164 days.

Mobilize

111,000

man-times staff accumulatively to ensure the power supply

Mobilize

17,000

vehicles in total

Ensure first-class operational efficiency

Construct the system of Intensive Management on Human Resource, Materials and Finance and Grand Planning, Construction, Production, Operation and Marketing, and set a solid mechanism foundation for efficient operation. SGCC has kept on promoting the "Three Intensives", which is the intensive management on human resource, materials and finance since 2005. It further brought up the establishment of "Five Grands", that is, grand planning, construction, production, operation and marketing. It was first tried out in Jiangsu Electric Power Company and Chongqing Electric Power Company, laying a foundation for the overall construction of the "Three Intensives and Five Grands" system.

Optimize the industrial layout and deepen the industrial expansion strategy. The company has promoted the reform and reorganization of its subsidiaries with coordination, separated the scientific research on the core businesses supporting the power grid from the industry, and established multiple R&D institutes with different focuses and industrial groups. SGCC also sped up the grid's construction, and set up companies specialized in maintenance, AC construction, DC construction, IT, and logistics respectively. What's more, great efforts were made to construct first-class smart grid and electrical equipment manufacturing bases and speed up the industrialization of DC transmission, UHV series compensation, and smart chips to forge a strategic industrial cluster with international competitiveness. Internationalized operation made an important breakthrough. SGCC has been successfully operating the NGCP and smoothly integrating State Grid Brazil Holding S.A.

Optimize financial resource allocation and construct a modern and highly efficient financial operation platform. In order to build a strong financial management platform, China Power Finance Co., Ltd. has constructed a three-grade group account system to provide overall intensive financial management. Yingda Taihe Property Insurance Co., Ltd. initiated a series of power grid insurance products, filling a blank in the industry. Yingda Taihe Life Insurance Co., Ltd. enhanced its innovation ability and successfully developed more than 10 life insurance products with characteristics of the power industry. Yingda Security Corporation Ltd. kept enhancing its supervision rating year by year and improving its business qualification. Yingda Chang'an Insurance Brokers Co., Ltd. had a more mature customer service system, providing professional and standardized asset insurance services. Yingda International Trust Co., Ltd. and Yingda Futures Co., Ltd. have gradually turned into national companies from regional companies.

Money can't buy core technologies

Core technologies matter to the company's competitive edge. Foreign large-scale power equipment manufacturers can get high profits depending on core technology monopoly. Therefore, they tend to have strict technological blockade during their production and operation. It will make it impossible for other companies to realize their late-developing advantages by importing innovative technologies. For example, power simulation technology, the basic tool and important method for power system plan, design, operation, and control, is still mastered by few manufacturers overseas till recent years. It is core technology blockade. Also, thyristor controlled series compensation technology, which can realize flow control, and enhance system stability and transmission capability, has always been mastered by few trans-national companies. Those companies protect their core technologies as their trade secrets. What's more, the control protection system, the "brain and nerve system" of DC transmission system, is in the hands of few foreign companies. For power grid companies, to make breakthroughs in core power technologies is to stick to independent innovation and domestication, promote the design plan and purchase favorable to the localization of UHV equipment, and provide conditions to fully support core technology R&D and the equipment localization.

Give full play to technical innovation

SGCC has strengthened the construction of technical innovation management system and upgraded its scientific intensive management. To amply the top-level scientific tackling design, the company has also worked out the "12th Five-Year" scientific plan, releasing the *Interim Management Measures on SGCC Basic and Prospective Researches* to emphasize basic and prospective studies. It has compiled *Major Projects for Deepened Study on Large Grid Planning and Operation Control Technologies*, bringing up 44 research topics of 6 categories, in the efforts to construct a leading and comprehensive large grid safety defense system with SGCC's characteristics in the world. By integrating R&D resources and conglomerating power on R&D, SGCC has made important breakthroughs in a series of key technological and scientific projects.

- SGCC has developed the world's first UHV series compensator, UHV 1,000 MVA two-legged transformer, 400 MVA step-up transformer, 1,500 MVA large-capacity transformer, UHV 63kA large-capacity switch, UHV controllable high resistance, and UHV dry oil & gas sleeve. These equipment further consolidated China's leading position in UHV transmission in the world. Important achievements have been made in tower head optimization and deepened study on tower structure, which have been applied in engineering design. Practical measurement research on VFTO achieved world-class innovative result.
- The Wind and Solar Energy Storage and Transmission Demonstration Project has realized five technical breakthroughs, such as wind/solar energy storage complementary mechanism and system integration. More than 10 independent equipment R&Ds have been completed, including integrated power generation smart panoramic optimization control. More than 20 technical innovations have been made, such as integrated power generation predication calculation.
- SGCC established the internationally advanced National Energy large-scale Wind Power Interconnection System R&D (Experimental) Center and National Energy Solar Power R&D (Experimental) Center, whose results are recognized by the international society and vice versa. They can provide strong support to the globalization of China's new energy equipment.
- "The Power System Simulation Center" National Project Lab has been through acceptance. By far, the wind/solar power generation research and test centers have been constructed, enhancing the test capability and control of new energy interconnection.
- Important projects of national science-supporting program, that is, "UHV Transmission and Transformation System Development and Demonstration" and "Research on the Key Technologies of Large Grid Safety", have been through acceptance and highly valued.
- 750 kV controllable high resistance is to be put into operation. The world's first UHV controllable high resistance single-phase prototype has been successfully developed and can be applied as an engineering demonstration.
- Asia's first 20 MW/±30 kV HVDC Flexible Demonstration Project was officially put into operation in Shanghai's Nanhui Wind Farm.
- SGCC set up a high-speed data weather report platform, and developed a highly precise wind/solar power prediction system with self-owned intellectual property rights. The accuracy is leading internationally.
- In 2011, SGCC undertook 17 national important scientific project topics, including 15 specific topics on smart grid in "863 Program", and 2 from science-supporting program. The total investment reached 406.83 million yuan.

Patents applied in 2011

6,253

Increased by

56.6 %

compared to 2010

Patents granted in 2011

4,010

Increased by

41.9 %

compared to 2010

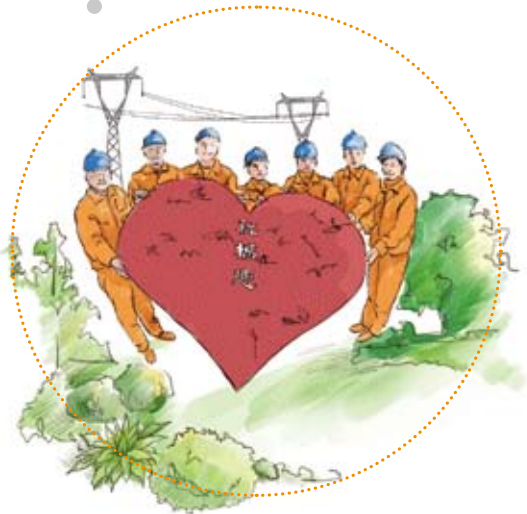
Deal with each stakeholder responsibly

Main topics on dealing with each stakeholder responsibly:

Responsible for customers: Fulfill the responsibilities on quality service

- Power supply reliability and voltage qualification rate
- Power supply service satisfaction
- Response to regional power shortage
- Implement the policy of "Three Non-Specifications (non-specified project design organization, non-specified construction group, and non-specified equipment and materials).

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Responsible for agriculture, countryside and farmer: Fulfill the responsibilities in serving agriculture, countryside and farmers

- Continue promoting the power construction in areas that do not have access to electricity
- Power grid construction in the Tibetan area in Sichuan province
- The new round of rural power grid's upgrade.
- Power supply quality and service standard

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Adhere to legal and moral basics for every stakeholder and innovate for a win-win situation
Maximize the creation of integrated economic, social and environmental value: **more harmony**

**Responsible for employees:
Fulfill the responsibilities on employee development**

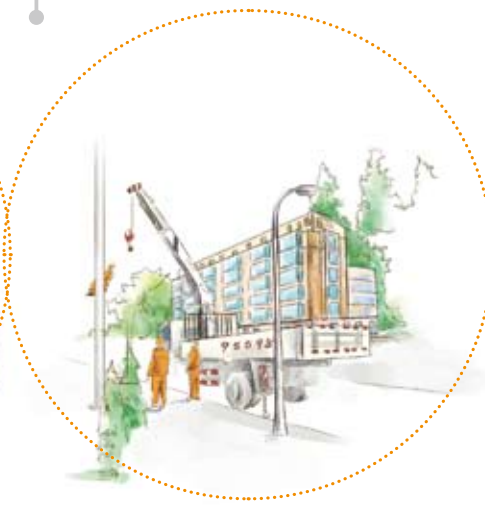
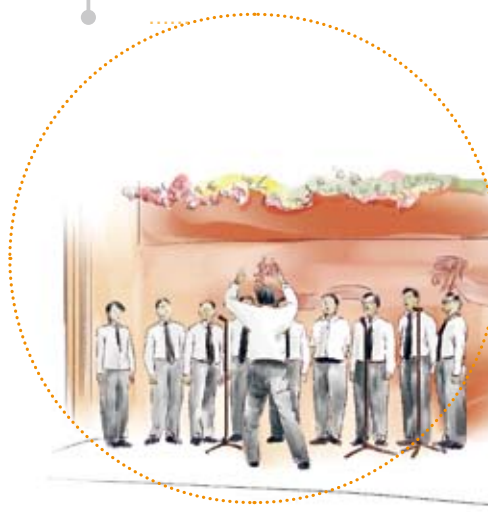
- Safeguard employees' legal rights and benefits
- Employees' safety and health
- Staff training and development
- Democratic management and supervision

**Responsible for partners:
Fulfill the responsibilities on win-win partnership**

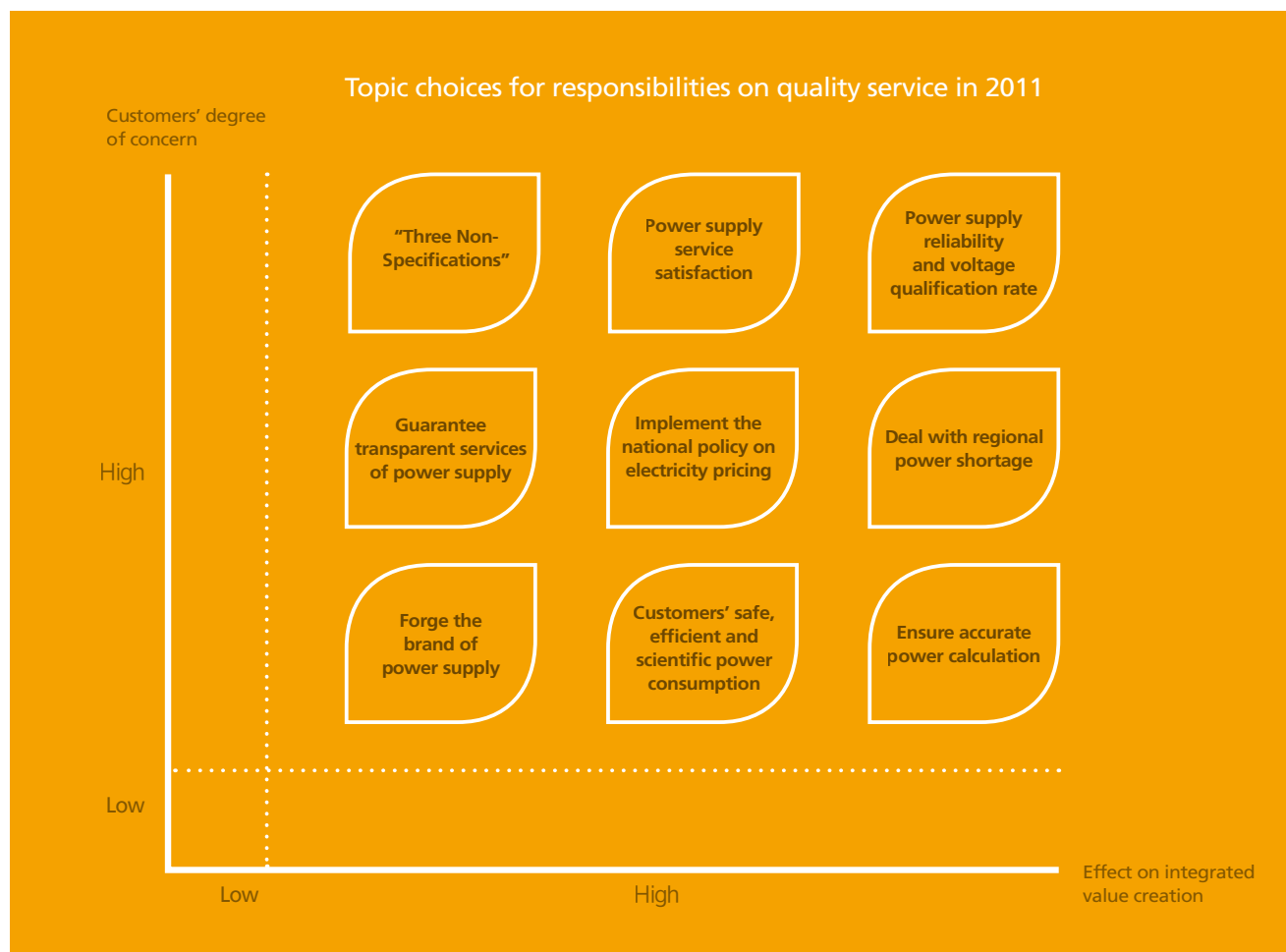
- Win-win partnership
- Fight against the commercial bribery and corruption, and comply with the law to operate
- Explore and promote responsible purchase
- Localize core equipment's technology

**Responsible for the community:
Responsibilities as a corporate citizen**

- Adhere to the law and operate business with integrity
- Support social welfare undertakings
- Respond to emergencies
- Support Xinjiang and Tibet
-



Responsible for customers



Fulfill the annual commitment on power supply reliability and voltage qualification rate

SGCC has given a comprehensive consideration on the input-output ratio, and ensured rational power supply reliability and voltage qualification rate regarding different characteristics of different supplying areas. The power supply reliability rate in urban area within the company's operational territory reached 99.921%. The comprehensive voltage qualification rate was 99.759%. The average blackout time for urban power users was 6.92 hours. The commitment made at the beginning of 2011 has been fulfilled.

SGCC has carried out comprehensive equipment maintenance. The company has developed technical, management and work standards for transmission/transformation equipment and distribution equipment maintenance, and formulated a condition-based maintenance standard procedure. The company has strengthened its technical support, deepened maintenance decision support system for equipment condition, and promoted the application of equipment testing and monitoring technologies. Pilots go first and will be promoted comprehensively. SGCC will improve condition-based maintenance standard mechanism, deepen, refine and optimize the condition-based maintenance implementation plan, and

strengthen the overall process control. The company has tried condition-based maintenance on the distribution grid of Jinhua Wucheng Power Supply Bureau in Zhejiang province. Compared with plan-based maintenance, it has saved 31.71 million yuan's maintenance fee throughout the year, and applied extra 2.8 GWh of power.

SGCC has promoted distribution automation in key cities. The company has been promoting distribution automation in 23 key cities in two batches. The cities with the function can improve their power supply reliability from 99.968% to 99.992%, upgrade the voltage qualification rate from 99.528% to 99.867%, shorten the average fault-isolation time from 68 minutes to 9 minutes, and lower the line loss rate from 5.210% to 3.327%.

SGCC has actively organized live working. The company has elaborated the categories of live working, expanded its scope, and developed live working practices in the direction of working with uninterrupted power (bypass) and collaborative working. The 10 kV Distribution Grid Live-line Work Skills Competition was held. SGCC is exploring to extend bypass working method to cable line work.

Urban power grid's power supply reliability rate within SGCC's service area

99.921%

The average blackout time for urban power users

6.92 hours

10 kV urban distribution grid live work in 2011

126,440 times

Reduce blackout time for households

7,850,000 hours*household

Minimize the power supply shortage in certain area

During the peak time in the summer of 2011, the load of 4 regional grids and 20 provincial grids of SGCC reached an all-time high with the biggest power shortage of 30 GW. The company was actively dealing with the situation by:

- Strengthening monitoring and send early warnings in a timely manner.
- Assisting the government to refine orderly power consumption plan, achieve specified users, loads and lines, and guarantee the rational power consumption for residential power and social users by the greatest extent.
- Implementing the orderly power consumption plan, guaranteeing transparent power supply, and informing authorities and the society on power supply situation.
- Insisting on making services always available even during blackouts.

95598 customer service staffs from Shanxi Electric Power Company are providing quality services to customers



SGCC has set up

22,000

fixed sales service
branches by end of
2011

154,900

social agent sites

Refine power supply service standards

- Release the new revised “Ten Commitments” of power supply and “Ten Prohibitions” of staff services.
- Unify service channels, projects and conducts, and promote standardized construction of business halls.
- Deepen the first-inquiring responsibility system and complete within the specified time.
- Establish a customer information collection center with strict privacy protection.

Power metering receives strict supervision

- The SGCC Metering Center established a power meter components lab with first-class test capability on reliability.

- SGCC has promoted the pilot construction of provincial-level metering centers and carried out the research project on “provincial-level metering center’s smart operation system”.

Strictly follow national policy on electricity price

- Assist with the national electricity price adjustment and implement the new price policy.
- Improve the system of marketing/reading/confirming/charging management, marketing inspection and error accountability.
- Complete the construction of the audit monitoring system and realize real-time monitoring of key indicators and the work quality.

Inspiration around us

—excerpts from the tour of SGCC “Star of Services” Report

“As long as customers have requests, we should do just a little more.”



—Zeng Lingli
Team Leader of Yuhua Operation Team of Nanjing Power Supply Company in Jiangsu province

There is always room to improve service quality. For most of the time, our service is qualified according to the specifications. However, it doesn't mean that it cannot be improved. As long as customers have requests, we should do just a little more.

“Deal with your customers with care, patience and thoughtfulness and make them feel comfortable, ensured and satisfied.”



—Wang Xiwen
Team Leader of Hongshan Business Hall of Chifeng Power Supply Bureau in eastern Inner Mongolia

Deal with your customers with care, patience and thoughtfulness and make them feel comfortable, ensured and satisfied. More greetings, answers, and information for more understanding, trust and care. Then a ‘bridge of hearts’ will help establish relation between power suppliers and their customers over time.

- Establish a unified electricity price management standard and business process to realize the price management during the whole process.

Continue implementing the special governance on "Three Specifications"

- Publish the *Guidance on Avoiding "Three Specifications" for Customers' Power Projects*, and carry out special governance.
- Assist SERC to conduct focused investigation on the "Three Specifications", and make sure the problems are rectified.

Ensure safe power consumption

- Make sure there are no major accidents in regards to electricity supply and consumption caused by the company itself.

- Execute *Regulations on Emergency Response and Investigation in Power Safety Accidents*, improve the mechanism of emergency rescue and service, and conduct large-scale emergency drills.

- Deepen user-side safety check and supervision.

Be open to customers' supervision

- Set up incentive fund for industrial moral complaints and reports, actively answer customer complaints, and make sure all complaints are resolved.
- Hire 78,000 social moral supervisors to conduct thorough investigation.
- Keep the fulfillment rate of the "Ten Commitments" for supply service at 99.99%.
- Power supplying companies of all levels lead in the local moral evaluation.

“ Among all those people, if someone smiles at you, it is a blessing! ”



— Shi Xinlin
Team leader, Tariff Management Center, Henan Xinxiang Power Supply Company

Once I was at an outing, someone came over and smiled at me and even said hello. She looked kind of familiar but I couldn't recall who she was. Eventually it came to my mind that she was a former customer served at my counter about a month ago. At that time, she looked hesitant and stood there for a long time. I then came over to talk to her. It turned out that she used online banking to pay for her electricity bills. However, she typed the wrong number while inputting her user account. Then she paid more than 70 yuan for someone else's tariff. She just wanted to know if we could help her fix her problem. I checked her receipts and the record in the system, which coincided with what she said. I then contacted the meter reader and helped her to get the money back. This event has long slipped my mind but she still remembered it. Among all those people, if someone smiles at you, it is a blessing!

“ I find the joy and satisfaction of my job in her big smile. ”



— Zhao Xuelian
Team Leader, Xuelian Business Hall, Xinjiang Changji Electric Power Bureau

Once, an old lady stormed into our business hall and questioned us: "Why did you overcharge me? How did your meter readers do their work? I won't pay for this month's electricity fee. If you can't give me a satisfactory answer today, I will complain to China Consumers' Association!" Faced with her interpellation, I first asked her to sit down, offered her a cup of tea and began chatting with her. It turned out that she thought the electricity fee was too high and she suspected that the meter reader made a mistake. I patiently said to her: "Please don't worry. Let's go to your home and check it out." After a field investigation, we found out that she had rent 4 or 5 rooms out. Every month, she only collected the rent. The tenants should make accountable for expensive electricity bills. I explained the situation to her and suggested to install an electricity meter for each tenant, which she happily accepted. She then paid for her electricity bills. I find the joy and satisfaction of my job in her big smile.

Your Power, Our Care Forge the "95598 Bright Service" Project

Carry out "Serve the people and First to excellence" activity. Many outstanding teams emerged, such as SGCC's Sichuan Communist Service Team. They have received the recognition from the society. When visiting Sichuan Electric Power Company on August 20, 2011, member of the Standing Committee of the Political Bureau of the CPC Central Committee, member of the Secretariat of the CPC Central Committee, and Vice President Xi Jinping gave high remarks on Sichuan Communist Service Team for providing convenience and service to the public for many years. He encouraged the team to keep their mission in mind, think of the people, and contribute to the society in their posts.

- Beijing Capital Power Communist Service Team: First to excellence, brighten up Beijing, and serve the community.
- Chongqing Red Rock Power Supply Repair Service Team: Inherit the spirit of red rock, and be a power supply guardian.
- Tianjin Dawn Power Service Team: Set off at dawn and light up thousands of households.
- Shandong Rainbow Communist Service Team: Make windows brighter and service better.
- Heilongjiang Li Qingchang Communist Service Team: Dial 6 after "95598" then you directly connect to Li Qingchang's mobile.
- Shaanxi Zhang Side Power Service Team: Do as Zhang Side does and be a model of serving the public.
- Family Power Volunteer Team of Jiangsu Nanjing Power Supply Company: Treat customers like families and provide convenient service to the people.
- "Little Red Riding Hood" Youth Bright Service Team of Jiangxi Jiujiang Power Supply Company: Light up Jiujiang with our hearts.
- Zhejiang Jiaxing Red Boat Service Team: Inherit the red boat spirit, and provide power service to light up the world.

Serve whole-heartedly. Work happily



Construct a first-class “SGCC” brand

- Implement leading brand strategy, and launch “the year of brand building”. SGCC maintains the second place of Chinese Top 500 Most Valuable Brands, and secures the 82nd place on Top 500 as the only Chinese power company on the list.
- Publish the slogan “Your Power, Our Care”.

