Your Power Our Care

Corporate Social Responsibility Report

2012
This CSR report is dedicated to illustrating State Grid Corporation of China’s aspiration, action, and performance in maximizing the integrated economic, social and environmental value, as well as its implementation of social responsibilities in 2012 and the commitment for 2013.

Statement

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

February 2013
Report Overview

The time frame covered by this report:

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

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

Previous reports:
SGCC has released its CSR Report for the 7th consecutive year since
2006.

Note on the data:
The data for 2012 used in this report are preliminary statistics. They
may be slightly different from the final results. The data for 2011 are
final statistics, part of which may differ from the 2011 CSR Report.

Extended reading:
For information related to corporate governance, social responsibility
management, stakeholder’s participation mechanisms, and index
calculations, please visit our official website at http://csr.sgcc.com.cn.

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

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

Standards followed by the report:
SGCC 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
  Organization for Standardization ISO
• Sustainability Reporting Guidelines (3.1 Version) by Global Reporting
  Initiative
• AA 1000 Assurance Standards by Accountability Institute, Britain

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   through Mechanism
18 Responsibilities are Fulfilled
   through Management
How to identify the topics for 2012

Collect topics for the CSR report via:

- Suggestions from the management
- Analysis from external and internal experts
- Topics from other entities
- Topics from external stakeholders
- Topics benchmarked with CSR standards

Identify the topics

By applying the two-dimensional matrix of “Value Creation & Social Concerns”:

- Topics significantly affecting value creation effect
- Topics greatly concerned by stakeholders
- Topics about social issues of common concern
- Topics emphasized by general standards
- Topics of importance to a power grid enterprise

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CSR is the starting point as well as the ultimate goal of the company’s operation.

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

Your Power Our Care
Corporate Social Responsibilities of SGCC

1. Ensure reliable and trustworthy power supply (The core is to guarantee reliable and trustworthy products)

2. Treat each stakeholder responsibly. (Take responsibility for everyone involved in the corporate operation)

3. Become a role model of green development (Operate business with environmental concerns)

4. Develop overseas business with responsibility (Social responsibility is the company’s eternal pursuit where ever it operates)

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

Embed CSR into corporate operation

Provide safer, cleaner, more economic and sustainable energy with minimum economic and social cost

- Fulfill the responsibility on scientific development and push for optimal allocation of the national energy resources by developing the power grid.
- Fulfill the responsibility on secure power supply and maintain public social security by safeguarding the grid operation.
- Fulfill the responsibility on management excellence and improve quality service by operational efficiency.
- Fulfill the responsibility on technical innovation and support scientific development by outstanding scientific innovation capability.
- Fulfill the responsibility on global vision and advance scientifically by integrating global resources.

Operate the company in a human-oriented way

- Responsibility on Quality Service: responsible for customers
- Responsibility in Agriculture, Countryside and Farmers: responsible for agriculture, countryside and farmers
- Responsibility on Employee Development: responsible for employees
- Responsibility on Win-win Partnership: responsible for partners
- Responsibility as Corporate Citizen: responsible for the community

Operate the company in a manner to take environmental responsibilities

Responsibility on Environmental Protection and Low Carbon: responsible for the environment

Carry out overseas business in a responsible manner

Implement overseas business development strategy with responsibility on global vision

Transparency and stakeholders’ participation ensure social responsibility trustworthy and sustainable

Responsibility on Communication and Cooperation: ensuring stakeholders’ right to know, to participate, and to supervise, and exerting their function to create value.

You are close to us as power consumers. We shoulder social responsibilities as a power supplier.

Uninterrupted power supply service; Never-ending responsibility development.
On the 18th National Congress of the Communist Party of China, it has been made clear as a national goal to build an all-round well-off society by 2020 and double the GDP and per capita income for urban and rural residents compared with 2010, to emphasize scientific innovation as the core for the national development in the innovation-driven strategy; and to push for an energy production and consumption revolution for the national energy security. All these pose higher requirements on the development of energy and electricity. Currently, China’s per capita installed capacity of electricity is 0.8kW and the average per capita annual electricity consumption is about 3700kWh, less than half the average in developed countries. It’s estimated that 2000GW of installed capacity would be added to realize the national goal. Therefore, how to maintain a safe and reliable electricity supply in a long run to satisfy the need for energy and power for building an all-round well-off society is always a tough task and a major topic for us.

China features with the spatial mismatch between energy production and energy demand. 76% of the coal resources are located in northern and northwestern China. 80% of the hydropower resources concentrate in the southwest and on-shore wind power mainly comes from the northeast, northwest and the north. However, 70% of the energy demand comes from eastern and central China. The focus for energy exploitation will shift westwards and northwards but the load center will keep in eastern and central China, which will remain for a long time. Therefore, it is imperative to optimize energy resources allocation in a large scope and transport them across regions and over long distances in a large capacity. The over-reliance on transporting coal for energy allocation and in-situ balance for electricity development have resulted in environmental pollution, energy insecurity and repeated serious under-supply of coal and electricity.

To answer the need for a scientific development of energy and electricity and better serve the coordinated development between economy, society and environment, SGCC will speed up implementing its “One Ultra and Four Large” (1U4L) strategy. This strategy refers to the development of UHV transmission (the “One Ultra”), and the intensive and efficient development of large coal-fired, hydroelectric, nuclear power and renewable energy bases (the “Four Large”). Meanwhile, in keeping up with the global energy technology and attending to a low-carbon economy and clean energy development, SGCC also comes up with the strategic objective to build an IT-based, automatic and interactive Strong and Smart Grid backboned by UHV grids with coordinated construction of grids of various levels. The company has made unprecedented progress. Looking into the future, SGCC will develop the power grid with Chinese characteristics and accelerate the construction of the Strong and Smart Grid to satisfy the power need for building a well-off society. The Strong and Smart Grid can be an efficient energy transmission platform and a vital guarantee for large-scale, large-capacity and highly efficient transmission and utilization of power resources. It is also a safe allocation platform to complement various kinds of energies by integrating coal-fired power, hydropower, wind power and solar power into the ultra grid. It can be well used as an economical operation platform to coordinate the joint operation of wind power, PV power, hydropower and thermal power so as to be better and more efficiently utilized. The Strong and Smart Grid is also a friendly, interactive platform to integrate and interact well with distributed power and electric vehicles (EV) as part of a safe, reliable, cost-effective energy supply system.

To accelerate the construction of the Strong and Smart Grid is the key to implement the 1U4L strategy. Since its initiative of building the
UHV grid in 2004, SGCC has been independently innovating and has obtained a series of major breakthroughs. What’s worth mentioning is 1000kV Jindongnan–Nanyang–Jingmen UHV AC Pilot Project and Xiangjiaba–Shanghai ±800kV UHV DC Pilot Project. Their successful and stable operation has fully proven that UHV is feasible, safe, economical and superior, realizing a significant breakthrough "created by China" and "led by China" in global power grid science and technology. On December 12, 2012, Jinping–Sunan ±800kV UHV DC Transmission Project, a new milestone, was put into operation. This is a project with the highest voltage level, largest capacity, longest distance and the most advanced DC technology in the world. SGCC will speed up UHV development to form an energy allocation pattern of massive power transport from the west to the east and from the north to the south in order to meet the electricity need for a well-off society.

Intellectualization is the key to improve grid's security, controllability, adaptability, and interactivity. Smart grid, an important platform for efficient development and utilization of clean energy, is the future for power grid. SGCC has independently developed the internationally-advanced smart dispatching technical support system, deploying 120 million smart meters, building and operating 353 EV charging and battery swapping stations and 14,703 charging spots. It leads the world in theoretical research, experimental system and project application of smart grid. SGCC conforms to the international trend of energy technology and industrial progress, and maintains its competitive edge in UHV and smart grid to better serve the construction of an innovation-oriented country. It will speed up the constitution of the S&T innovation system and the self-innovation capability, reinforce the basic theoretical research and the R&D of core technology and key equipment, and drive the domestic electric equipment manufacturing industry to an innovative development. SGCC will focus on the integration of smart equipments and businesses to push the smart grid forward. The company is confident to realize the friendly interconnection and interaction with distributed generation and EVs so that customers can enjoy a better life with the convenience smart energy services can bring.

To support and serve the clean energy development and build a beautiful China need Strong and Smart Grid. SGCC has strengthened unified dispatching and management to ensure massive integration of clean energy. As of the end of 2012, China’s hydropower installed capacity reached 250GW, topping the world, among which the capacity within SGCC’s service area was 168GW. China’s integrated wind power reached 60.83GW, among which, SGCC contributed 56.76GW, making SGCC the grid with the world’s largest scale and fastest development in wind power. A solar power collection station with a capacity of 6.21GVA and 1000-kilometer-long lines for integration have been built. The integrated PV generation capacity reached 3.33GW in SGCC’s service area. SGCC is building a sound platform to actively harness, efficiently accommodate and safely operate clean energy. Meanwhile, the company is supporting the construction of large-scale renewable energy bases and the innovative development of distributed generation. By facilitating large-scale hydropower projects development, SGCC tries to build a mighty energy channel to connect the hydropower bases in Southwest China with the load centers in East and Middle China, upgrade grid configuration and enhance the capability to accommodate hydropower. To realize rapid development of wind power, SGCC has strengthened the research on the integration standard, regulation and key technology and sped up the construction of auxiliary projects for wind farms. While for distributed PV generation, SGCC has provided favorable conditions for integration, improved its service management, enhanced the technical standard system, simplified the technological requirement for integration, and accelerated the construction of auxiliary grid to ensure timely integration, reliable transmission and full purchase of PV power.

SGCC continues to improve power supply quality service, serve and protect people’s livelihood, and promote social harmony. SGCC has invested in the grid interconnections between Xinjiang and the northwest, Qinghai and Tibet, and the Tibetan-inhabited area of Sichuan and Sichuan grid. So far, the grids have been interconnected throughout the country except Taiwan Province, greatly promoting the economic development, national unity and social harmony of the border areas. The “Power for All” project has attracted RMB19.16 billion investment to solve the power problem for 1.49 million households and 5.72 million people without access to electricity in remote and underdeveloped areas since 2006. As a utility company providing electric power service, SGCC plans to implement the 95598 Bright Service Project, accelerate the construction of rural and urban grids, improve grid structure and enhance the supply capability. Some weak links in distribution networks will be addressed to improve grid quality, enhance the reliability of power supply, and provide quality service to satisfy the power need for rapid socio-economic development in rural and urban areas.

The 18th CPC National Congress launched a new journey to a well-off society. In the year to come, SGCC will endeavor and pioneer to tackle down any obstacles and speed up the construction of a world-class grid and a world-class company in the guidance of the Scientific Outlook on Development. The company is dedicated to providing safe, reliable, clean and quality electricity for a well-off society, and contributing to China’s prosperity, people’s well-being and the national rejuvenation.
Corporate Profile

SGCC was established as a state-owned enterprise on December 29, 2002. SGCC constructs and operates power grids, to provide safer, cleaner, and more economic and sustainable energy. With 1.86 million employees, SGCC serves 1.1 billion people in 26 provinces, autonomous regions and municipalities, and 88% of the national territory. SGCC has overseas operations in many countries and regions, including the Philippines, Brazil, Portugal, Australia, etc. As the largest utility in the world, SGCC ranked 7th on Fortune Global 500 in 2012.
The pictures on the map are the cover of the CSR reports released by each company in 2012.
Organizational Structure—the Headquarters

01 General Office
02 Chief Engineer Office
03 Research Office
04 Department of Strategic Development and Planning
05 Department of Finance
06 Department of Safety Supervision
07 Department of Maintenance
08 Department of Marketing
09 Department of Rural Electrification
10 Department of Science & Technology (Department of Smart Grid)
11 Department of Construction
12 Department of AC Construction
13 Department of DC Construction
14 Department of Information and Communication
15 Department of Supply Chain Management Bidding Management Center
16 Department of Affiliates Management
17 Department of Public Relations (Brand Building Center)
18 Department of International Cooperation
19 Department of Auditing
20 Department of Legal Affairs
21 Department of Personnel
22 Department of Human Resource
23 System Reform Office
24 Department of Retirement Affairs
25 Department of Logistics
26 Department of Corporate Culture (Youth League and Party Committee)
27 Supervision Office (Anti-Corruption Team)
28 Labor Union
29 National Power Dispatching Center
30 SGCC Operation Monitoring (Control) Center
31 SGCC Power Exchange Center
32 Association of Enterprise Management

Organizational Structure—Branches
North China Branch  East China Branch  Central China Branch  Northeast China Branch  Northwest China Branch
### Organizational Structure——Subsidiaries directly managed by SGCC

<table>
<thead>
<tr>
<th>No.</th>
<th>Company Name and Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>China Electric Power Research Institute</td>
</tr>
<tr>
<td>02</td>
<td>State Power Economic Research Institute</td>
</tr>
<tr>
<td>03</td>
<td>State Grid Energy Research Institute</td>
</tr>
<tr>
<td>04</td>
<td>State Grid Management Academy (Executives Training Center, CCP School)</td>
</tr>
<tr>
<td>05</td>
<td>State Grid Institute of Technology (Youth League School)</td>
</tr>
<tr>
<td>06</td>
<td>State Grid Operation Company</td>
</tr>
<tr>
<td>07</td>
<td>State Grid DC Engineering &amp; Construction Company</td>
</tr>
<tr>
<td>08</td>
<td>State Grid AC Engineering &amp; Construction Company</td>
</tr>
<tr>
<td>09</td>
<td>State Grid Information &amp; Communication Technology Company</td>
</tr>
<tr>
<td>10</td>
<td>Call Center of State Grid Corporation of China</td>
</tr>
<tr>
<td>11</td>
<td>NARI Group Corporation (State Grid Electric Power Research Institute)</td>
</tr>
<tr>
<td>12</td>
<td>China Electric Power Equipment and Technology Co., Ltd. (State Grid Project Management Company)</td>
</tr>
<tr>
<td>13</td>
<td>Luneng Group Co., Ltd.</td>
</tr>
<tr>
<td>14</td>
<td>State Grid Xin Yuan Co., Ltd. (State Grid Xin Yuan Hydropower Co., Ltd.)</td>
</tr>
<tr>
<td>15</td>
<td>Smart Grid Research Institute of State Grid Corporation of China</td>
</tr>
<tr>
<td>16</td>
<td>State Grid International Development Limited.</td>
</tr>
<tr>
<td>17</td>
<td>State Grid General Aviation Co., Ltd.</td>
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<tr>
<td>18</td>
<td>State Grid Materials Supply Co., Ltd.</td>
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<tr>
<td>19</td>
<td>Zhongxing Power Business Development Co., Ltd.</td>
</tr>
<tr>
<td>20</td>
<td>Yingda Media Investment Group Co., Ltd.</td>
</tr>
<tr>
<td>21</td>
<td>State Grid XJ Group Corporation</td>
</tr>
<tr>
<td>22</td>
<td>State Grid Pinggao Group</td>
</tr>
<tr>
<td>23</td>
<td>Shandong Power Equipment Co., Ltd.</td>
</tr>
<tr>
<td>24</td>
<td>Yingda International Holdings Group Ltd.</td>
</tr>
<tr>
<td>25</td>
<td>China Power Finance Co., Ltd.</td>
</tr>
<tr>
<td>26</td>
<td>Yingda Taihe Property Insurance Co., Ltd.</td>
</tr>
<tr>
<td>27</td>
<td>Yingda Taihe Life Insurance Co., Ltd.</td>
</tr>
<tr>
<td>28</td>
<td>Yingda Chang’an Insurance Brokers Co., Ltd.</td>
</tr>
<tr>
<td>29</td>
<td>Yingda International Trust Co., Ltd.</td>
</tr>
<tr>
<td>30</td>
<td>Yingda Security Corporation Ltd.</td>
</tr>
<tr>
<td>31</td>
<td>Yingda Futures Co., Ltd.</td>
</tr>
</tbody>
</table>

State Grid Energy Conservation Service Co., Ltd.
### Main Associations and Organizations SGCC Participates

<table>
<thead>
<tr>
<th>Associations/Organizations</th>
<th>SGCC's Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>China Enterprise Confederation</td>
<td>Vice Chairman</td>
</tr>
<tr>
<td>China Federation of Industrial Economics (CFIE)</td>
<td>Chairman</td>
</tr>
<tr>
<td>China Business Council for Sustainable Development</td>
<td>Councilor</td>
</tr>
<tr>
<td>China Association for the Promotion of Industrial Development</td>
<td>Councilor</td>
</tr>
<tr>
<td>China Association of Work Safety</td>
<td>Vice Chairman</td>
</tr>
<tr>
<td>China Accounting Society</td>
<td>Standing Councilor</td>
</tr>
<tr>
<td>China Supervision Society</td>
<td>Councilor</td>
</tr>
<tr>
<td>China Price Association</td>
<td>Councilor</td>
</tr>
<tr>
<td>China International Public Relations Association</td>
<td>Councilor</td>
</tr>
<tr>
<td>China Nuclear Society</td>
<td>Councilor</td>
</tr>
<tr>
<td>China Bidding Association</td>
<td>Standing Councilor</td>
</tr>
<tr>
<td>China Association of Plant Engineering Consultants</td>
<td>Vice Director</td>
</tr>
<tr>
<td>China Machinery and Electronic Products Certification Association</td>
<td>Councilor</td>
</tr>
<tr>
<td>National Society for Party Building Studies</td>
<td>Councilor</td>
</tr>
<tr>
<td>China International Contractors Association</td>
<td>Councilor</td>
</tr>
<tr>
<td>China Industrial Overseas Development &amp; Planning Association</td>
<td>Vice Chairman</td>
</tr>
<tr>
<td>China Association for Standardization</td>
<td>Vice Director</td>
</tr>
<tr>
<td>China Association for Quality</td>
<td>Vice Chairman</td>
</tr>
<tr>
<td>China Electricity Council</td>
<td>President</td>
</tr>
<tr>
<td>China Society for Electrical Engineering</td>
<td>Vice President</td>
</tr>
<tr>
<td>China Electric Equipment Management Association</td>
<td>Vice Chairman</td>
</tr>
<tr>
<td>China Society for Hydropower Engineering</td>
<td>Vice President</td>
</tr>
<tr>
<td>China Electric Power Construction Association</td>
<td>Vice Chairman</td>
</tr>
<tr>
<td>IEC</td>
<td>Secretariat of 3 Standard Committees</td>
</tr>
<tr>
<td>CIGRE</td>
<td>Member</td>
</tr>
<tr>
<td>International Commission On Large Dams</td>
<td>Member</td>
</tr>
<tr>
<td>IEEE</td>
<td>Senior Member</td>
</tr>
<tr>
<td>GO15</td>
<td>Member</td>
</tr>
<tr>
<td>UWIG</td>
<td>Member</td>
</tr>
<tr>
<td>G-SEP</td>
<td>Member</td>
</tr>
<tr>
<td>WBCSD</td>
<td>Member</td>
</tr>
</tbody>
</table>

### Honors and prizes for CSR fulfillment in 2012

- A-Class Enterprise by SASAC Evaluation on Operation Performances for the 8th consecutive year
- Grand National Award for Science and Technology Progress
- China Construction Project Luban Award
- National Gold Prize for Excellent Project
- National Silver Prize for Excellent Project (9 times)
- First Place of Top 500 Chinese Service Enterprises
- Second Place of Chinese Top 500 Most Valuable Brands
- The Best Works Award from the Central Propaganda Department
- Sustainability Award 2012 at the 5th Hamburg Summit: China meets Europe
- Green China • 2012 Environmental Achievement Awards
- National Labor Award (34 times)
- Title of National Workers’ Pioneer (68 times)
- National Advanced Grassroots Party Organization (15)

### Honors and prizes for CSR promotion in 2012

- SASAC Benchmarking Enterprise of Management Enhancement among Central SOEs
  - No.1 Central SOE of CSR Management System
- Comprehensive pilot selected as one of Top 10 China CSR Events 2012
- Top 2 in the Chinese Top 100 CSR Development Indicator
- 2012 UN Global Compact China Best Practice
- Special Gold Award for Chinese Enterprises’ Social Responsibility
- 2012 Chinese Enterprises’ Social Responsibility Management Innovation Model
- Golden Bee Excellent CSR Report at the 7th International Conference on Corporate Social Responsibility (CSR) Report
- The Only Electric Power Company among China Top 100 Green Companies
- MBA Case Study for the 2nd National Business School
- China Charity Award from the Ministry of Civil Affairs (the 5th time)
- Outstanding Partner of Poverty Alleviation from the Ministry of Foreign Affairs

... ...
The Aspiration

Perception comes first in responsible development. Build a responsible, reliable, and trustworthy SGCC in the guidance of a scientific outlook on CSR.
Explore, Practise, Test and Improve a Scientific Outlook on CSR

**Corporate Social Responsibility (CSR)**

CSR means to maintain the transparency and ethics of the corporate behavior. The core of ethics is to include social and environmental factors in decision-making and activities and pursue maximum integrated value.

CSR is to explore new management modes, realize the consistency in the aspiration, the action and the performance by management reform and innovation, and establish a long-term effective mechanism to keep the transparency and ethics of the corporate behavior.

**Micro-functions**

Enhance the capability to make integrated value, build a harmonious relationship with stakeholders, and enhance the corporate brand.

**Macro-functions**

Innovate in ideology, system, management, organization, technology and theory, keep smooth function of the market mechanism, government regulation and social governance, and correct the failure in these three aspects.

The overall deployment for CSR practice requires the company to explore a new management mode and continue innovating and reforming the management to maximize the integrated value and maintain transparency.

The implementation of CSR practice requires the company to adopt new business operation and social communication channels, and motivate employees to use the new methods.

CSR content has boundaries

The fundamental criteria for determining the boundaries of CSR content are the maximization of integrated value and transparency.

CSR content keeps changing

It changes along with the changes in the creation of maximum integrated value and the requirement on transparency.

CSR content has priorities

The priorities are given according to the contribution to the integrated value creation and the company resources.

Internal drive originates from corporate value and operational mechanism. CSR behavior is the result of the governance mechanism and system arrangement of a particular enterprise.

External drive originates from the forces from stakeholders and social environment. CSR behavior needs the push from stakeholders and the support from the social environment.

Theory of Public interest, Theory of Dedication, Theory of Irrelevant Variety

Theory of Omnipotence, Theory of Report, Theory of Topics

Theory of Standardization, Theory of Image, Theory of Conspiracy

Theory of Money-Making, Theory of Tool, Theory of Burden

For detailed information on the above-mentioned 12 misconceptions, please visit http://csr.sgcc.com.cn
At the end of 2012, the Central Economic Work Conference clearly pointed out that the methods to strengthen livelihood security and improve living standards are to support small and micro businesses and intensify CSR of large enterprises.

Thoroughly understand and implement the Scientific Outlook on Development "more consciously in four aspects" to intensify CSR of large enterprises.

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

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

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

- Make holistic approach the fundamental method in applying the Scientific Outlook on Development more consciously. Coordinate urban and rural development, regional development, socio-economic development, relations between man and nature, and domestic development and opening to the outside world. Balance the interests of all parties, motivate them, and make them do their best to find their proper places in the society and live in harmony.

The strategy of central SOEs’ harmonious development needs to be implemented to enhance large corporates’ social responsibility.

According to SASAC, central SOEs shall implement five strategies (strategy of transformation and upgrade, strategy of S&T innovation, strategy of international operation, strategy of talent pool, and strategy of harmonious development) during the 12th Five-Year Plan (2011~2015) to be stronger, finer, and world-class.

Central SOEs’ implementation of the strategy of harmonious development needs to be based on the promotion of CSR fulfillment, center on sustainable development, build credible, green, safe, vital and civic central SOEs, and deploy 20 measures to achieve three goals.

**Strategy of Harmonious Development “13520”**

- **1 Core**: Sustainable development is the core of the strategy of harmonious development.
- **3 Goals**: Distinct improvement on the brand reputation and influence, Notable enhancement of the capability to create integrated economic, social and environmental value, Remarkable progress in social communication ability and operational transparency.
- **5 Characteristics of Central SOEs**: Build a green central SOE, Build a safe central SOE, Build a credible central SOE, Build a vital central SOE, Build a civic central SOE.
- **20 Measures**: [List of measures to achieve the 3 goals and contribute to the 5 characteristics of central SOEs]
Responsibilities Originate from Mission

Corporate Mission: pursue maximum integrated value

Mission Proposition
Delivery clean energy to a harmonious society

Mission Connotation
Ensure safer, cleaner, more economical, and sustainable energy supply and push for a healthier development, more harmonious society and a better life

Mission Accomplishing Method
Build a world-class power grid and a world-class company

Corporate Value: Implement CSR in an all-round way

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

Core Values
Integrity, commitment, innovation and dedication

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

Corporate Spirit
In search of excellence
In pursuit of outperformance

CSR Fulfillment Concept

Develop the company Oriented to people
Serve the society Seek mutual advancement
Responsibilities Arise from Strategy

SGCC’s Strategy of Sustainable Development

1. Ensure the national energy security by the 1U4L Strategy
   - Ensure reliable and trustworthy energy supply by efficient operation and S&T innovation.