Create the “Circle of Pay” – pay within 10 minutes

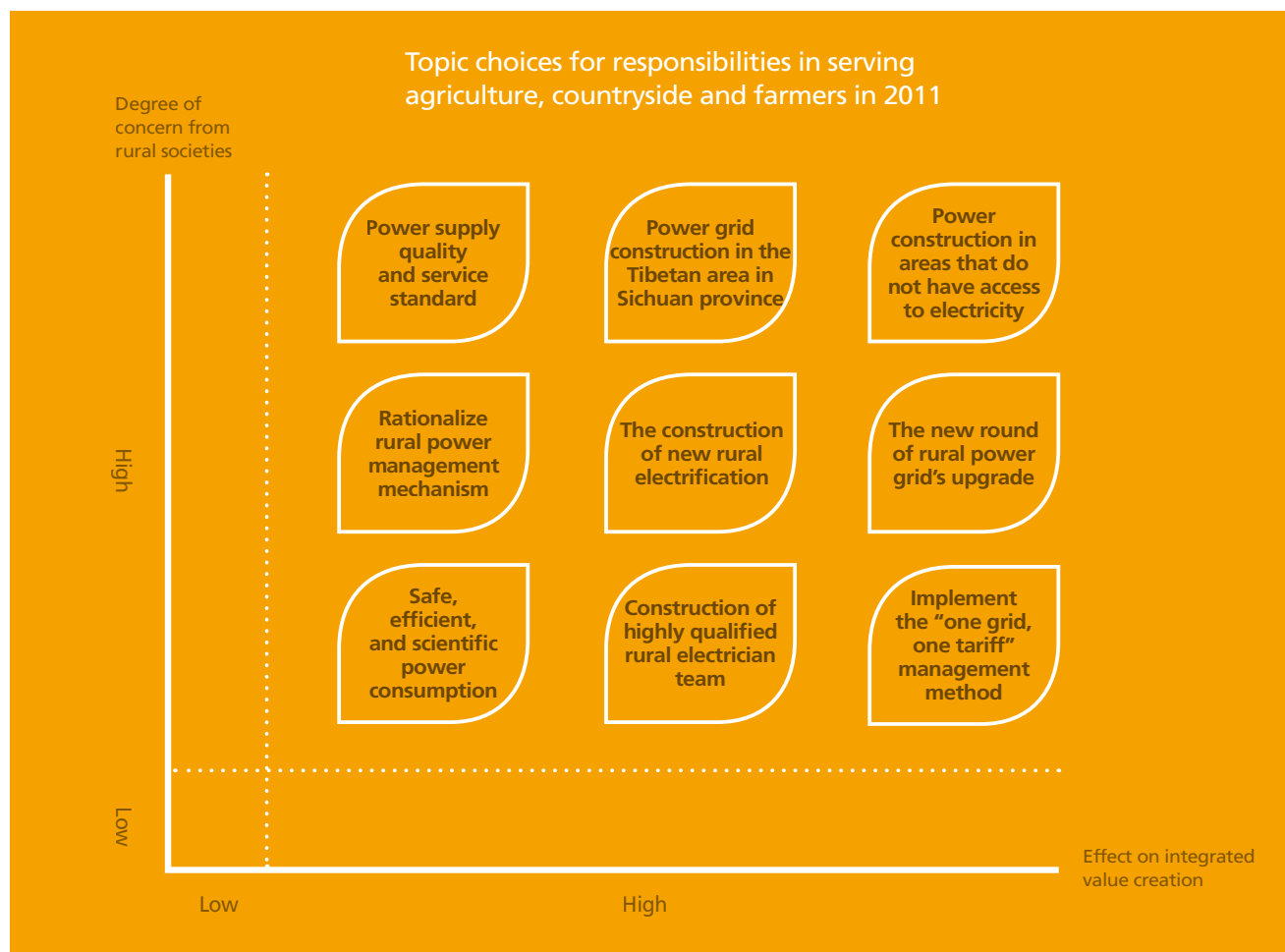
- SGCC has made a public commitment to make customer power consumption as convenient as possible and create the “Circle of Pay” – pay within 10 minutes in cities.
- In 2011, the “Circle of Pay” – pay within 10 minutes have been basically established in urban areas of Fuzhou, Jinan, Qingdao, Taiyuan, Shanghai, Wuhan, Chengdu, Zhengzhou, Ningbo and Changchun. Now the power suppliers in those cities are expanding convenient payment channels into the suburban areas.

“Circle of Pay” – pay within 10 minutes means customers can easily find a toll booth within 10 minutes transportation’s distance from where they are now.

Stakeholders’ participation

Types	Methods	Examples
Information notification <ul style="list-style-type: none"> ● Disclose information on tariff standards, service procedure, and service hotline ● Provide important information on power cut plans, emergency power supply, and power supply service complaints results 	<ul style="list-style-type: none"> ● Bulletins at business halls ● Bulletin news on the website ● Distribute promotion materials ● Announcement on the media 	<p>Jiangsu Electric Power Company opened a Microblog, named “Jiangsu Consultant on Orderly Power Consumption” on April 25, 2011. It was the first official Microblog to release information on power consumption during peak load summer time among provincial-level grid companies. Through this platform, Jiangsu Electric Power Company released real-time power consumption information and answered all kinds of questions to 32 million users, especially 60 thousand users involved in orderly power consumption during summer peak time.</p>
Feedback acceptance <ul style="list-style-type: none"> ● Listen to customers’ opinion, suggestions, complaints, expectations and requirements ● Conduct surveys on customer satisfaction, and understand topics of their concern 	<ul style="list-style-type: none"> ● 95598 service hotline ● Online feedback platform ● Satisfaction survey ● Investigation in moral construction 	<p>On October 31, 2011, Chongqing Electric Power Company launched an interactive 95598 website, which is not only capable of information publishing and self-served query, but also able to provide online business operation, billing, complaints and reports through virtual service counters and operators. In addition, the website can provide smart service experience, such as energy efficiency service, green power, smart home and building, and charging pole inquiry.</p>
Dialogue and communication <ul style="list-style-type: none"> ● Talk with customers ● Invite customers to experience power supply service 	<ul style="list-style-type: none"> ● Hold customer symposiums ● Visit customers ● Organize customers to visit SGCC ● Participate in associations and forums 	<p>The power supplies of various levels in Zhejiang Electric Power Company visited its enterprise clients 12,421 times in the first three quarters of 2011, to get to know the real operation situation of SMEs. After the government introduced a series of measures to promote SMEs’ healthy development, Zhejiang Electric Power Company soon came up with the concrete measures to help SMEs regarding electricity consumption by holding free training on safe power consumption to enterprises and providing practical advice.</p>
Joint action <ul style="list-style-type: none"> ● Work out the power supply service scheme together with customers ● Promote safe, highly efficient, and scientific power consumption with customers 	<ul style="list-style-type: none"> ● Participate in the decisions on major power supply projects ● Discuss power supply service solutions ● Check and control potential risks with joint efforts ● Organize moral appraisal 	<p>The first China-Eurasia Expo was held in Urumqi during September 1 to 5, 2011. While upgrading the safety and stability of the power grid, Xinjiang Electric Power Company carried out potential risk check on user-side supply equipment at important locations, such as the airport and exhibition center, which was carried out in compliance to main grid equipment standard to guide customers how to eliminate equipment defects in time.</p>

Responsible for agriculture, countryside and farmer



Deepen the power construction in areas that do not have access to electricity

- Characterized by the completion of the "Power for All" Project in Tibet, the objective of this project was basically achieved in SGCC's service area. During the "11th Five-Year", 1,340,000 households and 5,090,000 people have access to electricity in SGCC's service area. In 2011, 35,000 households and 136,000 people have access to electricity in SGCC's service area.
- The number of people currently without electricity has been growing as local power suppliers are transferred to SGCC. SGCC then proposed to carry out power construction projects in areas without electricity, and offer another 2.075 million people access to electricity in the "12th Five-Year".

The "Power for All" Project benefited the Tibetan area. A happy smile lit up the face of a Tibetan girl



Launch the power grid construction in the Tibetan area in Sichuan province

On November 4, 2011, SGCC launched the “12th Five-Year” power grid construction in the Tibetan areas in Sichuan province with 6 objectives to be realized:

- Construct 500 kV grid channels and solve the output problems for hydropower in the Tibetan areas.
- Realize interconnection between county-level grids and change the unfavorable isolated operation of 15 county-level grids.
- Solve the power consumption problems for 319,000 people without electricity.
- Build up the power supply capacity of the grids in Tibetan areas, and improve their power supply reliability.
- Assist the grid in Shiqu County, which was heavily damaged in Yushu Earthquake, and realize its interconnection.
- Solve the power supply problem in the Shangri-La tourist zone and promote its economic development.

“

The acceleration of the Tibetan power grid development is an important guarantee to realize the leap-forward development and long-term stability of the Sichuan Tibetan areas. It is also an important action for SGCC to serve the country, and fully demonstrate the company's firm stance and determination to share the historical responsibility on developing the Tibetan areas. Sichuan province shall give full support to these projects.

——Jiang Jufeng
Governor of Sichuan Province

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Boost the infrastructure construction for rural power

Advocate the new round of rural power grid's upgrade. SGCC has endeavored to solve the problems, such as weak communication between county-level grids and the main grid, overloaded rural power supply facilities, supply bottleneck and low voltage. In 2011, 2 county-level grids terminated their isolated operation. Over 50 county-level grids were interconnected with the main grid, eliminating 2.9 million households with low voltage and upgrading the meter facilities for 5.4 million households.

Speed up the new rural electrification. In 2011, SGCC has constructed 123 counties, 1,432 towns and 24,541 villages with rural electrification in its service area.

Construct smart rural grid pilots. SGCC has completed three rural grid pilot projects with marketing, distributing and dispatching management mode in Pucheng of Shaanxi, Jinghai of Tianjin, and Yinzhou of Zhejiang. Important breakthroughs were made in smart distribution stations, rural distribution automation, and power consumption information collection.

Strengthen the power facilities for agriculture and forestry. SGCC has made coordinated arrangement on motor-pumped wells and the transformation of agriculture and forestry grid. It has greatly enhanced the power supply conditions for farmland motor-pumped wells in agricultural production areas, adding 57,500 motor-pumped wells, which benefit farmland of 2748.9738 square kilometers.

Tianjin first realized “Electrification in all counties”

The new rural electrification construction in Jixian county, Tianjin, went through acceptance on November 16, 2011, marking Tianjin as the first city to realize “Electrification in all counties” in China.

Xiaosun Gezhuang Village of Jixian county was one of the pilot villages of electrification renovation. Wu Jixu, the party secretary and village committee director, said that the villagers were all very satisfied with the renovation, which can benefit the livelihood of the village.

Make sure the power for fighting against droughts can be supplied, transmitted and consumed well.

Track spring droughts in Hubei, Hebei, Shandong, and Jiangxi. Strengthen power dispatching management. Open green channels for power transmission. Set up power supply service team fighting against drought. Invest to transform power facilities of motor-pumped well for agricultural irrigation, and accomplish the power supply task against drought.

Ensure safe rural power consumption

- Improve the rural power safety management system, and consolidate the favorable situation of safe rural power consumption.
- Carry out safety risk control by emphasizing implementation and process and establishing the mechanism. Conduct special inspection on flood control in spring and autumn for rural grid project, as well as on small hydropower station safety.
- Launch the project to consolidate the foundation of safe rural power consumption. In the next three years, SGCC will establish a complete safe rural power consumption work mechanism with government-enterprise co-action, rural implementation and power service.
- Carry out "Three Ones" activity of safe rural power consumption, which means one lesson on power safety for freshmen, one promo disc on safe power consumption given for free, and one round of demonstration activity of insulation check on temporary agricultural production power and home appliances. 45,000 hours of lessons have been taught, spreading the knowledge to 5.1 million people and giving consultation 1.6 million times.

Ensure power supply quality and quality service

SGCC has fulfilled its commitment at the beginning of the year. The power supply reliability rate in rural areas is 99.665%. The



Aside from completing their jobs, staff at SGCC Hunan Hupingshan Power Supply Bureau purchased life necessities and helped sell agricultural products for villagers for free. Villagers would like to call them "Electric Mules"

average blackout time per household is 29.35 hours, reduced by 2.54 hours than last year. The comprehensive voltage qualification rate is 97.688%. The fulfillment rate for the "Ten Promises" on rural power supply service is 100%. All the services provided at rural power supply business counters are standardized. Most county-level power suppliers were in the top 3 in local moral evaluation.

Implement the "one grid, one tariff" management method

1,779 counties of 26 provinces within SGCC's service area have realized "one grid, one tariff" management, accounting for 98.5% of all county-level power suppliers.

The power supply reliability rate in rural areas is

99.665 %

The average blackout time per household in rural areas is

29.35 hours

Reduced by

2.54 hours

The comprehensive voltage qualification rate is

97.688 %

Up by

0.211 %

Power consumption under county level increased by

12.37 %



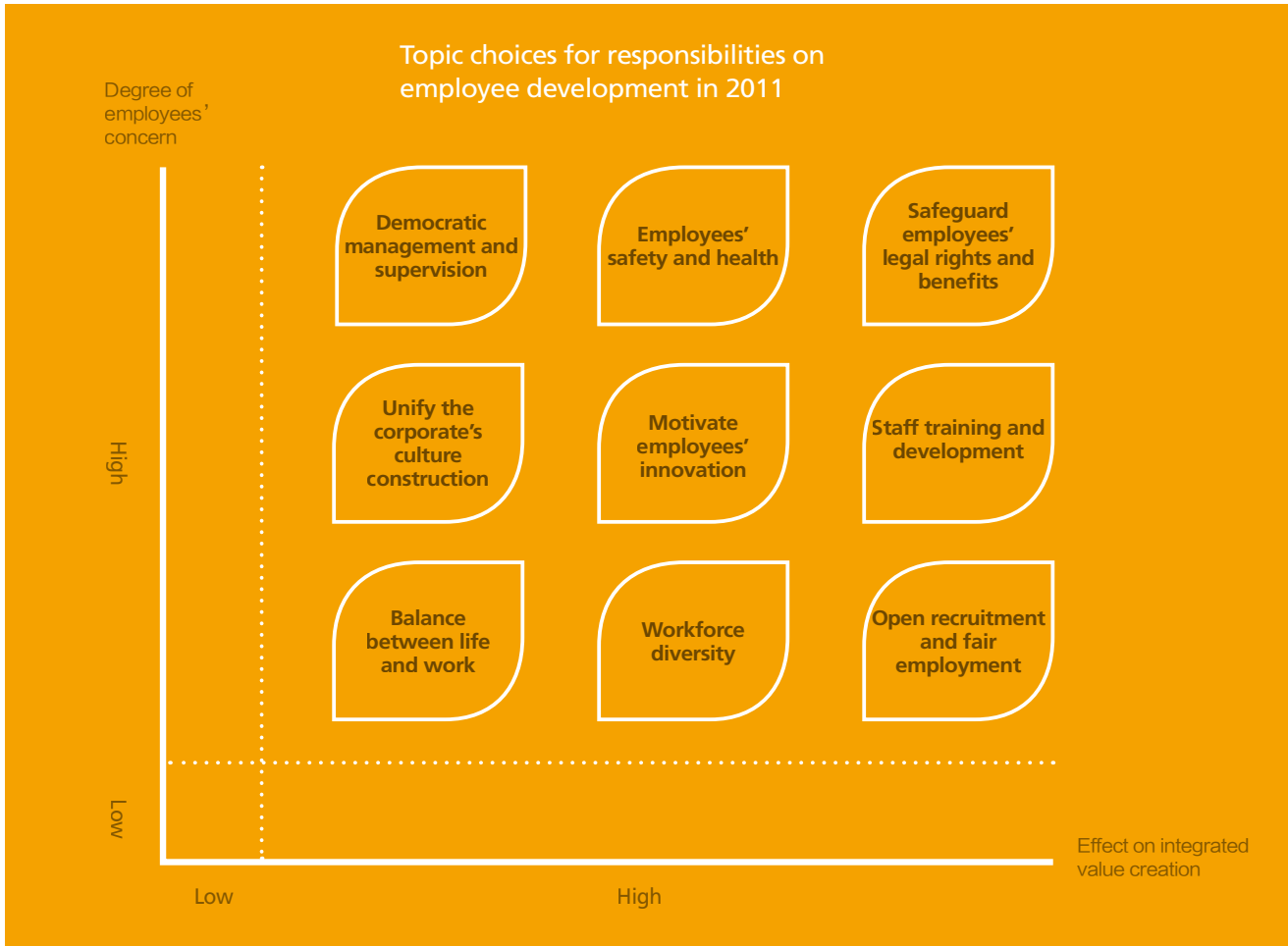
Rationalize rural power management mechanism

- In 2011, SGCC successfully accomplished the property rights transfer of 86 share-holding county companies and 111 escrow county companies, realized the smooth transition of production and operation, and maintained the stability of the rural power team.
- SGCC has approved the share adjustments in two prefecture-level and 81 county-level power companies and the share transform in 26 county-level companies.
- The company reinforced the professional education in rural companies, and held skill competitions in electricity marketing and distribution maintenance with a participation of 120 thousand rural electricians from county-level, prefecture-level and provincial-level companies.
- SGCC has safeguarded the legitimate rights and interests of rural electricians, duly paid social insurance for rural employees, and protected their safety and health.

Stakeholders' participation

Types	Methods	Examples
Information notification <ul style="list-style-type: none"> ● Disclose information on electricity prices and pricing standards ● Disclose information on power conservation and charging methods 	<ul style="list-style-type: none"> ● Bulletin news on the website ● Bulletins at business halls ● Distribute promotion materials ● Hold press conferences 	<p>SGCC Anhui Huangshan Electric Company employed an innovative method for safe electricity use promotion which was by Huangmei opera. Materials were made into episodes of opera and brought to a wider range of audience. The new way of popularizing knowledge on safe use of electricity was well received by local villagers. At the end of the show, the cast sang the "Song of Rural Safe Power Use". Employees at the power supply company went on the stage to read the "Note on Safe Power Use for Farmers".</p>
Feedback acceptance <ul style="list-style-type: none"> ● Understand the expectations and requirements from farmers or agriculture-related organizations ● Investigate the rural power service satisfaction 	<ul style="list-style-type: none"> ● 95598 service hotline ● Online feedback platform ● Satisfaction survey ● Investigation in moral construction 	<p>SGCC Hebei company introduced a pilot program in which Hengshui Taocheng division sent text messages through SG186 system to mass users with information on electricity prices, power cut notices and business extension and application for installation. Customer feedbacks and satisfaction surveys were collected the same way on a regular basis.</p>
Dialogue and communication <ul style="list-style-type: none"> ● Discuss the topics on serving agriculture, countryside and farmer ● Discuss the plans to serve agriculture, countryside and farmer 	<ul style="list-style-type: none"> ● Special discussion with the government ● Symposiums on serving agriculture, countryside and farmer ● Field investigation on serving agriculture, countryside and farmer ● Expert forum 	<p>SGCC Henan Electric Power Company announced its first batch of president liaison officers on March 15, 2011. Twenty of them came from county-level companies. It was a landmark initiative by Henan Electric Power Company towards democratic management. The liaison offers can give their suggestions and advice to SGCC President at any time.</p>
Joint action <ul style="list-style-type: none"> ● Implement the "New Countryside, New Power and New Service" development strategy ● Promote new rural electrification 	<ul style="list-style-type: none"> ● Participate in major projects ● Potential risk check on rural power safety ● Rural power facility protection ● Moral evaluation 	<p>"Villagers decide where the lines go." SGCC Jiangxi Lushan Power Supply Company refused to cause any inconvenience to local residents during the rural grid upgrading projects. The construction team consulted with villager representatives about the location, direction of the power lines and power cuts so as to have the work done according to the overall plan and protect villagers' interests and traditions at the same time.</p>

Responsible for employees



Respect human rights and maintain employees' legal rights

- Employee is the heart of the Corporation. Fully implement the laws and regulations stipulated in *China's Labor Contract Law*. Ensure the interests and rights of employees bound by the contract law. All employees have signed the labor contract.
- Provide appropriate treatment and welfare to employees. Settle payment based on position and eliminate gender elimination. Pay attention to the balance of employees' work and life by establishing paid leave system. Cover employee insurance on endowment, medical treatment and unemployment. Social insurance coverage rate reached 100%.
- Stick to equality in employment and eradicate any discrimination on gender, age, health, race and religion. Female accounts for 9.1% of the Corporation's decision-making board. Protect employees' privacy, dignity and freedom. The employees' turnover rate was less than 1% in 2011.
- Set up reception offices in companies of all levels. Investigate complaints and reports in accordance to regulation, and take actions accordingly.
- 100% participation in the 1,236 workers' unions under the Corporation. Priority is given to protect the fundamental interests and legal rights of employees.

Be human-oriented, and ensure employees' health and safety

- Set up an adequate safety and health management system. Commence analysis on safe operation, increase investment into creating safe work environment, improve occupational disease prevention system, launch training on safe operation, and establish health archive and regular health check covering all employees. Only one accidental death happened throughout 2011. Promote safety and health awareness among employees, popularize knowledge on safety and health, and build an effective mechanism on safety and health management.
- Launch employees' care projects. Deliver special care and help to workers at the production line and staff in difficulties, as well as families of those sacrificed in disaster relief. During the 2011 New Year and Spring Festival seasons, the Corporation workers' unions paid care visits to 52,686 employees, 28,214 retired employees and 3,061 labor models.
- Guarantee retired employee treatment. Set up care mechanism to retired employee in difficulties, and provide regular medical care, annual health check, health recuperation and long-term service to retired employees. Currently the Corporation has 278,486 retired employees, 1,647 activity venues and 52 senior universities for retired employees.
- Follow closely with employee mental health. Offer consultancy on spiritual care and mental health and open SGCC cultural life website.
- Hold a series of programs centered around the celebration of the 90th anniversary of the Communist Party and the development of the "12th Five-Year Plan" including theatrical performances, photography contests and badminton games.

23 companies

from SGCC won the title of "National Model Harmonious Labor Relationship"



SGCC organized medical teams to give medical care at Lhasa substation in the Qinghai-Tibet Grid Interconnection Project

Combat schistosomiasis

Hubei province is one of the national schistosomiasis hyper-endemic areas. SGCC Hubei Electric Power Company developed *Temporary Measures On strengthening Schistosomiasis Control and Decomposed Tasks of Staff Schistosomiasis Control* and introduced a clause to provide differentiated protection to workers in schistosomiasis epidemic area. Borrowed from the concept of "Safe Transportation Island", SGCC planned to build a "Schistosomiasis-free island", upgrading the water and lavatory systems in epidemic areas. A total investment of 43.947 million yuan was used to build 762 schistosomiasis-free islands. From August 2010 to the end of September, 2011, Hubei Electric Power Company spent more than 2 million yuan on providing medicine and labor protection to workers at the epidemic areas, giving free treatment to 486 sick employees, and conducting free physical examination on 6,077 rural electricians in 32 counties and cities. According to the statistics from the health check records of Hubei Electric Power Company in 2011, the infection cases dropped 65% compared to 2004. The number of employees suffering from liver and gall stone dropped 43%. The number of repeated schistosomiasis infection declined sharply.

Promises for employees in difficulty

SGCC Liaoning Electric Power Company has made a promise to make medical care affordable to every employee, make education available to the children of every employee, and make every employee live above the poverty line. The company conducted a comprehensive investigation on the living conditions of the early retired, the injured, the ill, and the retirees in difficulty. It established electronic archives for them, implemented dynamic management and established specialized warm project funds to finance the employees in difficulty.

Awards won by SGCC staff in 2011

Awards	Quantity	Given by
National Labor Medal	53	All-China Federation of Trade Unions
Title of National Workers' Pioneer	55	
National Female Labor Post, National Female Model Worker	93	
Outstanding Party Workers	1	the Organization Department of the Central Committee of the CPC
Advanced Grassroot Party Organization of Central SOEs, Advanced Party Member of Central SOEs, Outstanding Party Workers of Central SOEs	14	SASAC
National Youth Civilization	15	Central Communist Youth League
National Excellent Youth League Cadres (members)	3	
Jiang Yiwei Enterprise Reform and Academic Foundation Prize	1	Chinese Academy of Social Sciences
Mechanical Power Technology Award of Ho Leung Ho Lee Foundation for Scientific and Technological Progress Award	1	The Ho Leung Ho Lee Foundation
.....

So-acclaimed "tough repairer" from SGCC

On July 13, 2011, the Hanzheng Street line cable in Wuhan, Hubei faulted and it went out of the control of the property company. On receiving the information, SGCC Wuhan Power Supply Company came to the rescue in no time. Facing the sewage and fetid cable trench, Mr. Liu Yueqing, with no hesitation, took off his clothes, came into the trench and began to find the fault point. After an hour's hard work, he finally made it and then restored the power supply for more than 2,000 businesses and over 2,000 residents as soon as possible. A video about the repair process was uploaded to the Internet and it stirred up a hot discussion. Facing the nickname of "tough repairer" and the interviewers, Liu said that he just didn't think too much with so many people waiting for the power supply.



<http://csr.sgcc.com.cn>

Advocate the strategy of vitalizing the company by human resource development

Raise employee quality. The Corporation organized 4 trainings for bureau-level leaders, one session for young leaders, and two overseas trainings for senior management. Orientations completed in all divisions. Exchange programs between the headquarters and divisions involved 310 employees. Improve standards on team building and objective management. Strengthen training on team leaders and explore ways to enrich team culture. Organize competitions to select outstanding teams and workers.

Encourage talent selection and recruitment based on competition and market. Now SGCC has recruited 13 top-notch overseas talents passing the evaluation of the Recruitment Program of Global Experts by the central government., being the top 3 among central SOEs. The Corporation has selected 50 key talents specializing in law and finance as well as 10 top technicians and 471 experts from home and abroad. A competitive mechanism was used for 81 posts within SGCC.

Offer employee career planning. Establish different career development paths for management personnel, technical staff and skilled staff.

Deepen employees' democratic management and construct unified corporate culture

- SGCC introduces *The Outline of State Grid Democratic Management of Employees* and makes sure that all major decisions and policies related to the legitimate rights and interests of workers will be discussed by the Staff Congress.
- SGCC encourages employees to offer advice and suggestions, appoints 40 2nd term president liaison officers and conducts employee satisfaction surveys. According to the surveys, the overall employee satisfaction and comparative satisfaction ratio was above 90%.
- SGCC further promotes the corporate culture of "five unifications" (unification of value concept, development strategy, enterprise standard, behavior standard and corporate brand).



"Work does not kill people, but the absence of spirit easily does."
—— from "the power hawk" Lv Qingsen



"Bring love to my life and work, and do my best to contribute to society."
—— from "the good angel" Han Keqin



"What I have done in my lifetime is nothing but to draw some lines gently on the face of the earth."
—— from "the upright tower" Jiang Xiaojin

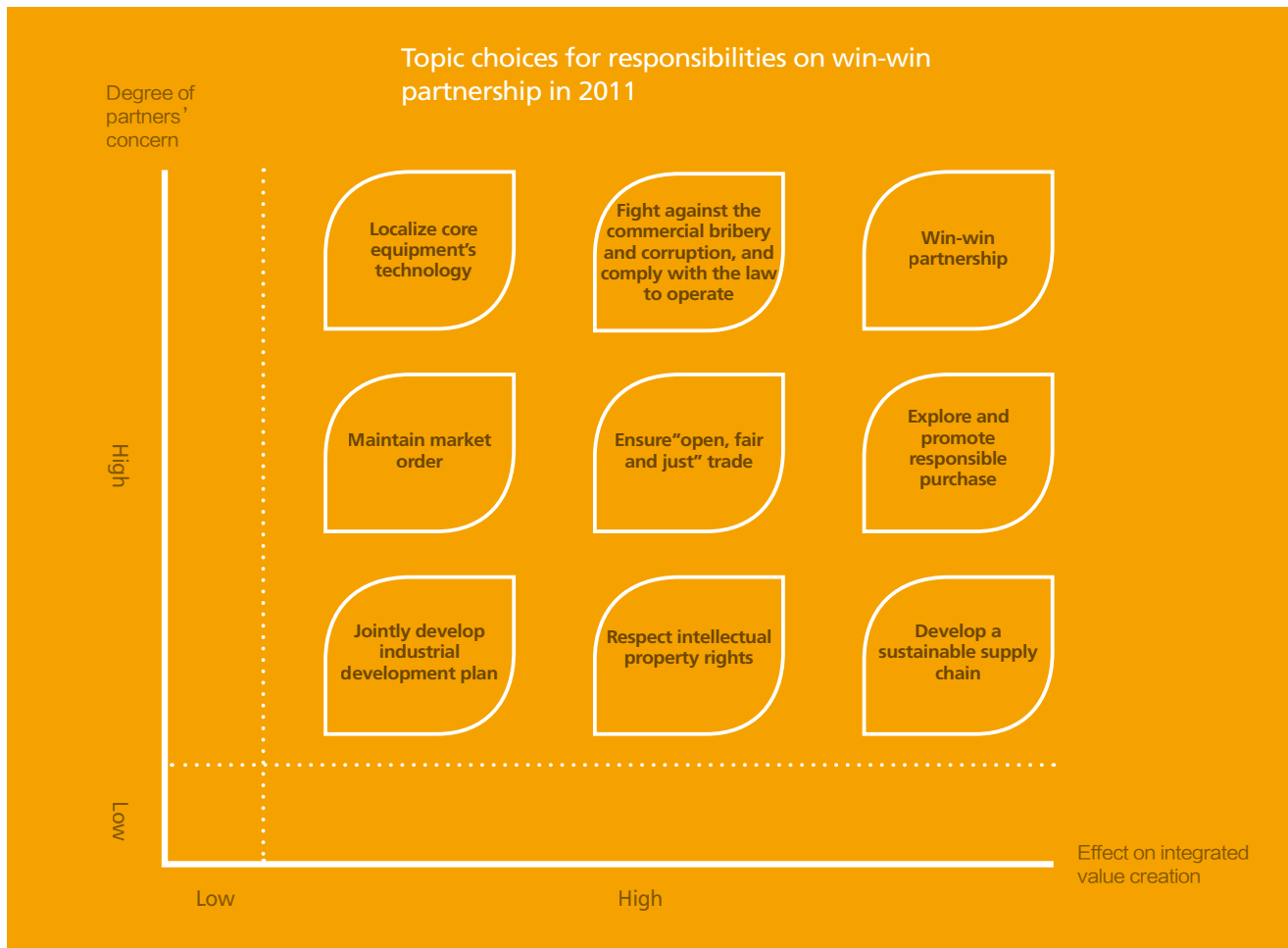


"Saving lives is the greatest happiness."
—— from "the most beautiful Chinese" Lv Mingyu

Stakeholders' participation

Types	Methods	Examples
Information notification <ul style="list-style-type: none"> ● Disclose wage and welfare, the legitimate rights and interests, as well as training opportunities ● Disclose company strategy, rules, regulations, and democratic decision-making 	<ul style="list-style-type: none"> ● Company brochure ● Bulletin news on the website ● Company rules and regulations ● Make public the affairs of the enterprise 	<p>SGCC issued <i>Knowledge Manual on Grid Synchronization in North, East and Central China, Tasks Education Manule- Study and Implement the Spirit of the First Meeting of the Second SGCC Staff Congress and 2011 Work Conference, and Tasks Education Manule- Study and Implement the Spirit of 2011 SGCC Anti-Corruption Work Conference & 2nd Quarter Work Conference</i> to educate employees about the situation and key tasks SGCC faces.</p>
Feedback acceptance <ul style="list-style-type: none"> ● Listen to employees' opinions, suggestions, expectations and requests ● Investigate employees' satisfaction 	<ul style="list-style-type: none"> ● Employee hotline ● Internal media ● Special reports ● President liaison officers 	<p>Through questionnaires, meetings, conversations, and key interviews, SGCC has carried out surveys on staff's ideological dynamics, and concerned greatly on the ideals, beliefs, values, psychological demands, mental status, issues and contemporary tendency problems of the management.</p>
Dialogue and communication <ul style="list-style-type: none"> ● Discuss company's major decisions ● Accept staff democratic management and supervision 	<ul style="list-style-type: none"> ● Staff training ● Receive letters and visits ● Staff representative meetings ● President liaison officer meetings 	<p>SGCC has organized and founded 12 staff representative inspection groups, investigated the implementation of workers congress' resolutions and the company's key decisions and policies, thoroughly understood employee ideological situation, and collected advice and suggestions for the development of SGCC.</p>
Joint action <ul style="list-style-type: none"> ● Discuss proposals of the Staff Congress ● Give full play to the staff's enthusiasm, initiative and creativity 	<ul style="list-style-type: none"> ● Staff Congress ● Staff Congress proposals ● Collective labor contract negotiation ● Model worker innovation studio 	<p>The first meeting of the second Staff Congress gathered 194 proposals and filed 15 cases. The proposal committee has constantly improved the working procedures and methods, printed proposal processing reply and response letters, and replied one by one to the proposers according to the principle of "unified admissibility, classified implementation, respective reply, and implementation tracking". All proposals were handled.</p>

Responsible for partners



Comply with the law to operate, and fight against commercial bribery and corruption

Enterprises that go against the laws should be punished strictly. In advocating the integrity concept of cleanliness and effectiveness, all unfair competitions and commercial bribes are strongly prohibited. In dealing with power plants, design and construction companies, supplier, research institutes and financial institutions, honesty, fairness and transparency are advocated to form and maintain a legal and effective relationship with partners.

Standardize the management of contracts. Revise and distribute *SGCC Contract Management Rules*. Draw up *SGCC Handbook for the Contract Handling*. Apply the unified contract format. In strengthening the management of contracts before they are signed, they are closely integrated into construction projects, finance, materials, infrastructure, technology and power trade to make sure all the contracts have been checked. More efforts need to be delivered to manage the implementation of contracts and standardize the actions such as alteration,

transfer and termination. The mechanism to track, monitor and collect feedbacks on contract implementation is set up initially. The implementation rate for contracts within the company has reached 100%.

Key businesses such as tendering have deployed centralized monitoring to strengthen the management. A tendering legal guarantee system has been initially set up to strengthen its legal protection. The tendering management of clients' project design, equipment and construction has also been reinforced to ensure its transparent operation. The projects are collectively established every year. Project management, waste disposal, electricity billing and checking, and warehouse clearing are all monitored, from which impressive benefits have been harvested.

The implementation rate of contracts within the company reaches

100 %

The rate of contracts' legal verification is

100 %

Explore and promote responsible purchase

The conglomerate material bidding management system came into being. SGCC has promoted centralized bidding mode characterized by "unified organization by Headquarters and implementation by provincial companies". It has eliminated discrimination on suppliers, corruption and bribery. With adverse evaluation mechanism, SGCC has guided suppliers to evaluate the purchasers in contract signing and implementation so as to reinforce mutual trust and credibility. A supplier service center and 28 material contract service halls have been built to offer standard, transparent and convenient one-stop services including application, consultation, signing, and settlement. Suppliers' performance was evaluated. SGCC has appointed a third party to carry out the annual verification and evaluation on potential suppliers' qualification, including their performances, equipment, craft, component configuration, and etc.

Encourage enterprises in the supply chain industry to consider strategies about social and environmental influences . By strengthening the evaluation of suppliers' capability and social and environmental performance evaluation, such as health, safety and environmental protection, the companies along the industry chain are encouraged to consider the influences of their strategies on the society and the environment.

Promote the responsibility implementation concept of "Safety, efficiency, environmental-friendliness and harmony" among enterprises in the supply chain industry. Improve the performance on safety control, energy consumption efficiency, resources saving and the capability on protecting the environment. Elevate the overall ability and level of value creation.

Promote equipment localization. Adopt purchase policies that are in favor of domestication. Strengthen technical cooperation and core technology innovation with suppliers. Break blockade of imported technologies, and accelerate the localization of core equipment and technologies.

Advocate the Corporation's purchase management modernization by IT and standardization. A nationally advanced and world-class e-commerce platform for purchase management has initially been established to assert closed-loop management and control on planning, bidding, evaluation, award, signing and implementation. The established auxiliary bidding and purchasing standard system covers 95 categories of equipment and materials. The grid equipment's interchanging capability has been greatly enhanced, providing suppliers a favorable condition to reduce design and production costs and encourage a fair competition among suppliers.

The centralized purchasing on goods and materials reached

90.5 %

of the total volume

The centralized bidding for the whole year reached

230.6 billion yuan

More than

16 billion yuan

has been saved



Nanjing Center Warehouse of Jiangsu Electric Power Company realized the intellectualization of the whole storage and delivery process including mechanical shipping, code identification, electrical scanning and automatic packaging



Win-win partnership with power generation companies

Release the new revised “Ten Measures” to strengthen dispatching transaction services. Perfect related measures of dispatching transaction information disclosure. Increase contents related to energy conservation, emission reduction and new energy consumption. Make new requirements for the implementation of annual plans for power generation schedule and auxiliary service.

Support power generation enterprises to develop wind power and other new energies. Formulate *Technical Regulation on Wind Power Interconnection and Standard Management of Wind Power Dispatching Operation*. All interconnected wind farms are involved in dispatching monitors. 14 provincial grids have finished the construction of wind power prediction system, in which the accuracy is of international level.

Win-win partnership with financial institutes

Improve the capital operation efficiency, reduce capital management risk, and realize the mutual win for the industrial production and the financial industry. In 2011, SGCC issued 95 billion yuan of bonds, including 40 billion yuan on ultra-short-term financing bonds in 4 times, 20 billion yuan on short-term financing bonds twice, 20 billion yuan on medium-term notes twice and 15 billion yuan on corporate bonds once.

Installed capacity within SGCC's service area reaches

818 GW

The total on-grid electricity in the service areas is

3,240 TWh



750 kV Riyueshan Substation of the Qinghai-Tibet Interconnection Project

Win-win partnership with design and construction organizations

- According to the national overall arrangement, SGCC has completed the task to separate its main business with auxiliary business, and transfer the rights of separated enterprises to the Power Construction Corporation of China and China Energy Engineering Group Co., Ltd.
- SGCC implements the standardization of infrastructure management, puts into operation the infrastructure management and control system, and cooperates with the design and construction enterprises to fulfill the requirements of safety management, quality management, technology management, cost management and project control. The 1000 kV Southeast Shanxi-Nanyang-Jingmen UHV AC Demonstration Project won the 2nd China Industry Award. It was the only project to win China's top industrial award. 750 kV Qinghai Riyueshan Substation, together with two other projects, won the 2010-2011 China Construction Engineering Luban Award as the second batch of award receivers.

Win-win partnership with scientific research institutes

SGCC has organized and led thousands of scientific researchers from 59 organizations, such as domestic scientific research institutes, design institutes, manufacturing companies, colleges and universities to accomplish the major project of the "11th Five-Year" national science-supporting program—the development and demonstration of UHV transmission system. They have also led key projects—the research on key technologies for big grid security and the key technologies of wind power interconnection, as well as the promotion and development of relevant sciences and the industrial manufacturing capacity in China.

"Created by China" stimulates the upgrade of domestic power transmission and transformation equipment manufacturing industry

- SGCC has adopted an open, innovative mode to gain government support, reply on projects, lead by owners, consult with experts and unite industry with universities and research institutes. It has gained major breakthroughs in equipment localization, enhanced the capability for scale UHV transmission and transformation equipment manufacturing in China, and realized the industry's technical upgrade. The localization rate of equipment manufacturing reached 90%.
- Taking the 1000 kV Southeast Shanxi-Nanyang-Jingmen UHV AC Demonstration Project as an example, over 100 domestic power equipment enterprises participated in the UHV equipment development and supply. They independently developed the world's first 1000 kV, 3 GVA single phase UHV transformer and 1000 kV, 960 Mvar HV shunt reactors of the highest voltage and the biggest capacity. They also produced the UHV GIS and HGIS switching equipment which represent the highest technological level in the world.
- With the driving force of UHV projects, domestic enterprises have obtained competitive technical advantages in the field of power transmission and transformation equipment and have dominated the domestic market. China XD Group, TBEA and Tianwei Baobian Electric Co., Ltd. mastered the UHV Transformer development technology. Shenma Electric Power mastered the UHV composite insulator's research and development technology. Xi'an XD Switchgear Electric Co., Ltd, Shengkai Switchgear Electric Co., Ltd. and Pinggao Electric improved switching technology. XJ Group Co. and Sifang Automation Co. Ltd. have topped the world in relay protection technology.
- From 2009 to 2010, the market share of domestically developed 500 kV AC transformers and switches reached 63%, while lightning arresters, transformers and insulators occupied over 90% of the market. The control protection equipment occupied almost the entire market.

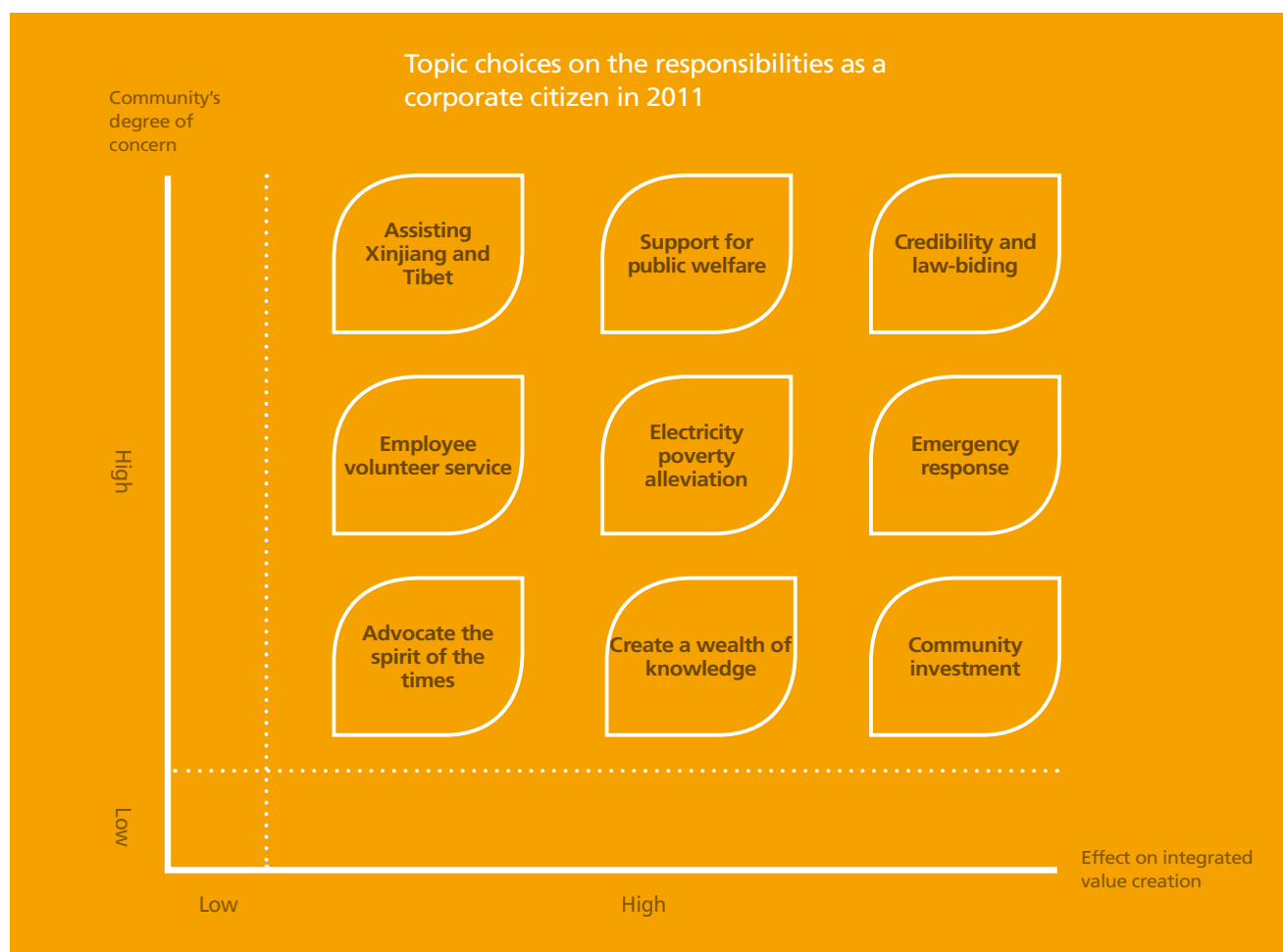
Stakeholders' participation

Participants	Types	Methods	Examples
Power generation enterprises	<ul style="list-style-type: none"> ● Information notification Disclose the information of transaction plan, price, volume, and the situation of demand and supply 	<ul style="list-style-type: none"> ● Conference on dispatching information ● Coordinator on transactions of power plants and grid 	<p>Among grid-plant coordination projects for conventional power, the North China Company of SGCC took the lead nationally in developing the dispatching mechanism for generator excitation and real-time data upload. Thus the operation of generators in the integrated system can be supervised. In encouraging and maintaining the standards to be achieved within integrated generators, as well as fulfilling the needs of grids, a lot of economic and social benefits have been made.</p>
	<ul style="list-style-type: none"> ● Feedback acceptance Listen to the opinions, suggestions and expectations from power plants 	<ul style="list-style-type: none"> ● Advisory meeting with experts ● Coordinator on transactions of power plants and grids 	
	<ul style="list-style-type: none"> ● Dialogue and communication Collaborate on discussing the development strategy of the power industry 	<ul style="list-style-type: none"> ● Forum with specially targeted subjects ● Regular visit 	
	<ul style="list-style-type: none"> ● Joint action Cooperate on promoting the general planning and development of electricity and grid 	<ul style="list-style-type: none"> ● Coordinate the construction of plants and grids ● Collaborate on discussing the development of new resources 	
Design and construction enterprises	<ul style="list-style-type: none"> ● Information notification Information on safe production and project quality 	<ul style="list-style-type: none"> ● Tendering press conferences 	<p>On March 4, 2011, at the process innovation and quality management meeting held in Xiaogan city, Hubei province, SGCC invited the construction management organizations and the inspection organizations to introduce standard technology and quality management innovation from the view of the project legal person, constructor and supervisor. Exchanges were also carried out after the inspection on Xiaonan 220kV substation construction site in Hubei province.</p>
	<ul style="list-style-type: none"> ● Feedback acceptance Listen to partners' opinions and suggestions 	<ul style="list-style-type: none"> ● Meetings with specially targeted subjects 	
	<ul style="list-style-type: none"> ● Dialogue and communication Understand the core topics of design 	<ul style="list-style-type: none"> ● Design & construction coordination meeting 	
	<ul style="list-style-type: none"> ● Joint action Jointly solve the problems of design and construction 	<ul style="list-style-type: none"> ● Combined efforts to tackle construction and designing issues 	
Scientific research institutions	<ul style="list-style-type: none"> ● Information notification Disclose SGCC's technical development plan and annual plan 	<ul style="list-style-type: none"> ● Information release conference ● Scientific development forum 	<p>Since 2006, SGCC has been organizing grid companies, research institutes and renowned universities to form a R&D team of production, knowledge, research, and consumption. A series of independently developed key achievements have been made. On July 25, 2011, Asia's first HVDC Flexible Demonstration Project — Shanghai Nanhui Wind Farm HVDC Flexible Transmission Project was put into operation, signifying that SGCC has become one of the few companies who have mastered the technology of HVDC flexible transmission.</p>
	<ul style="list-style-type: none"> ● Feedback acceptance Listen to the suggestion on major topic researches and scientific development dynamics 	<ul style="list-style-type: none"> ● Expert consultation conference ● Meetings 	

Stakeholders' participation

Participants	Types	Methods	Examples
Scientific research institutions	<ul style="list-style-type: none"> ● Dialogue and communication Discuss cooperation orientation and emphasis 	<ul style="list-style-type: none"> ● Technical exchange summit ● Sign strategic cooperation contract 	
	<ul style="list-style-type: none"> ● Joint action Combine efforts to tackle important scientific projects and the R&D of key equipment 	<ul style="list-style-type: none"> ● Joint scientific R&D ● Joint research on key projects 	
Suppliers	<ul style="list-style-type: none"> ● Information notification Disclose company's purchase information and purchase policies 	<ul style="list-style-type: none"> ● Tendering press conference ● Bulletin news on the website 	SGCC strictly announces public bidding information on specified media and releases qualification performance conditions, price calculation methods, technical business price weight, and awarding principles needed in the tender documents. It also publicizes bid procedures, and unfolds all the bidding documents with suppliers' involvement in the whole process. All the supplier quotations in each bid package will be released. Bidders can check the quotation online in any places. From the beginning of 2010, SGCC has publicized the reasons for abandoned tendering and took the initiative to inform suppliers on a private basis.
	<ul style="list-style-type: none"> ● Feedback acceptance Listen to suggestions on purchase policies and technical indicators, as well as reports on policy violation 	<ul style="list-style-type: none"> ● Consultation meetings ● Informants' hot-line 	
	<ul style="list-style-type: none"> ● Dialogue and communication Discuss the standards for examining the qualification of suppliers and products 	<ul style="list-style-type: none"> ● Supplier management ● Expert consultation meetings 	
	<ul style="list-style-type: none"> ● Joint action Jointly develop key equipment 	<ul style="list-style-type: none"> ● Strategic cooperation mechanism ● Qualification evaluation and feedback 	
Financial institutions	<ul style="list-style-type: none"> ● Information notification Disclose company's funding needs and funding methods 	<ul style="list-style-type: none"> ● Press conference ● Bulletin news on the website 	On November 7, 2011, Beijing Electric Power Company and the Bank of China Beijing Branch signed a cash management cooperation agreement and a visiting service agreement. According to the agreements, 22 power supply stations in Chaoyang district and Daxing district will enjoy bank's door-to-door collection and comprehensive cash management services. Regarding first-level account management, Beijing Electric Power Company customized a variety of product combinations including cash management, corporation cash pooling express, and holiday payment with the consultation from the Bank of China Beijing Branch, in order to realize "first-level entry and second-level reconciliation" management for electricity fees.
	<ul style="list-style-type: none"> ● Feedback acceptance Listen to suggestions on financing methods 	<ul style="list-style-type: none"> ● Work investigation ● Financial industrial forums 	
	<ul style="list-style-type: none"> ● Dialogue and communication Negotiate the cooperation potentials and orientation for both sides 	<ul style="list-style-type: none"> ● Strategic cooperation conference ● Regular visits to authorities 	
	<ul style="list-style-type: none"> ● Joint action Issue bonds, notes and other financial products; collect electricity bills 	<ul style="list-style-type: none"> ● Major project cooperations ● Electricity bill collection framework 	

Responsible for communities



As a corporate citizen, SGCC's responsibility to the community is in two aspects:

On the one hand, SGCC answers for the community where it is located, for example, the effective management of the community grid construction, landscape design implantation, construction noise reduction, and water pollution prevention. Meanwhile SGCC has respected local custom, provided job opportunities for local residents, and supported local development.