2. Ensure reliable and trustworthy energy supply by efficient operation and S&T innovation.
   - Maximize the integrated value

3. Satisfy power demand for economic development with quality service.
   - Ensure the sustainable operation of the enterprise

4. Win over social recognition with transparent operation and the supervision from all walks of life.

5. Promote the sustainable development of the industry with the company’s industrial drive.
   - Stimulate the sustainable development of the society with the company’s social influence.

6. Build a modernized company with "A Strong Grid, Excellent Assets, Services and Performance"
   - Advocate the sustainable development of the company, the industry and the society

Further develop the “Two Transformations”, that is to transform the development mode of the power grid and the company

Build a world-class power grid and a world-class company
## Responsibilities are Accomplished through Mechanism

### Demonstration of CSR Implementation Mechanism

#### Choose prioritized topics

- Ensure reliable and trustworthy power supply
- Deal with each stakeholder responsibly

#### Determine implementation concept

#### Formulate implementation strategy

#### Improve institutional guarantee

#### Plan implementation action

#### Identify performance standard

#### Regularly benchmark and feedback

#### Ensure operational transparency

#### Improve constantly

<table>
<thead>
<tr>
<th>Construction of Smart Grid</th>
<th>The Integration of Urban &amp; Rural Power Supply</th>
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<tbody>
<tr>
<td>- Conventional power grids will upgrade to smart grids along with the integration of the Internet, Internet of Things, telecommunications networks, and the power system, the development of distributed power, storage facilities, and smart appliances, and the extensive application of cloud computing, big data, mobile terminals and other modern information technologies.</td>
<td>- The integration of urban and rural power supply is the top responsibility to serve agriculture, countryside and farmers. Carry out universal service and promote “one grid, one tariff” management method. Exert the conglomerate advantage and coordinate the construction of urban and rural power grid.</td>
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<tr>
<td>- Smart grid can comprehensively improve grid security, controllability, adaptability, and interactivity, and promote the efficient development and utilization of clean energy</td>
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<tr>
<td>- Press for the strategy of Strong &amp; Smart Grid</td>
<td>- Smart development strategy of “new countryside, new electric power, and new service”</td>
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<tr>
<td>- Urge independent R&amp;D of smart key technology and equipment</td>
<td>- Advocate common development, uniform management and consistent standard for urban and rural power supply</td>
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<tr>
<td>- Plan for smart grid during the 12th Five-Year Plan (2011-2015)</td>
<td>- Mechanism of rural grids’ sustainable development</td>
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<tr>
<td>- Plan for smart grid technology standard system</td>
<td>- Mechanism for integrated guarantee and service of urban and rural power supply</td>
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<td>- Plan for smart grid key equipment systems/R&amp;D</td>
<td>- Mechanism for universal service of rural power supply</td>
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<tr>
<td>- Opinions on speeding up the construction of Strong &amp; Smart Grid</td>
<td>- Promote integrated development for urban and rural power grid regarding planning, construction and power supply service.</td>
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<tr>
<td>- Suggestions on smart grid construction projects in 2012</td>
<td>- Carry out special control of low voltage and narrow the power supply reliability and quality gap</td>
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<tr>
<td>- Realize important breakthroughs and extensive application of smart grid key technology and equipment</td>
<td>- Promote “one grid, one tariff” for urban and rural power consumption</td>
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<tr>
<td>- Promote extensive application of smart grid control technology, distribution automation, power consumption information collection system, and EV charging &amp; battery swapping facilities</td>
<td>- Solve general power service problems by extending the power grid</td>
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<tr>
<td>- Include smart grid construction in the 12th Five-Year Plan</td>
<td>- Improve rural grids’ layout and structure</td>
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<tr>
<td>- Lead in smart grid theoretical research, test system and engineering application in the world</td>
<td>- Enhance the power supply capacity and quality of rural grids</td>
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<tr>
<td>- Initiate a series of international technical standards for smart substation</td>
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<tr>
<td>- Disclose great achievements in serving the development of clean and new energy</td>
<td>- Eliminate low voltage and ensure the rural grids to reach the regulatory targets and committed indicators</td>
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<tr>
<td>- Invite stakeholders to visit smart substation demonstration projects and smart grid pilot projects</td>
<td>- Evaluate the fulfillment rate of “Ten Commitments” for rural power supply</td>
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<tr>
<td>- Participate in the Smart Grid World Forum</td>
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<tr>
<td>- Study the mode and function for future power grid and deepen the research on smart grid</td>
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<tr>
<td>- Build a new generation of smart substation demonstration projects</td>
<td>- Intensify the construction and upgrade of rural power grids and serve the implementation of the national strategy for coordinated urban and rural development.</td>
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<tr>
<td>- Promote distributed power integration, smart grid control system, and distribution automation</td>
<td>- Explore the establishment of a new mechanism of rural power to adapt to the development of urban and rural development.</td>
</tr>
<tr>
<td>- Study and improve the commercial mode of EV charging &amp; battery swapping businesses</td>
<td>- Continue to improve power supply reliability rate and voltage qualification rate</td>
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</table>
**Speed up the service for PV generation**

- The development of wind power and PV power is an important content in the national energy strategy.
- PV power is a national fast-growing, strategic emerging industry.
- Strong & Smart Grid is a well-built support for PV generation's development in a full speed.

**Advance localized operation of overseas business**

- Social responsibility is an important content of the internationalization strategy.
- Create an integrated economic, social and environmental value where it operates.
- Utilize comprehensive advantages of management, technology, talents, capital and brand.

**Release the White Paper on Serving Local Development**

- Communication builds trust; trust promotes collaboration; and collaboration creates value.
- Innovation in communication platform facilitates the cooperation between government and enterprises.
- Give full play to the central SOE's exemplary role of responsibility fulfillment.

**Become a model of green development**

- Promote localization strategy.
- Initiate win-win cooperation and mutual development.

**Implement overseas business responsibly**

- Formulate the action plan for comprehensive construction of smart grid.
- Urge independent R&D of smart key technology and equipment.
- Press for the strategy of Strong & Smart Grid.

**Guarantee operation transparency and be open to public supervision**

- Introduce the workflow and measures for PV power integration.
- Initiate green channels, and deal with applications for distributed PV power integration.
- Reinforce the construction of demonstration projects, and build the Smart Grid Comprehensive Demonstration Project of Sino-Singapore Tianjin Eco-City featuring PV generation, distributed power source, and micro-grid, and the world's first GW-level desertification PV generation base in Qinghai.

- Establish the Standard System Framework for PV Generation and grid interconnection based on 60 national standards and 23 industrial standards.
- Formulate and release the Provisional Suggestions on Carrying Out Integration Service for Distributed PV Power, the Provisional Suggestions on Integration Management for Distributed PV Power, and the Provisional Technical Regulations on Integrating distributed PV Power into Distribution Grid.

- Establish technical standard system for PV power generation.
- Ensure PV power timely integration.
- Guarantee a world-leading capacity to accommodate PV power.

- Strengthen the supervision and evaluation of PV power integration.
- Inspect the effect of demonstration projects.
- Promote the core technological achievements of PV power generation.

- Enhance the communication between the grid and factories and solve the difficulty of PV power generation together.
- Intensify news release and information disclosure on serving the development of PV power generation.
- Listen to the suggestions and comments on PV power generation development from all parties.

- Promote the development of PV power generation in full speed.
- Optimize the workflow, technical regulation and service standard for PV power integration.

- Benchmark with international counterparts.
- Benchmark with historical performance.
- Benchmark with local social evaluation.

- Cooperate with partners sincerely.
- Communicate well with relevant regulatory agencies overseas.
- Communicate well with local media and communities.

- Invite stakeholders to participate in the compilation and release of the White Paper.
- Take the initiative to answer government expectations and the needs of stakeholders.

- Keep on improving the communication mechanism with government.
- Press on polishing the compilation and release of the White Paper.
Responsibilities are Fulfilled through Management

Comprehensive CSR Management Pilots

In 2012, SGCC conducted its Comprehensive CSR Management in provincial companies. 27 pilot companies carried out the “15333” project for a thorough penetration of the CSR.

1. indicates to develop and implement “ONE” strategy of sustainable development for the company to determine the scope, content, main actions and performance goals in the pursuit of maximum integrated economic, social and environmental value, and release the White Paper.

2. suggests to integrate the CSR management into and then serve the “Five Grand Systems”, that is, Grand Planning, Construction, Operation, Maintenance, and Marketing, and form a long-term mechanism with CSR management's integration into the day-to-day operation.

3. means to incorporate “three” basic management, that is, policy-making management, process management and performance management, into the concept of CSR management, and take technical feasibility, economic rationality, capability, social acceptance, environmental friendliness and value superiority into consideration in the process of policy-making and activities.

3. refers to the “three” innovative practices of CSR management, that is, the corporate public welfare management, stakeholder management and social communication management.

3. means to sort the “three” part of practical results out, including special fulfillment practices, CSR management cases, and touching stories of CSR.
Penetrate CSR management into corporate management and operation

The model includes 4 modules and 21 elements.

Five elements: adhering to the guidance of a scientific CSR outlook, optimizing the corporate mission, enriching the concept of corporate value, implementing the strategy of sustainable development, and fulfilling the CSR management to cover all employees and all processes in an all-round way.

Seven elements: enhancing business operation, enhancing functional management, enhancing operating mechanism, corporate public welfare management, corporate culture construction, stakeholder management and social communication management.

Seven elements: responsible leadership, corporate governance structure, CSR-driven management, refining policy-making management, polishing process management, upgrading system construction, and improving performance management.

Two elements: leveraging the driving forces from the social environment and from stakeholders.

- The primary concern for CSR management is to identify the management objectives as fulfilling its social responsibilities and pursuing maximized integrated value, and implement them in every aspect of corporate management.
- The engine for CSR management is leadership, governance structure, and CSR-driven management.
- The guarantee for CSR management is all-round integration of CSR into the management of decision-making, process, system and performance.
- The external forces of CSR management are the driving forces from the social environment and from stakeholder participation.
CSR management is integrated into and serves the building of the system of “3I5G” —— Specific practices of pilot companies implementing comprehensive CSR management

SGCC Hebei Handan Electric Power Company: CSR Management Brings Harmony and Victory

- Responsibility management improves service activeness. The power supply department has set up an office in Handan Administrative Service Center, a harmonious and effective service community for power supply and consumption and a mobile business hall to provide customers with efficient and convenient service.
- Responsibility management improves operational transparency. The company has established a business extension service platform, including transparent monitoring system, star manager, and assessment system to ensure public and transparent information for “bright” business extension projects.
- Responsibility management expands service content. The company has deepened key customer service system, offered safe, scientific and economical power use scheme, organized expert teams to regularly provide guidance for power use, strengthened power assistance for people in difficulties, and organized volunteers to offer designated power assistance for the orphan, widow, injured and disabled.

SGCC Jiangsu Yancheng Electric Power Company: Responsibility Management is Rooted in the Building of “Five Grands”

- The concept of stakeholder is integrated into the construction of “Five Grands”. The company has identified stakeholders in the operation of “Five Grands”, sorted out specific impacts of key businesses on them and clarified the overlapped area between businesses and stakeholders and the gap in management processes to respond to stakeholders’ reasonable expectations and standardize and optimize its business management.
- The goal of maximizing integrated value optimizes the building of “Five Grands”. During the promotion of “Five Grands” and the pursuit of integrated economic, social and environmental value, important decisions should not only be technologically feasible, economically reasonable and attainable but also be socially acceptable, environmentally friendly and of extraordinary value.
- Management results are consolidated by procedures, systems, standards and cases. The company has explored and compiled the Guidance for Rooting the Comprehensive CSR Management in “Five Grands” System, strengthened method guidance for CSR management to promote the building, deepening and improvement of “Five Grands” system, proposed optimization strategy on the emphasis and difficulty of management innovation, and sorted out, compiled and popularized typical cases.

SGCC Shanghai Qingpu Electric Power Company: CSR Management is Integrated into Daily Operation

- The “6R” mode promotes CSR management. The company has taken the mode of “responsibility willingness, responsibility behavior, responsibility topic, responsibility project, responsibility performance and responsibility promotion” to push forward unique CSR implementation.
- Responsibility management promotes the change of employees’ behavior. Employees have learnt to think in others’ position, considered more from the perspective of stakeholders and took stakeholders’ reasonable expectations and requirements as the improvement direction and standard of their work.
- Responsibility management promotes the change of company’s operation mode. The company has combined CSR indicators with performance assessment indicators, created a quantification assessment system of integrated value, and optimized management goal, content, standard, procedure and system.
- Responsibility management creates new power service mode for the community. Community manager, management staff and residents have unified closely and made joint efforts to carry out the management process of “two-focus, three-coverage and four-connection”, which means community managers focus on residents’ appeals and function departments focus on community managers’ information so as to realize the full service coverage of all appeals in communities around the clock and create the new service mode of combining customers and community managers, community managers and power supply stations, community managers and function departments, and customers and the company.

SGCC Fujian Zhangzhou Electric Power Company: Responsibility Management Optimizes Grid Construction and Operation

- Responsibility management optimizes grid construction mechanism. The company has urged the municipal and county-level governments to sign the responsibility statement for key grid projects, strengthened the principle of territory for green crop compensation which has been included into government performance supervision, and realized a mechanism to jointly construct grids with local governments.
- Responsibility management reduces customers’ blackout time. The company has reinforced implementation of monthly power cut plan, enhanced the management of construction organizations, and reduced customers’ blackout frequency. Emergency crew was formed to undertake standardized repair by adhering to the principle of “making the light on first”. Recovery rate after one-time repair has reached 96% and blackout time has been shortened.
- Responsibility management improves customer responsiveness. The company has stuck to be customer-oriented, accelerated the building of fast service response center, advanced the integration of production, dispatching and marketing, and established a command center for service appeals, a supervision center for service problems and an analysis and assessment center for service quality.
SGCC Zhejiang Electric Power Company: Carry out Special Pilots in Large-scale Power Supply Companies
- Pilot in Hangzhou: integrating responsibility management into “Grand Marketing”. The company has firmly held external perspectives, intensifying the connection with district governments by cross-profession teams and the connection with communities by professional departments’ initiative service and jointly building power communities based on community network management.
- Pilot in Ningbo: integrating responsibility management into “Grand Construction”. The company has formulated the mechanism of jointly constructing grids led by governments, and advanced the “joint meeting approval mechanism” of grid construction. The pre-project work, which was originally isolated and needed to be successively conducted, now becomes jointly approved in a meeting attended by many government departments to reduce the time in the early stage of grid construction. The time for location planning, environment assessment and approval, and land approval has been shortened by one third respectively. The bottleneck for power supply has been efficiently solved.

SGCC Sichuan Leshan Electric Power Company: Promote Responsible Marketing
- Responsibility management is integrated into marketing process. The company has analyzed the influence of marketing process on the economy, society and environment, summarized key points of implementing responsible marketing, issued related regulatory documents and improved the integrated-value creation capability and transparency of marketing business.
- Responsibility management promotes energy conservation service. The company has carried out energy contract management and energy conservation consultancy for companies, encouraged customers to use electricity scientifically, economically and efficiently and spurred companies to save energy and reduce consumption.
- Responsibility management improves service quality. The company has researched on the specific methods for serving natural and cultural scenic spots such as Leshan Giant Buddha and Emei Mountain, carried out environmental requirements, emphasized scenic design and ensured the harmony with surroundings during power facility upgrade in scenic spots.

SGCC Heilongjiang Hegang Electric Power Company: Responsibility Optimizes Customer Information Management
- Principle of collecting fees without electricity cut encourages the reform of customer information management. The company has explored richer and more effective ways to collect fees without cutting off the power on the basis of acquiring accurate customer information. At the same time, it has enhanced interactive service to provide customers with convenient and varied experience.
- Responsibility management helps build a long-term effective mechanism of customer information management. The company has reinforced the construction of customer information secrecy system through enhancing the authority control from the technical level and building a complete procedure management system including the acquisition, track, update, use and protection of customer information.
- Communication management wins customers’ understanding and recognition. The company has actively listened to customers’ opinions and suggestions, illustrated the aim and value of information collection, demonstrated the information management system and the application of regulation and procedure control to phase out customers’ concerns, and conducted the collection, management and timely update of electricity consumption information well together with customers.

SGCC Hubei Yichang Electric Power Company: Responsibility Management Innovates Grid Operation Mode
- All parties cooperate to innovate the mechanism to protect power facilities. The company has connected with municipal social management network system, established the system of social inspection and attracted urban network resources and people to participate in the protection and inspection of power facilities.
- Communication and collaboration helps solve the contradiction between electric wires and trees. The company has reinforced the communication and collaboration with forest departments, and successfully solved the long-existing coordination difficulty during barrier clearing in urban areas by trading trees with tress and sharing facilities.
- Responsibility management innovates customer service. The company has accelerated the change of marketing procedure from business-oriented to customer-oriented, solving problems such as divided management, excessive management layers and inconsistent management procedures. It has also integrated business procedures by providing comprehensive networked services, taking the lead to realize transaction of inter-region business in the same city. It has developed a management system to simplify the procedure and speed up business extension and application for installation.

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SGCC Chongqing Changshou Electric Power Company: Responsibility Management Initiates the “515” Service
- Enhance stakeholder management. The company has built stakeholder database, enhanced the archiving and information management of governments, partners, communities and customers, and conducted stakeholder satisfaction surveys to improve the company’s operation.
- Initiate “515” service system. The company has actively built five platforms (power doubling platform, smart operation platform, transparent dispatching platform, devoted electricity consumption platform and friendly interaction platform) to meet the demand of economic development in the industrial park and worked out 15 specific measures.
- Summarize and popularize innovated service. The company has promoted the experience of service in the industrial park to the agricultural park and residential communities.

SGCC Qinghai Xining Electric Power Company: Responsibility Management Promotes One-on-One Service
- Adopt the service strategy of ‘one policy for one factory’. The company has deepened customer analysis and organized service team to provide one-on-one track service for key customers regarding the fact that 90% of the electricity consumption came from high energy-consuming customers.
- Ensure safe and reliable power supply for customers. The company has formulated corresponding safe power use strategy for every key customer and strengthened safe power use management. It has also strengthened rigid management of power cut and supply, established a monthly meeting system for maintenance balance, promoted comprehensive networked services, taking the lead to realize transaction of inter-region business in the same city. It has developed a management system to simplify the procedure and speed up business extension and application for installation in the whole process.
CSR Management Refines Corporate Policy-making Management
——The exploration of SGCC Shandong Zaozhuang Electric Power Company

Study the overall requirements on refining policy-making management
CSR management requires major decisions to be not only technologically feasible, economically reasonable and attainable, but also be socially acceptable, environmentally friendly and of extraordinary value.

Get to the heart of refining policy-making management based on reality
The Chief Executive Board Meeting was where the company started to refine policy-making management for CSR management as the Chief Executive Board Meeting is the senior decision-making mechanism, helpful to promote CSR management into the company operation from the source.

Investigate the management status of Chief Executive Board Meeting
The policy documents of 16 Chief Executive Board Meetings during 2011 and 2012 have been collected and sorted out to systematically analyze the purpose, topic, procedure, system and performance of each policy.

Formulate an executing plan of refining policy-making management
The company has formulated an operational plan to refine policy-making management taking into consideration its concept, policy goal, procedure, topic, content, and system, strengthening policy performance feedback, enacting management tools, and intensifying CSR management promotion evaluation.

Push on the executing plan
The company has promoted the concept of refining policy-making, policy goal, procedure, performance indicators and system, earnestly developed management tools, and insisted on continuous improvement.

Summarize and popularize the experience of refining policy-making management
The company has spread the experience of refining policy-making management of the Chief Executive Board Meeting to other policy management of various levels.

Listen to the feedbacks from different sides and continue improving
The company has accepted advice and suggestions from SGCC Headquarters, provincial companies, external experts, staff and external stakeholders to benchmark and improve.

Refine the concept of policy-making
To make a decision has to consider internal regulatory requirements, corporate goals and the social and environmental influence of the decision. It has to protect the social value, preserve the ecological environment, respect stakeholders’ expectations and think through how the society will accept and understand it.

Optimize the policy goals
The policy has to be technologically feasible, economically reasonable, attainable, socially acceptable, environmentally friendly and of extraordinary value, but also pursues maximum integrated value and social recognition.

Improve policy-making procedure
- Include social and environmental topics to consider the policy’s social and environmental influence.
- Strengthen evaluation on social and environmental value and social communication strategies to be socially acceptable, environmentally friendly and of extraordinary value. Invite key stakeholders to participate in the policy-making process, if necessary, and respect their interests.
- Highlight social and environmental risk evaluation, integrated value creation assessment and social communication strategy appraisal in the policy-making discussion, apart from specific technical and economic returns. Invite key stakeholders to participate, if necessary.
- Set up major decision implementation appraisal committee to strengthen decision control, ensure maximized integrated value and transparency. Bring the role of stakeholders and their inspection into play, if necessary.
- Emphasize the social acceptance, environmental friendliness, integrated value creation performance, and social communication effectiveness of the policy, in addition to the conventional technical and economic evaluation in the post-performance assessment.

Refine performance indicators
- Add other CSR management indicators, such as social and environmental risk evaluation, integrated value, decision-making transparency, communication effectiveness, and social acceptance.

Polish decision system
Solidify the new policy-making concept, goal and performance requirement with institution and procedures, and set up a long-term effective mechanism.

Keep on improving
Ensure going after maximized integrated value decision-making, strengthen social communication, encourage stakeholders’ participation, boost their cooperation and continue improving the decision system.

Develop management tools
Develop applicable management tools based on the need to refine policy-making management of CSR management.
The Action

Embed in mind and actualize in action. Agglomerate joined forces for sustainable development. Pursue the maximized integrated economic, social and environmental value.
Accumulative investment in power grid construction
RMB 2 trillion

Increase of peak load
100%

Increase of installed capacity
180%

Satisfy the power need for the national economic development
- Maintain a rational scale of power grid construction
- Exert the functions of electric power market
- Unleash the resource allocation potential of currently available power grids

Promote optimal allocation of national energy resources
- Push for the optimal energy allocation in a large scope
- Serve the national energy restructuring
- Boost the transformation of the national energy development mode
Ensure Reliable & Trustworthy Power Supply

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

More motivated to maximize the integrated economic, social and environmental value

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Ensure safe and reliable power supply
- Avoid large-scale blackouts
- Accomplish important power supply tasks
- Upgrade emergency responding ability

Ensure top operational efficiency
- Innovate the system of “3ISG” (Intensive Management on Human Resource, Materials and Finance and Grand Planning, Construction, Operation, Maintenance, and Marketing) to support efficient operation
- IT construction promotes a modern corporate management
- Industrial layout optimization enhances the capacity for the company’s sustainable development

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

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In a decade

Increase of electricity trading volume in the National Power Market
14 times

Patents owned by SGCC
16,399

In a decade
At the 18th National Congress of CPC, the Party aimed to build an all-round well-off society by 2020 and doubled GDP and the per capita income of urban and rural residents compared with 2010. It is estimated that the installed capacity of power will reach 2TW. Currently China’s average installed capacity per capita is 0.8kW and the annual per capita electricity consumption is 3.7MWh. Both are at a low level. There is still a long way to go to maintain a healthy development of the power grid.

In 2012, SGCC invested RMB305.4 billion in grid construction, and put 54,879km transmission lines of 110 (66) kV (and above) into operation with 261.56GVA transformation capacities. Installed capacity within SGCC’s service area reached 880GW. The maximum load was 561.19GW and the electricity sales reached 3,253.9TWh.

**Serve the national energy restructuring**

Serve energy regional layout optimization
Transmit both coal and electricity and promote electricity transmission by power grid nationwide.

Serve energy production restructuring
Promote the scaled, intensive development of clean energy and clean, effective development of coal resources.

Serve energy consumption restructuring
Increase the proportion of electric energy in the end consumption, phase out backward production capacity and improve energy consumption.

**Serve technical energy innovation**
Develop world-advanced technology such as UHV transmission, safe control, and energy storage.

Serve low-carbon energy development
Serve the development of clean energy and the R&D and promotion of low-carbon technology.

Serve global energy operation
Speed up global resource allocation and promote international operation.

Serve efficient energy utilization
Advocate high efficiency and scientificity of energy production, supply and consumption.

Serve energy industrial upgrade
Integrate high-end power equipment manufacturing industry and help make the energy industry stronger and finer.