On the other hand, to be an outstanding corporate citizen, SGCC is responsible for the society. The company shows its influence and responsibility as a social model, for example, standing forward in natural and social disasters relief, easing the unbalance between urban-rural development, and advocating the spirit of the times.

Credibility and law-biding

- SGCC holds tight to its principles, operates in coherence with the rules and polices of *Provisions on Honest and Clean Conduct of SOE Leadership*, implements "Three Majors, One Large", accelerates the establishment of a scientific penalty and prevention system, founds a supervision committee and forms a working mechanism uniting all these factors.
- Optimize the enterprise legal consultation system and improve the legal risk prevention system in various management sections. Intensify the processing of legal dispute cases and achieve the goals set forth by the State-owned Assets Supervision and Administration Commission of the State Council for the second third-year. Accomplish 100% adherence of the Corporation's policies, legal inspection of important decisions and financial contracts both in the headquarters and in subsidiary companies.
- Special financial and auditing inspection into key sectors including investment management, cost control, income distribution, and power supply of social and government's concern.

Boost development in ethnic regions

Continue assisting the development in Tibet.

In 2011, a fund of 22.50 million yuan was spent in Cuoqin county of Tibet to support new rural construction, education, sanitation improvement, infrastructure construction, farms and factory construction and projects such as local mineral spring water resource development, all of which helped improve the living conditions of local farmers and herdsmen.

Continue assisting Xinjiang. 14.78 million yuan went to support Xinjiang development in 2011. The projects include poverty alleviation in Cele county, donation to Xinjiang Youth Development Fund and financial aids to 29 university students from poverty-stricken families.

Subsidize Tibetan areas in Qinghai with 10 million yuan to fund the grid transformation in Chali town (county seat) of Maduo county and the Huangheyuan hydropower plant extension project.

Assist in building the grid of Tibetan areas in Sichuan during the "12th Five-Year". 19.25 billion yuan is to be invested to export added hydropower of Tibetan areas. Accelerate the grid interconnection between counties and expand the grid to reach 319 thousand people who do not have access to electricity.

Continue with fixed poverty relief efforts

SGCC offered poverty relief support to Zigui county, Changyang Tu ethnic autonomous county, Badong county and Shennongjia forest zone in Hubei province for 17 consecutive years. A total 72.2565 million yuan was put into 218 projects on poverty alleviation. The fifth term (2011~2015) of poverty relief efforts will focus on industries and a two-million-yuan fund is to be instilled into each county every year, a 100% increase in the amount.

Positive role of State Grid Foundation for Public Welfare

The foundation operates the Corporation's large-amount donations. SGCC initiates projects such as the Yangtze River Greenery, cancer prevention, and poverty relief, sets up an innovation foundation in collaboration with Tsinghua University, establishes a platform for charity causes and builds the company brand on public welfare.

Sponsor Hope Primary Schools. SGCC has built ten primary schools in Longnan, Gannan, Tianshui, Dingxi, Pingliang and other areas in Gansu affected by the Wenshuan earthquake. The construction area covers 8,700 square meters, widely acclaimed by local people.

SGCC received four

“China Charity Rewards presented”

by Ministry of Civil Affairs

The Corporation's donation reached

108 million yuan

in 2011

“State Grid Foundation for Public Welfare” donated

32.90 million yuan



SGCC Hebei Handan Power Supply Company launched "Special Service on Campus" project

Respond actively to natural disasters and social emergencies

Actively respond to natural disasters. Make the best efforts to reduce damage on people's property.

Volunteer in the rescue work of social emergencies. Initiate support to "7·23" High Speed Train Crash, "8·23" Qitaihe Coal Mine Flooding and "9·18" Tibet Yadong Post Earthquake Power Grid Repair.



Natural Disasters	Impact of Disasters	SGCC Responses
Extensive Drought	The wheat farming regions in north China experienced the most severe drought through autumn and winter in the past 41 years. The lower reaches of the Yangtze River had the most severe drought through winter and spring in the past 60 years. Droughts were also seen in Gansu, Inner Mongolia, Ningxia, and in other areas in the summer and autumn. A population of 31 million was affected by droughts, which also caused damage to the agricultural industry.	SGCC set up 30,489 power supply teams including 684,584 people and put into 465.9 million yuan to fight the droughts. 6,042 temporary power transformers, 2,519 kilometers of 10 kV power lines, and 8,153 kilometers of low voltage power lines were employed. The Corporation also offered 2,570 power generators to help irrigate over 20 million acres of farmland.
Sleet in south China	In early January of 2011, most regions in South China were affected by freezing rain and snow. Over 228 power lines at 35 kV and above levels in Hunan, Jiangxi, Sichuan and Chongqing were covered by ice, which caused interruptions in 103 power lines at 10 kV and above levels, the outage at a 220 kV substation and the collapse of two 500 kV transmission towers.	In response to the emergencies, SGCC mobilized 12 thousand people, about 2000 vehicles, five sets of ice-melting equipment and 189 sets of machines to restore power as quickly as possible.
Rainstorm and flood in some areas	In June 2011, rainstorms hit Zhejiang, Anhui, Hubei, Hunan, Jiangxi, Sichuan provinces and Beijing with certain areas struck by fierce wind and rain. Over 55 power lines of 35 kV and above levels, 733 power lines of 10 kV and 18 substations of 35 kV were forced out of operation.	SGCC mobilized 44,507 people and 6,998 vehicles working all day and all night to repair the damage.
Typhoon "Muifa" strikes	In late July of 2011, typhoon "Muifa" swept across the country's eastern coast in Zhejiang, Jiangsu, Shanghai, Shandong, Hebei, Liaoning and Jilin, for the ninth time, leaving certain regions affected by gusty wind and rainfall. Over 46 power lines of 35 kV and above levels and 798 10 kV power lines were tripped. Four 110 kV substations and five 35 kV substations experienced power outage.	SGCC mobilized 57,878 people and 7,702 vehicles to restore power in time.



SGCC Zhejiang Jiaxing Electric Power Bureau organized guided tours to the electricity museum for children of migrant workers

Encourage employee volunteer work

Organize the “Youth Sunshine Day” campaign consistently. SGCC has 318 thousand young volunteers. The volunteer service activities outreached 3.5 million man-times since 2003. A team of outstanding volunteers have emerged.

- SGCC Sichuan Electric Power Company built a total of 200 “Houses of Stay-at-home Students” jointly with the Communist Youth League of Sichuan Province. More than 5000 young volunteers served in the project.
- The volunteers from SGCC Qinghai Electric Power Company in the “Sunshine on the Plateau” program won the eighth “China Young Volunteer Outstanding Project Award” for their performances in helping the elderly, preserving the environment and rescuing emergencies.
- Fujian Xiamen Electricity Power Bureau set up a community service station in agreement with Dongrong community committee. Every two volunteers were assigned to serve a senior resident regularly.

Stakeholders’ participation

Types	Methods	Examples
Information notification <ul style="list-style-type: none"> ● Publicize information on eligible management and honest operation ● Publicize projects on charity and electricity poverty alleviation 	<ul style="list-style-type: none"> ● SGCC website ● Charity activities and ceremonies ● Electricity poverty alleviation reports ● Media coverage 	<p>SGCC Youth League Committee launched the “Youth Sunshine Day - Library on the Qinghai-Tibet Power Line” project in collaboration with the command center of Qinghai-Tibet Interconnection project. Weibo was used to follow up on the news about the project.</p>
Feedback acceptance <ul style="list-style-type: none"> ● Listen to the feedbacks and expectations of the recipients ● Follow the progress and effect of the charity projects 	<ul style="list-style-type: none"> ● Charity projects hotline ● Charity forum ● Charity projects research ● Charity projects assessment by a third party 	<p>SGCC teamed up with professional institutions in formulating the method of charity work: give full play to the Corporation’s advantages in the professional, organizational, internet and employee sectors; make use of its comprehensive strength, driving force in the industry, and its social influence to achieve conglomerated operation, lean management and brand development. Proposals were made to develop charity undertakings based on strategy, budget, research, procedure, management, feedback and supervision.</p>
Dialogue and communication <ul style="list-style-type: none"> ● Discuss with professional organizations about charity undertaking strategy ● Learn from domestic and international experiences 	<ul style="list-style-type: none"> ● Joint research ● Interview and discussion ● Forum on public welfare ● Project discussion conference 	<p>SGCC took part in a series of seminars summarizing the Wenshuan earthquake rescue work organized by the Chinese Red Cross during which the Corporation introduced its strategy on charity cause and the many strategic projects which represented SGCC unique features and advantages, as well as its concept of realizing the comprehensive value to the largest extent and making donations in both material and spiritual forms through a wide range of channels. It has received affirmation from the guests.</p>
Joint action <ul style="list-style-type: none"> ● Joint projects on public welfare ● Collaborate with communities 	<ul style="list-style-type: none"> ● Team up with communities ● State Grid Foundation for Public Welfare ● Join public welfare legislation Discussions ● Jointly organize projects on public welfare 	<p>SGCC Zhejiang Electric Power Company held the “Bring sunshine to the rural areas” activity in cooperation with Zhejiang Province Youth League Committee. The pilot Huzhou Wuxing Electricity Bureau Youth League Committee and the Youth Committee of Balidian town jointly initiated a program in which the electricity bureau provided one-on-one assistance to local young entrepreneurs and offered help in electricity supply, energy saving and market information research.</p>

Become a model of green development

Main topics on presenting SGCC as a pioneer in green development:

Promote low-carbon energy development

- Full support to wind power development
- Ensure renewable energy power generation and interconnection
- Integrate and accommodate renewable energy completely
- Promote research on renewable energy and policy
-



Promote energy conservation

- Conduct generation rights transactions
- Enforce on energy conservation and loss reduction on the grid
- Increase the proportion of electric energy in the end consumption of energy
- Promote power consumption by generating power with saved water
-





Perform **low-carbon and environmental protection responsibilities**

Maximize the integrated economic, social and environmental value : **greener**

Uphold principles of energy saving and environmental friendliness

- Promote electric vehicle industry
- Implement electric utility demand-side management
- Popularize new equipment, technology, design, and build an energy-saving and an environmental-friendly grid
- Reduce grid construction's impact on the environment to the minimum
-

Advocate ecological civilization

- Boost the construction of a green industry
- Appeal for green office, transportation and lifestyle
- Pass on the green ideal
-

Combat global climate change

- Fulfill the energy saving goal
- Lead the industry in energy conservation
- Contribute to the society's energy conservation efforts
-





Ten measures to support wind power development

43.94 ^{GW}

wind power was interconnected in 2011 (west Inner Mongolia included)

Accommodated

70.6 ^{TWh}

wind power in 2011

Interconnected wind power capacity expects to reach

90 ^{GW}

by the end of 2015

Accelerate the development of the Strong and Smart Grid and create a green platform for energy distribution. Improve the grid's capacity in accommodating wind power. Cross-provincial wind power accommodation was doubled than that within the province.

Fully purchase and integrate wind power and support its healthy development. In 2011, SGCC had a wind power interconnection capacity of 43.94 GW and accommodated 70.6 TWh.

Advance the unified planning of wind power development and grid construction. Complete the transmission plan for eight 10-GW wind power bases and the proposals for 2015 and 2020 based on researches.

Construct the auxiliary project for wind power export and ensure the timely interconnection. Conquer difficulties such as inconsistent schedules in project construction and sanction and inadequate supply of the design team, construction workers, material and funding for task completion.

Advance the standardization of wind power interconnection, improve the corporation standardization, and promote the formulation of national and industrial standard. The Corporation published standards including *Q/GDW 588-2011 Specifications on the Function of Wind Power Prediction System* and *Q/GDW 630-2011 Specifications on Wind Farm Power Regulation Capacity and Quality Tests*.

Promote wind turbine interconnection detection. 350 million yuan was invested into the construction of the National Wind Power Technology Research and Testing Center which serves as an experiment platform for wind turbine manufactures and accelerates standard construction for wind power technology.



On December 25, 2011, the Wind and Solar Energy Storage and Transmission Demonstration Project, world's largest platform employing new energies including wind and photovoltaic power and with functions for energy storage as well as intelligent power transmission, was put into operation in Zhangbei county of Hebei province. The project was self designed and constructed by SGCC and achieved the steady and controllable new energy generation by wind and solar compensation, energy storage adjustment, and intelligent dispatching. Technical problems of new energy interconnection have been broken down.

The Aspiration

The Action

The Performance

Promote key technology researches in wind power interconnection. Commission researches on new technologies and products in the harmonious operation of wind power and grid integration as well as researches on key technologies for wind power prediction, coordination between wind power and conventional power, low voltage ride-through technologies in wind turbine and wind farm, regulation for active and reactive power, group control of wind farms and offshore wind energy flexible DC transmission.

The first phase of the Wind and Solar Energy Storage and Transmission Demonstration Project as well as China's first 100 kW wind/solar micro grid experimental platform were completed. The former is the world's largest renewable energy utilization project with installed wind power capacity of 100 MW, installed PV capacity of 40 MW and an energy storage battery of 20 MW in its first phase, which provides crucial support for renewable energy interconnection mode research. The operation of the latter marks the initial success in China's research on distributive new energy power generation and micro grid.

Cooperate with wind turbine manufacturer and new energy enterprises. SGCC hosted two seminars on wind power interconnection and strengthened management on wind power interconnection in January and July of 2011. The Corporation also published the *White Paper on Wind Power Development* which elaborates on the challenges and opportunities facing China during the nation's development in wind power as well as SGCC's strategy and blueprint on wind power development.

Promote research on wind power policies and management. Coordinate with the government in organizing research on wind power purchase, auxiliary grid construction, electricity pricing and cost sharing. Actively engage in researches on transmission plan on 10-GW wind power bases and related policies.

Ensure the interconnection of renewable energy

- Implement the *Amendment of the Renewable Energy Law* and the policy of purchasing wind and solar energy.
- Ensure the sustainable energy power interconnection as scheduled. Strengthen communication with each group to make sure of the consistency and coordination of the renewable energy power project and grid distribution project, as well as the prompt interconnection and generation from the renewable energy power projects which meet the technical standards.

Accommodate interconnected sustainable energy to the full capacity

- China has established several wind power bases with the scale of 1GW. In 2011, the interconnected capacity of wind power reached 43.94 GW including west Inner Mongolia.
- In July 2011, the National Development and Reform Commission announced the *Notice on Improving Solar & Photovoltaic Electricity Price Policy (Price No.1594, 2011)*, establishing a unified solar & photovoltaic benchmark electricity price in China.

Promote the research on sustainable energy technology and policy

- Carry out the key technology research and equipment development for renewable power generation and interconnection. Implement key technology research on renewable energy dispatching. Break down the technical bottleneck on wind power and solar power generation.
- Establish the first 100 kW wind and solar storage micro-grid experimental platform. The Zhangbei experiment base of the national energy research center for large-scale wind power interconnection system successfully completed the isolated operation for 24 hours and the seamless switching of interconnection and isolation, symbolizing the first national 100 kW-level micro grid experimental platform was put into operation.
- Base on national industrial policies and the construction of the Strong and Smart Grid, prepare in advance the connection of distributed renewable energy and power storage equipment to the power grid. Get ready for electric vehicle recharging services.

The UHV Project is the biggest environmental friendly project in the world

The environmental value is one of the highlighted advantages of UHV. Take the Xiangjiaba-Shanghai ± 800 kV UHV DC Transmission Demonstration Project as an example, its transmission capacity per unit increased by 35%, the inversion capacity per unit area increased by 25%, the transmission loss rate per unit distance decreased by 50%, and the cost of transmission capacity per unit distance decreased by 21%, compared to conventional ± 500 kV DC projects. Its maximum output is about a third of Shanghai's current peak load. It is able to transmit 35 TWh clean energy each year to Shanghai, about 30% of the city's power consumption throughout the year. It also saves 17 million tons of raw coal and reduces carbon dioxide emission by over 33 million tons each year. By 2015, SGCC plans to construct a UHV backbone grid with three vertical and three horizontal transmission channels, which are east vertical Ximen-Nanjing line, mid vertical Zhangbei-Nanchang line, west vertical Mengxi-Changsha line, north horizontal Shanbei-Weifang line, mid horizontal Jingbian-

Lianyungang line, and south horizontal Yaan-Shanghai line. By then, the function of the grid in the comprehensive energy transmission system will be greatly enhanced. As a result, Shanxi, Shaanxi and Inner Mongolia will improve the ratio of transmitting coal to electricity from 20:1 to 8:1 in 2015, and 4:1 by 2020. The consumption of clean energy will improve with 73.70 GW hydropower to be consumed in central and eastern area by 2020. Through combining wind power with thermal power, 71 GW wind power from northwest China, north China and northeast China can be transmitted to central and eastern area. By optimizing the national environmental resources, the carbon dioxide emission will be reduced by 560 thousand tons in mid and eastern China in 2020. As a result, 4.5 billion yuan can be saved in environmental loss. The occupation of highly valuable land in central and eastern area will be reduced greatly, saving 4,700 hectares of land in 10 years. As the IEC Chairman commented, "the UHV Project is the biggest environmental friendly project in the world".

Promote energy conservation

Conduct generation rights transactions. Complete generation rights transaction of 399.867 TWh, saving equivalent 131.96 million tons of standard coal and reducing carbon dioxide emission by 328.97 million tons.

Enforce on energy conservation and loss reduction on the grid. Refine *SGCC Line Loss Management Methods*. The average line loss rate with the same diameter is 6.53%, decreased by 0.07%, saving 2.310 TWh of power and 762,300 tons of standard coal, and reducing carbon dioxide emission by 1.9004 million tons.

Increase the proportion of electric energy in the end consumption of energy, and upgrade the energy consumption efficiency in the society.

Promote power consumption by generating power with saved water. By optimizing grand grid's dispatching, and accommodating hydropower by trans-regional and trans-provincial grids, SGCC's efficiency rate of hydropower is 7.83%. The incremental power generation from saved power is 15.103 TWh, saving 4.984 million tons of standard coal, and reducing carbon dioxide emission by 12.425 million tons.

Innovation on energy saving service

- Among the 20 energy saving service companies, 10 have passed the evaluation from the National Development and Reform Commission and the Ministry of Finance, obtaining the qualification to apply for the national incentive fund for energy contract management. 116 energy saving projects have been signed or agreed with intention, saving 667 GWh power.
- 292 energy efficiency groups have been established, with 2,842 corporate consumers as members. Together, they will study the energy-saving policies and technologies and activate programs like preliminary energy auditing for enterprises.
- Form 6 third-party energy efficiency evaluation institutions, which all passed the qualification identification by administrative departments above the provincial level.
- Carry out the Sino-German cooperative energy auditing program. Organize German experts and energy-saving staff from provincial companies to provide on-site advice for 4 enterprises. Come up with 101 energy-saving solutions which can save a total of 396 GWh power.



Innovate on energy efficiency service to promote energy conservation and emission reduction

According to the strategic plan of establishing energy saving service system by SGCC, Jiangsu Changzhou Electric Power Company has vigorously explored the demand-side management mode for energy saving service. It has selected 12 foreign and domestic companies in machinery, textile and steel industries to form the first energy efficiency service team within SGCC and provided advisory services together with Germany's Arqum, promoting energy conservation and emission reduction projects, such as recycling of remained heat from air compressor, energy-saving construction, and central air conditioner transformation, which elaborate the economical benefits of energy saving and emission reduction, as well as the social benefits of environmental protection. In 2011, the group members reduced the carbon dioxide emission by 9,858 tons, which equaled the whole year's amount of 1933 people, according to the statistics of the average emission per person in 2008 from Netherland Environment Evaluation Bureau. Meanwhile, it saved 12 GWh power and a total cost of 7.8 million yuan.

Build

156

EV charging stations

6,252

AC recharging poles

Promote the development of electric vehicles

- Strengthen the communication with governments and vigorously cooperate with enterprises, e.g. First Automobile Works and Dongfeng Motor Corporation to promote the development of electric vehicles.
- By the end of 2011, SGCC has compiled 57 criteria for charging facilities, undertaken 4 national 863 projects, and successfully developed the smart operation management system for EV charging service network.
- Construct four innovative demonstration projects: the Zhejiang Demonstration Project, the Qingdao Xuejiadao Smart Charging/Switching/Storage/Discharging All-in-one Station, the Interconnection Project between Suzhou, Shanghai and Hangzhou, as well as the Beijing Gao'antun Charging Station.
- Innovate organizational system, forming 12 provincial-level and 3 prefecture-level EV service companies.

Implement demand-side power management

In strengthening the organizational support for demand-side power management, a management system with three levels, i.e. the headquarter, provincial level and prefecture level, was formed. As a result, the routine coordination mechanism of organization, system, technology and capital came into being.

Promote novel equipment, technologies and techniques Establish the energy-saving and environmental-friendly grid

- Construct resource-saving, environmental-friendly and industrialized substation and energy-saving, environmental-friendly transmission grids with new technologies, materials and techniques. Promote unified design and equipment, as well as the lifespan superior design to save energy, water, materials, land and protect environment.

Full-view model on the Qingdao Xuejiadao Smart Charging/Switching/Storage/Discharging All-in-one Station



- New technologies like compact lines, multi-circuits lines on the same tower, and large-section wires can increase the transmission capacity per unit by 20% to 200%. Meanwhile, the width of unit can be saved by 50% to 75 %, together with a 2% to 3% reduction on occupied area and an average reduction on investment for more than 5%. The full life circle management can sustain the comprehensive life of grid equipment by more than 15 years, which reduces the investments on grid equipment. Promotion on high strength steel has reduced steel consumption by 6% to 8%.
 - By promoting recycling economy, ecological economy and resource recycling, the company collected 36,925 kg SF₆ gas, which equals a reduction on emission of 882.5 thousand tons of carbon dioxide.
 - Carry out the environmental protection training for all the staff. SGCC held 700, 000 man-times of environmental protection training in 2011.
 - In efforts to reduce grid construction's influence on environment, green construction is promoted, including the reduction of tree cutting and land digging. After the fieldwork, the restoration of the environment and vegetation is taken seriously. Meanwhile, sensitive areas such as scenic spots are avoided. Protection facilities for animals are installed to preserve the harmony of natural environment, such as devices to avoid climbing in natural reserves of macaque.
 - Endeavor to reduce destruction on the environment from company operation. Beautify the design of grid facilities. Pay attention to water resource protection. Devices to treat sewage and drain off water are installed in the substation to separate rain and sewage. Lands for fuel accidents are prepared to drain off fuel under a unified and professional approach. Devices are also installed to curve noise.
- Minimize the influence of grid construction and company operation on environment**
- Implement the assessment mechanism on the impact of construction projects on the environment. Environmental impact assessment rate reached 100% for power grid construction projects in 2011.





Qinghai-Tibet Interconnection Project — the green "Heavenly road of electricity"

The total length of the project is 1,038 km, consisting of Xining-Golmud 750 kV AC transmission and transformation project, and Golmud-Lhasa ± 400 kV DC transmission project and other auxiliary projects. This "Heavenly road of electricity" is the transmission project at the highest altitude with largest capacity in alpine regions. In order to protect the weak ecological system of Tibetan Plateau, SGCC put in large amount of capital into the protection of the environment, plants, wild animals, wetlands and water-soil conservation. Therefore this power line is also a "green path".

- In thorough consideration of sensitive environmental areas, the project tried its best to avoid natural reserves, e.g. Sangjiangyuan and Hoh Xil.
- The construction of the project minimized its influence and interference on the environment, tackled the difficulties of infrastructure construction on alpine regions, and maintained the soil's stability.
- During the process, the construction area was reduced to the lowest. Through grass blanket, bamboo plywood, stripe and canvas, the pressure to the plants on the land surface was released.
- With measures such as replanting grass, the land surface was recovered on time.
- With knowledge of the rules on migration and breeding of wild animals, the construction was suspended during migration and breeding season. Great attention was paid to protect wild animals.
- After the work, cleaning was conducted immediately to collect all the garbage and waste for disposal.



“Kengyilia thoroldiana finally grew out from the ground”

The DC lines of the Qinghai section of the Qinghai-Tibet Interconnection Project have a total of 1394 iron towers and 615 km of tension stringing. As the longest construction section on frozen soil, this part had heavy vegetation restoration work. SGCC cooperated with Northwest Institute of Plateau Biology, Chinese Academy of Sciences on the scientific research of plateau ecology. According to the research, different plants and recovery methods should be used in different regions for green vegetation restoration.

Based on the characteristics of soil on plateau, the company selected suitable seeds for different areas, including *Elymus nutans* Griseb, *Kengyilia thoroldiana*, *Poa crymophila* Keng, Thinflower Alkaligrass, Alkaligrass and *Leymus*. Seeds were sowed in lands, together mixed with organic chemical fertilizer and special fertilizer under certain proportion. After that, workers also covered the land with plastic film or non-woven fabrics to protect seeds from influences of the weather as well as maintaining the temperature and humidity, and ensuring their growth.

Under Tanggula Mountains, workers of Section 6 completed all the vegetation restoration for the area of 503.7 thousand square meters. On the morning of July 21, 2011, workers checked the status of the restoration when the sun rose after the rain. Dong yong, one of the workers, carefully unveiled the plastic film and saw the light-green grass beneath No.1642 iron tower. He said that *Kengyilia thoroldiana* finally grew out from the ground.



Make way for the migration of Tibetan antelope

“The concept of environmental protection has been rooted in our blood. The Tibetan Plateau is a holy land. They need to be taken care of, regardless of whether it is for plants or animals”, said Zhou Zhengqi, the project manager of Section 2.

Every May to June, Tibetan antelopes from Sanjiangyuan migrate to Lake Zhuonai and Sun Lake in Hoh, Xil to give birth to youngsters. After the first month of birth, they take the offsprings back to their original lands. From the end of July to August, it's time for them to go home. The migration spot lies between no-man's land, Budongquan and Wudaoliang. In 2011, more than 4,000 Tibetan antelopes passed through Sections 2 and 3. Despite the tense schedule, construction workers still stopped to make way for the antelopes to go back home. Some constructors even became “traffic wardens” to persuade passing drivers from entering.

On the afternoon of July 25, 2011, Chen Chuntao, team leader for the construction in Budongquan area guided the traffic at the 2941 km spot of Qinghai-Tibet highway for more than 100 Tibetan antelopes. He saw that a little antelope on the north side dared not to cross the highway when its mother was waiting on the south side of the highway, while all the others have already crossed. Chen Chuntao hurried to the north side and helped the baby antelope cross to the other side.

Who's good at carbon cuts?

"We take out the plug when we don't watch the TV to save power."

"We use smart switches to automatically cut off power when electrical appliances are off!"

"Rather than singing, dancing or just talking, we are good at lowering carbon emission and implementing environmental protection!"

"Come on everyone. Let's show our own ways of saving energy. Everyone can become a master of lowering carbon emission and enforcing environment protection!"

In the Jiayuan community center, Jing'an, Shanghai, several experts of environment protection shared their experiences in saving energy, which attracted around 100 residents.

Right now, all kinds of talent shows have become popular in China. Youth League Committee in Shanghai Electric Power Company of SGCC arranged volunteers to set up lectures of young power suppliers and education centers for electric sciences in communities. Through the campaign of "pioneering low-carbon community", they have spreaded energy-saving knowledge and living concept of energy conservation, environment protection and low carbon emission. Community committees have collected power saving tips through community websites, information billboards and posters. Residents have shown great interest. More than 50 households showed their experiences of electricity use and power saving tips over the course of different times through microblogs, videos and community websites.

Encourage the construction of green industry chain

Promote green purchase, electricity production chain, electricity consumption chain and electricity equipment chain. Prioritize the purchase of highly efficient and environmental friendly products. Promote the power equipment industry, enhance power conservation and environmental protection and the domestication of equipment, provide funding for R&D, research on key equipment together with power equipment manufacturers, and facilitate the innovation on key technologies of power equipment.

China's largest 3MWp CIS thin film solar PV rooftop station has been put into operation in Gaomi, Shandong



Encourage green office, green life and green transportation Advocate the concept of green development

- By holding exhibitions of energy conservation performance, organizing lectures and assembling meetings, SGCC is promoting energy conservation and emission reduction in newspapers, magazines, websites, and exhibition halls.
- Promote "Three Savings" Initiatives (to save every penny, each piece of paper and each inch of conductor), stimulate "My contribution to energy conservation and emission reduction" campaign, and advocate green transportation and green life among staff.
- Encourage green office with standard classification, identification, storage and disposal of office waste.
- Support staff to perform voluntary service for environment protection and participate in environmental public welfare projects that have extensive social influence.

"Individual effort on energy saving to create new life with lower carbon emission", SGCC deployed activities for energy conservation promotion week

SGCC organized several energy saving campaigns under the theme of "Individual effort on energy saving to create new life with lower carbon emission" with extensive coverage and varied forms during June 11 to 17, 2011.

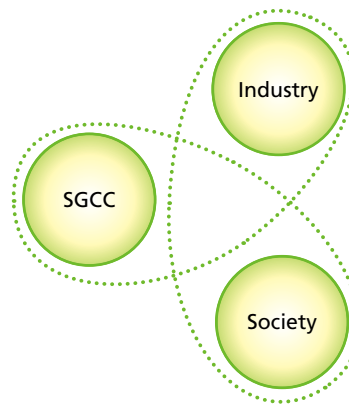
During the activities, the companies promoted the knowledge of energy saving among customers, advocate energy-saving and low-carbon consumption pattern and living habits, enhance energy efficiency, and save power. Meanwhile, SGCC summarized and promoted the performance of energy conservation and emission reduction during the "11th Five-Year", emphasizing on the meaning and effect of UHV transmission and smart grid construction in strengthening energy optimizing ability as they were included in the "12th Five-Year Plan".



Combat global climate change

Utilize the company's own potential for mitigating emission

Increase the efficiency of energy resources utilization
 Increase the efficiency of power resources allocation
 Economize resources under green production
 Advocate green office and green life



Reduce industrial emission

Expedite clean energy and accelerate development
 Efficiently utilize coal resources
 Upgrade the power generation utilization
 Develop electric vehicle industry

Reduce social emission

Increase the proportion of electric energy in the end consumption of energy
 Advocate green energy consumption, such as the wind power
 Promote the concept of green development
 Advocate a green lifestyle

SGCC is actively combating global climate change with obvious emission cuts

In 2011,

538.3 TWh

clean energy was accommodated

In 2011, the unit coal consumption for power generation was

330 g/kWh

In 2011,

36.93 tons

of SF₆ gas was recycled

In 2011, the line loss rate dropped

0.07 %

- Upgrade clean energy utilization. Accommodated clean power was 538.3 TWh in 2011, saving 177.639 million tons of standard coal and reducing carbon dioxide emission by 442.854 million tons.
- Develop energy-efficient generator unit, improve power load rate, and reduce coal consumption for power generation. The unit coal consumption for power supply was 330 g/kWh in 2011, reduced by 3 g/kWh than in 2010.
- Promote EV to realize energy substitution and reduce the emission of carbon dioxide.
- Conduct generation rights transaction so as to save 131.96 million tons of standard coal and reduce carbon dioxide emission by 328.97 million tons in 2011.
- Implement demand-side power management projects to save power and reduce carbon dioxide emission.
- Through resources recycling, energy conservation and emission reduction has been achieved, with 36.93 tons of SF₆ gas recycled in 2011, which equals to reduce 882.5 thousand tons of carbon dioxide.
- By resource conservation, SGCC built resource-saving and environmental-friendly transmission lines using new technology, new materials and new techniques, saving 82 thousand tons of steel, equivalent to save 49 thousand tons of standard coal and reduce carbon dioxide emission by 122 thousand tons.
- By optimizing power dispatch and improving water consumption efficiency, SGCC has generated power equivalent to 4.984 million tons of standard coal with saved water in 2011, reducing carbon dioxide emission by 12.425 million tons.
- Reduce the line losses. The line loss rate dropped 0.07% in 2011, equivalent to save 762.3 thousand tons of standard coal and reduce carbon dioxide emission by 1.9004 million tons.

World's first CDM recycling program of SF₆ implemented by SGCC has been recognized by the UN for emission reduction

Bureau Veritas, the third party verification institution appointed by the UN, did on-site verification for CDM recycling program of SF₆ during the first detection period within the area of North China grid. According to the results, the program successfully recycled 3,045 kg SF₆ gas during November 29, 2010 to June 30, 2011, which equals emission reduction of 72,000 tons of carbon dioxide.

The program has been the first CDM program for SF₆ emission reduction registered in the UN, as well as the first to be successfully implemented in the field of power grids. Through the standardized and closed-loop management on procedures such as SF₆ gas purchasing, storage and usage, the program has fully recycled and purified SF₆ gas during the equipment examination and repair with the help of advanced SF₆ leaking examining facilities and recycling equipment.

The lantern featuring SGCC appeared on a fair to celebrate the Spring Lantern Festival in Fuzhou



The Aspiration

The Action

The Performance

Implement internationalized operation responsibly

Main topics on implementing internationalized operation responsibly:

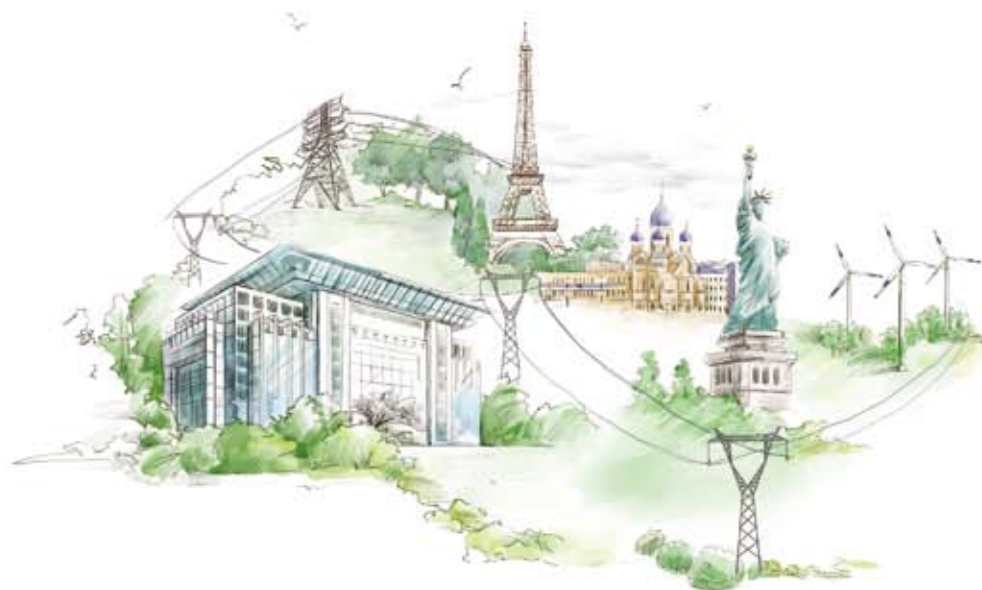
Execute the globalization strategy

- Business globalization
- Management benchmarking globalization
- Resource allocation globalization
- Participation in international standard establishment

Operate NGCP responsibly

- Upgrade the power grid development
- Enhance power supply reliability
- Enhance management





Implement **the responsibilities on global vision**

Maximize the creation of integrated economic, social and environmental value:
more win-win partnership

Responsibly operate State Grid Brazil Holding S.A.

- Responsibly conduct corporate integration
- Enhance power grid's operation efficiency
- Guarantee staff benefits and help them develop
- Seek for future cooperation

.....

Responsibly expand international business

- Cross-border power cooperation
- International economic and trade cooperation
- Respond to the challenges of sustainable development along with the world
- Responsibly expand overseas business

.....





Execute the globalization strategy

SGCC has set up overseas offices in the U.S., Europe, Russia, the Philippines, Brazil, India and HK, followed over 50 cooperative projects with Europe, South America, North America, Russia, and India. It has also signed strategic cooperation agreements with power companies in the U.S., Russia, Brazil and France, and promoted assets acquisition and general contracting projects. NGCP and State Grid Brazil Holding S.A. are in stable operation.

16

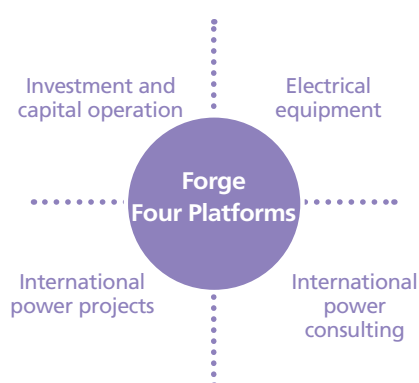
sessions of senior management overseas training have been organized till the end of 2011

323

senior managers participated in the overseas training

Business globalization. Push forward six business categories, including overseas power investment and operation, international cooperation on energy resources, electrical equipment manufacturing, international power projects, international power technology and management consulting, and international exchange and cooperation. Forge four platforms for investment and capital operation, electrical equipment, international power projects and international power consulting.

Management benchmarking globalization. Carry out industrial benchmarking with international strategic partners, exchange experience in grid management, operation and maintenance, and reach a consensus on important issues regarding very large grid operation and technical innovation.





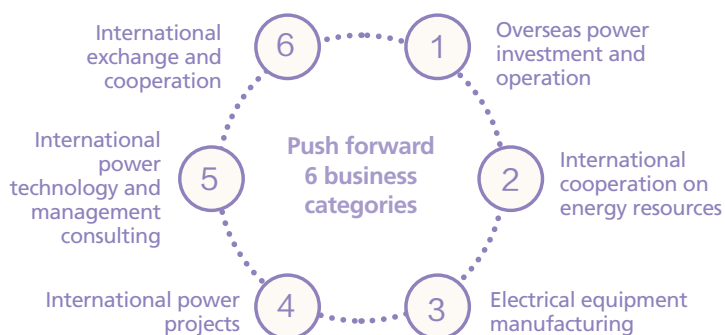
In 2011, SGCC responsibly took over seven Brazilian transmission companies with secured 30-year operating rights.

Resource allocation globalization. SGCC has integrated all kinds of international business resources in aspects of personnel, finance, material, R&D, and project consulting services. It has optimized the all-level coordination mechanism in the Headquarters, regional branches, provincial companies, subsidiaries, and overseas offices, and enhanced its support for international business. The company has established a selection and incentive mechanism for international talents and set up an overseas training system for senior management.

Participate in the establishment of the international standards

SGCC initiated and established "IEC/TC 115 - High Voltage Direct Current (HVDC) transmission for DC voltages above 100kV" and "IEC PC 118 - Smart Grid User Interface", laying a solid foundation for being the new IEC full member after the U.S., Germany, Britain, France and Japan.

Since 2009, among the 23 international standard proposals from China adopted by IEC, 7 came from SGCC. Over 70 registered experts from SGCC



participated in the work of IEC, handing in 13 IEC standard proposals, of which 7 have been approved and established.

IEEE has approved SGCC's initiations of smart grid standard P 2030.3 *Standard for Test Procedures for Electric Energy Storage Equipment and Systems for Electric Power Systems Applications*, UHV AC series standard P1862 *Standard for Overvoltage and Insulation Coordination of 1000kV or Greater (Ultra High Voltage) AC Transmission Projects*, p 1861 *Standard for Acceptance Tests on Sitehand-Over Test of 1000kV or Greater (Ultra High Voltage) AC Electric Equipment and Commissioning Procedures*, and p 1860 *Standard for Voltage and Reactive Power in 1000kV or Greater (Ultra High Voltage) AC Systems*.

Responsibly operate NGCP

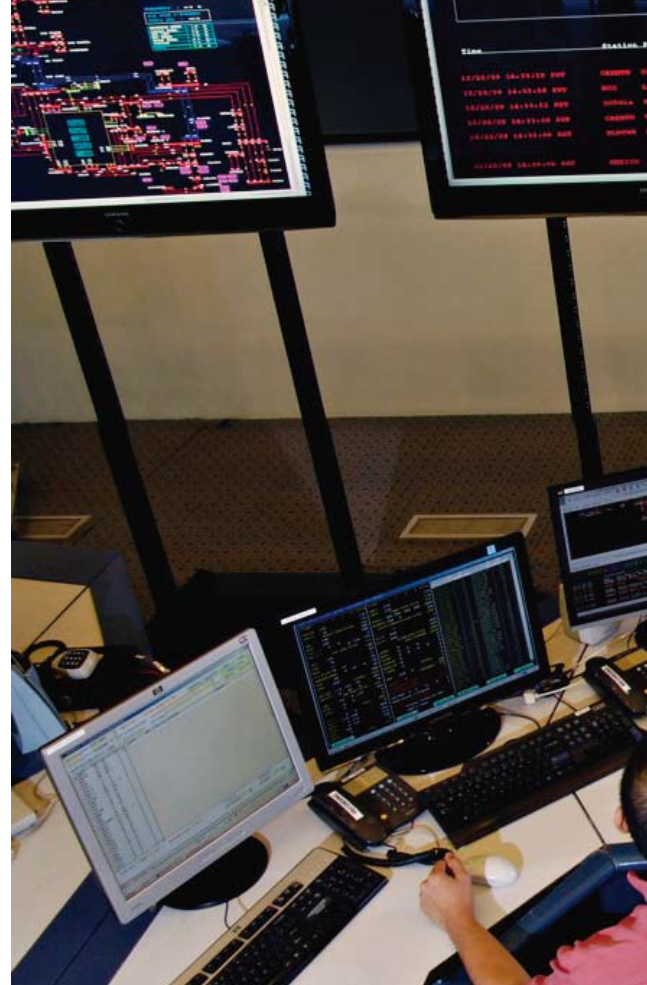
Unleash management experience, technical power, and R&D advantages in operating large-scale power grid business. Share SGCC's advanced technological and R&D achievements in grid planning construction, operation & maintenance, and dispatching. Provide comprehensive support to NGCP to build a smart and modernized power grid in the Philippines.

SGCC is committed to follow the laws and electricity regulatory policies set forth by the Philippines, respect international conventions and local culture, and strengthen the communication and exchange with the Philippine government and the society. In addition, SGCC will support public welfare and community construction, obtain the understanding, trust and support from all walks of life, and realize the harmonious development between the corporate, the society and the environment.

Fight Typhoon Washi

Typhoon Washi, with winds gusting up to 90 kmh, swept through Mindanao and Visayas in the southern Philippines on 16th and 17th of December, 2011. More than 20 villages were flooded in Cagayan de Oro and Iligan. The two cities declared a 'state of disaster'. The power lines in Mindanao and Visayas tripped out 22 times, of which the 138 kV line tripped out once, 69 kV line tripped out twenty times and 34.5 kV line tripped out once.

Following the principle of "Safety first with emphasis on prevention and overall control", NGCP carried out rectification of "wind-proof, flood-proof, and fire-proof" in advance. After the typhoon, NGCP immediately began the repair work of damaged equipment according to typhoon response plan and exercise, minimizing the impact of the attack. At 15:00 on December 19, 2011, all damaged lines resumed to work.



Upgrade the power grid development. Carry out the research on the interconnection of the wind and solar power into the grid, and conduct a feasibility study on smart dispatching system and smart substation construction.

SGCC signed an MOU on Smart Grid Strategic Cooperation with NGCP to promote smart grid construction with joint efforts and enhance Sino-Philippine sustainable development of power and energy resources on the principle of mutual benefit. The MOU covers smart grid plan consulting, technical equipment, as well as standards and training.

Enhance power supply reliability. SGCC has assisted NGCP in improving management on equipment defects, increasing equipment renovation efforts, and upgrading the power grid's anti-fault ability.

Compared with the situation before the take-over in 2009, the index of power failure in the Luzon grid has been decreased by 35.8% with the trip-out rate per 100 kilometers down by 57.4%. The index of power failure in the Visayas grid and Mindanao grid has been down by 32.4% and 62% respectively. The frequency qualification rate of the Luzon grid has been 100% for three consecutive years as a strong support to the economic and social development in the Philippines. It has received favorable feedbacks



NGCP is upgrading its dispatching automation system

from the government, the public and the media in the country.