**Serve the transformation of energy development mode**

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The power grid is infrastructure with functions of energy transmission, market transaction, and allocation optimization all in one. It is an important part of modern energy system and an essential platform to serve the national energy strategy:

**Efficient power transportation platform**: guarantees large-scale, large-capacity, high-efficient transmission and utilization.

**Safe allocation platform**: integrates coal-fired electricity, hydropower, wind power and solar power into the big power grid and constructs a multi-functional and compensating allocation platform.

**Economical operation platform**: realizes coordinated and joint operation of wind power, hydropower, solar power and thermal power and enhances comprehensive energy utilization rate.

**Friendly interactive platform**: integrates and interacts distributed energy and EVs well, and provides a safe, reliable, economical, efficient energy supply system.
On December 12, 2012, SGCC completed the Jinping-Sunan ±800kV UHV DC Transmission Project with the world's largest transmission capacity, longest transmission distance and the most advanced technology.

**Push for UHV construction**
- SGCC invested RMB5.98 billion and RMB17.7935 billion in UHV AC and DC projects respectively.
- Jinping-Sunan ±800kV UHV DC Transmission Project can transmit 36TWh of clean hydropower to East China every year.
- Xiluodu-Western Zhejiang ±800kV UHV DC Transmission Project can transmit 40TWh of clean hydropower annually, which pushes forward the scaled development of hydropower resources in Southwest China.
- Hami-Zhengzhou ±800kV UHV DC Project can facilitate the power export in Xinjiang and transmit 48TWh of power to Central China every year.
- Huainan-Shanghai UHV AC Pilot Project can tremendously enhance the electric power export capability of the large-scale coal-fired bases in Huainan and transmit 50TWh of power annually, equivalent to building 10 GW-level thermal power stations for Shanghai.

**Why UHV?**
- The transmission of large capacity of power over long distance with less line loss can be achieved with UHV technology.
- The basic situation of unevenly distributed energy resources and load centers in China makes it inevitable to optimize energy resources in a larger scope.
- China's clean energy, such as wind power and solar power, is distributed in the west and north, which cannot be accommodated locally. UHV and grand power grid are needed to efficiently allocate and accommodate clean energy in a bigger market.
- The UHV ACDC demonstration projects independently developed by China are in smooth operation. They have endured the test of various operation modes and surmounted harsh conditions such as storm, snow, lightning, wind, high temperature and coldness, proving the feasibility, safety, economic and superiority of UHV.

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A UHV line operating at 5GW can transmit electricity of **120GWh** in 24 hours

Equivalent to transporting **60,000** tons of raw coal

1,200 automobiles with a load of 50 tons each needed

600 train compartments with a load of 100 tons each needed

Note: the data are calculated based on the equivalent heat value method.
Speed up smart grid development

- Develop the 303 pilot project covering power generation, transmission, transformation, distribution, consumption and dispatching and the IT communication platform, which is the largest and most extensive pilot with fastest advancement and best application result in the world.
- Construct smart distribution grid in 24 downtown areas, and make breakthroughs in the main station system of distribution automation, smart distribution terminals, standardized information interaction and distributed energy interconnection.
- Build smart power consumption service network, and deploy 120 million smart meters. Construct 353 charging & battery swapping stations and 14,703 charging spots. Set up advanced smart EV charging & battery swapping pilot projects in Beijing, Hangzhou and Qingdao and inaugurate inter-city service networks around Bohai Bay and Yangtze River Delta areas.
- Establish a few comprehensive smart grid demonstration projects incorporating smart substation, smart distribution, smart building, and smart appliance in Tianjin and Shanghai.

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Promote coordinated grid development of various levels

- Build a series of key cross-regional projects, intensify the construction and restructuring of urban and rural distribution grid, and improve and strengthen the grid structure.
- The Qinghai-Tibet Interconnection Project has been in safe and stable operation for a year, accumulatively delivering 695GWh to Tibet and accommodating 1GWh of PV power in Qinghai.
- Northeast - North (Gaoling) DC Back-to-Back Expansion Project has been put into operation. The Second Xinjiang-Northwest Main Grid Transmission Line and Yushu-Qinghai Main Grid Interconnection began construction. The Xinduqiao-Ganzi-Shiqu Power Interconnection Project began operation.
- Promote the upgrade of rural and urban grids and construct new counties, towns and villages with electrification. Solve the problems such as weak interconnection between county-level grids and the main grid, supply bottleneck, and overload.

Unleash the transmission capacity of existing power grid

- The accumulated increment of transmission capacity of power grid since 2005 is 213GW.
- RMB20.74 billion was invested to upgrade power grid technology, completing 12,647 technological upgrade projects, and improving 213.52 million kilometers of lines with 229.97GVA transformation capacities.

Give full play to the market to allocate the power resources

- Exert the function of the unified national market to promote cross-regional and long-distance power trade.
- SGCC enabled 515.890TWh of national power transaction in the market, up by 15.16%, equivalent to transporting 168 million tons of standard coal. UHV power transaction accounted for 32.280TWh, up by 151.38%.
- Cross-regional and cross-provincial power transaction was 605.489TWh, up by 14.08%. Cross-regional transaction accounted for 322.530TWh, increased by 21.06% while cross-provincial transaction was 282.959TWh, up by 6.39%.

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Serve the development of clean energy and new energy

- China’s installed capacity of hydropower reached 250GW in 2012, topping the world. The installed capacity of hydropower within SGCC’s service area was 168GW. The export of hydropower in Sichuan exceeded 10GW for the first time.
- The power prediction system for hydropower and PV power was deployed in 20 provinces, autonomous regions and municipalities, covering 8 10GW-level bases in China.
- The installed capacity of wind power within SGCC’s service area reached 56.76GW, up by 29%. SGCC’s wind power has the largest scale and fastest development in the world. The company established the new energy dispatching and monitoring network for all wind farms in its service area to integrate the farms with the power grid.
- Release the Provisional Suggestions on Carrying Out Integration Service for Distributed PV Power. The integrated PV generation reached 3.33GW within SGCC’s service area, up by 44%.
Ensure safe and stable operation of the power grid

Complete a long-term mechanism for safe production

- Follow the principle of “Safety first with emphasis on prevention and overall control” and launch the campaign of “the Year of Safety”. Implement 30 key measures and promote 166 major assignments to ensure the safe and stable operation of the power grid. No ordinary or more serious grid or equipment accident occurred.
- Establish a normalized working mechanism for checking and controlling potential dangers and eliminate 10,503 potential dangers.
- Accomplish the safety assessment on urban power grid within the company’s system.
- Complete a series of specific safety inspections, such as the power supply to Harbin-Dalian high-speed railway and Shijiazhuang-Wuhan high-speed railway, and prevent and control accident risks in an all-round way.
- Improve the long-term mechanism for safety risk control by standardizing the workflow, enhancing the work mechanism, and building a risk prevention and control system segmented by different professions with different levels.

Strengthen emergency management and system construction

- Improve emergency plans for large-scale blackouts and compile on-site response plans.
- Accelerate the construction of emergency command centers for prefecture-level and county-level companies to realize a preliminary interconnection.
- Strengthen the construction of emergency coordination and co-action mechanism.
- Conduct emergency response evaluation investigation.
- Select pilot units to carry out blackout drills in large communities.

Ensure the power supply for major events and accomplish risk rescues

- Ensure the power supply for big events, such as the 18th National Congress of CPC and the launch of Spacecraft Shenzhou-9. During the 18th National Congress of CPC, SGCC mobilized 40,600 man-times, 3,338 vehicles, and 1,063 emergency power generation vehicles to ensure the power supply. In addition, it pinpointed the inspection on 1,837 transmission lines and 625 substations.
- Combat typhoons Saola and Vicente and effectively react to the “7-21” rainstorm in Beijing, the “5-10” hailstorm mudslide in Minxian County, Gansu, and the “11-12” blizzard in Heilongjiang.

Learn from the blackout in India

The India Blackout on 30 and 31 July 2012 affected over 600 million people across 20 states in Northern India, the largest affected population in human history. Analysis shows the reason was excessively fragmented operation system of power planning, construction and dispatching. SGCC has learned from large-scale blackouts overseas and strove to ensure the safe and stable operation of the power grid.

- Prioritize grid safety and correctly handle the relation between safety, quality, speed and benefit.
- Adhere to unified planning, construction, dispatching and management.
- Speed up the construction of UHV main grid and the synchronous power grid in Northeast, Central and North China.
- Stick to rigid safe infrastructure management and detail control.
- Enhance the effectiveness of emergency response.
- Persist with the “three defense lines” for a safe and stable power system.
Management innovation supports efficient operation

The system of 3I5G supports efficient operation. SGCC has deepened the intensive management on human resource, materials and finance, innovated in grand planning, construction, operation, maintenance and marketing, and explored the building of a centralized, unified, lean, efficient and modern corporate management system.

- Promote integrated operation of SGCC’s Headquarter and its Branches to build a strong HQ. Sort out 1,897 core business procedures, identify 758 major horizontal requirements, to achieve a continuous enhancement of corporate control.
- 17 provincial companies have initially built the 3I5G system and promoted a horizontal organization, intensive key resources, and specified core businesses. Their ability to allocate core resources, such as human resource, finance and materials, and the operational efficiency for core businesses have been greatly enhanced.
- Establish a customer service center and a monitoring (control) center in HQ and provincial level.

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Step up intensive management on human resource</td>
<td>The 3I5G system has greatly reduced the number of internal institutions and employees. The work efficiency was up by 20.87%.</td>
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<td>2</td>
<td>Strengthen intensive management on finance</td>
<td>The companies with the 3I5G system had a 99% fund accumulation rate.</td>
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<tr>
<td>3</td>
<td>Boost intensive management on material</td>
<td>The companies with the 3I5G system had a 96.2% centralized purchasing on goods and materials.</td>
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<td>4</td>
<td>Promote the construction of grand planning</td>
<td>Planning feasibility efficiency was improved and the benefit of planning began to manifest.</td>
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<tr>
<td>5</td>
<td>Push for the building of grand construction</td>
<td>Construction management efficiency and construction quality was improved.</td>
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<tr>
<td>6</td>
<td>Push for the construction of grand operation</td>
<td>The ability to process grid failure and control operation was enhanced. Provincial dispatching was upgraded to the combination of dispatching and control.</td>
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<td>7</td>
<td>Push for the construction of grand maintenance</td>
<td>Equipment status maintenance, repair specialization and the integration of operation and maintenance greatly boosted the maintenance efficiency.</td>
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<tr>
<td>8</td>
<td>Foster the construction of grand marketing</td>
<td>Establish a marketing and service management system of providing all-in-one services.</td>
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<tr>
<td>9</td>
<td>Build the operation monitoring (control) center</td>
<td>Provide comprehensive, real-time and online monitoring on main operations and core business resources.</td>
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<tr>
<td>10</td>
<td>Construct corporate client service center</td>
<td>Optimize and integrate service resources, collectively process client service requirements, and strengthen service tracking evaluation and quality management.</td>
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</tbody>
</table>
1. Strengthen safe production management
   Carry out the campaign of “Year of Safety” and fortify fundamental management on safety.

2. Strengthen technical innovation management
   Speed up the innovative system of a scientific orientation, clear job division, production-research collaboration, and efficient operation, and intensify R&D research.

3. Strengthen IT construction
   Complete the world’s largest power grid and communication networks and an integrated corporate IT system.

4. Strengthen legal management
   Conduct special inspection on governing the enterprise by law.

5. Strengthen CSR management
   Implement CSR management requirements and run comprehensive CSR management pilots among prefecture-level companies.

6. Strengthen the “3 Constructions”
   Fortify the construction of the Party, the corporate culture and the team.

7. Strengthen anti-corruption
   Stamp out off-book accounts, bank accounts and various companies, standardize the tendering management, establish an open and transparent intensive bidding platform, and strengthen anti-corruption.

8. Strengthen fundamental management
   Build a unified standard system and improve the company’s system of innovation management.

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**18 Key Areas for Management Improvement**

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**Improve management for an efficient operation.** Implement SASAC’s deployment of central SOEs management enhancement based on the reality of a grid company and carry out relevant activities in 18 key areas to strengthen management foundation and boost the operation.

**Enhance IT for better management.** Complete the world’s largest corporate IT system, online monitor and control core resources and main operational activities, lead in IT domestically and internationally, and become a benchmark for central SOEs’ management improvement.

**Forge a competitive financing industry, related industries and overseas businesses.** Optimize SGCC’s industry layout, promote profit diversification, and enhance the company’s capacity for sustainable development.
S&T innovation supports scientific development

Grid technology used to be imported and lagged behind. Now it is exported and leading in the world. SGCC has grasped the core technology of UHV, smart grid, grand grid safety and new energy integration, broken through foreign technological blockade, innovated in key equipment production on its own, and brought about a technical upgrade of the equipment manufacturing industry, which all serve the construction of an innovative country.

- Till 2012, SGCC has obtained 16,399 patents, 39 National Awards for Science and Technology Progress, and formed 841 national and industrial standards.
- Build the world-leading UHV test and research system including “four bases and two centers” (UHV AC Test Base, UHV DC Test Base, Tibet High Altitude Test Base, UHV Transmission Tower Test Base, SGCC Simulation Center, and SGCC Metering Center), establish National Energy R&D (Test) Center for Large-scale Wind Power Integration and National Energy Research (Test) Center for Solar Power, and own 11 national labs.
- Build a complete smart grid standard system and initiate the series technical standards for smart substations.
- Bring up the strictly proven transient quantitative analysis method for power system in the field of big grid safety control, which is widely adopted by international peers.

SGCC has obtained a series of cutting-edge S&T innovative results

- As the fourth country in the world to ever grasp TCSC technology, China is ahead in flexible AC transmission equipment R&D capability.
- As the third company in the world to produce flexible DC transmission equipment in set, SGCC has fully mastered the core technology of flexible DC transmission.
- SGCC has conducted the key technology research and core equipment development for 1000MW± 320kV flexible DC transmission, the world’s largest capacity and highest voltage.
- SGCC has successfully developed the ± 1100kV UHV DC converter valve with independent intellectual property right.
- The world’s first 1120kV DC insulation disconnector passed the critical insulation experiment. It was independently researched and developed by SGCC. The company is now capable of producing set equipment with independent intellectual property rights, and has developed the world’s first LW-100 (MRTB) DC switchgear with 5100A transforming capacity.
- SGCC has developed China’s first double-fracture 63kA GW-level switchgear with independent property right. The DPS3000 DC transmission control and protection system, a high-end industrial application platform, is internationally advanced.
- SGCC’s UHV AC project has received many national awards, such as Special Prize of National Award for Science and Technology Progress, Classic Project for the 60th Anniversary of the Founding of China, China Industry Award, and National Gold Prize for Excellent Project.

16,399 Patents

39 National S&T Awards
UHV transmission technology is created and led by China in the world's grid technology. It is China's major innovative achievement with independent intellectual property right. The core technology was original and the key equipment was first developed by Chinese companies. The UHV AC voltage has become the international standard voltage. The working team made up of Chinese experts led the compilation of international standards.

It has well served the socio-economic development. The line loss rate of UHV AC transmission lines is one fourth or one third of that of a 500kV AC line. Its transmission capacity per corridor is 250% to 310% of a 500kV AC line. The project is in safe and stable operation for 4 years, delivering 28.8TWh of thermal power to Central China, equivalent to transporting 9.78 million tons of coal, relieving the severe power shortage in Central China. As an important energy transmission channel connecting the south with the north, the project has also transmitted 12.28TWh of hydropower to North China, saving 4.0032 million tons of coal and reducing carbon dioxide emission by 9.9787 million tons.

It has greatly boosted the industrial scientific progress and competitiveness. The project has brought about an upgrade of China's transmission and transformation equipment manufacturing industry. The capability of UHV equipment design, research, manufacturing and testing is internationally advanced. The core competitiveness of equipment companies has been greatly enhanced. It is history in the making that these high-end products have been exported overseas. Since 2009, despite the shadow of the world financial crisis, the export of UHV main equipment increased instead. The export of 500kV (and above) products totaled RMB10 billion, a 40% annual growth.

“The Key Technologies, Complete Equipment and Engineering Application of UHV AC Transmission Project” won the 2012 Grand National Award for S&T Progress. SGCC President and the project leader Liu Zhenya received the award at the award ceremony on January 18, 2013.
Responsible for customers:
Implement the Responsibility on Quality Service
- Customers’ assurance of power use
- Customers’ satisfaction of power use
- Grand Marketing promotes quality service
- Forge a reputable service brand

Responsible for agriculture, countryside and farmers:
Implement the Responsibility in Agriculture, Countryside and Farmers
- Advance in urban and rural power supply integration.
- Solve the electricity problem for newly added population without access to power
- Strengthen power grid construction in cold, high-altitude Tibetan area
- Ensure reliable rural power supply and quality service

Bring power to 5.72 million people without electricity since 2006

Training Coverage Rate in 2012 93.5%

In a decade
The average blackout time for rural and urban power users was reduced by 31 hours per household in a decade.
Deal With Each Stakeholder Responsibly

Responsible for each stakeholder

More harmoniously maximize the comprehensive economic, social and environmental value

Responsible for employees:
Implement the Responsibility on Employee Development
- Guarantee employees’ development
- Deepen democratic management and supervision
- Safeguard employees’ legal rights
- Care for employees and their safety and health

Responsible for partners:
Implement the Responsibility on Win-win Partnership
- Serve power generating companies’ sustainable development
- Strengthen CSR management on the supply chain
- Propel the self-innovation and upgrade of the equipment industry
- Ensure an open, fair, just, efficient trade

Responsible for the community:
Implement the Responsibility as Corporate Citizen
- Provide aid for Xinjiang and Tibet
- Support public welfare
- Operate with credibility and law-biding behavior
- Carry out employee volunteer service

Centralized purchasing rate of first-grade goods and materials in 2012
96.2%

Donations in 2012
RMB 1.47 million
Minimize outage time and enhance power quality

Multiple measures were taken to reduce outage duration. SGCC has heightened the construction standard for urban distribution grid, and increased its investment in the construction and upgrade of urban power grid to enhance its automation level. It has improved the operation management system. Measure have been taken to intensify the construction of the emergency repair command platform for urban distribution grid, including the status maintenance, live work and midnight repair. In 2012, the company carried out 156,000 times of live work on urban distribution network. Its failure and outage times were lowered by 7.6%. The average urban power outage time was lessened by 1.74 hour per household. The voltage qualification rate was up by 0.065 percentage point.

Customers' assurance of power use

Ensure accurate metering. SGCC has developed Assessment Methods on Smart Meter Quality Control and Check in 2012 to standardize the metering and strengthen the supervision and management of smart meters’ quality.
Ensure a strict implementation of the electricity pricing policy by means of management and procedures. SGCC has improved the tariff management system and tiered pricing approval procedure to monitor the executing situation and analyze abnormal situations and ensure accurate implementation abided by law.

Ensure the accurate implementation of the electricity pricing policy by means of technical progress. SGCC has solidified the implementing standard by the marketing information management system to guard against any executing risks.

Ensure the transparency of the electricity pricing policy. The policy is made open and transparent through the 95598 website and the business halls to ensure customers’ right to know.

The power price accepts strict supervision of all parties. SGCC earnestly answers all questions regarding the power meters, cooperates with the Administration of Quality Supervision for meter calibration, analyses and explains customers’ power consumption, and safeguards their interests as consumers. SGCC welcomes all inspection and supervision on the pricing policy implementation from the government and the society.

China officially launched tiered pricing for household electricity in 2012

China has been practising low pricing for household electricity for a long time, giving subsidies to users. The more power consumed, the more subsidies the customer gets and vice versa. It is neither fair nor a reasonable reflection on the value of the power resources. Therefore, it’s not conducive to save resources and protect the environment. To reduce overlapped electricity subsidies and encourage residents to save power to build an energy-saving and environment-friendly society, China officially launched the tiered pricing for household electricity on July 1, 2012. It means the electricity price differs according to the consumption amount instead of a single set price. The price will go higher as the consumed electricity increases.

Reliability of urban power supply within SGCC’s service area
99.941 %

Average annual blackout time for urban power users
5.18 hours per household

Comprehensive voltage qualification rate
99.824 %

Add
122,065 electricity bill collection spots so customers can pay their bills in 10 minutes wherever they are.
Protect customer privacy

- “Ten Prohibitions” forbid employees to release any personal information or business secrets of customers. Employees at key posts have to sign a confidentiality agreement with the company.
- Strengthen the authorization management on employees who have direct access to customer information and tighten access application approval.
- Set up regulations on safeguarding customer privacy in all levels of network, billing, accounting and business platforms as well as electronic channels, and manage maintenance personnel’s visit to customer information.
- Ensure customers’ payment safety through user authentication, password management and communication security.
- Reinforce the confidential system management with partners and content providers to prevent them from disclosing customers’ personal information.

Enhance customers’ satisfaction

- Cast the “Ten Minutes” billing service zone in urban areas, and open billing spots in every village in rural areas. Add 122,065 payment spots and 23,321 self-served payment terminals and POS machines.
- Standardize power cut and delivery management and launch SMS services to notify customers.
- Expand the service capability of 95598 hotline and initiate the 95598 interactive service website and integrated payment system. Put into operation the first smart power supply business hall where customers can be served at the counter, or self-served, or through website and mobile phones.
- Speed up the customer information collection system and deploy 120 million smart meters. The coverage rate of customer information collection reached 40.8%, providing technical support for smart power consumption and rapid response of interactive services.
- The fulfillment rate of the “Ten Commitments” for supply service was up to 99.99%. Set up incentive fund for industrial moral complaints and reports. Hire 29,700 social moral supervisors to conduct thorough investigation. Actively answer customer complaints, and make sure all complaints are resolved.
Forge a quality service brand

Improve the power supply service by shaping the culture, strengthening team building, and casting the quality. Organize the “Star of Services” contest and the campaign of “Excellent Service Counter” and “Model of Excellent Service”. Motivate employees of lower ranks to participate in skill training to enhance their professionalism and ability.

Ensure the quality and progress of the power supply for indemnificatory housing. Set up a green passage for indemnificatory housing construction, and participate in the early stage of the construction to provide auxiliary power supply facilities. Cooperate with other organizations and complete the task within a specified time to shorten the time for power use during the construction. Safe, quality, convenient power connection service was provided to 3,780 indemnificatory housing projects of 3.1 million apartments.

Build SGCC Party Member Service Team. Develop Management on SGCC Party Member Service Team (Trial) to unify its construction, name, logo, service content, service standard, service commitment and structure arrangement, and exert hierarchical management. 4,313 such teams have been set up in 27 provinces, autonomous regions and municipalities involving 69,000 members. With standard service contents and methods, they have striven to answer every request.

Promote the mode of service region. Construct demonstrating service stations in communities to encourage diversified services instead of single service among employees and solve power consumption problems. One-on-One precise services have been realized to make power supply services more available and convenient to people.

4th SGCC “Star of Services”

Chen Haiyan: My workplace can be as tiny as just enough space for a chair but it can be big because it covers 4.1 million customers in Yimeng.

Team Leader, 95598 Tele-working station, SGCC Shandong Linyi Electric Power Company

Yan Gaofei: Although my position has kept changing over the decade, my responsibility for customer service has never changed.

Head of Heping Power Supply Station, & Technician of Customer Service Center, SGCC Hebei Handan Electric Power Company

Yin Sijia: The counter is not only the window of customer service but also my frontier of devotion and innovation.

Leader of Team No.1, Department of Business and Electricity Fee, Customer Service Center, SGCC Jiangsu Yangzhou Electric Power Company

Zhang Hong: I owe my family too much in these 11 years, all for the light.

Team leader, Key Customer Business, Customer Service Center, SGCC Liaoning Jinzhou Electric Power Company

Xu Airong: My goal is to do my best in my ordinary position.

Manager, Business Hall, SGCC Shanghai Qingpu Electric Power Company

Zhao Ying: I strive to be a perfect person and do things perfectly. I cannot allow myself to make any mistakes or be less innovative at work.

Professional Staff and Team Leader, 95598 Supply Service Center, SGCC Jiangsi Electric Power Company

Shi Chan: To me, service has a starting point but it ever ends. I will always lead my team to aim higher.

Team Leader, 95598 Teleworking Station, Marketing Department, SGCC Zhejiang Ningbo Electric Power Company

Hu Zhiven: Many silver electric wires in Xihaigu Mountains, Ningxia, bring the brightness and warmth to the 1.5 million local Hui and Han-nationality people.

Director, Operation Construction Center, SGCC Ningxia Guyuan Pengyang Electric Power Company

Zhang Liming: Set off at dawn and light up thousands of households. A little more efforts of mine can solve the difficulties in other people’s lives.