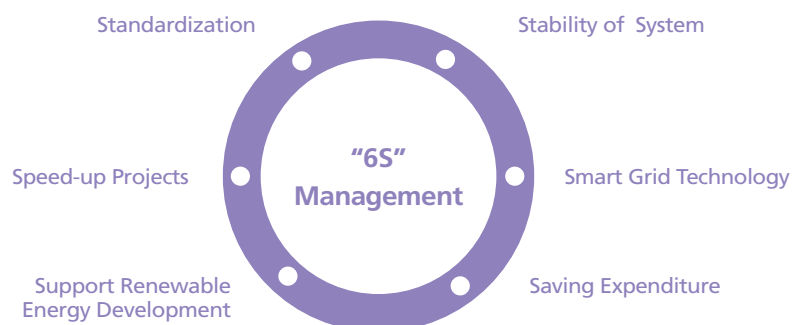
Enhance management. As one of the shareholders and technical supporters of NGCP, SGCC has brought up the “6S” management based on NGCP’s situation to innovate management.

Launch the Integrated Management System (IMS) certification, integrate quality assurance, environmental protection, and occupational

health & safety management, and enhance NGCP’s basic management.

Push forward benchmarking with industrial peers within SGCC’s business scope. SGCC has been releasing quarterly industrial benchmarking reports for three times.

Unfold corporate standard development. SGCC has developed the first standardized system in the transmission industry in the Philippines.



Responsibly operate State Grid Brazil Holding S.A.

On December 15, 2010, SGCC successfully took over seven Brazilian transmission companies with secured 30-year operating rights, becoming the fifth largest transmission company in Brazil.

Responsibly conduct corporate integration.

SGCC has actively carried out integration in terms of management, technology, personnel, and culture, enhanced localized operation, started standardized control, merged into the local economic and social environment in Brazil, strengthened the communication with governments and power counterparts in the country, and received positive feedbacks.

Enhance power grid operation efficiency.

SGCC has realized the safe and stable operation of the power grid, with the highest comprehensive indicators in history. No human casualty accidents and no important equipment damages have occurred.

Guarantee staff benefits and help them develop.

SGCC has implemented the international human rights and labor standards, eliminated child labor, forced labor and discrimination of any kind, and provided wages and benefits according to the local conditions and corporate situation. It has also ensured staff's safety and health, respected their balance between life and work, and maintained their dignity.

SGCC has sent technicians from State Grid Brazil Holding S.A. to State Grid Institute of Technology for technology and management training, organized them to tour around operation

facilities and communicate with SGCC staff, and enhanced the working skills for local staff in State Grid Brazil Holding S.A.

Seek for future cooperation.

SGCC has exerted its advantages in grid planning, design, R&D, and operation. Moreover, its experience in UHV grid and smart grid construction and operation promoted the technical communication and cooperation with Brazilian power companies and institutes, and sought for market opportunities in transmission, distribution, hydropower and renewable energies.

SGCC has signed the MOU with Eletrobras and ONS to strengthen the exchange and cooperation in information and grid technology.



Responsibly expand international business

Establish a stable cooperative relationship between global well-known power companies. Participate in global power industry cooperation, such as assets acquisition and operation, project contracting, equipment supplying, new energy, and technical exchange service.

Cross-border power cooperation. The Sino-Russian power transaction is growing year by year. In 2011, the cross-border power transaction reached 1.2 TWh. SGCC has constructed and operated Sino-Russian Phase 1 Power Transmission and transformation Project, with supplying capacity of 750 MW. It is estimated that the power supply volume can reach 3 TWh in 2012. SGCC has signed a Letter of Intent on T-U transmission and transformation general contracting project with Corpoelec. SGCC is also promoting the projects of

UHV, hydropower and auxiliary grid in Brazil.

International economic and trade cooperation. In 2011, SGCC had 60 technical service projects for overseas construction. The total contract value was 13.6 billion U.S. dollars. The overseas projects were in 30 countries, such as India, Pakistan, Sri Lanka, Vietnam, Indonesia, the Philippines, Syria, Sudan, Nigeria, Equatorial Guinea, Kenya, and some countries in Eastern Europe and America.

Negotiate with power companies in Europe, America and India on equity investment cooperation, new energy development and equipment supply. Negotiate with Russia on Sino-Russian Phase 1 Back-to-Back Project, and complete the construction and the commissioning work before operation. Cooperate with The Russian Federal Energy Agency and other companies on biomass. Carry out energy cooperation with RusHydro and En+.

International projects undertook in 2011

60

overseas technical service projects

The total contract value of overseas technical service projects was

13.6 billion U.S. dollars

Rio, Brazil



Respond to the challenges of sustainable development along with the world

Track new energy projects, such as wind power and solar thermal power generation in Europe and the U.S. Launch exchange and cooperation in new energy technology globally, and introduce SGCC's technical advantages in new energy planning, wind power interconnection system, wind power testing, and system simulation. Promote the company's products and equipment. Establish the Chinese Expert Committee of IEC/MSB to promote low-carbon energy practice and smart grid development. New energy generation interconnection project was supported by delegates at the 5th Plenary Meeting of IEC/MSB.

Major International Conferences attended in 2011

Name	Result
US-China Relations in the Next Decade & the Second Session of Strategic Forum on US-China Clean Energy Cooperation	SGCC President Liu Zhenya gave a keynote speech at the forum, signed the <i>Cooperation Agreement Between SGCC and AEP</i> , and had in-depth talks in strengthening Sino-U.S. strategic mutual trust and expanding pragmatic cooperation in clean energy for both countries.
UNIDO Summit	SGCC President Liu Zhenya gave a keynote speech, pointing out that a new round of energy revolution was focusing on new energy with the electricity power as the core. The direction was to push forward a strategic transformation of energy development methods, enhance energy efficiency, and implement alternative energies. The key of the revolution was in the development of the Strong and Smart Grid and the promotion of power grid's innovative development. The speech evoked a strong response among representatives.
Smart Grid World Forum 2011	Smart Grid World Forum 2011 was hosted by SGCC in partnership with IEEE, featuring the theme "Strong & Smart Grid — The Driving Force for Energy Development in the 21st Century". More than 400 delegates from 16 countries and regions had extensive exchange on the topic and passed the <i>Conference Minutes for Smart Grid World Forum 2011</i> .
IEC Meeting	SGCC has explored into international standard cooperation in the field of smart grid.
2011 HVDC Users Conference	SGCC has introduced its innovative practice and a prospect of developing DC transmission to build the strong and smart grid, which was widely recognized by the delegates.
The Annual Meeting of VLP GO	SGCC has signed the "Smart Grid Declaration" by CEOs.



Strong and Smart Grid — The Driving Force for Energy Development in the 21st Century

The 2011 Smart Grid World Forum was held on September 28 in Beijing, featuring the theme "Strong & Smart Grid — The Driving Force for Energy Development in the 21st Century". This year's forum is hosted by State Grid Corporation of China in partnership with IEEE. The conference is designed to be another high-level event held in Beijing focusing on grid development with a large-scale coverage and far-reaching influence, since the International Conference on UHV Transmission in 2006 and 2009.

More than 400 delegates from organizations including International Electrotechnical Commission (IEC), International Telecommunications Union (ITU), as well as governmental organs, industrial organizations, utilities, research institutes, designing companies, manufacturers and universities from 16 countries from continents such as Asia, Europe, North America and South America have attended the forum.

SGCC introduced its achievement and experience in smart grid. The forum has a lineup of six sessions on topics including UHV power and smart power transmission, intelligent power generation and distribution, Electric vehicle charging and battery swapping, intelligent power distribution and distributed power generation, intelligent power use and information and communication. As a sideline to the event, an exhibition on 2011 Strong and Smart Grid World Forum was held by SGCC and IEEE, which attracted 33 exhibitors from new energy, grid equipment, information communication and electrical vehicles.

Guarantee operation transparency and be open to public supervision

Main topics on guaranteeing operation transparency and openness to public supervision:

Guarantee the transparency of major decisions

- Provide suggestions to the national energy policies
- Discuss power grid development with governments of all levels
- Discuss major decisions with industrial partners
- Probe into power grid development with professional media
- Adhere to the collective and democratic decision-making

.....

Be open to supervision and inspection

- Be open to government supervision
- Be open to media supervision
- Strengthen the evaluation on power supply service quality
- Implement the policy of "Three Non-Specifications" of business extension and application for installation
- Release the revised "Three Tens"

.....





Implement **responsibilities on communication and cooperation**

Maximize the creation of integrated economic, social and environmental value:
more transparency

Strengthen the company's information disclosure

- Release annual CSR reports
- Release white papers on major decisions
- Enhance the communication with governments of all levels
- Strengthen the communication with media
- Intensify routine information disclosure
-

Improve stakeholders' participation mechanism

- Formulate a company strategy to support stakeholders' participation
- Improve the management system to ensure stakeholders' participation
- Provide company resources to strengthen stakeholders' participation
- Implement the plan to promote stakeholders' participation
- Manage work performance to release stakeholders' participation
-





Ensure the transparency of SGCC's major decisions

On March 3, 2011

SGCC's leadership held talks with Shanghai Party Secretary Yu Zhengsheng and Mayor Han Zheng.

SGCC leadership respectively talked with Zhao Hongzhu, Secretary of CPC Zhejiang Provincial Committee in Zhejiang province and Standing Member of the CPC Jiangsu Committee and the Secretary of Wuxi Municipal Party Yang Weize in Jiangsu province during February 25 and 26, 2011.

On January 26, 2011

SGCC leadership met with the delegation led by Secretary of CPC Ningxia Hui Autonomous Region Committee Wang Zhengwei in Beijing.

Provide suggestions to the national energy policies. SGCC has supported NDRC and NEA to work out the plans for the "12th Five-Year" national energy plan and power grid, carried out featured research on electricity demand and supply, coordinated development of the power resource and power grid, and the development and output of large-scaled energy bases. In 2011, SGCC has sent in the suggestions for energy development during the "12th Five-Year" to NEA twice, and the proposal on developing UHV and smart grid has been included in the national "12th Five-Year" energy plan.

Strengthen cooperation and exchange between the government and enterprises. SGCC has held government-enterprise discussions on a regular basis to coordinate electricity development and local economic and social development, as well as to enhance the construction of energy bases and transmission channels, and to satisfy the power needs for the continuous rapid economic development. In 2011, SGCC talked with 26 provincial governments within its territory. Governments of Hebei, Shandong, Jiangsu, Anhui, Hunan, Chongqing, Ningxia, Xinjiang, and Inner Mongolia suggested to the State Council, NDRC, and NEA to speed up UHV grid construction.

Support media's inquiry into power grid development. Assist professional media, such as *State Grid News*, *China Power Enterprise Management*, *China Energy News*, *Energy*, other economic newspaper, magazine, TV and Internet media, to probe into the promotion of the coordinated and scientific development of the grid, electricity and resources.



On October 13, 2011, SGCC launched a program to provide outstanding service to the public, study and implement the teleconference of the new "Three Tens", which are the revised "Ten Commitments" of the power supply, "Ten Prohibitions" to modify staff behavior, and "Ten Measures" to strengthen dispatching transaction services, and mobilize SGCC staff to think in the same way and enhance power supply service with determination and confidence.

Develop together with partners. Give full play to the technical, HR and organizational advantages. Unite with domestic power equipment manufacturers to research and develop high-end electrical equipment and raise power equipment manufacturing industry to a leading place in the world. In 2011, SGCC launched 10 major power equipment R&D projects, planning to take 2 to 3 years to finish the development in 10 world-leading major power equipment and key technologies covering transmission, transformation, distribution and consumption. Accomplish 60 R&D results, create 31 kinds of products or prototypes, obtain 115 invention patents, and win 20 national or provincial awards for science and technology progress. Promote the power industry's scientific development together with upstream power generation companies, and play a leading role in scientific development, industry planning, industrial cultural construction and reputation, and industrial SR and self-discipline.

Adhere to the collective and democratic decision-making process. In 2011, the company developed the *SGCC Implementation Measures of "Three Majors, One Large"*, and *SGCC Headquarters' Major Decisions on "Three Majors, One Large"* to further standardize the decision-making scope, procedures, and accountability application. Combine regular supervision with routine inspection and deepen the inspection on the implementation of the collective decision-making policy of "Three Majors, One Large" to promote justified operation of power. Hold President's liaison officers meeting and staff representative meetings, organize staff representatives for inspections, and reply every proposal brought up by the Staff Congress.

Requirement on corporate decision and activity transparency by ISO 26000: Social Responsibility Guide

- Fully and reasonably disclose the known or possible effect on the society and the environment by the policies, decisions, and activities of the organization's responsibility in a clear, accurate and complete way.
- Provide easy, obtainable and understandable access to information for the people under the current or the potential significant influence of the organization.
- Disclose true information in a clear, objective and timely manner for stakeholders to accurately assess the impact of the organization's decisions and activities on them.

Be open to government regulation and public supervision

Cooperate with central government's inspection team for supervision and inspection. Set up special inspection liaison organization, hold the commencement meeting, provide complete documents in time, help to organize meetings and inspections, smooth the communication between the inspection team and the employees, and make sure the inspection team fully grasp the real situation of the company.

Cooperate in industrial moral inspection and evaluation. Establish the Instructions for SGCC's Industrial Moral Construction. Enhance the communication between government and media, strengthen the correction of the problems announced by SERC, and pay attention to the supervision and correction of the problems revealed by media and on the Internet. Carry out self-check and self-supervision on "Three Specifications", publish the Guidance on Avoiding "Three Specifications" for Customers' Power Projects, revise 21 policies, optimize 16 procedures, and open up the market of customers' power projects from installation process, service, regulations and files. Complete the 95598 system covering all power suppliers of all levels, set up incentive fund for industrial moral complaints and reports, and hire 78,000 social moral supervisors. Power supplying companies of all levels lead in the local moral evaluation.

Since 2009,

12,637

projects in construction were examined

Hire

78,000

social moral supervisors

Strengthen the check on the implementation of central government's major decisions. Conduct the inspection and check on the projects to expand domestic needs to promote the economic growth. Carry out the supervision and inspection on speeding up the transformation of economic development. Enact the examination on special projects assigned by the central government. Promote the special control on serious problems in project construction. Since 2009, 12,637 projects in construction were examined and 1,103 amendments were made.

Companies free from assessment in 2011 due to top assessment performance for many years

Shanxi Electric Power Company
Fujian Electric Power Company
Henan Electric Power Company
Liaoning Electric Power Company

Jilin Electric Power Company
Gansu Electric Power Company
Ningxia Electric Power Company
Chongqing Electric Power Company

Top 1. Companies in local moral democratic evaluation of public service industries in 2011

Beijing Electric Power Company
Hebei Electric Power Company
Shandong Electric Power Company
Hubei Electric Power Company

Jiangxi Electric Power Company
Shaanxi Electric Power Company
Qinghai Electric Power Company

Companies with top local industrial moral appraisal but without clear ranking

Tianjin Electric Power Company
Shanghai Municipal Electric Power Company
Anhui Electric Power Company

Released the revised "Three Tens". Faced with new requirements to power supply services under new circumstances, SGCC has just released the new revised "Ten Commitments" of power supply, "Ten Prohibitions" to modify staff behavior, and "Ten Measures" to strengthen dispatching transaction services. Over 20 new contents have been added, such as first-inquiring responsibility system, and the construction of dispatching transaction high quality service window. 16 new requirements have been brought up, such as the time limit for power restoration after overdue payment, and the time limit for customer complaints.

Customer Commitment :
Ten Commitments on Power Supply Service

1. The power supply reliability rate in urban areas shall be no less than 99.90% and the voltage qualification rate shall be 96% on residential side. The promised power supply reliability rate and the voltage qualification rate on residential consumer side in rural areas shall be publicized by the related provincial-level electric power companies after SGCC's verification and approval.
2. Offer around-the-clock repair services of electric power failure and the repairing staff shall arrive at the site within 45 minutes for the urban area, 90 minutes for rural area and 2 hours for remote areas.
3. If the power supply equipment is scheduled to be interrupted for maintenance, the notification should be publicized to the public 7 days prior to maintenance. If a customer fails to pay electricity fees, the necessary power interruption measures shall be taken in compliance with the laws and regulations. In this case, notification of interruption shall be delivered to the defaulted customers 7 days prior to power interruption. Electricity shall be resumed within 24 hours after payment.
4. Strictly implement the tariff and charging policies formulated by pricing regulators, and publicize the traffic, charging standards and service procedures in power supply business centers and websites in a timely manner.
5. The responding time on power supply request is no more than 3 working days for residential consumers, no more than 7 working days for low-voltage power consumers, no more than 15 working days for high-voltage single supply consumers, and no more than 30 working days for high voltage double supply consumers.
6. After the power-receiving facility has been verified as up-to-standard and relevant formalities are completed, electricity will be supplied within 3 working days for residential consumers and 5 working days for non-residential consumers.
7. After customers file the request for meter calibration, test results will be available within 5 working days. It takes a maximum of 7 working days to verify and respond to the report on meter data dysfunction.
8. If power supply is insufficient and continuous power supply cannot be guaranteed, strictly execute the rationing sequence approved by the government.
9. Service hotline-"95598" is available 24 hours a day, for business consultation, information inquiry, service complaint and power failure repair.
10. After a customer complaint is taken care of, the customer will be contacted within 1 working day and solution proposals will be given within 7 working days.

Staff Service :
Ten Prohibitions against Service Misbehavior

1. Prohibition against exerting power interruptions that violate regulation and cause unreasonable delay of power feeding.
2. Prohibition against fabricating charge items and changing charge standards without permission.
3. Prohibition against nominating the design, construction or supply companies to customers.
4. Prohibition against violating the business process notification requirement to result in customers' repeated visits.
5. Prohibition against breaking the first-inquiring responsibility system, shuffling, prevaricating, or neglecting clients.
6. Prohibition against disclosing customers' private information or commercial secrets.
7. Prohibition against alcohol drinking before or during working time.
8. Prohibition against leaving posts at business windows or dealing with matters unrelated to work.
9. Prohibition against accepting gifts, money, securities, or invitation to banquet from customers.
10. Prohibition against using work for seeking personal benefits.

Partner Commitment :
Ten Measures for Dispatching Service

1. Strictly implement *Grid Interconnection Dispatch Agreement* and *Power Purchase Contract*, and firmly follow the principle of open, fair and just dispatch under the law to safeguard the orderly operation of the power grid and provide a favorable operational environment for interconnecting power generators.
2. Submit dispatching transaction information to government authorities on time as required. Disclose dispatching transaction information to power generators and to the public on a timely basis.
3. Standardize service conduct, publicize service procedure, improve the service mechanism, and promote the construction of dispatching transaction high-quality service window.
4. Strictly implement the power generation control objectives developed by governments. Reasonably arrange the generation progress, and fairly utilize the auxiliary services of generator units.
5. Establish and improve an inquiry-response system. Questions posed by generating companies to be able to be answered on the spot should be answered immediately. Questions that cannot be addressed instantly will be replied within 6 working days. If an extension is needed, notification should be made to generation companies. The maximum period for an extension is 12 working days.
6. Respect the market, follow the policies and rules, organize various power transactions with openness and transparency, and complete accurate electricity settlement in a timely manner.
7. Follow the laws and regulations, implement the plan to shut down small thermal power generation, prioritize the accommodation of clean energy, improve the lean level of dispatching transaction, and promote the energy conservation and emission reduction in the power system.
8. Optimize the communication and coordination mechanism between power grid companies and generating companies and customers. Organize liaison meetings on a regular basis, strengthen technical service, and coordinate to solve major technical problems promptly. Ensure a reliable and orderly power supply.
9. Implement relevant provisions and dispatching procedures. Optimize interconnection process for new units, and offer high quality and effective services, such as new unit interconnection and commercial operation transition for power generators.
10. Strictly implement *Five Prohibitions for SGCC Dispatching Staff and Service Standards of SGCC Power Transaction Institutes*. Recruit supervisors for monitoring "open, fair and just" dispatch activities. Set up a number for dispatching transaction complaints for provincial-level companies and above, and make the complaint email address publicly available.

Enhance corporate information disclosure

Release annual CSR reports and significant reports on specific topics. SGCC has been releasing CSR report for 7 consecutive years. It has also released *SGCC White Paper on Green Development*, *Corporate Value: SGCC Always By Your Side*, and the *White Paper on Wind Power Development*, taking the initiative to introduce the company's development strategy, management policy, major actions and performance.

Strengthen the communication system with governments of all levels. Establish a regular and normalized reporting mechanism to provide important information for economic operation and social management to governments. Give advice on the coordinated development of the power grid for the local economy and society, urban construction, and major projects. Promote the integration of power grid development into the overall plan of local economic and social development. Be a good assistant and consultant to government decision and macro management.



Strengthen the communication with the media.

Work with media for interviews on major work and hot issues of public concern. Disclose the details on Strong and Smart Grid, Qinghai-Tibet Interconnection Project, power demand & supply trend, wind power development, summer peak load, and measures of flood control. Improve the understanding, trust and support from society. In 2011, 8,896 news articles were published on state-owned print media by SGCC subsidiaries and provincial companies. Local mainstream print media published 42,107 news articles about provincial companies.

Submit

245 reports

to the General Office of the CPC Central Committee and the State Council

203 pieces

are adopted

The adoption rate is

82.86 %

10 pieces

get the feedback from the central leadership

No. 1

in the evaluation of the State Council and SASAC

Continue to hold the

2nd

Place for Chinese Top 500 Most Valuable Brands

82nd

on Top 500 World Brands

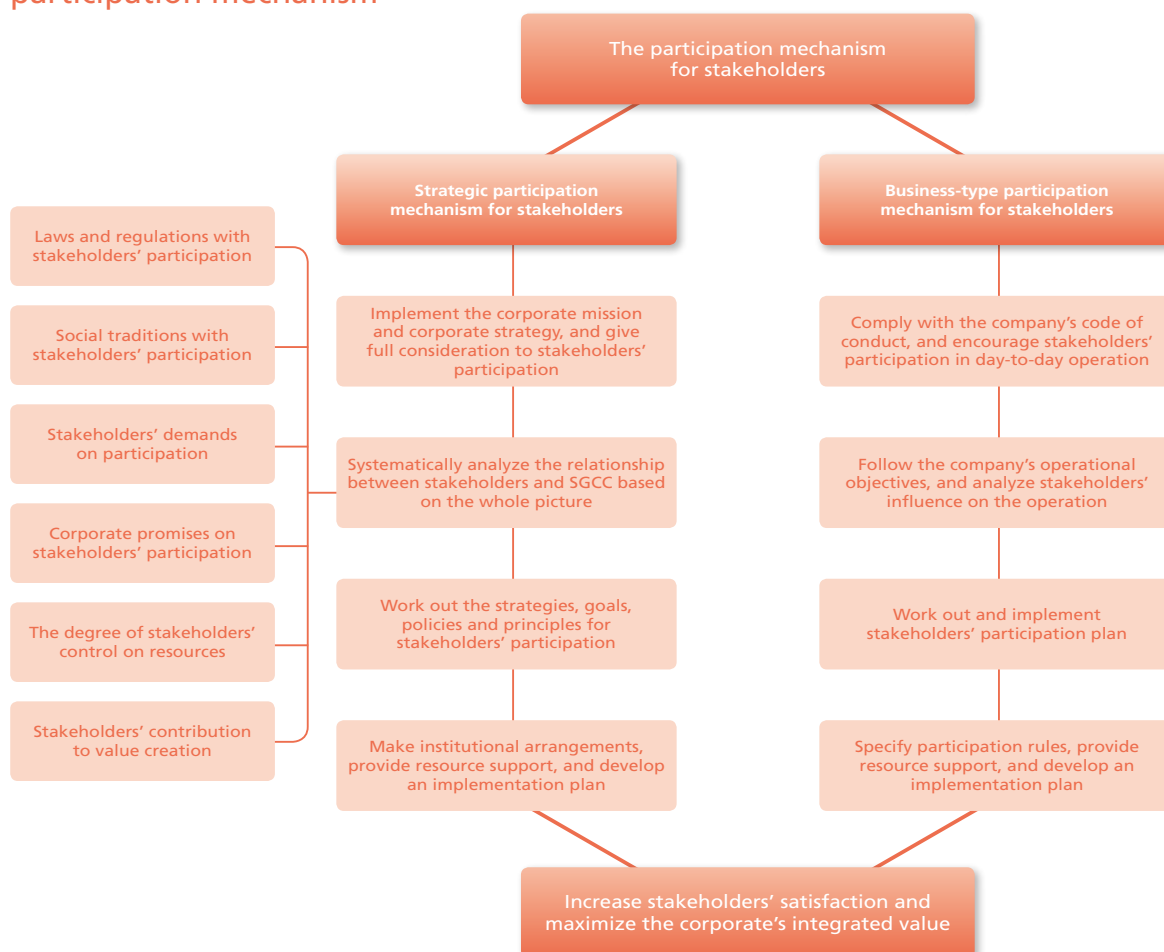
5.596 million visits

of SGCC official website in 2011



Students and faculties from Harvard Business School studied SGCC's CSR practice in Tianjin

Improve stakeholders' participation mechanism





Formulate a company strategy to support stakeholders' participation. Fully protect stakeholders' rights to know, to supervise and to participate. Emphasize stakeholders' participation in corporate strategy and all aspects of the operation. Listen and respond to their concerns and aspirations. Reasonably plan the work of the company. Implement leading brand strategy and strengthen the communication with internal and external stakeholders, such as the government, customers, partners, employees, media, social organizations, communities and the society. Regard stakeholders' recognition, trust and support as the strongest drive to push SGCC and the power grid forward.