Team leader, Power Distribution Urgent Repair Team, No.1 Power Distribution Maintenance Station, SGCC Tianjin Binhai Electric Power Company

Wu Lin: I will devote all my body, enthusiasm and loyalty to my beloved work and my customers.

Customer Manager, Customer Service Center, SGCC Shanxi Linfen Electric Power Company
CSR creates more value

Promote the externalization of internal work and internalization of external expectation. Then employees can realize the social value in their daily work, consciously alter their working methods, and turn social needs and stakeholders’ expectations into work requirements.

Enhance the perception of CSR and understand the special nature of SOEs’ social responsibilities. Pursue the fulfillment of maximum social value and make sure good results come out of the good will. For example, SGCC Liaoning Chaoyang Electric Power Company had a thorough consideration of the boundaries of CSR, which should not be limited within its legal liabilities, nor be infinite and inclusive.

Discover new realms to create values for customers and pay attention to new fulfillment topics. For example, SGCC Hubei Yichang Electric Power Company promoted business innovation and realized cross-district management on power use by changing its traditional segmented management mode.

Implement the internalization of external expectations, use them as the direction to change the corporate management, and enhance the ability and level to create values for customers. For example, SGCC Shanghai Electric Power Company noticed the complaints of abnormal increase on the electricity bills posted online and paid a prompt visit to customers to communicate relevant issues and win their trust and understanding.

Advocate the corporate’s fulfillment practices to win stakeholders’ understanding and social recognition and boost the momentum. For example, the central government spoke highly of the Party Member Service Team initiated by SGCC Sichuan Electric Power Company, which greatly enhanced the construction and development of the team.

Aid the company to improve business procedures and intensify system construction, and fortify and construct a sustainable mechanism to create more values for customers by management. For example, SGCC Fujian Electric Power Company established a working mode of “Customer Satisfaction Assessment for the Full Service Process”.

CSR management solved the difficult problem of basic residential service guarantee in abandoned neighborhoods

[CSR Topic]
The long-term lack of property management in abandoned neighborhoods has become a difficult problem for the government, community, residents and corporates, because no one is responsible for public facility maintenance so that basic residential services such as water and power supply cannot be effectively guaranteed, which is easy to trigger complaints and conflicts and cause social instability and negative effects on the corporate image. According to the Power Supply Operation Regulation and the principle of “whoever owns maintains”, power supply companies cannot allocate repair funds because they do not have the property right of power supply facilities in abandoned neighborhoods. SGCC Liaoning Chaoyang Electric Power Company took the opportunity of carrying out comprehensive CSR management to first explore into establishing the long-term effective mechanism to ensure the power supply in abandoned neighborhoods.

[Specific Practices]

Initiate research. 94 abandoned neighborhoods are found in Chaoyang City, covering 39,226 residential households and 5,238 offices. The long-term shortage of high voltage facility maintenance in abandoned neighborhoods led to severe safety risks and frequent blackouts. 33,000 blackouts have occurred since 2008, which cost direct economic loss of RMB2 million. Residents’ lives were adversely affected.

[Responsibility Value]

Stimulate power supply companies’ internal motivation to create social value. Chaoyang Electric Power Company recognized that electric facility maintenance in abandoned neighborhoods concerned people’s safe and reliable use of electricity, social harmony and stability and company’s brand image, should become an important topic of CSR.

Provoke the rethinking on power supply companies’ social responsibility boundary. Social responsibility boundary cannot be limited to legal liabilities nor just emphasize the principle of “whoever owns maintains”. If so, this problem can never be solved. But the boundary cannot be expanded...
Action three: Blackout occurred in Dongsheng Haoting, an abandoned neighborhood, on June 4, 2012, due to overload. The Owner Committee paid for the repair first. Then the power supply company resumed power supply on that day, which was highly appraised by owners in the neighborhood. On July 20, the County Real Estate Management Department launched the maintenance procedure and used the property maintenance fund to pay for the advanced payment. “Kazuo mode” was successfully tested by practice.

Pool collective wisdoms. Basic residential service guarantee in abandoned neighborhoods is a universal problem in Liaoning, Heilongjiang, Jilin, and even the whole country. It needs extensive participation of people from all circles and their joint exploration for solutions. On October 23, 2012, Chaoyang Electric Power Company organized a special symposium and invited the Office for Rectifying, local representatives of the “Two Sessions”, media, communities and experts to propose rational suggestions on thoroughly solving the problem of basic residential service guarantee in abandoned neighborhoods.

The effort and achievement of the company was spoken highly of by all parties, including the government, residents and media.

infinitely. Otherwise, power supply companies’ inclusive undertaking of social problems would lead to the paradox of illegal operation by abusing public resources instead of building a long-term effective mechanism to solve problems.

Create a new mode of promoting all parties to solve the problem cooperatively. Chaoyang company successfully makes use of the stakeholder management concept to actively promote stakeholders such as government, developers, owner committees, communities and media to complement each other and integrate resources, and has initially established a long-term effective mechanism to solve the problem in abandoned neighborhoods.
Responsible for agriculture, countryside and farmers

It is an inalienable duty to help agriculture, countryside and farmers

The Responsibility in Serving Agriculture, Countryside and Farmers
is rooted in every obligation.

Promote the urban and rural power supply integration

Improve rural electrification. Enhance the capability of rural power guarantee, power quality and service. The rural power consumption was greatly elevated, which helped increase farmers’ income and implement some policies of supporting agriculture and benefiting farmers, such as “Home Appliance Subsidy Program for Rural Areas”. In 2012, the power supply reliability rate in rural areas was 99.735%, up by 0.07 percentage point. The average blackout time per household in rural areas is 23.21 hours, reduced by 6.14 hours. The gap between urban and rural blackout time was lessened by 4.4 hours per household.

Advance in the rural grid upgrade. The three years’ comprehensive control on low voltage in rural areas now achieved its expected goal, improving the situation of power supply bottleneck and low voltage. The indicators of rural power supply quality monitoring and commitments were fully completed, satisfying the power need for the county’s rapid economic development. The average annual growth on power consumption for rural development, rural production and farmers’ lives was 18.4%, 8.3% and 15.1% respectively.
Implement the “one grid, one tariff” management method. 98.5% counties within SGCC’s service area have realized “one grid, one tariff” management for rural and urban residents, resulting in the average price for lighting electricity dropped by over RMB 0.24/kWh, saving RMB 44 billion for rural residents expenditure.

Make rural grids smarter. SGCC has accomplished the pilot projects of smart rural grids in 6 counties of 4 provinces, and initially formed a smart construction technical system catered to rural grids’ characteristics. Research has been conducted on distributed power integration. Wind/PV power and storage pilot projects in Jibei Electric Power Company and Eastern Inner Mongolia Electric Power Company were put into operation as scheduled. The 35kV distribution pilot projects in Eastern Inner Mongolia Electric Power Company, Gansu Electric Power Company and Qinghai Electric Company were accepted. The popularization of the pilot results have effectively solved the power supply and quality problem for remote rural areas. SGCC has also dug into the exploration of suitable telecommunication technology for rural grids with pilot projects conducted in 53 county-level companies.

Bring electricity to people without access to power

- The company carried out the “Power for All” Project between 2006 and 2010. The original areas without electricity were basically electrified marked by “Power for All” in Tibet in 2010, accumulatively solving the power problem for 1,340,000 households and 5,090,000 people without electricity.
- The number of people currently without electricity has been growing as local power suppliers were transferred to SGCC since 2010. SGCC then deepened the power construction projects in areas without electricity in 2011, and offered another 35,000 households and 136,000 people access to electricity. In 2012, SGCC solved the electricity problem for 115,300 households and 493,700 people without electricity.
- From 2006 to 2012, the company accumulatively brought power to 1,490,000 households and 5,720,000 people without electricity.

The power supply reliability rate in rural areas is 99.735%. The average blackout time in rural areas is 23.21 hours per household reduced by 6.14 hours per household.

The average gap between urban and rural annual blackout time reduced by 4.4 hours per household.

Investment in rural grid RMB 80.74 billion.

Comprehensive voltage qualification rate of rural grid 98.074%, up by 0.386 percentage point.
Speed up grid construction in Tibetan cold area with high altitude

The Xinduqiao-Ganzi-Shiqu Interconnection Project lights up the Tibetan-inhabited area in Ganzi, Sichuan. It can connect the isolated power “island” in north Ganzi with the main grid of Sichuan so as to provide strong support to the scale development of Ganzi hydropower, turn resource advantages into economic advantages, and solve the power shortage in Sichuan’s Tibetan areas fundamentally. It has also laid a good foundation to bring power to 150,000 people without electricity in Shiqu, Seda, Ganzi, Bailyu, Luhuo, and Xinlong along the transmission line.

The Qinghai-Tibet Interconnection Project supports Tibet’s socio-economic development. The project, namely “The Heavenly Road of Electricity” has been in safe and stable operation for one year, with maximum transmission capacity of 170MW, accounting for one third of the total power load of mid Tibetan grid. It accumulatively sent 695GWh of power to Tibet, accounting for 23.7% of the total power supply of this area, saving 281,000 tons of standard coal and reducing carbon dioxide emission by 700,400 tons.

The Qinghai-Yushu Interconnection Project further promotes the construction of snow-covered plateau. It is another major grid project after the Qinghai-Tibet Interconnection Project on the plateau. It’s the world’s highest 333kV transmission and transformation project with 482km lines 4000m above the sea level. It plans to be put into operation in June 2013 when Yushu 3-Year Reconstruction will be completed.
Serve rural electrification mechanism reform

- In 2012, SASAC has approved the property rights transfer of 204 escrow and share-holding county-level companies to SGCC in Zhejiang, Fujian and Hebei.
- SGCC improves management, technologies and standards, continues upgrading management level and service capability of transferred county-level power companies. SGCC Zhejiang Electric Power Company established unified institutions, system standards and business processes for transferred power companies, ensured power grid construction investment in less developed areas, and improved the standards and quality of rural power grid construction. By the end of 2012, the construction of rural electrification had been completed in 57 counties, accounting for 93.4% of all 61 transferred counties. 49 counties realized “electrification in all towns” while 41 realized “electrification in all villages”, ranking in the forefront of China. SGCC Fujian Electric Power Company accomplished the property rights transfer of 51 county-level power companies, took full advantage of integrated management of power supply, set up Customer Quick Response Center, and transferred the series mode of power supply and repair service into parallel mode. Consequently, the repair time of low-voltage power failure was reduced by 15.34% year-on-year while that of high-voltage was reduced by 24.66%. In the light of operating loss and weak foundation of transferred companies, SGCC Hebei Electric Power Company increased investment on power grid construction, optimized power grid layout in rural areas, thus enhanced power supply reliability.
- SGCC also set up and run power supply service companies, ensured the identity, treatment and development of employees at rural power companies, listened to the advice and suggestion on mechanism reform from local government and rural electrician teams to seek understanding and identification.

Ensure rural power supply reliability and quality service

Upgrade the rural power service satisfaction. Carry out “95598 Bright Service” Project and “Three Demonstrations and One Construction” (demonstration of image, standard, and commitment, and construction of service counter with highest customer satisfaction). Promote the integration of power services in urban and rural areas, upgrade rural power service network, and realize “Pay within every village”. Provide personalized and diversified service for rural customers. SGCC has carried out "Guarantee Irrigation, Fight against Drought and Ensure Power Supply” Service, and opened green channels for power services. 5,422 power supply service teams were set up and mobilized going door to door and solving problems for rural households for 129,000 man-times.

Enhance the safety of rural power consumption. Implement SGCC’s “Year of Safety” campaign, launch the project to consolidate the foundation of safe rural power consumption, carry out pilot projects to establish a safe rural power consumption mechanism with “Government-enterprise Co-action, Villages’ Implementation, Public Participation and Technical Support by Power Companies”, and provide a concrete management base for secure power supply. Build a safe and harmonious environment for rural power supply and consumption. Enhance safe production management on escrow and share-holding county-level companies, and reinforce full-process safety control on outsourced rural grid projects.

Enhance management of rural power companies. Construct a sound standard system, formulate Advice on Enhancement and Standardization of Rural Power Management, and focus on standardization of rural power supply stations. Enhance rural power standardization and promote the integration of power management systems, mechanisms, standards and working processes in urban and rural areas. Upgrade service capability and quality of rural power supply.

Reinforce the construction of highly qualified rural electrician teams. Strengthen personnel management and performance evaluation, promote technical exchanges, imparting, research and management innovation, and improve training and selection mechanism for rural electrician team. Model deeds were publicized to encourage talents to take the lead and unleash the promoting drive of technical and management innovation.
CSR creates more value

**Fortify the will**

Endorse the issue of agriculture, countryside and farmers as the most important thing for the Party and the country among all staff. It’s an essential part of SGCC’s social responsibility. The company has to enhance its ability and quality to serve agriculture, countryside and farmers while maximizing its integrated value based on the national conditions and the company’s status.

**Enhance the concept**

Promote SGCC’s service for agriculture, countryside and farmers by strengthening the rural grid orientation from inside, and further emphasizing the agriculture-countryside-farmer orientation from outside. Determine and deploy the work direction and focus based on the big picture of providing due services and the company’s actual situation. Implement the socialist new rural construction deployment of the central government and boost the integration of urban and rural power supply.

**Discover the topics**

Pioneer in new directions and business realms by serving the prosperity of villages, the development of agriculture and the affluence of farmers based on local conditions and the advantages of grid companies, such as the urbanization, migrants’ relocation service, and middle- and low-yielding farmland reform.

**Innovate implementation**

Encourage the company to offer advice and suggestions, innovate the mechanism to serve agriculture, countryside and farmers, and enhance befitting capability and quality by strengthening the communication and cooperation with government and all walks of life.

**Boost up the motivation**

Highlight social communications so that the society will know well of SGCC’s measures and achievements in serving agriculture, countryside and farmers. Win over the understanding and support from the society and create a favorable fulfillment environment.

**Build a permanent mechanism**

Establish a long-term mechanism to serve agriculture, countryside and farmers. Identify prioritized topics, improve the fulfillment concept, work out the strategy, plan the actions, clarify performance standard, polish institutional guarantee, refine control and monitoring, intensify social communication and improve the scientiftness of serving agriculture, countryside and farmers.

**New CSR topic: Integration of urban and rural power supply**

**CSR Topic**

The Central Economic Work Conference emphasized that great efforts should be made to “agriculture, countryside and farmers” and the promotion of urban-rural integrated development, which is of vital importance to do a good job in 2013. It is a key CSR topic for power companies to promote urban-rural integration of power supply and serve urban-rural integration. SGCC Shandong Zaozhuang Electric Power Company, Zhejiang Jiaxing Electric Power Company, Shaanxi Shangluo Electric Power Company took it as a carrier to implement their CSR management and their social responsibilities, and served agricultural development, rural prosperity and farmers’ affluence.

**Specific Practices**

SGCC Shandong Zaozhuang Electric Power Company Innovate the implementation of "Strong Power Grid in All Villages" Project to promote urban-rural integration of power supply. The innovative layout of power grid was "latticed" instead of traditional "string of sugar-coated berry" mode with only one line through the whole village. Investment on distribution network increased over 75% for three consecutive years. 581 villages were transferred into standardized power consumption villages, and 516 areas with low-voltage stations were modified. On New Year’s Eve of 2012, Zaozhuang power grid witnessed its first “Zero Power Outage” concerning residential power consumption.

**Responsibility Value**

Give power companies a better understanding of social responsibility. CSR management deepens power companies’ perception of responsibilities in serving agriculture, countryside and farmers. Consequently, power companies have a thorough grasp of the promotion of urban-rural integration of power supply: it is a core area concerning how power companies serve socio-economic development and how to maximize economic, social and environmental value, and it is also an important guarantee to win social recognition.
The company has promoted the integration of urban-rural power supply, the integration of transmission, distribution and marketing, the integration of repair, check and operation, the integration of meter reading, confirming and bill collecting, and the integration of investigation, inspection and acceptance. It has also forged such service circles for consumers from wherever they are as the business application, outage recovery and bill payment which could be realized within 72 hours, 45 minutes and 10 minutes, respectively. The company also advocated “Strong Power Grid in All Villages” Project and the improvement of distribution network, built residential electricity quality service demonstration areas, and narrowed the gap between urban and rural power supply significantly.

**SGCC Zhejiang Jiaxing Electric Power Company**

Promote urban-rural integration of power supply system. The company pushed forward the establishment of “grand marketing” system, improved safety conditions of areas with low-voltage stations. The rate of checking on low-voltage equipment and the rate of eliminating equipment defects reached 100% while the line loss dropped from 12% to 6.7%.

Eliminate blind areas and provide equal service in urban and rural areas. The company launched rural power supply “1+1” specialized cooperative management mode throughout Zhejiang Province. Areas with low-voltage stations were divided into several segments. Then owner of the equipment and customer manager took up “A and B Positions” respectively to provide service together with individual expertise by partitioned management, professional complementation, competitive bidding, and performance evaluation. Owner of the equipment is in charge of the maintenance and repair of line equipment. Customer manager is responsible for meter reading, checking, collecting, business application acceptance, power consumption inspection, and electricity meter installation and wiring. Consequently, a closed-loop management system was formed with specialization, better service, work documentation, benchmarking and performance evaluation.

**SGCC Shaanxi Shangluo Electric Power Company**

Speed up narrowing the gap between urban and rural power grid construction. The company began with speeding up power grid construction and improving rural power management to bridge the gap between urban and rural power supply. Funds were raised for upgrading rural power grid to enhance power supply capability. The company also reinforced daily operation and management, integrated the remediation of weak points and overall control, optimized power supply mode, and enhanced rural power supply reliability.

Promote urban-rural integration of power supply service. The company carried out specific rectification of low-voltage, explored potential of power grid, improved rural power supply quality, supported rural specialty industries such as agritainment and greenhouse base, and ensured the use of household appliances in rural areas. For the surged power load due to the return of 500 thousand migrant workers for the Spring Festival, the company made temporary plans in advance, set up emergency teams to ensure power supply, and guaranteed every family a happy holiday under the condition that it was impossible to increase the investment in power grid in a short term.

**Build social demand-oriented thinking.** CSR management makes companies not only think about their own development, but also ensure technical feasibility, economic rationality, capability, social acceptance, environmental friendliness and value superiority, and take customers demands and social expectation into consideration when making and implementing decisions. Power companies improve business operation and management from an external perspective in accordance with the needs to develop “Agriculture, Countryside and Farmers” and the demand of rural customers.

**Advocate the innovation of rural power supply and service.** CSR management impels power companies to set specific CSR topics for different periods based on local conditions, to promote urban-rural integration of power grid construction and power supply service in various ways, and to bridge the gap between urban and rural power supply. Meanwhile, companies guide their staff to upgrade ideas, break through difficulties and challenges, and serve national strategy of balancing urban and rural development.
Guarantee employees’ development

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

- In accordance with talent cultivation deployment from the country, the company, provincial companies, and prefecture-level companies, SGCC developed talent teams of marketing, management, technology and skills. Female leaders in the corporate accounted for 9.1%.
- Accelerate the training of top-notch technological talents, professionals, experts and reserve experts to expand the paths for career growth. SGCC selected 15 experts to enjoy special government allowance from the State Council and approved 546 professional leaders in ten areas in 2012.
- Implement the National Special Support Program for High-level Talents and the Recruitment Program of Global Experts by the central government, and recruit 21 overseas market talents in total.
- Establish the company’s personnel exchange work and a personnel assignment mechanism which enable employees to work in different departments, organizations and even geographic areas. Build a platform to fully demonstrate employees’ talent.
- Evaluate all employees, promote open recruitment, provide fair professional opportunities, and encourage employee’s development along with the company.

Responsible for employees

Responsible development should be oriented to people.

The Responsibility on Employee Development is rooted in every decision.
Deepen staff training to improve their quality

- In 2012, the company invested RMB3.45 billion on 3,350,000 person-times of staff training, with a training rate of 93.5%. SGCC HQ provided training to 13,485 high-end professionals, 1,546 professionals in UHV and smart grid, and 5,290 highly-skilled talents.
- Strengthen the talent cultivation in the West and select 60 outstanding young talents in West China to practice and be trained in East China.
- Intensify the integration of the company’s training resources and set up an online campus. Accomplish the integration between State Grid Institute of Technology and Shandong Electric Power College and the integration between provincial training centers and vocational schools.
- Rich training methods, optimize training contents and ensure the quality and results of staff training.
- Carry out training on CSR, including human rights, labor, anti-corruption, environmental protection, and CSR standards of home and abroad. Offer training to hired security staff regarding human rights.

Expand employees’ space of growth with three steps and six approaches

SGCC Shanxi Taiyuan Electric Power Company optimized its human resource management. It established closed-loop management including three steps: performance planning, performance evaluation, and performance results. It insisted on six approaches of subjectifying staff, providing supporting guarantee, standardizing evaluation, unifying responsibility and authority, informationizing the process, and pragmatizing operations. From 2009 to 2012, the company held 7 batches of open recruitments to employ 1,803 people at the internal job market. It optimized its team building, and motivated its entire staff to be active, initiative and creative. The talent equivalent density and the overall labor productivity were increased by 4.4% and 31.79% respectively.
Maintain employees’ legal rights and benefits

Ensure decent labor. Provide appropriate treatment and welfare to employees in accordance with the national condition and the job position. Ensure pay levels above the local minimum wage, and no less than the average pay level of the same type of companies and posts. Eliminate gender discrimination. Establish a reasonable paid leave system: 5 working days of annual paid leave for an employee who has served less than 10 years accumulatively; 10 working days if he or she has served over 10 years but less than 20 years; and 15 working days for 20 years’ employment or longer. Protect employees’ rights for maternity leave/paternity leave, and guarantee their work unaffected by employees’ maternity. All those employees have returned to work after maternity leave. Cover the pension, health care, work injury, maternity and unemployment insurances and housing fund for all employees in accordance with the provisions. In 2012, the turnover rate of SGCC’s wholly-owned and holding companies was less than 0.8%, with voluntary resignation of 5,225 employees. In terms of units, there were 1,129 employees from branch companies and provincial companies, and 4,096 employees from subsidiaries directly managed by SGCC. In terms of gender, there were 3,535 male employees and 1,690 female employees. In terms of education, there were 2,166 employees with bachelor’s degree or higher, and 3,059 below undergraduate.

Fully implement the laws and regulations stipulated in China’s Labor Contract Law. Respect human rights, stick to equality in employment and eradicate any discrimination on gender, age, disease, race and religion. Develop a platform for recruiting university graduates, and standardize recruitment process to ensure fair and just recruitment. Reconstruct in thorough consideration of employees’ rights, and legally repay employees’ equity. Give full consideration to employees’ willingness when changing posts, and win their trust and understanding by effective communication. Protect employees’ dignity and freedom, and eliminate forced labor.

Protect employees’ privacy. Strengthen the human resource management and control system and information management of human resource ERP system. Set strict constraints on users’ permission, strengthen the education on sense of confidentiality, and implement encryption management for critical information.

Deepen the democratic management and supervision

Implement “Three Majors, One Large”, decision-making system In 2012, SGCC convened 51 party conferences and Chief Executive Board Meetings, and 25 brief meetings of senior management, supervising 216 businesses.

Deepen staff democratic management. Implement The Outline of State Grid Democratic Management of Employees, through Staff Congress and president liaison officer meetings. Make public the affairs of the enterprise and report major issues in advance. Make the management more standardized and systematic. All proposals collected on Staff Congress are processed. Conduct employee satisfaction surveys. According to the surveys, the overall employee satisfaction and comparative satisfaction ratio was above 90%.

Collect advice and suggestions Launch the campaign of “I Offer One Piece of Advice for Our Corporation” to collect reasonable advice and suggestions. 610,000 employees actively offered advice and suggestions, and raised more than 280,000 reasonable suggestions in total.

Refine president liaison officer system. President liaison officers fully play the role of passing on subjects from superior, and reporting the situation to the top. Organize president liaison officers to conduct grassroots surveys and research, and pass employees’ suggestions and requirements to the leadership, and improve scientific and democratic decision-making level.

Care for employees’ life, health and safety

 Guarantee employees’ health and safety. Strengthen training on safe operation to improve employees’ safety awareness and skills. Create standard, clear and safe operating environment to prevent human accidents or casualties. 3 accidental deaths happened throughout 2012. (They were Shi Kejun, Li Qiong and Chen Pindong, employees in Shiyan Electric Power Company of Hubei. They were attacked by flood during repair) Establish health archive and regular health checks covering all employees. All employees receive a health check every year. Set up Healthy Canteen to provide healthy diet based on local conditions. Deepen staff’s ideological dynamics analysis, and offer mental health service for employees to provide specific professional assistance.

Set up mechanism to help employees in difficulties. Establish management archive for staff in difficulties, deliver special care and help to staff, and actively solve problems for them.

Care for the retirees

Guarantee retired employees’ treatment. Provide political care, life care, and spiritual care. Currently SGCC has 318,900 retired employees, 2,022 activity venues and 57 senior universities with a construction area of 500,000m². The average daily number of participants reached nearly 55,000.
Strengthen the work style of employees

Formulate and implement *The Enforcement Regulations on Implementing the Eight Provisions on Improving Work Style and Tying with the Public Closely* by the Political Bureau of the CPC Central Committee. Specify 30 concrete requirements from 8 aspects, and implement the regulations on every task, every aspect and every employee.

Uphold hard work, diligence and frugality, and enforce honesty and self-discipline. Build a strong ideological defense of anti-corruption, adhere to the moral bottom line, stay away from possible disciplinary mistakes, and eliminate potential risks and weak aspects.

SGCC Staff Handbook

“Three Tens”

“Ten Commitments” of the power supply
“Ten Prohibitions” to modify staff behavior
“Ten Measures” to strengthen dispatching transaction services
Enhance the organizational vitality of grassroots employees

Team building enhances corporate cohesion. Stick to the overall thought of “people orientation, democratic management, innovative leadership and harmonious development”, further improve team building, and strengthen standardization construction. Organize competitions to select outstanding teams and workers. Popularize the application of team building information management system. The summarized theoretical results of team building receive high appraisal from the leaders of central government.

Labor competition motivates employees. Organize and carry out competitions, selective examinations, which attracted more than 290,000 employees, motivated their participation and creativity, and improved their quality. Develop many labor competitions such as 4th SGCC “Star of Services” competition and award competitions in key projects such as Anhui-to-East China UHV AC Demonstration Project and Jinping-Sunan UHV DC Project.

Model worker office plays the leading role. Set up 600 model worker offices to play the conglomerate, radiating and branding effects of model workers. Encourage other employees to fulfill their responsibilities and endeavor to make more value for the society. All-China Federation of Trade Unions conducted a special research on SGCC Zhejiang Electric Power Company’s building of model worker office and gave high appraisal on it.

Establish excellent corporate culture. More than 720 corporate cultural achievements of SGCC have won prizes in the national selection of excellent corporate cultures in the power industry, and this number ranked top among China’s power companies. Strengthen the building of employee libraries and organize competitions such as top 10 calligraphers, artists, and photographers within the company. The song “Home is On My Mind” composed and sung by SGCC staff won the prize of “the Best Works Award” from the Propaganda Department of the Central Committee of the CPC.

Grassroots employees who were selected as the representatives of the 18th National Congress of CPC

She is the image ambassador of love in Suzhou and has been awarded “Gold Medal of Pro Bono Blood Donation”. She is also a National Model Worker and a record keeper for receiving no complaint and making no mistake in her work. She has been awarded SGCC Excellent Party Member, SGCC Top Ten Outstanding Youth. The “Han Keqin” Party Branch, which was named after her, has been selected as “SGCC Advanced Party Branch Model”.

He has walked nearly 80,000km in his 33 working years and found over 5,000 power supply deficiencies and been acclaimed as the “power eagle”. He has been awarded as the National Labor Medal, National Outstanding Party Member, and Advanced Employee Model in Central SOEs. He was also selected as one of the “Pioneers of the Times” by the Propaganda Department of the Central Committee of the CPC, a candidate of “People who Inspired China 2010”, selected as one of “People who Inspired Jilin 2010” and “People who Inspired the Power Industry 2010”.

“Light thousands of households with my heart.”
—Han Keqin
Deputy Director, Business and Electricity Fee Department, Customer Service Center, SGCC Jiangsu Suzhou Electric Power Company

“Do everything energetically and never stop advancing.”
—Lv Qingsen
Electric Wire Worker, SGCC Jilin Huadian Electric Power Company
As a party representative of grass-root frontline, he has been contributing silently and serving whole-heartedly at his post and been described as “People’s Electrician” and awarded “National Model Worker”. He once made a promise to his customers: “if you have any difficulty in power use, please contact me.”

“Be an electrician to spread the light for the people.”
—Zuo Guangman, Business Metering Worker, Yingshan Power Supply Station, SGCC Hubei Suizhou Electric Power Company

“What a happiness it is to smile to your customers!”
—Xu Airong, Business Hall Manager, SGCC Shanghai Qingpu Electric Power Company

She has kept serving customers carefully and whole-heartedly in all her ten working years and has been awarded Shanghai Customer Satisfactory Service Star in 2009 and 2011, 2010 Expo Smile Service Ambassador, Shanghai Model worker from 2007 to 2009 and 2011 National Labor Medal.

“Stick to my position with a sense of responsibility.”
—Cuo Ji, Head of Pingcuo Station, Zhikong Power Generation Company, SGCC Tibet Electric Power Company

She sticks to her position with a sense of responsibility, values her position with thankfulness and rewards the company with advancement. She has been awarded 2009 Model Worker in Tibetan Autonomous Region and 2010 National Model Worker.

“Fulfill the responsibility and mission of a bright guardian.”
—Liu Weihong, Member of Professional Power Transmission Maintenance Team One, Operation and Maintenance Department, SGCC Jiangxi J’ian Electric Power Company

He has 22 years’ experience in operation and maintenance of power transmission lines and has kept a 100% defect eliminating rate. He has been awarded National Model Worker, SGCC Excellent Party Member, Professional and Excellent Expert of SGCC Power Transmission Line, and Excellent and Highly-Skilled Talents of Jiangxi Province, enjoying the special subsidy from Jiangxi government.
CSR creates more value

Promote full understanding of responsibility on employee development, smooth the channel to communicate with staff, and take the initiative to figure out their needs. Respect and cultivate employees and realize their value. Encourage employees to fulfill the responsibility, effectively manage the influence of corporate operation on stakeholders, society and environment, and pursue maximized value.

Build up CSR as the starting point and goal for corporate development, and demonstrate the corporate value in realizing its social value. Promote the majority of employees to consciously reflect on the concept of social responsibility in their daily work, bring their potential into full play to create integrated value, and gain the social understanding and trust.

Concretize the human-oriented corporate concept, specify corporate responsibility on employees, and identify and prioritize the topics on responsibility on employee development based on the actual situation of the company. Encourage employees to discover new topics, offer advice and suggestions, and enhance the capability and quality of responsibility fulfillment.

Drive the company to develop new management tools, methods, and procedures, and better fulfill the responsibilities on employees. For example, SGCC Jiangsu Wuxi Electric Power Company developed a management model of “3 Capabilities” to enhance employees’ working skills and ensure their physical and mental health. It also encouraged staff to adopt new working methods, and realized the externalization of internal work and internalization of external expectation.

Assist corporate decisions and deployment to win the understanding and support from the majority of employees, unleash their enthusiasm and creativity, and promote the mutual development of the employees and the company. Intensify employees’ sense of pride and accomplishment during work, gain more understanding and support from the society, and be more active and conscious to fulfill the responsibility.

Endorse a long-term effective mechanism to fulfill the responsibility on employee development, incorporate the human-oriented concept with the whole process of decision-making, procedure, system and evaluation. Urge on the establishment of a long-term mechanism to encourage staff to implement CSR management and fulfill social responsibilities on their positions.

CSR management helps young employees gain balanced growth

[CSR Topic]

Most of the young employees in power supply companies have received good education and have rich professional knowledge and skills. For people who have just started working at the grassroots or basic level, they generally want to get more attention and understanding and pursue the comprehensive fulfillment of personal value. However, the change of company’s development mode and the sustained reform of management system have brought certain challenges for those young employees whose work pressure needs to be relieved timely. SGCC Jiangsu Wuxi Electric Power Company has specified the contents of responsibility on employee development, and developed “3 Capabilities” test model regarding their intelligent, professional and physical capabilities. It also set specific management goals accordingly, and created a “green” path for the balanced growth of young employees.

[Specific Practices]

Develop effective management tools to improve management effect. Wuxi Electric Power Company’s “3 Capabilities” test model has comprehensively collected young employees’ data of intelligence, skills, and physical fitness. The company also established a set of comprehensive evaluation system to scientifically analyze existing problems among young employees, adopted corresponding measures to solve their physical and mental problems, helped employees acquire skills and develop, and promoted employees to have a comprehensive and objective understanding of their situations and have an effective plan for their balanced growth.

[Responsibility value]

Promote the company to comprehensively understand and specify contents of the responsibility on employee development. Employee responsibility is one of the most important social responsibilities of CSR. Every company should identify specific contents regarding different employees on the basis of regional characteristics and positions. For example, to guarantee employee safety and health, companies in different regions should think about different health problems for different positions.
“Pressure-relieving” activities help employees cultivate an optimistic attitude. Through data collection and analysis, Wuxi Electric Power Company found that some employees had excessive work pressure. They could not sleep well, and easily felt anxious or irritated. They often felt pain or stiffness in shoulder, neck, back and waist. For example, among all the staff in control center, more than 30% felt middle pressure and more than 15% felt strong pressure. The company carried out a series of “pressure-relieving” activities. For instance, it adopted one-on-one assistance, set the staff break room, and encouraged them to talk leisurely during their spare time. It also held themed lectures, inviting psychologists to give tips on relieving pressure. Varied and interesting recreational activities were carried out to help employees cultivate an optimistic attitude.

Skill improvement test helps employees grow. “3 Capabilities” test model can help young employees have a comprehensive understanding on their evaluation and rank in their department and company in terms of education, job title and technical skills. They can also get to know their growth expectation indicators and horizontal competition results so that they can identify their goal and enhance career development motivation. The company has also offered many personal services for employees’ growth. A reminder will be given to employees so that they don’t miss the training, examination or title assessment.

“Prescription for physical exercise” improves employees’ physical fitness. The “3 Capabilities” test results showed that, among all the 125 employees in power transformation operation & maintenance station, none got excellence in comprehensive health check. About 40% had high blood pressure, hyperlipidemia and fatty liver, and 40% had abnormal bone growth. Through analysis, transformation operation employees were found to face high safety pressure, little strength consumption, 24-hour shift and irregular rest, which were the root of the above health problems. The company needed to propose a scientific “prescription for physical exercise” and health guidance regarding personal physical condition and organize workouts to improve employees’ physical quality.

Personal privacy protection manifests humanistic concern. Employee quality test model has the capability of human-computer interactive dynamic test and can set different user rights to effectively protect personal private information.

Establish a long-term effective mechanism for implementing responsibility on employee development from the aspect of management. Giving play to organizational advantages to make up the shortage of personal ability and resources is a critical method to successfully conduct CSR management and fulfill the responsibility. Personal ability and resources are limited, and help from organizations is needed in either health guarantee or career growth. For example, employees may lack perseverance to keep exercising, but organizations could help them by building certain mechanism. Employees may forget to apply for job titles, but organizations could remind them by improving management procedure.

Employees’ participation and response to appeals is a new management goal. Identifying and responding to stakeholders’ expectations and requirements is an important content of CSR management. Employees are the company’s most important stakeholders. So to understand and respond to employees’ expectations and to promote their full participation is not only the company’s important action of fulfilling the responsibility, but also its inevitable choice for improving management.
Responsible for partners

Develop together with credibility and transparency
The Responsibility on Win-win Partnership is rooted in every co-operation

Work together for the power industry’s sustainable development

Push for the transformation of energy and electricity development mode with power generating companies. Exert the function of the grand grid as the platform of energy allocation, and construct large-scale bases of coal-fired power, hydropower, nuclear power and renewable energy.

- Promote unified planning and optimized layout of the power source and grid, and boost their coordinated development.
- Make reasonable arrangement for constructing power transmission projects to ensure prompt delivery.
- Stick to grid-plan coordination to ensure a safe and stable operation of the power system.
- Prioritize dispatching management to realize joint coordination and operation of hydropower, wind power, solar power, thermal power and nuclear power. Reduce abandoned hydropower, wind power and solar power and improve power resource allocation.
- Receive supervision from all parties and implement the “Ten Measures” to strengthen dispatching transaction services.
- Help optimize energy regional layout and adjust the energy production structure with joint efforts.

Promote the independent innovation and upgrade of the equipment manufacturing industry. Aid Chinese enterprises to grasp the core technology of UHV transmission and own the intellectual property rights of key equipment. The localization rate of equipment manufacturing reached 90%.

Top topic choices for win-win partnership in 2012

- Promote the independent innovation and upgrade of the equipment industry
- Aid Chinese enterprises to grasp the core technology of UHV transmission and own the intellectual property rights of key equipment
- The localization rate of equipment manufacturing reached 90%
Develop together with the design and construction companies and research institutes. Combine efforts to tackle important scientific projects and the R&D of key equipment, popularize new technology, material, technique, and design, and push for an upgrade in major projects’ quality and safety. "The Key Technologies, Complete Equipment and Engineering Application of UHV AC Transmission Project" won the 2012 Grand National Award for S&T Progress.

- No significant accidents occurred to capital construction or grid and equipment due to design and construction quality in 2012.
- Control the project cost within a reasonable range and promote energy-saving and environmental-friendly project construction. The Qinghai-Tibet UHV DC Interconnection Project received the National Soil and Water Conservation Ecological Civilization Project Award 2012.
- Grid construction projects obtain a series of national honors. For example, the Hebei-Guangyuan 500kV Substation won the China Construction Project Luban Award. Ningdong-Shandong ±660kV AC Project won the National Gold Prize for Excellent Project.

Support the technological upgrade of the power equipment industry

Relying on Jinping - Sunan ± 800kV UHV DC transmission project, Chinese enterprises first realized independent design for UHV DC equipment in set, trying out domestic converter transformer bushing and using self-developed UHV valves and control software for the first time. The low-end converter transformers were all independently developed by domestic enterprises. DC field equipment was supplied in set by domestic companies. Chinese companies now have the manufacturing and localization capacity of full-spectrum UHV DC system.
“The Key Technologies, Complete Equipment and Engineering Applications of UHV AC Transmission Project” won the 2012 Grand National Award for S&T Progress, a great achievement out of the win-win partnership and mutual development between SGCC and its partners of the supply chain.

Starting with the 1000kV Jindongnan-Nanyang-Jingmen UHV AC Pilot Project, SGCC worked together with nearly 50,000 people in domestic scientific research, design, manufacturing and universities from over 100 entities in the electric power and machinery industry. It upheld the technological roadmap of basic research, equipment R&D, system integration, test validation, and project demonstration. The company carried out the research of 180 key subjects and developed 9 categories of key equipment over 40 kinds, combining production, learning, research and application. Innovative breakthroughs have been achieved in voltage control, external insulation configuration, the electromagnetic environmental control, the development of complete sets of equipment, system integration and test capacity. SGCC mastered the core technologies of UHV AC transmission, and successfully developed a full range of key equipment. This project has maintained a safe and stable operation for four years. Since the completion of the extension project, the project with the biggest transmission capacity of 5.72GW eased the power shortage in Central China. The project also led to a comprehensive upgrade of power transmission equipment manufacturing industry in China, realizing “Created by China” and “Led by China” in this field worldwide. China’s influence in international electro-technology has significantly improved. This honor was shared among 50 key project managers from 30 principle companies, including SGCC, China XD Electric Co., Ltd., China Power Engineering Consulting Group Corporation, China Electric Power Research Institute, TBEA Shenyang Transformer Co., Ltd., Tsinghua University, and Xi’an XD High Voltage Porcelain Insulator Co., Ltd.

2012 Grand National Award for S&T Progress combines efforts to realize “Led by China”

- **100** companies and organizations
- **50,000** participants
- **180** key subjects
- R&D of **40** kinds of key equipment
- Innovative breakthroughs in **6** core technologies
- **30** principle companies
- **50** key project managers
Ensure an open, fair, just, efficient trade

Ensure open, fair and just power trade. Implement “Ten Measures” to strengthen dispatching transaction services and adhere to open, fair and just electricity trade and operation. Improve balance forecast, transaction negotiation, and the communication and coordination mechanisms. Tighten and regulate trading behavior to ensure its efficiency. Disclose trading plans, price, and power supply and demand on time, listen to the opinions and suggestions from power generating enterprises, and enhance the power transaction service.

Ensure transparent and efficient bidding. Establish a conglomerate material bidding management system and an advanced procurement management e-commerce platform. The bidding is “collectively organized by Headquarters and implemented by provincial companies”. The whole supply chain and procedure is electronically operated and controlled with unified workflow, open operation, monitored procedure, documented process and permanent traces. It features high ratio of open biddings and first-grade procurements, high unified standard, substantial transparency, strict procedure control, strict legal monitoring and inspection, and novel information guarantee.

Develop together with financial institutes. Maintain its 3A credit rating and realize a win-win partnership with financial institutes. In 2012, SGCC issued RMB145 billion of bonds in total, including RMB40 billion on ultra-short-term financing bonds in 5 times, RMB30 billion on short-term financing bonds in 4 times, RMB50 billion on medium-term notes in 4 times and RMB25 billion on corporate bonds twice.

Electric power transaction information and communication with various parties

* The press conference is held annually to release Annual Report on SGCC Power Market Transactions and the information on cross-regional and inter-provincial power trading
  * The press conference of electricity market transaction is held quarterly to release information on SGCC power operation and cross-regional and inter-provincial power trading.
  * The website will release cross-regional power transaction information on a monthly basis, including the transactions of last month and the plan for the next month.
  * The trading hall will screen cross-regional power transaction information every day and handle the consultation for market subjects and for all walks of life in the society.
Explore and promote CSR management on the supply chain

Fight against the commercial bribery and corruption, and comply with the law to operate. In advocating the integrity concept of cleanliness and effectiveness, all unfair competitions and commercial bribes are strongly prohibited. Publish Handbook for Legal Assurance in Bidding Activities and SGCC Management Rules on Preventing Commercial Bribery and Risks in its International Business. Refine its anti-corruption system and sort out the procedures with high risks in the bidding process. Come up with targeted prevention and control measures to effectively control risks. All bidding documents have been reviewed from a legal perspective.

Strengthen contract management. Promote the unified, regulated and standardized management on contract. Refine and integrate the contract text system. Strengthen the contract management before they are signed. Fake strict measures to ensure 100% contract legal review while contract closely integrating into projects, finance, materials, capital construction, S&T and power trading. More efforts are 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 has been set up. All contracts have been implemented.

Attach great importance to the protection of intellectual property rights. A professional team for intellectual property rights protection has been set up to strengthen the construction of relevant system and management procedures. Implement the requirements on protection of intellectual property rights, respect those of partners, while protect those of our own.

Promote honest procurement. Make sure of open, fair, just acquisition of materials and eliminate unfair competition and discrimination on suppliers. 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. Promote standardized purchase. A procurement standard system has been established to assert closed-loop management and control on planning, bidding, evaluation, award, signing and implementation, covering 106 categories of equipment and materials. 27 supplier service centers and 27 material allocation centers have been built to offer standard, transparent and convenient one-stop services to suppliers including application, consultation, signing, and settlement.

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.

Promote the responsibility implementation concept of “Safety, efficiency, environmental-friendliness and harmony”. Expand the scope of assessment on supplier qualification, including conventional qualification and performance such as price, delivery efficiency and quality, and social and environmental performance evaluation such as health, human rights, labor, safety, environmental protection, and energy efficiency. Encourage suppliers to enhance safety and health performance, energy consumption efficiency, resource conservation and environmental protection for a boosted capability and quality of integrated value creation and a responsible, sustainable supply chain.

Advance together with suppliers. Provide one-stop services to suppliers. Release and spread information on bidding, product quality supervision, supplier relationship management, credibility system construction for a virtuous development of suppliers. Improve the corporate business workflow and management procedure by consulting and asking for reasonable advice from suppliers. Establish customer information management system and provide packaged services to satisfy different requests according to the types and participation of suppliers. SGCC supplier call center has been launched to provide services through the Internet, hotline, SMS, fax and emails.
Suppliers should be informed of all related requirements for business proceeding, if any. In-time acceptance is required for qualified suppliers. Patient explanation should be given to suppliers whose business request cannot be proceeded in time.

The supplier website registration should be authenticated within 24 hours during normal working days. Username and password should be retrieved within 24 hours.

Accept the verification application for vendor qualification and performance, whose entire result should be presented in a written form.

Suppliers’ business secrets must not be divulged to other companies or individuals.

Do not accept dinner invitations or any forms of gifts and money from suppliers. Do not take advantage of the job to seek illegitimate interest.

SGCC Commitments of Supplier Service Center

- Be honest, credible, warm and thoughtful with suppliers and provide them with one-stop services.
- Polish the service mechanism, regulate actions and disclose the procedure.
- Release important notices and information on a timely, open and transparent basis. Suppliers cannot be excluded for any reason.
- First-inquiring responsibility system is applied within the service range. No prevarication or neglect is allowed.
- For questions raised by suppliers that cannot be answered on the spot, they have to be answered within 5 working days since the day they are received. Suppliers should be notified of the extension reason in time, if any.
Deepen the corporate’s understanding and strengthen the CSR management on supply chain. Encourage partners to unleash their capability to create integrated value. Work for a sustainable development of the company, the industry and the society together with upstream and downstream partners.

Advocate the company and its partners along the supply chain to implement the CSR concept, such as adherence to legal and moral bases, cohesion of sustainable forces, joint pursuit of maximized integrated value, and guarantee of maximum operational transparency. Make the best use of the industrial influence and motivation to build a responsible and sustainable industrial ecosystem with joint efforts.

Assist the company and partners to discover social and environmental problems originated from the industrial operation process and thus explore effective methods to manage the influence on stakeholders, society and environment for their sustainable development in a new direction and new path.

Promote the CSR management on supply chain and the responsible purchase. Strengthen the construction of cooperative mechanism for a safe, efficient, green, harmonious and transparent supply chain. Boost the industrial capability and quality for sustainable development.

Strengthen the communication and cooperation with business partners by information notification, feedback acceptance, dialogue and communication, and joint action. Hence partners’ satisfaction is improved and they are more enthusiastic to create integrated value. For example, the supplier service center offered open, transparent and quality service, is well received by the supplier and the society.

Urges the company to build a management system of CSR on supply chain, and form an open, fair and win-win partnership with mutual trust and complementary advantages. Agglomerate the consensus on sustainable development and popularize the fulfillment concept of pursuing maximized integrated value. Build a long-term effective mechanism for the industry’s sustainable development.

Electric power is the basis for economic development. In the past ten years since SGCC’s establishment, the company initiated the grid construction into local economic and social development plan. The total investment to the grid construction has exceeded RMB 2 trillion. Taking shape another brand new state grid, which strongly support sustained and rapid economic growth. But in recent years the external environment of grid construction became more and more complicated. The difficulty of land acquisition and relocation was becoming the major obstacle to the grid construction and would further influence the local economic development. SGCC Beijing Daxing Electric Power Company and Tianjin Binhai Electric Power Company applied the CSR management concept, actively explored the solution to the grid construction problem and provided guarantee in electricity supply for local economic and social development.

Sort out the relationship between grid construction and the government as well as the society. Investigate into the existing problems in grid construction.

Problem One Lack of effective communication with the government in the preliminary work of grid construction. The local economy developed rapidly, but the grid plan failed to adjust timely and integrate closely into the local development plan.

Analyze the grid construction problem with the Stakeholder Theory. The basic thought to solve the obstacle of grid construction is to spread the concept of stakeholder to all the staff, analyze the stakeholders involved in the grid construction process, find out each party’s expectations and demands, strengthen communication and mutual understanding, and actively answer to the expectations and demands of the government and the society.
Advocate the concept that “grid belongs to the local people”. Take initiative negotiation. Promote cooperation in construction. Obtain support from the government and understanding from the people. Create a good environment for grid construction.

Problem Two: Grid construction covers so many administrative divisions that the approval process is very trivial, hard to negotiate and coordinate. So the preliminary work of grid construction makes slow progress.

Problem Three: Grid construction involves the interest of multiple stakeholders, especially the vital interest of the local people. There is inadequate effort in spreading the legal knowledge relevant to land acquisition compensation. Due to the lack of understanding of grid construction from local people, it’s hard to reach an agreement on land acquisition and relocation compensation.

SGCC Beijing Daxing Electric Power Company adhered to the implementation concept of “integrating initiatives and building a win-win partnership” and visited the government and bureaus of Daxing District and 14 towns, 5 sub-district offices in Daxing to investigate the actual situation, sort out each town’s plan and analyze the electricity information of the industrial zones. It helped the district government establish the grid construction liaison meeting system. The District Head served as the leader and invited relevant departments and companies to attend liaison meetings on a regular basis, which promoted smooth preliminary work. It ensured that the grid plan went together with the local plan. The overall plan determines the area of the substation. The regulatory plan determines the location. The detailed plan determines the position of the electricity transmission corridors. And the location plan determines the power distribution network plan. The company also promoted the cooperation between the government and the company in transmission and transformation project. The local government bore the cost of land acquisition, relocation, and civil engineering as well as the cost of electric power channel engineering and removal of external power supply construction. The electric power company implemented the relevant project, bore the purchasing and installation cost of the electrical equipment, and solved insufficient grid construction fund.