The spokesman of SGCC's Jiangsu Wuxi Power Supply Company was interviewed by the media

Implement the plan to promote stakeholders' participation

- Hold government-enterprise cooperation talks with the 26 party committees and provincial governments within the company's operation territory. Promote the coordinated development of the power grid and local economy and society. Enhance the transparency of SGCC's development strategy.
- Partake in activities held by G-SEP and China Industrial Economic Federation. Hold the Smart Grid World Forum 2011 to unveil the development strategy and investment scheme of building a Strong and Smart Grid, as well as gaining insights on the analysis of industrial influence. Enhance the transparency of grid development layout.
- Promote provincial intensive building of 95598 power service. Research the concept of HQ's 95598 Power Supply Service Center. Ensure a centralized management and real-time monitoring of the communication process with clients. Enhance the transparency of customer service.
- Establish a Supplier Service Center and a Goods and Materials Contract Service Center to offer one-stop services to solve general problems of the suppliers. Enhance the transparency of the tendering work.

Improve the management system to ensure stakeholders' participation

- SGCC news spokesman system
- Power transaction information release system
- SGCC industrial moral complaints management
- Quality service normalized standards
- Standard management of wind power dispatching operation
- Management measures for suppliers' improper behaviors
-

Provide company resources to strengthen stakeholders' participation

- Improve the PR department
- Strengthen the PR workforce
- Enhance the training for the PR team
- Funds made available for stakeholders' participation
- Enrich the channels for SGCC's external communication
- Construct a free electricity museum
-

Methods of stakeholders' participation



Information
notification



Feedback
acceptance



Dialogue and
communication



Joint
action

- Work out the *SGCC News Spokesman System*, improve information release channels and contact means, enhance PR skills, and increase the company's transparency in external communications.
- Release the *White Paper on Wind Power Development*, disclose SGCC's attitude, policies, system and plans to promote wind power development objectively, and improve the transparency of company policies.
- Release the revised "Three Tens", boost company's transparency in business extension and application for installation, customer service, and dispatching transaction, be open to social supervision, and enhance the transparency of company operation.
- Advocate "Understand Power Grid" activity, construct the electricity museum, popularize scientific knowledge about electricity, and enhance the transparency on professional know-how of electricity.
-

The Performance

Build a stronger and smarter national power grid and deliver safer, more economical, and cleaner power supply



Safeguard first-class operational efficiency and the company's comprehensive power and enhance sustainable development capability



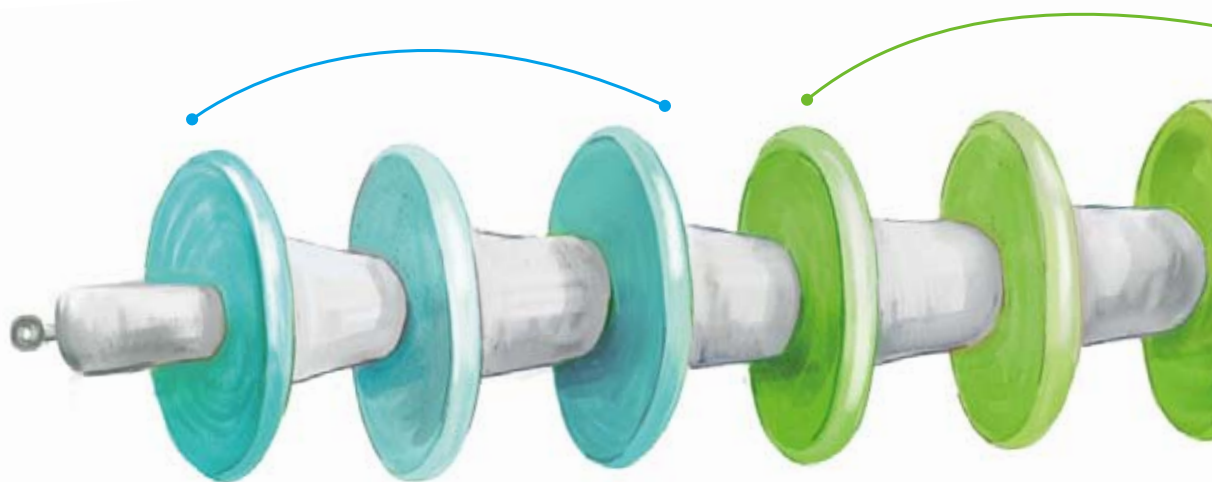
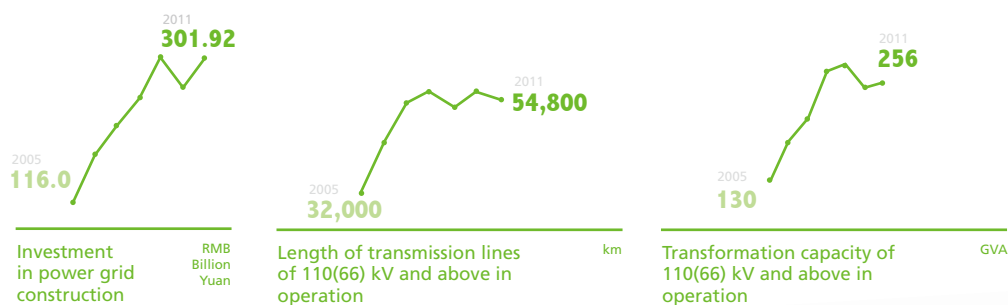
Base on performance and continue improving

Build an outstanding organization in pursuit of maximized integrated economic, social and environmental value

Fully unleash the industrial promoting drive, social influence, and be a model corporate citizen

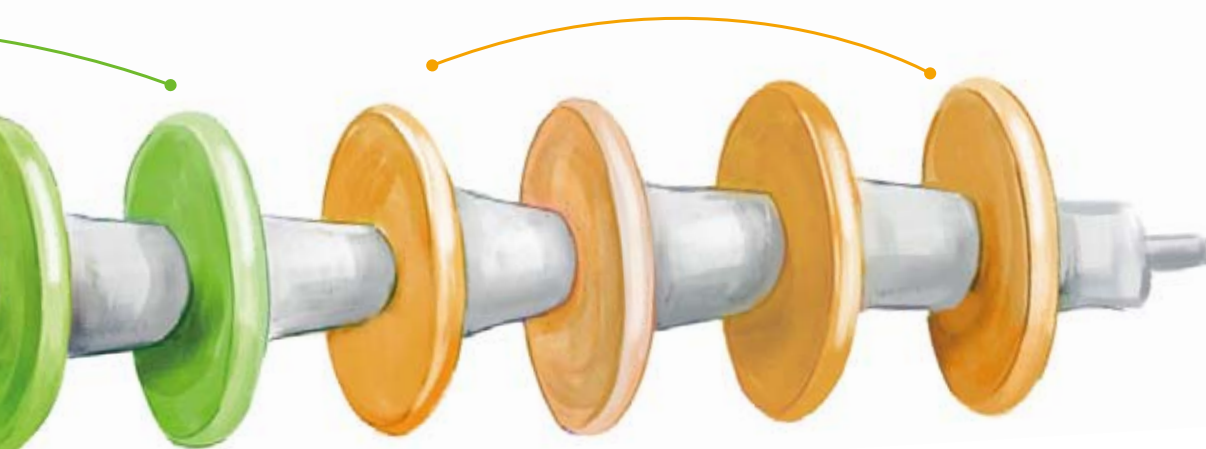
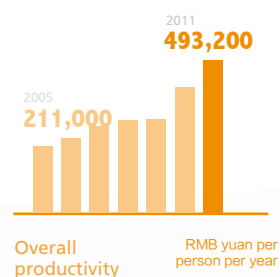
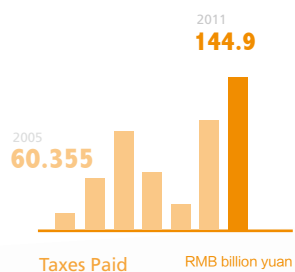
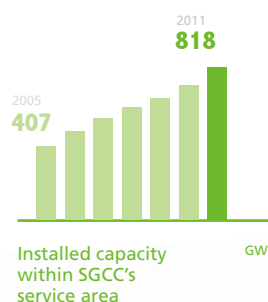
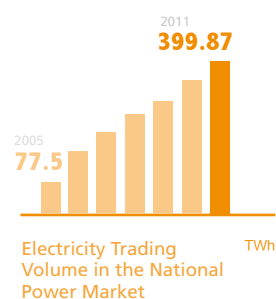
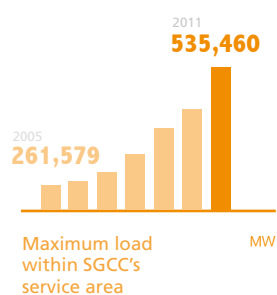
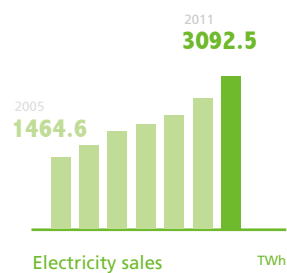


Economic performance



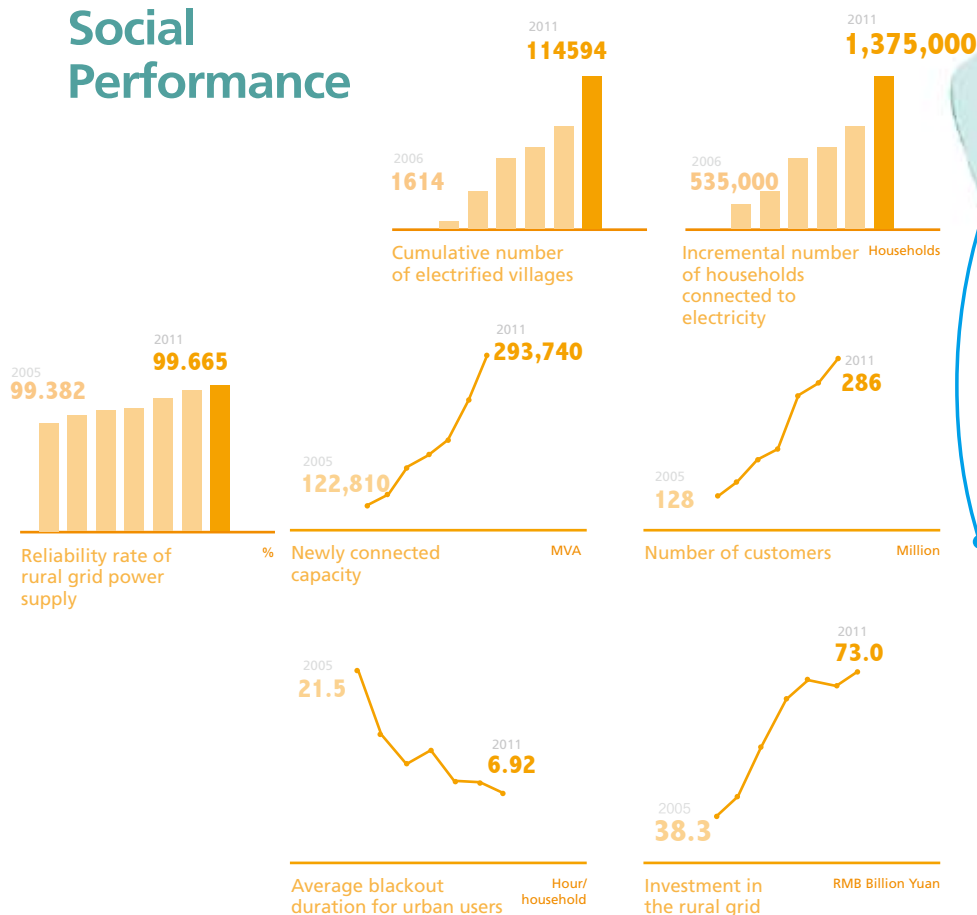
Indicator	Unit	2011
Accumulated increment of existing transmission capacity of the power grid	GW	200
Total on-grid electricity in the service areas	TWh	3,240
Electricity sales growth rate	%	13.68
GDP growth rate	%	9.2
Number of equipment accidents	Times	9
Number of power grid accidents	Times	5
Total asset turnover period	Day	457
Return on equity	%	4.63
Revenue	RMB billion Yuan	1676.0
Total assets	RMB billion Yuan	2209.3
Total Profits	RMB billion Yuan	53.36
Accumulated contract volume of technical services for overseas projects under construction	USD billion	13.6

Note: the line charts and histograms are schematic tendency diagrams.

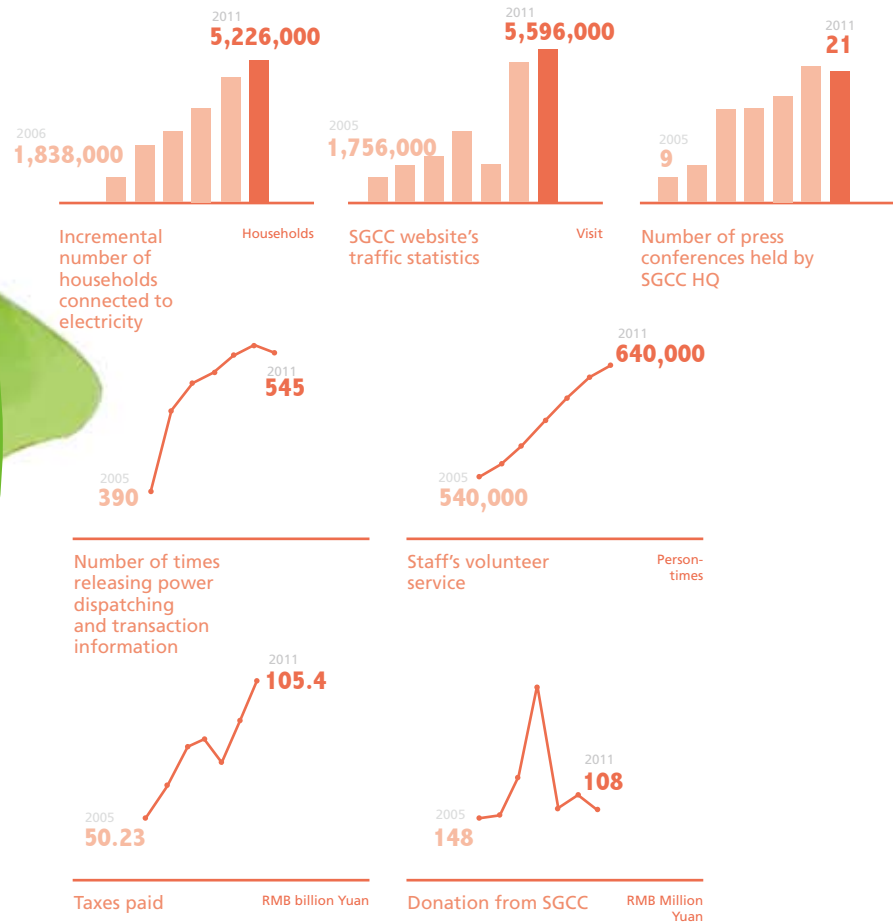


2005	2006	2007	2008	2009	2010
44	85	120	154	171	188
1,640	1,840	2,540	2,280	2,430	2,880
13.6	16.7	15.5	7.5	7.1	18
10.4	11.6	11.9	9.6	9.2	10.3
208	102	75	32	27	20
63	48	27	23	10	2
589	507	468	493	514	445
2.11	4.02	6.86	0.81	-0.39	4.87
712.7	854.5	1010.7	1140.7	1258.0	1542.7
1169.7	1212.8	1361.8	1645.3	1841.9	2119.2
14.4	27.0	47.1	9.8	4.6	45.09
1.926	4.035	8.176	13.1	17.9	18.9

Social Performance



Indicator	Unit	2011
Employee Training Person-times	Person-times	3,280,000
Voltage qualification rate of urban users	%	99.759
Voltage qualification rate for rural users	%	97.688
Fulfillment rate for the "Ten Commitments" on power supply service	%	99.99
Number of Labor union organizations		1,236
Total overseas executive trainings	Person-times	323
Investment in employees' training	RMB Million Yuan	3,536
Average training hours of employees	Hour/(person-year)	68
Training Coverage Rate	%	93.0
Information Submitted to the government by the Headquarters	Piece	245
Market share	%	95.56
Centralized tendering volume	RMB billion Yuan	230.6
Localization rate of equipment purchased in centralized tendering	%	98.4
Luban Prizes awarded	Times	17
Proportion of female employees	%	27.1
Technical R&D input	RMB billion Yuan	6.452



2005	2006	2007	2008	2009	2010
2,200,000	2,500,000	2,750,000	2,900,000	3,050,000	3,120,000
99.136	99.157	99.266	99.406	99.447	99.498
95.8	96.64	96.768	97.05	97.25	97.477
99.95	99.99	99.99	99.99	99.99	99.99
834	886	930	968	1066	1175
	30	93	145	190	280
617	954	2171	3160	3330	3537
47	50	52	57	64	66
78.0	88.14	90.0	90.8	91.2	92
105	166	164	259	313	329
86.2	87.1	88.1	89.99	90.68	93.74
14.2	119.1	163.5	187.9	186.32	175.12
93.8	94.2	94.45	97.28	95.8	99.84
6	7	8	9	11	14
26.2	26.3	26.4	26.39	26.4	26.2
2.001	2.836	4.559	5.055	5.138	6.129

Environmental Performance



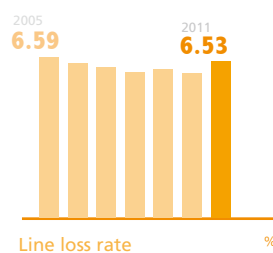
Incremental power generation from water-saving by hydropower plants coordinated by SGCC %



Improved efficiency rate of SGCC's hydropower plants TWh

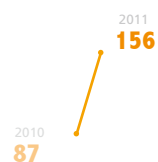


Indicator	Unit	2011
Connected capacity from renewable energy generator units	MW	40,030.0
On-grid power from renewable energy generator units	TWh	115.4



Line loss rate %

Note: the diameter used for statistical line loss rate has changed in 2011.



The number of recharging & switching stations built



The number of AC recharging poles built

2005	2006	2007	2008	2009	2010
1,278.6	2,285.4	4,075.8	8,029.9	14,307.8	25,530.0
1.979	3.376	6.151	14.555	27.375	49.204

Prospect for 2012

	Looking back at 2011	Prospects for 2012
Ensure reliable and trustworthy power supply	<p>Promote the coordinated development of the grid at all levels, invest 301.92 billion yuan in grid construction, and put into operation 54,800 kilometers transmission lines of 110 (66) kV and above levels with 256 GVA transformation capacities.</p> <p>Construct and operate the expansion project of UHV AC Pilot Project, realize the bi-polar operation of Ningdong-Shandong DC Transmission Demonstration Project and the trial run of Sanxia-Shanghai II line project.</p> <p>Optimize allocation of energy resources, complete trade power of 399.87 TWh in the National Power Exchange Center, up by 11.5%.</p> <p>Realize annual revenue of 1676.0 billion yuan.</p> <p>Ensure the safe and stable operation of the grand grid.</p> <p>Ensure the safe operation of the UHV AC Pilot Project and the DC Transmission Demonstration Project.</p> <p>Ensure the implementation of emergency drills and training programs and make tangible results.</p>	<p>Invest 300 billion yuan in power grid construction, and put into operation 57,000 kilometers transmission lines of 110 (66) kV and above levels with 260 GVA transformation capacities and 2,090 kilometers DC lines with 14,400 MW of inversion capacity.</p> <p>Optimize allocation of energy resources. Complete trade power of 416.5 TWh in the National Power Exchange Center.</p> <p>Ensure the completion of milestone plans of Anhui-to-East UHV AC Demonstration Project, expansion project of Gaoling back-to-back (BTB) project, and Xinjiang-Golmud 750 kV AC project. Make sure Jingping-Sunan UHV DC Project in bipolar operation by the end of the year.</p> <p>Follow supervision on construction quality. High-quality projects of 110 kV and above levels exceed 90%.</p> <p>Speed up emergency system construction. Build an emergency command center of all levels within the year.</p> <p>Be interconnected and interworking, enhance professional skills of emergency teams, and do a good job in emergency relief work.</p> <p>Improve operation control system, and ensure the stable operation of UHV transmission, Qinghai-Tibet AC/DC transmission system, and trans-regional grids.</p> <p>Make greater efforts in AC/DC coordination control, ± 1100 kV DC transmission, large-capacity flexible DC, and UHV controllable high resistance, and speed up demonstration application.</p> <p>Realize annual revenue of 1942.5 billion yuan.</p>
Deal with each stakeholder responsibly	<p>The fulfillment rate of the "Ten Commitments" for supply service is up to 99.99%.</p> <p>The comprehensive voltage qualification rate for urban users was 99.759%. The average blackout time was 6.92 hours.</p> <p>Increase investment on rural grids and implement their upgrade projects.</p> <p>The comprehensive voltage qualification rate of rural power is 97.688%. The average blackout time per household is 29.35 hours, reduced by 2.54 hours than 2010.</p> <p>Improve power construction projects in areas without electricity access, and solve the power problem for 35,000 households and 136,000 people without electricity.</p> <p>Safeguard employees' legal rights and benefits and ensure employees' professional safety and health.</p> <p>Adhere to the "open, fair and just" principle for power trade.</p> <p>Improve the application procedure and standard of supply profile review during a bid.</p> <p>Develop new technologies and products and boost the localization of critical power equipment.</p> <p>The overall productivity reaches 493,200 RMB yuan per person per year.</p> <p>Regulate the operation of "State Grid Foundation for Public Welfare" and carry out public welfare donation.</p> <p>Support employees' volunteer activities. Employees' volunteer service is up to 640,000 person-times.</p>	<p>Implement the "Ten Commitments" of power supply, "Ten Prohibitions" to modify staff behavior, and "Ten Measures" to strengthen dispatching transaction services.</p> <p>Keep the average blackout time for urban power users within 5.71 hours.</p> <p>Improve the comprehensive voltage qualification rate of rural power up to 98.05% and keep average blackout time per household within 23.70 hours.</p> <p>Accelerate the power grid construction in areas without access to electricity and solve the power problems for 96,000 households and 400,000 people without electricity.</p> <p>Speed up rural grids' upgrade, standardize the use of funds, consolidate project management, and improve construction quality.</p> <p>Innovate incentive and restraining mechanisms, explore the establishment of differentiated, market-oriented, and quantitative assessment. The overall productivity reaches 555,000 RMB yuan per person per year, increased by 12.5%.</p> <p>Carry out the ten professional studies, such as financing, internationalization, and the system of "Intensive Management on Human Resource, Materials and Finance and Grand Planning, Construction, Production, Operation and Marketing". Improve training standards and the system of teaching materials, cultivate the faculty members, and strengthen training evaluation.</p> <p>Implement the "Recruitment Program of Global Experts" by the central government and recruit overseas high-level talents.</p> <p>Operate the "State Grid Foundation for Public Welfare" responsibly and forge the company brand on public welfare. Employees' volunteer service is up to 650,000 person-times.</p>