SGCC Tianjin Binhai Electric Power Company actively reported the overall deployment and plan about how grid companies serve the development of Binhai to the government. It visited more than 10 administrative committees in Binhai New Area regularly and signed the Cooperation Agreement of Electricity Guarantee and Development in Binhai New Area with the government. It built the common coordination mechanism for the grid construction, and facilitated relevant departments to simplify examination and approval procedures of electric power projects. It has signed agreements funded or underwritten by the government with a total amount of RMB2.362 billion. At the same time, it established 5 teams specializing in conquering the difficulties together with the government departments at all levels. These teams visited people living in towns and villages to communicate with them to solve the actual problems and gain their understanding and support. In 2012, the company got a RMB16-million electric power construction fund, which was used to solve the land acquisition and relocation compensation problem under the leadership of the government, accelerating the grid construction process.

Solve the grid construction problem according to the concept that “communication creates value”. Widely spread the concept that “the grid belongs to the local people”. Make the society understand the relationship between grid development and economic prosperity, social harmony and people’s affluence. Make the society realize that the grid is an important infrastructure in local economic and social development and the most essential facility for their life and work. Strengthen their enthusiasm and initiatives in constructing the grid together. Popularize the national policy, relevant legal know-hows on relocation compensation and common knowledge about electromagnetic radiation. Strive for favorable policies to safeguard people’s interest to the largest extent based on local conditions.

CSR management creates a good external environment for the grid construction. It includes establishing a good communication mechanism with the government, such as reporting on grid construction on a weekly and monthly base or by special reports, and holding regular symposia between the government and the company for a consensus on grid construction. Establish land acquisition and relocation compensation mechanism including grid construction fund. Strive for the support from the people. Establish the government-company cooperation model for grid construction. Form a green channel for grid construction through liaison meetings and examination and approval procedure simplification.
Responsible for the community

Little good deeds should be done often for the well-being of the people. The Responsibility as Corporate Citizen is rooted in every good deed.

Support Tibet and Xinjiang

Boost a leapfrog development of the power grid in Xinjiang and Tibet. Since the founding of Tibet Electric Power Company in 2007, it has invested RMB 8.49 billion in total in grid construction with power capacity increasing 73.5%, 29 percentage points higher than SGCC’s average. The investment was intensified in Xinjiang grid during 2009 and 2012, which saw an investment of RMB 33.9 billion in grid construction with an average increase of 11.7%, significantly higher than SGCC’s average.

Alleviate electricity poverty in Tibet. To support Coqên County, Ali Prefecture, the company has accumulatively set up 68 aiding projects and allocated RMB 165 million to support the county since 2003. The GDP increased at 9.6% on average since 2002. SGCC also invested over RMB 10 million poverty-relief fund to support Dalong Town of Lhünzê County, Lhoka Prefecture since the 11th Five Year.

Alleviate electricity poverty in Xinjiang. RMB 128.39 million went to upgrade the rural grid in Cele County of Hetian Prefecture, solving the electricity problem for 10,964 households. The poverty-relief fund amounted to RMB 16.2451 million since 1996.

Topic choices on the responsibilities as a corporate citizen in 2012
Extensive electricity poverty alleviation

In Hubei, SGCC organized poverty-relief work in Zigui County, Tujia Autonomous County, Badong County, and Shennongjia Forest. From 1995 to 2012, the company has accumulatively implemented 240 poverty-relief projects and electrified 14,748 households without electricity. In addition, it has built 38 new teaching buildings, expanded 5 hospitals, constructed and renovated 32 highways, and developed 44.4 square kilometers of agriculture and sideline bases.

In Jiangxi, SGCC offered poverty relief support to Xiyang She-nationality Village, Shuicha Township, Taihe County of Ji’an City. During the 11th Five Year, SGCC has helped improve road infrastructure of 10km, build a nationality primary school of 800 square meters, lay 3.8km HV lines, 4.2km cables, and 3.6km low-voltage lines, improve 28 water and lavatory facilities, and refine 533,336 square meters of tea-oil trees and 2,000,010 square meters of moso bamboos with low yield.

In Heilongjiang, the Hegang power supply zone launched the “Bright Project”, establishing a leadership team, setting up a special account for this project with donations from the staff, and solving real power use problems for poor families.

Be a bright guardian and companion

The support to poverty-stricken freshmen enrollment is the key public service project for SGCC, which conducted donations in its subsidiary companies in Beijing, Hebei, Shanxi, Zhejiang, Anhui, Heilongjiang, Shaanxi, Ningxia and Qinghai. The “Yanzhao Talent Plan”, “University Enrollment Aid”, “University Dream-Spring Action” and “Philanthropic Education Aid” were well received. From 2011 to 2012, the donation from State Grid Foundation for Public Welfare for university students’ enrollment reached RMB4.7 million, benefiting 1000 poverty-stricken freshmen in Heilongjiang, Shaanxi, and Ningxia.
Keep helping the aged, the disabled and students

Carry out the educational aid campaign. Jointly establish 190 “SGCC Hope Primary Schools” and “SGCC Kindergartens” with China Youth Development Fund.

Carry out the disability aid campaign. Conduct the “Love Collection Project—Hearing Aid Campaign” and help about 600 poor children nationwide restore hearing with China Foundation for Disabled Persons.

Conduct projects to help the aged. Subsidize RMB7 million, RMB3 million, RMB3.8 million and RMB5 million to Hebei, Jilin, Liaoning and Xinjiang respectively through Ministry of Civil Affairs to build village-level happiness homes, daycare centers for the elderly, and nursing homes for the aged, and improve the basic livelihood for rural aged persons, especially the childless, widowed and stay-at-home ones.

Care for the stay-at-home children

SGCC extensively developed the “Action of Caring for Spring Seeding” and provided services concentrating on kinship companion, city affection, safety education, donation and academic counseling. In 2012, 46,000 employees took part in the project, helped 105,311 children of migrant workers, and established 3,548 aid pairs.

- Build 100 SGCC “Houses of Children”.
- Build 200 SGCC “Houses of Stay-at-home Students”.
- Build 51 SGCC “Hope Bars”.
- Implement a series of care activities such as “Sunshine Houses for Children on the Plateau”, “Bright Station” and “Firefly Education Aid Plan”.

Universally promote employee to perform voluntary service activity

SGCC has had nearly 400,000 young volunteers and the volunteer service activities reached 4 million man-times since the start of the “Youth Sunshine Day” volunteer service campaign ten years ago. A series of outstanding volunteer organizations and characteristic service projects have emerged, such as Shandong Minor Goodness Youth Volunteer Association, Anhui Dengling Youth Volunteer Service Team and Henan Bright Messenger Volunteer Service Team.

- SGCC Sichuan Electric Power Company established the Party Member Service Team, which provided on-door service 404,000 times, key services 27,000 times, community service 63,000 times, public welfare and volunteer service 14,248 times, and took part in urgent, difficult, dangerous and important repair 129,000 times, contacted 21,000 households in difficulty and helped 286 persons with their education. They were known by the locals as “Power 110”.

- All employees in SGCC Hebei Electric Power Company implemented the concept of “being an outstanding employee within eight work hours and being an outstanding citizen during other time”. There successively emerged a series of advanced examples and ethical models, such as Liu Yufeng, “a good head of station serving the people”, and Diao Changsheng, “the living Lei Feng helping others”. Eight employees and one group were included in the list of “China’s Mensches”.

- SGCC Jibei Electric Power Company organized the “Community Sunshine Day” activity, provided featured services in communities through the existing 1,025 power supply business counters, and manifested the image of “Good People in Power Industry” by kinship and humanity. A large number of advanced models appeared such as Cao Liwei, “the most beautiful person in the power industry”, and Zhang Wenzheng, “the head of station with great kindness”.

- SGCC Shanghai Electric Power Company set up 32 teams of “Power Police”, which had long-term assistance to and partnership with 1,000 communities.

- SGCC Liaoning Electric Power Company promoted the “Lei Feng Project” and made it regular and systematic by combining with the theme of “Six Ones”, which meant “a piece of love, a gust of wind, a rule, a nail, a drop of water and a bull”.

Ninth China Young Volunteer Outstanding Organizations 3
Ninth China Young Volunteer Outstanding Projects 2
Ninth China Young Volunteer Outstanding Individuals 6
Adhere to the law and operate business with integrity

Complete the establishment of internal control system. Implement the requirements of Suggestions on Accelerating the Establishment of SOE Internal Control System published by SASAC, strengthen control on key processes and steps, and endeavor to build an internal control system which is directed to strategic goal and covers the whole company and features a flat organizational structure, standard business procedure, specific internal control responsibility, IT-based control method and regular supervision assessment.

Establish a scientific penalty and prevention system. Publish the Suggestions on Further Deepening the Establishment of Collaborative Supervision Mechanism, the Suggestions on Conducting the Evaluation of Integrity Risk prevention, and the Standard of Establishing SGCC Integrity System in Bidding and Purchasing, further deepen the establishment of collaborative supervision mechanism, and promote the establishment of penalty and prevention system. Construct a unique corporate penalty and prevention system and integrity risk prevention and evaluation system, which inject company's responsibility into its business and include specific prevention method, effective supervision and powerful penalty and control.

Ensure open, transparent information. Regard the publicity and transparency of information as the lifeline of public welfare, and make great efforts to build a system to release timely, accurate and complete public welfare and charity information. Fully publicize the information on donation and expense, project operation and operation cost through newspapers and websites, give play to the supervision effects of fiscal and tax, audit and monitoring departments, and strive for more standardized and systematic information release.

SGCC Public Welfare Management Strategy

- Strengthen strategic analysis on Social needs
- Stakeholders' expectations
- Categories of SGCC's public welfare expenditure

- Plan public welfare projects
- Plan and implement public welfare projects of strategic value
- Effectively manage general public welfare projects

- Improve management
- Optimal allocation of internal public welfare resources
- Effective application of external public welfare resources
- Overall enhancement on public welfare management capability

Strategy Orientation

Public Welfare Strategy is an important part of SGCC’s strategy for sustainable development.

Unleash welfare projects’ function of creating integrated value and realize “conglomerated operation, standardized management and branding” of the public welfare resources.

Strategy Goal

Strategy Content

Strategy Control

Strategy Guarantee

SGCC Public Welfare Management Strategy

- Systematic guarantee
- Resource guarantee
- Capability guarantee
- Evaluation guarantee
CSR creates more value

Realize that responsibility is where there is influence. Play an exemplary role to fulfill responsibilities as a central COE and take part in solving major social issues. Support employees to play to the spirit of volunteerism and amplify their pride and satisfaction in participating public welfare.

Exert SGCC’s influence and driving force and strengthen the cooperation with the society to attract more social resources into public welfare. It cooperated with China Youth Development Fund to establish SGCC Hope Primary Schools, bringing RMB160 million investment from the local government.

Recognize public welfare projects which are needed by the society and use SGCC’s advantages, and contribute to solving social and environmental problems. For example, SGCC participated in solving stay-at-home population in rural areas by taking the advantages that the power supply network was everywhere in rural and urban areas and power supply was closely related to people’s lives.

Make it understood that the love and care from the staff and the society is the rarest and most precious resource. Maneuver to make every effort up to individual’s expectations and maximize the social value.

Enhance the branding of the public welfare cause and its management transparency, and win the understanding, trust and support from the society. Encourage the staff to carry out meaningful, effective public welfare projects with more capacity.

Push for the “conglomerated operation, standardized management and branding” of the public welfare cause. The principle should be with strategy, budget, research, procedure, management, feedback, supervision and improvement. Improve the management system and intensify the control and supervision during the whole process.

CSR management maximizes the value of every piece of love

[CSR Topic]

It is an important CSR to support public welfare and an important topic of fulfilling the company’s responsibility on public welfare to treasure and optically allocate the philanthropic resources from the staff and the society. There is still a lot of space for SGCC to improve its resource allocation efficiency and public welfare brand. SGCC shall strengthen the public welfare management, encourage standardized operation and brand awareness, and explore into the driving force of the public welfare cause and enhancing its welfare resource allocation.

Liu Long, an employee in SGCC Liaoning Dalian Electric Power Company, was selected as “Warm China” Person of the Year, who has been supporting Wang Yuyin, a childless senior, for 31 years.

AiniwaerMangiu, an employee in SGCC Xinjiang Hetian Electric Power Company, was Person of the Year on the Internet “Moving China 2013”.

[Responsibility Value]

Hold and implement public welfare concept of “optimizing the rare and precious public welfare resource allocation by management”. Public welfare management is an important content of CSR management. Supporting public welfare means making efforts to pursue better allocation of public welfare resources and delivering every caring effort’s full potential to create integrated value on the basis of respecting everyone’s wishes instead of just doing good things.
Promoting better allocation of public welfare resource requires public welfare management to adhere to its own advantages and driving effects. Making full use of grid company’s advantages of significant service network, teams, professionalism, social influence and driving force is the key to fully improve integrated value creation capability of public welfare projects and realizing the maximization of value created by every philanthropic effort.

Establishing a long-term effective mechanism to optimize public welfare resource allocation should further promote the conglomerate operation, standard management and brand development of public welfare. The love of millions of employees and extensive social influence are huge sources of public welfare and promoting the optimized allocation of public welfare resources is a strategic problem of the management. SGCC will choose to carry out unique public welfare projects which are endowed with the company’s advantages, social expectation and employees’ willingness, advance the standard management, transparent operation and brand development and make every piece of love create maximum value.

[Specific Practices]

SGCC Chongqing Electric Power Company
It created the public welfare brand, and built 100 SGCC Houses of Spring Seeding which were all equipped with a telephone, a computer, a television, a DVD player, an electronic keyboard, a batch of teenager reading materials, and a set of recreation and sports goods. These sites were a place for stay-at-home children to study, relax and communicate with parents far away.

SGCC Sichuan Electric Power Company
It offered designated aids to Gaoshitou Village, Mabian Yi Autonomous County, brought its advantages as a power company into play, and explored poverty alleviation mode of electricity, industry and education. It enhanced rural electricity infrastructure construction and promoted industry poverty alleviation. It developed a mode involving the corporate, bases, and farmers for forestry, tea, and livestock. Along with education, the company carried out trainings on practical techniques and skills to help the poor so that they were taught to fish, instead of just being given a fish. The average annual income per capita was up to RMB1,680, RMB2,550 and RMB3,230 from 2009 to 2011 respectively.

SGCC Shandong Zibo Electric Power Company
It registered the public welfare brand “Minor Goodness” in SAIC (the State Administration of Industry and Commerce), advocated employees to frequently do good things and improve ethical level. The company set up the “Minor Goodness” volunteer association with the single acceptance condition being “volunteering to do something for others”. The association has accumulatively helped 523 dropout students in forms of pairs and over 5,500 people in disadvantage and attracted more than 200,000 volunteers to join. Xinhua News Agency fully recognized “Minor Goodness” activity in the article, “Zibo Power Supply Company Conducts ‘Minor Goodness’ and Builds Responsibility Brand”.

SGCC Fujian Zhangzhou Electric Power Company
It built the “861” volunteer service brand. The number of registered volunteers accounted for more than 80% of the total employees. These volunteers were divided into 100 sub-teams to carry out 6 kinds of activities, the result of which would become an important reference for honors and rewards. The system has ensured professional, organized and regular volunteer service.

SGCC Ningxia Guyuan Electric Power Company
It strengthened electricity infrastructure construction, bolstered the ecological immigrant project, supported development of unique industries such as agriculture and livestock, helped immigrants move out, settle down and gradually become rich, organized and promoted “Hu Zhiwen Young Volunteer Service Team” to spread the love of SGCC employees.
Promote the development of clean energy

- Support wind power
- Support PV generation
- Support grand hydropower and nuclear power generation
- Foster the research on renewable energy technology and policy

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Promote a resource-conserving and environmental-friendly development

- Boost the EV industry development
- Implement electric utility demand-side management
- Popularize equipment, technology and technique relating to energy-saving and environmental-friendly
- Minimize the environmental influence caused by the company development

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Accommodate of clean energy in 2012

680.1 TWh

56.76 GW of installed wind power capacity within SGCC’s service area in 2012

Integrate of PV power

3.33 GW

According to incomplete statistics, the reduced carbon dioxide emission from the industry and society reached

600 million tons

680.1 TWh

56.76 GW

3.33 GW

600 million tons

http://csr.sgcc.com.cn
Become a Model of Green Development

Perform the Responsibility on Environmental Protection and Low Carbon

A greener maximization of the integrated economic, social and environmental value creation

Boost energy conservation in an all-round way
- Establish energy-saving service company
- Conduct generation rights transaction
- Allocate power resources optimally by the power grid
- Encourage scientific, efficient power consumption
  ...

Popularize ecological civilization
- Establish a green industrial chain
- Appeal for green office, transportation and lifestyle
- Pass on the green ideal
- Participate in environmental public welfare projects
  ...

Address global climate change
- Promote energy conservation and emission reduction from the company
- Reduce industrial energy conservation and emission reduction
- Reduce social energy conservation and emission reduction
- Research on the energy-saving and emission-reduction policy for the electric power industry

353 EV charging & battery swapping stations built in 2012
14703 charging spots

833.14 million tons of standard coal saved by generation rights transaction in 2012

EV charging & battery stations built in 2012
charging spots

charging spots

charging spots

charging spots

charging spots

charging spots
Make great efforts to break down the problems of new energy development

Build Strong & Smart Grid to promote new energy development by mature UHV transmission technology. In the past decade, SGCC has invested more than RMB2 trillion in power grid construction, and accelerated the development of the more secure and stable Strong and Smart Grid with enhanced resource allocation capability. Based on the development strategy of building large bases to integrate into a grand power grid, the company has accelerated the construction of the peak-shaving power source and cross-regional UHV transmission channels, to fundamentally solve the problem of new energy accommodation.

Advance the unified planning of new energy and grid construction. SGCC has conquered difficulties such as inconsistent schedules in sanction and project construction during the preliminary planning, actively collaborated with owners, and carried out preliminary work in advance to accelerate interconnected projects’ construction. SGCC has accumulatively built wind power interconnection lines of 29,400 kilometers in 2012, making great efforts to satisfy the demand of integrating verified wind power to the grid.

Speed up standard system construction. Formulate a series of standards and regulations for the harmonious operation between new energy and the grid and form a sound corporate standard system for new energy interconnection. Actively participate in and promote the release of several industrial and national standards.

Enhance dispatching capacity for new energy. Give full play to the grand grid’s advantages of unified management and dispatching, strengthen the construction of new energy dispatching support system, comprehensively deploy wind power generation output prediction system, and make full use of current transmission channel capacity to ensure wind power accommodation.

Make breakthroughs in key technologies of new energy interconnection. Specify the research of distributed power and micro grid. China’s first 100kW wind/solar micro grid experimental platform was completed and put into operation. The wind/solar power generation research and test centers have been constructed, providing public R&D platform for the industry. Prepare in advance the integration of distributed renewable energy, power storage equipment, and EV charging facilities to the power grid.

Promote the leap-forward development of China’s wind power and PV generation. In 2012, the interconnected capacity of wind power in China reached 60.83GW, of which 56.76GW was in SGCC’s service area, ranking first in the world. That took US and Europe about 15 years to accomplish, whereas China only spent five years on it. The interconnected capacity of PV power in its service area reached 3.33GW.

Leading the world in the large-scale wind power operation in big-sized state grid. In 2012, the daily wind power generating capacity of eastern & western Inner Mongolia and Gansu Province respectively accounted for 72%, 28%, and 33% of daily consumption at most, surpassing Western countries like Spain.
Accommodate all integrated new energy. In 2012, SGCC accommodated 76.3TWh of wind power and 3.4TWh of PV power, increased by 43.60% and 463.72% than that in 2006 respectively.

Promote research on new energy policies and management. Coordinate with the government in organizing research on policies regarding new energy purchase, auxiliary grid construction, electricity pricing and cost sharing. Actively engage in research on transmission plan on large-scale new energy bases and related policies.

Enhance social communication; collaborate on discussing the development strategy. SGCC held a press conference on promoting energy development such as wind power in August and a video conference on strengthening the distributed PC power integration service in October, releasing SGCC’s strategy, promise and actions about new energy development, and strengthening the communication and collaboration with equipment manufacturers and power corporations to promote new energy development together.

Innovate on energy saving service

- Distribute Implementation Plan of SGCC Energy Saving Service System Construction, and SGCC Management Methods for Energy Conservation Indicators (Trial), identify the contents and goals of energy-saving service system construction, and enhance the operation monitoring and control capabilities of this system.
- Among the 27 energy saving service companies, 18 have passed the evaluation from the National Development and Reform Commission and the Ministry of Finance. 294 energy saving projects have been implemented, saving 1,365GWh of power.
- 510 energy efficiency groups have been established, with 5,250 corporate consumers as members. Carry out preliminary energy auditing for key corporate energy users 336 times. Seek energy conservation potential, and encourage consumers’ energy-saving transformation. It has promoted the society to save 740GWh of power.
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- Form 6 third-party energy efficiency evaluation institutions, 3 of which got the qualification of energy-saving verification by the National Development and Reform Commission. Carry out 334 energy evaluation projects, verifying a conservation of 6,260GWh of power.
- Strengthen international cooperation on energy saving with international partners like Germany. Promote advanced energy-saving technologies and experience in industries such as construction, coking, paper and metallurgy.
Serve the development of PV generation

Ensure the integration of PV generation. Release the SGCC’s Suggestions on Promoting Renewable Energy Development, make every attempt for the synchronized operation of integration projects and power generation projects, as well as timely interconnection of PV generation projects. In 2012, a total of RMB2.7 billion was invested in a solar power collection station with a capacity of 6.21GVA and 1000km-long lines for integration. The integrated PV generation capacity reached 3.33GW in SGCC’s service area.

Speed up standardization and lay a solid service foundation. To target for the protruding problem of lagged-behind PV generation standards in China, SGCC has established Standard System Framework for PV Generation and grid Interconnection based on 60 national standards and 22 industrial standards. It has also undertaken the standard compilation for 14 national standards such as Technical Requirements on PV Generation Stations’ Integration into the Electric Power System, and 18 industrial standards such as Regulations on Low-voltage Ride-through Detection Technology of PV Generation Stations.

Establish national R&D centers to upgrade the PV industry. The operating National Energy Research (Test) Center for Solar Power is China’s only PV test institute with CNAS and CMA certifications, providing an important research and test platform for China to grasp the core technology of PV key equipment and improve domestically produced key equipment.

Release integration service regulations to support distributed PV generation. On October 26, 2012, SGCC officially released the Provisional Suggestions on Carrying Out Integration Service for Distributed PV Power, the Provisional Suggestions on Integration Management for Distributed PV Power, and the Provisional Technical Regulations on Integrating distributed PV Power into Distribution Grid. It has made an open commitment to support, welcome and serve the development of distributed PV generation.

Build major demonstration projects and enhance the ability to construct and operate. SGCC has constructed the National Wind/PV/Energy Storage and Transmission Joint Demonstration Project, the world’s first comprehensive new energy application project to integrate wind power generation, PV generation, energy storage system and smart transmission. The world’s first GW-level desertification PV generation base has also been built, offering experience and laying a technical foundation for the intensive development of large-scale new energy bases and the comprehensive application of multiple new energies.
Six measures to serve distributed PV generation

Offer favorable integration conditions. Free services are provided to project owners during the whole process, including system access solution, metering equipment installation, integration acceptance and commissioning. SGCC shall purchase surplus electricity according to the national policy to support dispersed integration of distributed PV generation into low-voltage distribution network. No fees are charged for distributed PV generation projects for system reserve capacity.

Improve integration service management. All businesses can be processed at the Customer Service Center with simplified procedures. The 380V integration projects shall be handled according to the procedure of business extension and application for installation. All integration work should be finished within 45 working days (excluding construction time). Customers can inquire about the integration anytime through multiple ways.

Simplify technical requirements for integration. It has been made clear that distributed PV generation projects can use private wiring and T-connection to integrate into the grid. They can adopt wireless public network communication and the relay protection of the out-going line can simplify configurations.

Improve technical standard system. Formulate a technical standard framework for distributed power and develop Typical Designs of Distributed PV Generation Integration System. Further upgrade the integration planning and design, project construction, information security, test and measurement, and operation and maintenance.

Intensify auxiliary grid construction. Increase the investment on distribution network. Bear the cost of the delivering project for distributed PV projects’ integration into the public grid and the cost of public grid’s remodeling project due to the integration. A green channel is established for the auxiliary delivery project of distributed PV generation. Intensify the smart transformation of distribution network and enhance its acceptance capability for distributed PV power to ensure full accommodation.

Regulate integration equipment selection. Organize the R&D of integrated device of distributed PV generation interface to regulate equipment selection, ensure safety and reduce investment.
Perform well in the grid-side green development

Build energy-saving and environmental-friendly projects. Promote the application of unified design model, reasonably optimize the design, and popularize efficient, environmental-friendly construction technology and typical technique standard to save investment. Promote multi-circuits lines on the same tower, compact lines, large-capacity transformer, GIS and HGIS. Save land resources, reduce the influence on environment, and adopt asset lifespan management to improve asset operation efficiency.

Enhance line loss management. Optimize the grid structure, improve the reactive power compensation for distribution grid, improve the rural grid, and strengthen technology modification for old and energy-intensive distribution transformers. In 2012, the line lose rate was 6.73%, a decrease of 0.03 percentage point with the same diameter, saving 1.05 TWh of power.

Conduct environmental-protection training for all employees. SGCC Headquarters organized 43 training sessions for management of environmental-protection and trained 2,400 man-times. SGCC held 700,000 man-times of environmental protection training in 2011.


Actively advance CDM projects. All follow-up subprojects added to the advanced replacement of distribution transformer CDM project were approved. The CDM project of the National Wind/PV/Energy Storage and Transmission Joint Demonstration Project was successfully registered in the UN. The Certification Emission Reduction (CER) for the first monitoring period of CDM recycling program of SF6 was issued by the UN, with 72,414 tons of carbon dioxide equivalents from November 29, 2010 to June 30, 2011. Besides, eight projects were successfully registered in the UN, which would reduce annual carbon dioxide emission by 1.372 million tons in total.
Build a green grid with Anhui feature

SGCC Anhui Huangshan Electric Power Company has regarded protecting beautiful Mount Huangshan as its important social responsibility. To reach the goal of building a “safe, reliable, ecological, green and Anhui-characteristic” grid, the company implemented environmental protection throughout the whole process of grid construction, including project proposal, design, plan, construction and completion. The synchronized planning, implementation and development of grid construction and environmental protection also ensured the harmony between grid building, protection of Anhui Culture and the ecological environment of Mount Huangshan.

- **Optimize station location and channel choice.** Various comparisons in terms of ecological protection, load development, and pollution prevention were constantly conducted when making decisions on station location and channel choices, and final plans were made after repeated discussions and careful on-site investigations.

- **Maintain the harmony of the construction and its surroundings.** Reduce land occupation as much as possible during the planning stage. Construct substations in the typical Anhui style so that they were harmonious together with other architectures in Huangshan City.

- **Minimize the influence and interference of construction on the environment.** Detail management was greatly emphasized during project construction. Non-oil equipment was chosen to avoid the ecological destruction on scenic spots during transmission/transformation projects, especially the grid modification in Mount Huangshan scenic spot. Aluminum-alloy conductor and tower elevation were adopted to minimize tree-cutting, enhance vegetation protection, and avoid ancient and rare trees and the Anhui cultural heritage. Line channels have referred to the municipal road plan to minimize land occupation and protect farmland. The infrastructure construction with legs at different heights could protect vegetation and avoid water loss and soil erosion. Timely vegetation restoration was implemented in affected areas.
Drive up generation-side green development

Actively accommodate hydropower. China’s installed hydropower capacity amounted to 250GW, topping the world, among which, 168GW came from SGCC’s business area. Its accommodated hydropower has increased by 41% year-on-year. The maximum amount of hydropower transmitted from Sichuan to other areas exceeded 10GW.

Serve the safe and healthy development of nuclear power. The interconnected capacity of nuclear power in SGCC’s business area was 6.4GW in 2012.

Promote user-side green development

Advocate the concept of energy conservation and environmental protection. By holding exhibitions on energy conservation achievement, organizing lectures and assembling meetings, SGCC is promoting energy conservation, low-carbon and green development in newspapers, magazines, websites, and exhibition halls.

- Encourage green office and green life. Hold as many video meetings as possible to reduce meeting and commuting costs. Advocate “saving every penny, each piece of paper and each inch of conductor”. Promote energy conservation in offices, reduce consumption of office supplies, and standardize classification, identification, storage and disposal of office waste.
- Actively participate in social environment protection. Conduct voluntary service for environment protection and support environmental public welfare projects that have extensive social influence. For example, SGCC jointly planned and participated in “Protection Action for Minjiang River and Jiulongjiang River”.
- Increase the proportion of electric energy in the end consumption of energy.

Promote the development of electric vehicles (EV). SGCC has established an EV smart charging & battery swapping service network with 353 stations and 14,703 charging spots, making China the country with the most extensive charging infrastructure currently in operation in the world.

- The International standard proposal of Safety Requirements on EV Charging Facilities was approved by IEC with majority votes, which was the first established international standard proposed by China within the EV area.
- Complete the standard system of charging and battery swapping facilities. Finish 13 national standards, 17 industrial standards, 3 standards of central SOE EV industrial alliance, and 36 enterprise standards in total.

Conduct generation rights transaction. Replace the low-efficient and heavy-pollution thermal power generator units with efficient and environmental-friendly power generator units, such as hydropower and nuclear power. 109.748TWh generation rights transaction was conducted in 2012, saving 8.3314 million tons of standard coal.

Promote energy-efficient generation and dispatching. Strengthen the pilots in Jiangsu, Henan and Sichuan companies and improve the efficiency rate of energy-efficient generator units. In 2012, SGCC Jiangsu Electric Power Company saved 630,000 tons of standard coal and reduced 18,900 tons of sulfur dioxide emission. SGCC Henan Electric Power Company saved 538,000 tons of standard coal and reduced 12,910 tons of sulfur dioxide emission. SGCC Sichuan Electric Power Company saved 541,000 tons of standard coal and reduced 16,200 tons of sulfur dioxide emission.

Demand-side power management promotes power conservation and environmental protection

- Popularize 432 electrical storage technology projects in total throughout 2012 and efficiently shift 14.88GW of power for peak load.
- Promote 75,389 projects ranging from green lighting, efficient motor, and reactive power compensation facility to energy-saving transformer in total throughout 2012 and save 2.64TWh of power.
- Popularize 942 heat pump projects and newly added heating (cooling) areas cover 31.11 million square meters in 2012.
- Popularize 26,641 energy replacement technology projects including replacing coal with electricity, agricultural power irrigation and electric heating of ceramic kiln.
Save energy and reduce emission to combat the global climate change

According to incomplete statistics, SGCC promoted carbon dioxide emission reduction of 600 million tons from the industry and the society in 2012.

Serve clean energy development. Accommodate 680.1TWh of clean energy, equivalent to 221.7126 million tons of standard coal, and reduce carbon dioxide emission by 552.6493 million tons.

Conduct generation rights transaction, and energy-efficiency generation and dispatching. The generation rights transaction saved 8.3314 million tons of standard coal while the pilots in three provinces for energy-efficiency generation & dispatching saved 1.709 million tons of standard coal. A total of 25.0271 million tons of carbon dioxide emission were reduced by these two methods.

Lower the line loss rate to save 1.05TWh of power, equivalent to 342,300 tons of standard coal and reducing carbon dioxide emission by 853,200 tons.

Boost cross-regional and inter-provincial power transaction. The cross-regional and inter-provincial transaction amounted to 605.489TWh, of which 32.280TWh was transmitted by UHV.

Push for standardized construction. The typical energy-saving and environmental-friendly line design with new technologies, materials and techniques saved 98 thousand tons of steel, equivalent to 59 thousand tons of standard coal, reducing carbon dioxide emission by 147 thousand tons.

Recycle resources. 19 tons of SF₆ gas was cleaned and recycled, which equals a reduction on emission of 450 thousand tons of carbon dioxide.

Construct an energy-saving service system, which has saved 9.7TWh of power, equivalent to 3.1622 million tons of standard coal and a reduction on carbon dioxide emission by 7.8822 million tons.

Carry out power demand-side management. The demonstration projects have saved 2.64TWh of power, equivalent to 860.6 thousand tons of standard coal and a reduction on carbon dioxide emission by 2.1453 million tons.
SGCC’s overseas transmission lines in operation by the end of 2012 are 39,539 km.

The total overseas contract value of technical service projects ongoing adds up to $2.579 billion.

The power supply reliability rate of Luzon Island grid in the Philippines reaches 99.61%.

Comprehensive voltage qualification rate is 99.33%.

CSR is an important part of overseas business development strategy

- Create comprehensive economic, social and environmental value for the local community
- Respect international common practice and local culture
- Insist on win-win cooperation and joint development
- Enhance communication and brand building

Operate National Grid Corporation of the Philippines NGCP with responsibility

- Upgrade the grid development
- Enhance power supply reliability
- Improve management
- Promote localization

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Implement Overseas Business Responsibly

Contribute to **win-win cooperation** for global socio-economic sustainable Development with global vision

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

- Restructure corporate business
- Enhance grid operating efficiency
- Protect employees’ rights and cultivate career development
- Involve and invest in community development

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**Jointly cope with the challenge of sustainable global development**

- Promote optimal allocation of the global energy resources
- Participate in international standard formulation for energy and power sector actively
- Fight against the global energy security challenge with joint efforts
- Deepen international cooperation for sustainable development

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SGCC invested to support public welfare projects in Brazil and the Philippines
RMB 8.23 million

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Implement Overseas Business Responsibly
Operate SGBH and NGCP with responsibility. SGCC operates 6,000km transmission lines in Brazil and 19,704km transmission lines in the Philippines.

SGCC has acquired 25% share in Redes Energeticas Nacionais (REN), Portugal’s national energy network, and 41% share in ElectraNet, Australia, making breakthroughs in Europe and Oceania.

Promote overseas business development strategy

Speed up the implementation of the “Going Out” strategy. With global vision, and comprehensive advantages in management, technology, talent, capital and brand, SGCC has explored into the global market and enhanced its capability of global resources integration. The company has accelerated the globalization of corporate development, grid construction and operation, management and branding, contributing to the world’s sustainable development and social progress.

Optimize strategic layout of overseas operation. With a thorough understanding of the economic globalization trend, SGCC has intensified to export its technology, management and equipment in its key businesses such as grid construction, operation, equipment manufacturing and grid investment so as to accumulate its international competitive edge. Relying on the core technology of UHV transmission and its equipment manufacturing, and smart grid development, SGCC has forged an internationally competitive electric equipment group. International electric power cooperation and electric technology management and consulting services have been practised in forms of contracting overseas technical service projects and exporting electric equipment technology.
SGCC completed a number of overseas investment and acquisition in 2012

- In February, SGCC won the bid for purchasing 25% of Portugal’s REN shares and joined REN’s senior management. It was the first time for a Chinese power company to become the strategic investor and the biggest shareholder in a European national grid company.
- In March, SGCC and its Brazilian partners came away with licenses to build lot A and lot B of Teles Pires transmission line, which was SGCC’s first large-scale transmission greenfield project overseas. This project covers grid investment, construction, operation and management, which could enhance SGCC’s international energy competence, help export Chinese electric equipment and revitalize national manufacturing industry.
- In May, SGCC signed the Share Purchase Agreement with Actividades de Construcciones y Servicios (ACS) and obtained 7 transmission concessionaries in Brazil.
- In December, SGCC won a bid for 41% stake in ElectraNet, which owns 5,600km transmission lines and 86 substations. Its transmission grid accounts for 6% of Australia. It’s the first time for a Chinese company to invest in Australian power grids, paving the way for a better cooperation between China and Australia in complementing their technology and capital in the electric power field.
- In December, SGCC won the bid for Belo Monte hydropower transmission project in Brazil.

Conduct CSR risk assessment for overseas investment. Based on the deep research on the local conditions and cultural traditions, SGCC has evaluated the political, legal and environmental risks as well as the risks in human rights and corruption. The results have been incorporated in the investment decisions.

Conduct overseas business with responsibility. Insist on serving local socio-economic development and environmental harmony and maximizing the integrated economic, social and environmental value for the operating locations. Respect international practice and local cultural traditions and strengthen the communication with various parties to gain their social understanding and recognition. Adhere to win-win cooperation and localized operation and serve and support community construction for joint development. Persist in green operation and attach great importance to the local natural environmental protection. Eliminate pollution and ecological damage. Conserve biological diversity and promote a harmonious development for the company and the environment.
Operate SGBH with responsibility

Since its founding at the end of 2010, SGBH has been promoting lean management to maintain leading grid operation among its peers. In August 2012, the company was awarded as “Best Power Company of the Year” by Valor Econômico, the most influential financial and economic journal in Brazil.

- **Localize business operation.** SGBH pays great respect to the local religions and traditional culture and absorbs local labor resources. When SGCC took over the company at the end of 2010, it kept all Brazilian employees. At the same time, the company hired locally for its senior management positions to partner with the Chinese team. The company maintains a sound momentum with Chinese and Brazilian teams working closely. The company has built the SGCC Rio Tower, which is equipped with centralized substation control system, enabling SGCC to monitor its assets in Brazil online. It also demonstrated SGCC’s dedication to its long-term development in the country.

- **Guarantee staff rights and benefits.** Ensure their decent work, health and safety. In the greenfield project, SGBH has motivated local staff to communicate and coordinate with stakeholders successfully and facilitate the Chinese team to get familiar with the situation, which has laid a solid foundation for the success of the transaction and implementation.

- **Participate in public welfare projects.** SGBH has sponsored the Sino-Brazil cultural and sports exchange and an education program for under-privileged youth in Brazil. As of the end of 2012, SGBH has invested BRL 2.57 million in 7 public welfare projects of education, culture, sports and environmental protection, winning social trust and support.

The social welfare program “Road of Culture” in Brazil provides free training of musical instruments to children from the slums to enrich and change their lives. SGBH has been sponsoring this program since 2012. The program has increased from 40 people at the beginning of 2012 to 150 students now. It has helped local children pursue music and a better life. The program won the recognition and appraisal from local people, and effectively enhanced the brand influence in Brazil with good reputation and favorable corporate image.
Operate NGCP with responsibility

Since its official operation of the national transmission grid in the Philippines on January 15, 2009, NGCP has been a good corporate citizen to advocate a win-win strategy for a sustainable development and gain the understanding, trust and support from the society.

- Enhance safe operation and management of the power grid. NGCP has capitalized on the operating company's management experience, technological capacity and R&D assets to apply advanced technology and experience in grid planning, construction, operation and maintenance, pushing for the grid's upgrade. The outage has significantly dropped and the power quality has been improved.
- Increase customer satisfaction. NGCP has established partnership with 298 power clients through surveys, partner forums, and regular communication and exchanges. At the same time, it has trained linemen, promoted CSR win-win projects, and greatly improved service quality and customer satisfaction.
- Promote capacity building of partners. NGCP has supported the distribution company DUS to carry out staff training. In 2012, 25 training sessions were held for 1,899 employees, contributing to the grid operation capacity and power supply reliability.

Drive international energy cooperation

SGCC has actively implemented energy cooperation with neighbouring countries. The company has run projects in 23 countries and regions, including Brazil, Venezuela, India, Pakistan, Cambodia, Vietnam, Thailand, Indonesia, Myanmar, Saudi Arabia, Iran, Nigeria, Sudan, Zambia, Equatorial Guinea, and Kenya.

- Step up Sino-Russia power cooperation to a new stage. On February 25, SGCC signed a 25-year Power-Purchase Agreement with the JSC Eastern Energy Company of Russia. On April 1, Sino-Russian 500kV back-to-back Interconnection Project was put into commercial operation. On June 5, SGCC and INTER RAO UES signed the MOU on Expanding Electricity Cooperation, witnessed by then Chinese President Hu Jintao and Russian President Vladimir Putin, to expand the scale of electricity trade and equipment manufacturing, to rehabilitate Russia's power grid and cooperate to explore the power market in a third country. On December 5, SGCC signed the Agreement on the Quantity and Price of Electricity in 2013 with the Eastern Energy Company.
- Make progress in Sino-Russia cooperation in biomass energy. In April, the State Grid Green Energy Company was established to cooperate with Russia in biomass energy. During Russian President Vladimir Putin’s visit to China in June, the company signed the Framework Agreement on Establishing Joint Venture International Green Energy Company with its Russian counterparts, and carried out preliminary study on biomass power generation.

The power supply reliability rate and comprehensive voltage qualification rate of Luzon Island grid in the Philippines

Participate in social welfare undertakings. NGCP has supported local communities development improved the environment and enhanced people's lives with its advantages and employee volunteer service resources. In 2012, NGCP invested PHP 3.8 million in education, health, environmental protection and local culture preservation programs.

The total contact value $2.579 billion

245 ongoing overseas technical service projects in 2012
Jointly cope with the challenge of global sustainable development

Participate in the international standard formulation. SGCC initiated and established two new committees, i.e. High Voltage Direct Current (HVDC) transmission Committee and Smart Grid User Interface Committee. It took the lead to finish “White Paper on Grid Integration of Large-capacity Renewable Energy Sources and Use of Large-capacity Electrical Energy Storage” launched by IEC/MSB. 5 standard proposals have been approved by IEC. A UHV AC standard work team has been established in IEEE to develop 3 international standards.

Combat the global energy challenge with joint efforts. SGCC initiated the strategic proposal of building transnational and intercontinental energy transmission channels on the basis of the UHV technology to ensure the safe supply of global energy and contribute to a sustainable development. It is a positive response to the initiative “Sustainable Energy for All” (SE4ALL) launched by UN Secretary-General Ban Ki-moon and will spare no efforts to contribute to the “SE4ALL” by 2030.
It’s an important strategic choice to ensure power security and realize the sustainable development of global energy by adopting advanced UHV AC and DC transmission technology, building intercontinental power transmission channels, establishing transcontinental power market, and therefore optimizing energy resource allocation globally.

——SGCC President, Liu Zhenya

Major international conferences attended in 2012

- **U.S.-China Economic and Trade Cooperation Forum**
  Illustrate the significance that China and the U.S. can complement each other on energy structure adjustment, clean energy development, and Strong & Smart Grid construction and strengthen the cooperation on energy infrastructure.

- **G-SEP Berlin Summit**
  Introduce the significant progress made by SGCC in UHV construction and Power for All, as well as SGCC’s Strong & Smart Grid performance and development prospects. Put forward the importance of the strategic concept of the Eurasian intercontinental UHV energy channel.

- **Annual Conference of CIGRE**
  Illustrate the strategic vision of building intercontinental UHV projects and building intercontinental and trans-national transmission channels. Propose to optimize the global energy allocation by adopting advanced UHV AC/DC technology, building intercontinental power transmission channels, and establishing intercontinental power market.

- **IEC SMB SG2 Meeting**
  Discuss the development of UHV AC standards in IEC, propose to establish a new IEC TC of UHV AC system, and identify the project convenor.

- **The Chinese Expert Committee of IEC MSB**
  Introduce the progress made by IEC MSB. Discuss the role of Chinese Expert Committee and further expand China’s influence in IEC.

- **Fourth Plenary Conference of IEC TC115**
  TC 115-High Voltage Direct Current (HVDC) transmission for DC voltages above 100 kV is a new technical committee first independently proposed by China in October 2008. SGCC, on behalf of China, undertakes the role of Secretariat.

- **IEEE Meeting**
  Survey on three IEEE UHV AC standards initiated by SGCC from global experts and make amendments.
Visits in 2012 to SGCC website: 5,620,000

Coverage of prefecture-level (or higher) government talks and information submission: Over 90%

Releases of power dispatching and transaction information: 545

Guarantee the transparency of major decisions:
- Provide suggestions to the national energy policies
- Discuss power grid development with governments of all levels
- Strengthen communication and cooperation with partners on the industrial chain

Intensify social communications:
- Hold press conferences
- Release annual CSR report
- Release White Paper On Serving Socio-economic Development

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Guarantee Operation Transparency and Be Open to Public Supervision

Implement Responsibility on Communication and Cooperation

More transparent creation of maximized integrated economic, social and environmental value

Be open to government regulation and public supervision

- Be open to government regulation
- Be open to media and public supervision
- Popularize and implement the revised “Three Tens”

Encourage stakeholders’ participation

- Develop stakeholder engagement strategies
- Establish a long-term mechanism for stakeholders’ participation
- Invite walks of life into SGCC

24 provincial-level companies released their CSR implementation report, accounting for 89%

Hire social moral supervisors

29,700
Give advice on the national and local energy development

Explore the strategy for sustainable energy development of China. SGCC has studied the profound changes in the international energy pattern, faced with the complicated challenges of China’s energy development, and grasped the opportunity for the strategic transformation of national energy development. The company has implemented “One Ultra Four Large” (1U4L) strategy, an energy development strategy focusing on the construction of UHV grids supported by the development of four massive bases of coal-fired, hydroelectric, nuclear and renewable power generation, in the guidance of the “Macro Energy Perspective”, and promoted the scientific development of electric power industry and the transformation of China’s energy structure and energy development mode.

Lu Qiang
Academician of Chinese Academy of Sciences, Professor at Tsinghua University
This book presents the basic thinking on solving major issues concerning China’s energy development and the methods for the national energy transformation. It sure will have a profound influence on China’s energy development, specially the electric industry. I must pass the essence of this book on to my students.

Ai Xing
Academician of Chinese Academy of Engineering
This book proposes to establish a Macro Energy Perspective in the light of the intense changes in international energy development pattern and the severe challenges facing China’s energy development, develop the electric power strategically as an important support for energy balance to break through the bottleneck for energy development, ensure a healthy national economy, and promote sustainable energy development in China.

Zhou Xiaoxin
Academician of Chinese Academy of Sciences, Researcher of China Electric Power Research Institute
This book looks at electric power from the energy perspective and energy from the electric power perspective. It proposes to develop energy centered with electric power and increase the ratio of electricity in the comprehensive energy transmission system because more electricity means less emission. I totally agree with that.

Initiate the Macro Energy Perspective:
Analyze and study the energy problem using system theory, the concept of sustainable development, and a perspective that is comprehensive, all-inclusive, historical, open and universally connected.

Propose ideas on China’s energy development: promote the transformation of economic development mode, energy development mode, and the international competition pattern with coordination, pursue the new industrialization and energy modernization with Chinese characteristics, and create a favorable international environment.
Participate in the planning of the national energy development. SGCC has developed the 12th Five-Year National Energy Plan and the power grid planning in cooperation with the National Development and Reform Commission and the National Energy Administration, and fostered an orderly connection of UHV projects with the national 12th Five-Year energy planning. The company has kept amending its 12th Five-Year grid development plan to enhance Strong & Smart Grid’s structural rationality, security, stability, and the ability to integrate and accommodate new energy.

Contribute to the local sustainable energy development. SGCC has regularly held government-enterprise talks to communicate with the 22 provincial-level governments and various local governments within its service area, and promote the overall local socio-economic development plan to include grid planning. The company has referred to the local economic, social, and environmental needs, assisting the local government to meet its goals for energy conservation and emission reduction and realize a sustainable energy development.

Wang Wenxing
Academician of the Chinese Academy of Engineering
This book illustrates the strategic thinking on focusing on electricity development against the background of intense changes in international energy pattern, complicated challenges for China’s energy development, and the opportunity for a strategic transformation. It proposes to build the Strong & Smart Grid as the strategic stronghold for the green development of energy, which can enhance grid's capability to integrate and accommodate clean energy and realize its large-scale development, long-distance transmission and efficient utilization.

Peng Huagang
Director of the Research Bureau of SASAC
What's the scarcest? Not the market, resources, capital or talents, but the mind. This book is the fruit of deliberation on major issues from a central SOE leader.

Xue Yusheng
Academician of the Chinese Academy of Engineering, Researcher of State Grid Electric Power Research Institute
This book combines the primary energy and the secondary energy. Coal is the key primary energy and electricity is the key secondary energy. This book illustrates their connection, and gives a very convincing and logical exposition of the sensitive relationship between coal transport and electricity transport, as well as the relationship among grids of different voltages.

Feng Fei
Director of Department of Industry, Development Research Center of the State Council
This book directly answers to conflicts. It stresses two “further”. One is the market mechanism needs further improvement. The other is supervision and regulation needs to be further polished.

Lin Boqiang
Director of the China Center for Energy Economics Research at Xiamen University
The 1U4L strategy is a whole new topic, changing the function of electricity supply industrial chain from the conventional passive assurance to an active role of innovating technology and participating in allocating resources and environmental spaces. It certainly deserves further study.
Guarantee the transparency of major decisions

Assist media with various reports and interviews on key work and hot issues of public concern. Disclose SGCC’s major decisions and actions on optimal allocation of national energy, serving the development of clean and new energy, and social responsibility fulfillment as a central SOE to enhance the understanding, trust and support from various parties.