	Looking back at 2011	Prospects for 2012
Become a model of green development	<p>Evaluate EIA and approve power construction projects in accordance with laws.</p> <p>Purchase all renewable power.</p> <p>Interconnect installed wind power capacity of 43.94 GW and accommodate 70.6 TWh wind power.</p> <p>The line loss rate reached 6.53%, decreased by 0.07% with the same diameter.</p> <p>Dispatch energy-efficiency generation, and optimize reservoir dispatch.</p> <p>Expedite clean and efficient development of coal-electricity bases and the intensive development of clean energy.</p> <p>Initiate public welfare activities on environment protection.</p> <p>Major breakthrough is made in smart grid pilot projects. Build 156 recharging & switching stations and 6,252 AC recharging poles for electric vehicles, and install 51,620,000 smart meters.</p>	<p>Evaluate EIA and approve power construction projects in accordance with laws. EIA rate reaches 100%.</p> <p>Follow the state policy to phase out facilities with backward production capacity, and implement the energy-saving power price policies.</p> <p>Interconnect and accommodate clean energy.</p> <p>Conduct energy-saving power generation dispatching and generation rights transaction, and promote the Clean Development Mechanism (CDM) project.</p> <p>Strengthen the lean management of line loss. Keep the line loss rate under 6.5%.</p> <p>Deepen the construction of energy-saving service system, and promote contracted energy management.</p> <p>Ensure the completion of the country's tasks for energy conservation, emission reduction, and desulfurization and denitrification.</p> <p>Optimize the operation mode of electric vehicles' recharging and switching service network. Promote the national pilots on "one thousand electric vehicles in ten cities" and private car allowance. Introduce policies to support the smart recharging & switching service network construction in cities, the Yangtze River Delta area and Bohai Rim region.</p>
Implement internationalized operation responsibly	<p>Operate NGCP and State Grid Brazil Holding S.A. responsibly.</p> <p>Promote international energy cooperation. Trade 1.2 TWh power across border with Russia in 2011. Construct and operate Sino-Russian Phase-1 transmission and transformation project with a power supply capacity of 750 MW.</p> <p>Strengthen international exchanges. Host or participate in 93 international conferences and events.</p> <p>Organize equipment manufacturers to march into overseas market.</p> <p>Promote the internationalization of high-tech standards on UHV transmission technology, clean energy technology and smart grid technology.</p>	<p>Participate in the UHV and smart grid construction in Brazil, India and Russia.</p> <p>Invest and purchase high-quality projects of transmission/distribution grid and renewable energy in Europe, South America and North America, and try to make substantial breakthroughs within 2012.</p> <p>Expand project contracting, equipment output and consulting services in South America, South Asia and Africa.</p> <p>Strengthen power cooperation with neighboring countries, enhance China's ability to ensure power supply, and increase the Sino-Russian cross-border power transaction to 3 TWh in 2012.</p> <p>Stably operate the assets in the Philippines and Brazil.</p> <p>Construct a sound management and control system for international business, and reinforce risk management throughout the entire process.</p>
Guarantee operation transparency	<p>Improve the communication mechanism with stakeholders and strengthen the value recognition with them.</p> <p>Corporate Headquarters submit 245 pieces of information to the Central Committee of the CPC, the State Council and the government.</p> <p>The headquarters hold 21 press conferences.</p> <p>Release information on dispatch transactions for 545 times.</p>	<p>Cooperate in the inspection and supervision organized by governments and industrial authorities of all levels, and upgrade the company's governance.</p> <p>Improve the communication mechanism with stakeholders, and strengthen the value recognition with them.</p> <p>Corporate Headquarters submit 300 pieces of information to the Central Committee of the CPC, the State Council and the government.</p> <p>The headquarters hold 22 press conferences.</p> <p>Release information on dispatch transactions for 540 times.</p>

UN Global Compact: Initiatives and Performance



Fueled by the fulfillment of UN Global Compact, SGCC has promoted the ten principles of the UN Global Compact, and striven to realize the maximization of the integrated economic, social and environmental value.

Ten principles of the UN Global Compact	Action performance
Human rights <ol style="list-style-type: none"> 1. Businesses should support and respect the protection of internationally proclaimed human rights 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. Improve power construction projects in areas without electricity access, and solve the power problem for 35,000 households and 136,000 people without electricity. Improve the infrastructure for rural electricity, solve the low voltage problem for more than 2.9 million households, and modify residential metering equipment for over 5.4 million households. Speed up the new rural electrification, and construct 123 counties, 1432 towns and 24541 villages with rural electrification throughout the whole year. Strengthen the power facilities for agriculture and forestry, and add 57,500 motor-pumped wells in 2011, which benefit farmland of 2748.9738 square kilometers
Labor <ol style="list-style-type: none"> 3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining 4. Eliminate all forms of forced and compulsory labor 5. Abolish child labor effectively 6. Eliminate discrimination in respect of employment and occupation 	<ul style="list-style-type: none"> Show full respect for labor rights, avoid forced labor, pay attention to employees' professional safety and health, reject discrimination by nationality, gender, sex orientation, country, religion, area, family, age or disease, sign the labor contract according to the law, and pay wages and arrange holidays in accordance with the law. Release the <i>Outline of State Grid Democratic Management of Employee</i>, and protect employees' right to know, to participate, to express and to supervise. Improve the system of Staff Congress, and collect 194 proposals, of which 15 are put on record. All proposals are processed. 40 President's Liaison Officers of the second session are appointed. Staff representatives are organized to carry out inspection. Pay attention to personnel development and training. Provide training to up to 93% of the employees.
Environment <ol style="list-style-type: none"> 7. Businesses should support a precautionary approach to environmental challenges 8. Undertake initiatives to promote greater environmental responsibility 9. Encourage the development and diffusion of environmentally friendly technologies 	<ul style="list-style-type: none"> Develop Strong and Smart Grid. Allocate a larger range of installed capacity and environmental capacity to mitigate land occupation, economize social investment, and reduce transmission losses. Release the <i>White Paper on Wind Power Development</i> to explain SGCC's policies, plans, and construction on wind power promotion, as well as the deployment and performance of R&D. Enhance the scientific development on wind power with efforts from other parties. Reduce the line loss by 0.07%, saving 2.310 TWh power. Optimize reservoir dispatch and generate 15.103 TWh more power with saved water. Complete generation rights transaction of 399.867 TWh. Build 156 recharging & switching stations and 6,252 AC recharging poles for electric vehicles.
Anti-Corruption <ol style="list-style-type: none"> 10. Businesses should work against corruption in all its forms, including extortion and bribery 	<ul style="list-style-type: none"> Establish the <i>Instructions for SGCC's Industrial Moral Construction</i>, complete the 95598 system covering all power suppliers of all levels, and hire 78,000 social supervisors. Power supplying companies of all levels lead in the local moral evaluation. Publish the <i>Guidance on Avoiding "Three Specifications" for Customers' Power Projects</i>, carry out self-check and self-supervision on "Three Specifications", revise 21 policies, optimize 16 procedures, and open up the market of customers' power projects from installation process, service, regulations and files. Conduct the supervision and inspection on projects to expand domestic demands and promote economic growth. Carry out the supervision and inspection on speeding up the transformation of economic development. Enact the examination on special projects assigned by the central government, such as the Shanghai World Expo, and do a good job managing serious problems in project construction. Since 2009, 12,637 projects in construction were examined and 1,103 amendments were made. Conduct 2,105 efficiency supervision programs, make 381 decisions and propose 10,961 suggestions in relation to supervision work.

GRI index

	No.	GRI	Indicator	Index
1.Strategy and analysis	1	1.1	Top decision makers on the corporate strategy and sustainable development	P2~P3
	2	1.2	Description of significant impacts, risks and opportunities	P17
2.Corporate profile	3	2.1	Corporate name	Cover/P4
	4	2.2	Primary brands, products or services	Cover/P4/P34~P39
	5	2.3	Organization structure	P4~P7
	6	2.4	Address of headquarters	Inside back cover
	7	2.5	Number of countries where SGCC operates and countries closely related to the Corporation's businesses and development	P4/P72~P81
	8	2.6	Nature of ownership and legal form	P4
	9	2.7	Markets served	P4~P5/P34~P39
	10	2.8	Scale of the company	P4~P5
	11	2.9	Significant changes in size, structural or ownership	P4~P7
	12	2.10	Awards received in the report period	P9
3.Report parameters	13	3.1	The time frame covered by this report	Report Overview
	14	3.2	Date of the latest report	Report Overview
	15	3.3	Reporting cycle	Report Overview
	16	3.4	Contact means for responding to questions related to the report	Report Overview
	17	3.5	Procedures for determining the report contents	Report Overview
	18	3.6	Reporting limits	Report Overview
	19	3.7	Note on limits of the report scope	Report Overview
	20	3.8	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations and other entities having remarkable influence	P4~P5/P48~P53
	21	3.9	Data measurement techniques and the basis for calculation	Report Overview
	22	3.10	Explanation for any restatement of the information contained in earlier reports	Report Overview
	23	3.11	Significant changes from previous reports in scope, boundary or measurement	Report Overview
	24	3.12	Location of the Standard Disclosure on the basis of chapter and section	Report Overview/P103~P106
	25	3.13	Policy and practice regarding external assurance	P107
4.Corporation governance	26	4.1	Governance structure of the organization	P6/P18
	27	4.2	Indication of whether the Chairman of the Highest governance body is also an executive officer	P2/P18
	28	4.3	Number of independent and/or non-executive directors of the Highest governance body	P6/P18
	29	4.4	Mechanism for the shareholder or employee to provide recommendations or direction to the Highest governance body	P18~P47
	30	4.5	Linkage between compensation for members of the highest governance body, senior managers and executives and the organization's financial, social and environmental performance	P6/P18
	31	4.6	Process in place for the Highest governance body to ensure conflicts of interest are avoided	P2~P3
	32	4.7	Process defining the highest governance body qualification and expertise	Report Overview
	33	4.8	Mission, values, codes of conduct or principles	P14/P16
	34	4.9	Highest governance body process for identification and management of economic, environmental, and social performance	P18
	35	4.10	Processes for evaluating Highest governance body performance	P18
	36	4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organization	P2~P3/P17
	37	4.12	External economic, environmental, and social charters and principles favored or supported	P2/P102
	38	4.13	Memberships in associations and organizations	P7
	39	4.14	List of stakeholders	P32~P33
	40	4.15	Basis for identification and selection of stakeholders	P14/P89
	41	4.16	Approaches to stakeholder participation	P39/P43/P47/P52~53/P57/P89
	42	4.17	Key topics and concerns that have been raised through stakeholder participation, and how the organization has responded to these concerns	P39/P43/P47/P52~53/P57

GRI index

	No.	GRI	Indicator	Index
5.Economic performance indicators	43	EC1	Direct economic value generated and distributed	P8/P95~P97
	44	EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	P28/P56/P70
	45	EC3	Defined benefit plan obligations	P44/P78
	46	EC4	Significant support from government	N/A
	47	EC5	Range of ratios of standard entry level wage compared to local minimum wage at significant locations of operation	P44/P48
	48	EC6	Policies, practices, and proportion of spending on locally-based suppliers	P48~P53/P90~P91
	49	EC7	Proportion of employees and management hired from the local community at the location of the significant operation	P4/P44
	50	EC8	Infrastructure investments and services provided primarily for public benefit	P41/P55
	51	EC9	Understanding and describing significant indirect economic impacts	P17
6.Environmental performance indicators	52	EN1	Materials used by weight or volume	P58~P71
	53	EN2	Percentage of recycled input materials used	P58~P71
	54	EN3	Direct energy consumption by primary energy source	P58~P71
	55	EN4	Indirect energy consumption by primary energy source	P58~P71
	56	EN5	Energy saved due to conservation and efficiency improvements	P58~P71
	57	EN6	Energy saved due to provision of conservation and efficiency products and services	P58~P71
	58	EN7	Initiatives to reduce indirect energy consumption and reductions achieved	P58~P71
	59	EN8	Total water withdrawal by source	P58~P71
	60	EN9	Water sources significantly affected by withdrawal of water	P58~P71
	61	EN10	Percentage and total volume of water recycled and reused	P58~P71
	62	EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas, areas of high biodiversity value outside protected areas	P58~P71
	63	EN12	Impacts on biodiversity in protected areas and areas of high biodiversity value outside protected areas	P58~P71
	64	EN13	Habitats protected or restored	P58~P71
	65	EN14	Strategies, current actions and future plans for managing impacts on biodiversity	P58~P71
	66	EN15	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by levels of extinction risk	P58~P71
	67	EN16	Direct and indirect greenhouse gas emissions	P58~P71
	68	EN17	Other relevant indirect greenhouse gas emissions	P58~P71
	69	EN18	Initiatives and effect to reduce greenhouse gas emissions	P58~P71
	70	EN19	Total emission of ozone consuming substances	N/A
	71	EN20	NO, SO and other significant air emissions by type and weight	P58~P71
	72	EN21	Total water discharged by quality and destination	N/A
	73	EN22	Total weight of waste by type and disposal method	N/A
	74	EN23	Total number and volume of significant spills	N/A
	75	EN24	Weight of transported, imported, exported, or treated waste deemed hazardous, and percentage of transported waste shipped internationally	N/A
	76	EN25	Impact of water discharge or runoff on water bodies and related propagation habitats	P58~P71
	77	EN26	Initiatives and effect to mitigate environmental impacts of products and services	P58~P71
	78	EN27	Percentage of products sold and their packaging materials that are reclaimed by category	N/A
	79	EN28	Number and total monetary value of significant fines for non-compliance with laws and regulations concerning environment	P58~P71
	80	EN29	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workplace	P58~P71
	81	EN30	Total environmental protection expenditure and investments by type	P58~P71

	No.	GRI	Indicator	Index
7. Work performance indicators	82	LA1	Workforce by employment type, employment contract, and region	P4
	83	LA2	Total number and rate of employee turnover by age group, gender, and region	P44~P47/P96
	84	LA3	Benefit provided to full-time employees	P44~P47
	85	LA4	Percentage of employees covered by collective bargaining agreements	P44~P47
	86	LA5	Minimum notice period regarding significant changes	P44~P47
	87	LA6	Percentage of employees receiving worker health and safety instructions	P44~P47
	88	LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region	P44~P47
	89	LA8	Education, training, counseling, prevention, and risk-control programs to assist associates, their families, or communities regarding serious diseases	P44~P47
	90	LA9	Health and safety topics covered in formal agreements with trade unions	P44~P47
	91	LA10	Average hours of training per year per employee by employee category	P44~P47
	92	LA11	Programs for occupational career, skill improvement and lifelong learning	P44~P47/P96 P44~P47
	93	LA12	Percentage of employees receiving regular performance and career development	P44~P47
	94	LA13	Composition of governance bodies	P44~P47
	95	LA14	Ratio of basic salary of men to women by employee category	P44~P47
8. Human rights performance indicators	96	HR1	Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening	P54
	97	HR2	Percentage of significant suppliers and contractors that have undergone screening on human rights and actions taken	P49
	98	HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	P44~P47/P96
	99	HR4	Total number of incidents of discrimination and actions taken	N/A
	100	HR5	Operations identified in which the right to exercise freedom of association and collective bargaining may be at significant risk, and actions taken to support these rights	P44~P47
	101	HR6	Operations identified as having potential risk for incidents of child labor, and measure taken	P44~P47
	102	HR7	Operations identified as having potential risk for incidents of forced or compulsory labor, and measure taken	P44~P47
	103	HR8	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations	N/A
	104	HR9	Total number of incidents of violations involving rights of indigenous people and actions taken	N/A
9. Society performance indicators	105	SO1	Program and practices that manage the impacts of operations on communities	P54~P57
	106	SO2	Percentage and total number of business units analyzed for risks related to corruption	N/A
	107	SO3	Percentage of employees trained in organization's anti-corruption policies and procedures	P44~P47
	108	SO4	Actions taken in response to incidents of corruption	P49
	109	SO5	Public policy positions and actions	P36/P54~P57/ P61~P63/P84
	110	SO6	Financial contribution to political parties and related institutions	N/A
	111	SO7	Total number of legal actions for anticompetitive behavior, anti-trust, and monopoly practices and their outcomes	N/A
	112	SO8	Total number of and monetary value of significant fines for non-compliance with laws	N/A
10. Product responsibility performance indicators	113	PR1	Percentage of products and services that are assessed for life cycle health and safety impacts	P34~P39
	114	PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety	N/A
	115	PR3	Percentage of product and service information required for assessment, and type of information	P34~P39
	116	PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling	N/A
	117	PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction	P15/P39/P43
	118	PR6	Programs for adherence to laws, standards, and voluntary codes concerning marketing communications	P36/P48
	119	PR7	Total number of incidents of non-compliance with laws, standards, and voluntary codes concerning marketing communications	N/A
	120	PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	N/A
	121	PR9	Monetary values of significant fines for non-compliance with laws and regulations	N/A

GRI index

No.	GRI*	Indicator	Index
1	EU1	Installed capacity of power generation**	P8/P50/P94~P95
2	EU2	Number of residential, industrial, and commercial customer accounts***	P4
3	EU3	Length of transmission and distribution lines	P8/P94
4	EU4	Allocation of CO ₂ emissions allowances by country or region	P63~P71
5	EU5	Program that ensures availability and reliability of short-term and long-term power supply	P24~P28/P31/P35
6	EU6	Demand-side management projects covering residential, commercial and industrial users	P63~P64/P70
7	EU7	Researches to improve capability and reliability of power supply and for sustainable development	P24~P28
8	EU8	Measures against decommissioning of nuclear devices	N/A
9	EU9	Planned installed capacity by country or region against projected electricity demand over the long term	P50/P94~P95
10	EU10	Installed capacity reduced due to demand-side management	P63~P64/P70
11	EU11	Energy saved by residential, industrial and commercial users due to demand-side management	P63~P64/P70
12	EU12	Average efficiency of generator units by country or region	N/A
13	EU13	Efficiency of power transmission	P24~P27
14	EU14	Description of biodiversity areas affected by operation	P12/P65~P67
15	EU15	Rules to ensure continuous improvement of employee skills and qualities	P46
16	EU16	Number of employees that have signed subcontracting agreements	P44
17	EU17	Percentage of employees that have undergone relevant health and safety training	P44~P47/P96
18	EU18	Stakeholder participation in the decision making process	P39/P43/P47/P52~53/P57/P89
19	EU19	Approach to managing the impacts of displacement	P54/P57
20	EU20	Contingency planning measures, disaster/emergency management plan and training programs, and recovery/restoration plans	P37/P56
21	EU21	Number of people physically or economically displaced and compensation, broken down by type of project	P40~P41
22	EU22	Programs, including those in partnership with government, to improve or maintain access to electricity and customer support services	P35/P39/P40~P42
23	EU23	Practices to address disability-related barriers	P34~P39
24	EU24	Number of injuries and fatalities to the public involving company assets, including legal judgments, settlements and pending legal cases of diseases	N/A
25	EU25	Percentage of population unserved in licensed distribution or service areas	P40
26	EU26	Number of residential disconnections for non-payment, broken down by duration of disconnection	N/A
27	EU27	Power outage frequency	P435/P42/P96/P100
28	EU28	Average power outage duration	P435/P42/P96/P100
29	EU29	Average plant availability factor by country or region	N/A

*The GRI Electric Utility Sector Supplement .

**Installed capacity in areas of operation.

***By the end of 2011, SGCC has directly served 286 million users.

ASSURANCE STATEMENT



ASSURANCE STATEMENT

Introduction

DNV Business Assurance Group ("DNV") has been commissioned by State Grid China to carry out an independent verification of the State Grid 2011 Corporate Social Responsibility Report ("the Report") against the AA1000 Assurance Standard (2008) ("AA 1000AS 2008").

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

Scope of Assurance and Limitations

The scope of assurance work agreed upon with State Grid China includes the following:

- The economic, social and environmental data, as well as the social responsibility performance in the period January to December 2011, as presented in the Report.
- On-site verification at State Grid's Head Office.
- Without visiting the external stakeholders.
- Evaluation of Accountability principles and performance information, as required for a Type 2, moderate level of assurance in AA1000AS.
- A specific evaluation of the information on sustainability performance related to:
 - reported progress against the company's targets specified in the "prospect for 2011" as disclosed in its 2010 Report.
 - the core indicators set forth in the GRI G3.
- DNV has not verified the financial data disclosed in the Report.
- The verification was completed by DNV in February 2012.

Verification Methodology

Our verification was planned and carried out in accordance with the DNV Protocol for Verification of Sustainability Reporting.

The Report has been evaluated against the following criteria:

- Adherence to the principles of Inclusivity, Materiality and Responsiveness in the AA 1000AS 2008.
- Adherence to the additional principles of Neutrality and Completeness as set out in DNV's Protocol.
- Examined and reviewed documents, data and other information made available to DNV by State Grid China.
- Performed sample-based reviews of the mechanisms for implementing State Grid's social responsibility policies, as described in the Report.
- Performed sample-based checks of the processes for generating, gathering and managing the quantitative and qualitative data presented in the Report.

Conclusions

In DNV's opinion, State Grid's Corporate Social Responsibility Report 2011 provides a credible and objective presentation of State Grid's overall sustainability performance and application of the AA1000 Accountability Principles 2008. Within the scope of assurance, DNV has not observed any untrue statements of systematicness and Materiality.

AA 1000AS (2008) Principles

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

Materiality: Acceptable. State Grid's strategy topics of sustainability development were identified in the Report by means of establishing the social responsibility topics selection metrics, the complete logic and specific method of creating social values by State Grid was disclosed, the 9 steps mechanism on social responsibilities implementation was set up, and the Report presents the key sustainability performance indicators.

Responsiveness: Acceptable. The Report responds to the social concerns of core topics in the sustainability development of electric power industry, and to internal and external stakeholders about the specific topics of performing responsibility by State Grid's mission, development target, sustainable strategy and performance indicators. The responsiveness of this Report maintained well as usual, and the disclosure of performances on the field of State Grid's international operation was improved in some extent.

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

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



ASSURANCE STATEMENT

Additional Principles

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

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

Opportunities for Improvement

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

- For the review of the social responsibility targets and commitments established in previous year, necessary explanation for dramatic fluctuation should be addressed in the Report. And the disclosure of some performance indicators can be improved.
- The social responsibility promotion mechanism and data collection system towards subsidiary organizations can be further enhanced.

Statement of DNV's Competence and Independence

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

For DNV Business Assurance Group

A handwritten signature in black ink, appearing to be '张俊' (Zhang Jun).

Zhang Jun
Lead Verifier

A handwritten signature in black ink, appearing to be 'Antonio Astone'.

Antonio Astone
Reviewer
Global Sustainability Manager

Beijing, China February 2012



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



STATE GRID
CORPORATION OF CHINA

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