On October 30, the press conference on deepening quality service and promoting new energy development was held by SGCC Jilin Electric Power Company.

On October 26, SGCC held a video press conference on strengthening the distributed PV power integration service, and released *Suggestions on Carrying Out Integration Service for Distributed PV Power*.

On October 25, SGCC Gansu Electric Power Company held a press conference on deepening quality service and promoting new energy development.

On October 23, SGCC Jibei Electric Power Company held a press conference on serving the development of clean energy in Hebei and introduced the National Wind/PV/Energy Storage and Transmission Joint Demonstration Project.

On October 19, SGCC Xinjiang Electric Power Company held a press conference on deepening quality service and promoting new energy development, such as wind power.


On October 16, the Information Office of Shandong Province took the lead to hold a press conference on SGCC Shandong Electric Power Company serving to boost the province’s economic and cultural capability and promoting new energy development, such as wind power.

On October 11, the Publicity Department of Inner Mongolia Autonomous Region took the lead to hold a press conference on SGCC Eastern Inner Mongolia Electric Power Company promoting new energy development, such as wind power, and introduced the company’s exploration and measures in this regard.

On August 15, SGCC held a press conference on promoting the development of new energy, such as wind power, and introduced its strategic deployment, actions and achievements in promoting wind power and other new energies.
Be open to government regulation and public supervision

Be open to electricity regulation. Implement the regulation requirements of SERC, carry out inspection on the quality of residential power consumption, and inspect and rectify the problems about power supply service to make sure of convenient and quality power consumption. Build a long-term effective mechanism on high quality service to enhance the service quality constantly.

Be open to social supervision: Promote and implement the revised “Three Tens”, hire social moral supervisors to get a hold of the morale, as well as strengthen third-party supervision for service quality. Organize customers to visit SGCC, so that people could feel the power service closely. Invite people to the worksite of Political and Industrial Morals Hotline to strengthen social communication.

Be open to the moral evaluation and third-party supervision

SGCC Qinghai Electric Power Company carried out “Sunshine on the Plateau; Feel the Grid” program, and a gratitude program to return customers’ trust by inviting people to the worksite of Political and Industrial Morals Hotline. SGCC Henan Electric Power Company walked into the Political and Industrial Morals Hotline studio, and invited local media to visit the grassroots workers, so that the supply service and SGCC staff could be better and more comprehensively understood. Representatives from SGCC Shanxi Electric Power Company led their team to participate in Political and Industrial Morals Hotline of Shanxi Province regularly, in which they could communicate with audience closely. SGCC Hunan Electric Power Company offered assistance to factories, mines, schools, communities and consumers, executed veto power on moral problems to get to the bottom of it, and welcomed social supervision.

SGCC Xinjiang Urumqi Electric Power Company deepened third-party inspection and check on service quality, and employed integrity supervisors to provide monthly inspection and report and quarterly analysis, covering all of the 8 marketing companies and 22 service counters, and 4 front-line professional services. SGCC Shaanxi Shangluo Electric Power Company insisted on equal importance of internal supervision and social supervision, and built a three-level (company, subsidiary, and power supply station) internal supervision network. 100 social moral supervisors were employed, and media were also invited to SGCC regularly. SGCC Chongqing Changshou Electric Power Company invited people to visit business halls and substations on the Power Open Day, to supervise the service quality. Organize talks between the enterprise and residents.

SGCC Shanghai Electric Power Company: communication improves trust

At the beginning of 2012, the company instantly communicated with concerned parties once it discovered an online post saying something was wrong with the electricity bill. Its prompt reaction and honesty won the understanding.

- On that day the company visited the consumers and communicated with them face to face. For some consumers’ meter calibration request, the company coordinated with MQTSB to offer test results within 24 hours.
- Smooth the channel of complaints, and pay return visits for all payment problems in the 95598-service hotline. Release the four payment commitments on the newspaper, radio, TV and the Internet.
- Draw inferences about other cases from one instance. Strengthen electricity data analysis and early warnings of payment fluctuation, invite representatives from government, media and residents to visit Customer Service Center and Power Measurement Center, and respond to power demands.
Enhance social communication

SGCC is the only central SOE to release CSR reports for seven consecutive years in China. The report was released to 1,500,000 employees at a videophone conference for the first time. More than 37,000 people in 1,835 venues attended this conference. CCTV Night News reported the event.

24 provincial companies and several prefecture-level companies released their annual CSR implementation report and the White Paper on Serving the Economic and Social Development, which received positive feedbacks and attention from local government and media.

CSR implementation reports of SGCC subsidiaries received positive feedbacks.

Wang Sanyun, Secretary of CPC Gansu Provincial Committee, made comments that during the 11th Five-Year, the power industry has implemented the Scientific Outlook on Development, worked hard for the big picture, pushed forward the “Two Transformations”, and gained new achievements, which provided strong guarantee for the economic and social development as well as improvement of people's life. Chen Zhenggao, Governor of Liaoning Province, made instructions for Liaoning Electric Power Company's CSR Report 2011: “The company has made great contributions to Liaoning's development, and created a new situation. I hope it could carry on and make new breakthroughs.” Wang Junmin, member of the Standing CPC Committee and Vice Governor of Shandong Province, highly appraised SGCC Shandong Electric Power Company for its social responsibility implementation and contributions for peak shaving in the summer, fighting against drought, constructing the Strong and Smart Grid, as well as energy conservation and emission reduction. Hong Feng, Vice Mayor of Beijing, made comments that Beijing Electric Power Company took the lead to release CSR Report among SOEs stationed in Beijing, showing a demonstration effect and a good image of an active CSR implementer and a sincere service provider. He hoped it could carry on and make greater contribution to the capital's development. "Yanbian Power Supply Company initiated social responsibility practice in our county, showing the business philosophy of people orientation and the pursuit of both economic and social value. This is a rather meaningful activity welcomed by consumers. I hope the company could summarize the experience and encourage more corporations to take part in the activity, making greater contribution for a better Yanbian.”
The release of the White Paper marks that corporations begin to research their roles, responsibility and social function from the integrated economic, social and environmental value. It is of great theoretical innovation and practical value, and is well worth deep research, summarization and promotion.

-Hou Yunchun, Deputy Director General of Development Research Center of the State Council

The release of the White Paper is SGCC’s successful exploration to strengthen social communication, build up emotional and value recognition, and improve public trust.

– Yang Qingbing, Deputy Editor-in-chief of Xinhua.org

The release of the White Paper marks a new phase for SOEs’ social responsibility work, and makes new contributions to the CSR development of Chinese corporations. The “Corporate Integrated Value” brought up by the Paper is of great paradigm value to push forward the development transformation and deepening of corporate theoretical research.

-Huang Quanhui, Party Secretary of Institute of Industrial Economics of CASS

For the White Paper on Service for Shandong Economic and Social Development by SGCC Shandong Electric Power Company, as well as the achievements of wind power and other new energies development, Zhang Jianguo, Vice Governor of Shandong Province, highly valued the company’s practice in responsibility as an SOE. The Secretary of Zaozhuang Municipal Party Committee Chen Wei, made comments on White Paper on Service for Zaozhuang Economic and Social Development, saying it fully demonstrated the responsibility consciousness that electricity goes first for the scientific development.

The release of the White Paper on Corporate Value on January 12, 2012. The Paper has received positive feedbacks and recognition from the central leadership and the society.

-Su Yinzeng, Deputy Secretary-General of Hebei Provincial Government pointed out that the White Paper indicated Jibei Electric Power Company would improve power service quality and capacity, which would provide powerful support to make Hebei economically strong and harmonious.
From July 10 to 18, 20 students from 19 universities in Beijing, Tianjin and Hebei visited SGCC Jibei Chengde... shares university students’ surprise, gratitude and growth.

**SGCC Tianjin Binhai Electric Power Company: communicate heart to heart from five dimensions.**

**Government:** Establish power guarantee and development groups in Binhai New Area, form a grid construction coordination mechanism led by the government, and settle problems in the grid development by both government and enterprises.

**Moral supervisors:** Do a good job in social supervision, conduct thorough investigations, and listen to opinions and suggestions to improve work constantly.

**Media:** Establish media communication and feedback mechanism, create QQ groups for media journalists, and promote the company to build up social views and understand media expression.

**Big customers:** Push forward the normalized management of big customers’ club, establish tailored management archives, emergency plans and service plans with good quality, and strengthen one-on-one service.

**Community:** Promote power service community co-construction, sign agreements on construction with community committees, and set up volunteer service stations within communities to enhance residential power service.

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At the Kaifunouzhogou ranch in Weichang Autonomous County, Yan Wei from Yanan University wrote: “A person sticks to post and fulfills his responsibility with a horse in the mountain along the water.”

After the interview with the service team, Zhang Hongguang from Hebei University wrote: “Jibei Electric Power Company makes me actually feel its corporate social responsibility and an SOE’s moral conscience for people and prosperity.”

Song Baohui from China Agricultural University put the words from the wall posted by Pianqiao residents on her Weibo: “Pianqiao farmers are pleasant and sincerely grateful for the Party. We celebrate the wonderful world and pull together for a moderately prosperous society.”

After her visit to an old woman called Huang Xiuying, the first head of Dong Cunrui Village in Longhua County, Hebei University of Technology student Mi Mengfan wrote at her Weibo: “Your power, our care. We listen to and feel what you are doing.”

Weibo records SGCC staff’s loyalty, commitment, insistence, hardships, creditability, integrity and happiness. Weibo shares university students’ surprise, gratitude and growth.

“I was reluctant to go when I left Chengde company and said goodbye to the staff in Chengde company and Hongyu Team. I believe, it is because of their dedication and their earnest and touching actions,” wrote Wang Huiling from Hebei Normal University.

Growing up in the city, Zhang Yuju, a campus journalist from Beijing Language and Culture University, wrote: “It is my first time to see how the mushrooms grow,” after her visit to the Bajia Mushroom Grange of Wolonggang Village in Pingquan County, Hebei Province.

Wang Hongqiang from Beijing Institute of Technology interviewed the Green Boat Power Service Team at Panjiakou Reservoir. He wrote on his Weibo: “The logo of ‘SGCC’s Party Member Service Team’ that the members bear, is not only an identity, but also SOE’s responsibility printed on the heart.”

Zhang Chen from Peking University interviewed on Moguyu Town’s “Power for All” Project in Xinglong County. He was moved and wrote: “Wire poles could not be lifted to some extremely steep places, and people dragged them there. Grid workers had to drag the cables at some muddy roads. We can only imagine how hard it could be.”
The Performance

Value recognition based on performance
Build and demonstrate a responsible, reliable and trustworthy SGCC
## Economic Performance

### Financial Performance

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue (billion RMB)</td>
<td>1,140.7</td>
<td>1,258.0</td>
<td>1,542.7</td>
<td>1,675.4</td>
<td>1,885.5</td>
</tr>
<tr>
<td>Total assets (billion RMB)</td>
<td>1,645.3</td>
<td>1,841.9</td>
<td>2,119.2</td>
<td>2,211.6</td>
<td>2,352.7</td>
</tr>
<tr>
<td>Total profits (billion RMB)</td>
<td>98</td>
<td>4.6</td>
<td>45.09</td>
<td>53.78</td>
<td>65.07</td>
</tr>
<tr>
<td>Pre-tax profits (billion RMB)</td>
<td>86.8</td>
<td>65.75</td>
<td>122.74</td>
<td>138.4</td>
<td>173.5</td>
</tr>
<tr>
<td>Return on equity (%)</td>
<td>0.81</td>
<td>-0.39</td>
<td>4.87</td>
<td>4.54</td>
<td>4.66</td>
</tr>
<tr>
<td>Asset-liability ratio (%)</td>
<td>63.06</td>
<td>65.07</td>
<td>61.83</td>
<td>60.02</td>
<td>57.62</td>
</tr>
<tr>
<td>SASAC Evaluation on Operation Performances (Class)</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
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</table>

### Grid Capability

<table>
<thead>
<tr>
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<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment in power grid construction (billion RMB)</td>
<td>249.7</td>
<td>303.16</td>
<td>264.37</td>
<td>301.92</td>
<td>305.4</td>
</tr>
<tr>
<td>Length of transmission lines* (km)</td>
<td>496,332</td>
<td>561,456</td>
<td>618,837</td>
<td>655,131</td>
<td>713,081</td>
</tr>
<tr>
<td>Transformation capacity **(kVA)</td>
<td>160,142</td>
<td>188,654</td>
<td>213,193</td>
<td>239,162</td>
<td>280,729</td>
</tr>
<tr>
<td>Integrated capacity (GW)</td>
<td>613</td>
<td>671</td>
<td>744</td>
<td>818</td>
<td>880</td>
</tr>
<tr>
<td>On-grid electricity of integrated capacity (TWh)</td>
<td>2,280</td>
<td>2,430</td>
<td>2,880</td>
<td>3,240</td>
<td>3,390</td>
</tr>
<tr>
<td>Technical R&amp;D input (billion RMB)</td>
<td>5.055</td>
<td>5.138</td>
<td>6.129</td>
<td>6.452</td>
<td>7,940</td>
</tr>
<tr>
<td>Total patents</td>
<td>1,994</td>
<td>3,511</td>
<td>6,528</td>
<td>10,538</td>
<td>16,399</td>
</tr>
<tr>
<td>Total National Science and Technology Awards</td>
<td>22</td>
<td>26</td>
<td>32</td>
<td>36</td>
<td>39</td>
</tr>
</tbody>
</table>

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

Note: The statistics for 2011 are final, which may differ from the ones in 2011 CSR Report. The statistics for 2012 financial performance are from the financial express reports, which may differ from the final statistics.
**Operational Efficiency**

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall productivity (RMB yuan per person per year)</td>
<td>296,000</td>
<td>296,300</td>
<td>403,000</td>
<td>493,200</td>
<td><strong>550,600</strong></td>
</tr>
<tr>
<td>Total asset turnover period (Day)</td>
<td>493</td>
<td>514</td>
<td>445</td>
<td>457</td>
<td><strong>445</strong></td>
</tr>
<tr>
<td>Line loss rate (%)</td>
<td>6.10</td>
<td>6.12</td>
<td>5.98</td>
<td>6.53</td>
<td><strong>6.73</strong></td>
</tr>
<tr>
<td>Transmission capacity upgrade over the years (GW)</td>
<td>154</td>
<td>171</td>
<td>188</td>
<td>200</td>
<td><strong>213</strong></td>
</tr>
<tr>
<td>Number of equipment accidents</td>
<td>32</td>
<td>27</td>
<td>20</td>
<td>0*</td>
<td><strong>0</strong></td>
</tr>
<tr>
<td>Number of power grid accidents</td>
<td>23</td>
<td>10</td>
<td>2</td>
<td>5</td>
<td><strong>0</strong></td>
</tr>
</tbody>
</table>

*SGCC had no ordinary or more serious grid or equipment accident in 2012 according to the Regulations on Emergency Response and Investigation in Power Safety Accidents released by the State Council in 2011. This standard is different from the previous standard executed by SGCC, which resulted in that the statistics of grid and equipment accident are not entirely comparable with previous ones.

**Power Supply Performance**

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity sales (TWh)</td>
<td>2,123.5</td>
<td>2,274.8</td>
<td>2,689.1</td>
<td>3,092.5</td>
<td><strong>3,253.9</strong></td>
</tr>
<tr>
<td>Maximum load within SGCC’s service area (MW)</td>
<td>370,224</td>
<td>424,900</td>
<td>484,100</td>
<td>535,460</td>
<td><strong>561,190</strong></td>
</tr>
<tr>
<td>Number of customers (millions)</td>
<td>181</td>
<td>244</td>
<td>258</td>
<td>286</td>
<td><strong>309</strong></td>
</tr>
<tr>
<td>Reliability of urban power supply (%)</td>
<td>99.864</td>
<td>99.903</td>
<td>99.906</td>
<td>99.921</td>
<td><strong>99.941</strong></td>
</tr>
<tr>
<td>Average blackout duration for urban users (Hour/household)</td>
<td>11.98</td>
<td>8.5</td>
<td>8.234</td>
<td>6.92</td>
<td><strong>5.18</strong></td>
</tr>
<tr>
<td>Average blackout duration for rural users (Hour/household)</td>
<td>39.97</td>
<td>33.73</td>
<td>31.89</td>
<td>29.35</td>
<td><strong>23.21</strong></td>
</tr>
<tr>
<td>Voltage qualification rate for rural users (%)</td>
<td>97.05</td>
<td>97.25</td>
<td>97.477</td>
<td>97.688</td>
<td><strong>98.074</strong></td>
</tr>
<tr>
<td>Electricity Trading Volume in the National Power Market (TWh)</td>
<td>263.89</td>
<td>294.4</td>
<td>358.5</td>
<td>399.87</td>
<td><strong>515.890</strong></td>
</tr>
</tbody>
</table>

S/GCC CSR Report 2012: The Performance
## Social Performance

### General Service

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment in the rural grid (billion RMB)</td>
<td>66.5</td>
<td>71.0</td>
<td>70.0</td>
<td>73.0</td>
<td>80.74</td>
</tr>
<tr>
<td>Incremental number of households connected to electricity (Thousand)</td>
<td>1,120</td>
<td>1,262</td>
<td>1,340</td>
<td>1,375</td>
<td>1,490</td>
</tr>
<tr>
<td>Incremental number of people connected to electricity in rural areas (Thousand)</td>
<td>4,164</td>
<td>4,756</td>
<td>5,090</td>
<td>5,226</td>
<td>5,720</td>
</tr>
<tr>
<td>The average gap between urban and rural annual blackout time (Hour/household)</td>
<td>27.99</td>
<td>25.23</td>
<td>23.66</td>
<td>22.43</td>
<td>18.03</td>
</tr>
</tbody>
</table>

### Public Donations

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Donations (Million)RMB</td>
<td>616</td>
<td>184</td>
<td>230</td>
<td>108</td>
<td>147</td>
</tr>
<tr>
<td>Via State Grid Foundation for Public Welfare</td>
<td>21</td>
<td>33</td>
<td></td>
<td></td>
<td>64</td>
</tr>
<tr>
<td>Staff's volunteer service (Person-times)</td>
<td>590,000</td>
<td>620,000</td>
<td>630,000</td>
<td>640,000</td>
<td>650,000</td>
</tr>
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</table>

### Win-win Partnership

<table>
<thead>
<tr>
<th></th>
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<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centralized tendering volume (billion RMB)</td>
<td>187.9</td>
<td>186.32</td>
<td>175.12</td>
<td>230.6</td>
<td>322.96</td>
</tr>
<tr>
<td>Total Luban Awards</td>
<td>9</td>
<td>11</td>
<td>14</td>
<td>17</td>
<td>18</td>
</tr>
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</table>

### Transparent Operation

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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</thead>
<tbody>
<tr>
<td>SGCC website’s traffic statistics (Visits)</td>
<td>2,616,000</td>
<td>2,124,000</td>
<td>5,531,000</td>
<td>5,596,000</td>
<td>5,620,000</td>
</tr>
<tr>
<td>Number of times releasing power dispatching and transaction information</td>
<td>521</td>
<td>540</td>
<td>552</td>
<td>545</td>
<td>545</td>
</tr>
<tr>
<td>Information reported to governments from SGCC Headquarters(Piece)</td>
<td>259</td>
<td>313</td>
<td>329</td>
<td>245</td>
<td>205</td>
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</tbody>
</table>

### Employee Development

<table>
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<tr>
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<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment in employees’ training (billion RMB)</td>
<td>3.16</td>
<td>3.33</td>
<td>3.537</td>
<td>3.536</td>
<td>3.45</td>
</tr>
<tr>
<td>Training Coverage Rate (%)</td>
<td>90.8</td>
<td>91.2</td>
<td>92</td>
<td>93</td>
<td>93.5</td>
</tr>
<tr>
<td>Average training hours of employees (Hour/person-year)</td>
<td>57</td>
<td>64</td>
<td>66</td>
<td>68</td>
<td>74</td>
</tr>
<tr>
<td>Employee Training Person-times (Thousand)</td>
<td>2,900</td>
<td>3,050</td>
<td>3,120</td>
<td>3,280</td>
<td>3,350</td>
</tr>
<tr>
<td>Proportion of female employees (%)</td>
<td>26.39</td>
<td>26.4</td>
<td>26.2</td>
<td>27.1</td>
<td>27.3</td>
</tr>
<tr>
<td>Labor unions</td>
<td>968</td>
<td>1,066</td>
<td>1,175</td>
<td>1,236</td>
<td>1,252</td>
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</table>
Environmental Performance

Serve Clean Energy Development

<table>
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<th>2009</th>
<th>2010</th>
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<tbody>
<tr>
<td>Integrated capacity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>from clean energy</td>
<td>135.24</td>
<td>153.57</td>
<td>175.85</td>
<td>202.60</td>
<td>240.04</td>
</tr>
<tr>
<td>generator units (GW)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Including integrated</td>
<td>122.14</td>
<td>134.19</td>
<td>144.58</td>
<td>156.17</td>
<td>168.16</td>
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<tr>
<td>capacity of hydropower</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Integrated capacity</td>
<td>5,070</td>
<td>5,070</td>
<td>5,740</td>
<td>6,400</td>
<td>6,400</td>
</tr>
<tr>
<td>of nuclear power</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated capacity</td>
<td>8,030</td>
<td>14,310</td>
<td>25,530</td>
<td>40,030</td>
<td>65,480</td>
</tr>
<tr>
<td>from new energy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>generator units (MW)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Including integrated</td>
<td>8,030</td>
<td>14,310</td>
<td>22,140</td>
<td>35,190</td>
<td>56,760</td>
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<tr>
<td>capacity of wind power</td>
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<tr>
<td>Integrated capacity</td>
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<td>—</td>
<td>240</td>
<td>2,320</td>
<td>3,330</td>
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<tr>
<td>of PV power</td>
<td></td>
<td></td>
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<tr>
<td>On-grid power from clean</td>
<td>416.1</td>
<td>432.1</td>
<td>490.3</td>
<td>594.3</td>
<td>717.7</td>
</tr>
<tr>
<td>energy generator units</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(TWh)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Including on-grid</td>
<td>366.2</td>
<td>369.2</td>
<td>410.3</td>
<td>437.3</td>
<td>551.8</td>
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<tr>
<td>hydropower</td>
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<tr>
<td>On-grid nuclear power</td>
<td>35.3</td>
<td>35.5</td>
<td>30.8</td>
<td>41.6</td>
<td>47.5</td>
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<tr>
<td>On-grid power from new</td>
<td>14.6</td>
<td>27.4</td>
<td>49.2</td>
<td>115.4</td>
<td>118.4</td>
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<tr>
<td>energy generator units</td>
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Comprehensive Power Conservation

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<tr>
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<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power saved by lowering</td>
<td></td>
<td></td>
<td></td>
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<td>1.05</td>
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<tr>
<td>the line loss* (TWh)</td>
<td>16</td>
<td>1.94</td>
<td>4</td>
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<td>Generation rights</td>
<td>98,962</td>
<td>144.3</td>
<td>141,457</td>
<td>105,939</td>
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<td>transactions (TWh)</td>
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<td>109,748</td>
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EV Development

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<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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<tr>
<td>Total EV charging</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and battery swapping</td>
<td>—</td>
<td>—</td>
<td>87</td>
<td>243</td>
<td>353</td>
</tr>
<tr>
<td>stations</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Total EV charging</td>
<td>—</td>
<td>—</td>
<td>7,031</td>
<td>13,283</td>
<td></td>
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<tr>
<td>and battery swapping</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14,703</td>
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<td>spots</td>
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Carbon Dioxide Emission Reduction

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<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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</thead>
<tbody>
<tr>
<td>Emission reduced by</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>clean energy accommodation (Thousand tons)</td>
<td>—</td>
<td>—</td>
<td>447,000</td>
<td>442,854</td>
<td>552,649.3</td>
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<tr>
<td>Emission reduced by</td>
<td>13,000</td>
<td>1,580</td>
<td>3,300</td>
<td>1,900.4</td>
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<tr>
<td>lowering the line loss* (Thousand tons)</td>
<td></td>
<td></td>
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</table>

*SGCC’s line loss rate in 2012 was 6.73%, up by 0.2 percentage point, because 133 rural power companies were transferred up. If calculating with the same diameter, the line loss rate was down by 0.03 percentage point, saving 1.05TWh of power.
## UN Global Compact: Initiatives and Performance

### Ten principles of the UN Global Compact

#### Human rights

1. Businesses should support and respect the protection of internationally proclaimed human rights; and
2. make sure that they are not complicit in human rights abuses.

#### Labor

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

#### Environment

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

#### Anti-Corruption

10. Businesses should work against corruption in all its forms, including extortion and bribery.

### Action performance

- Abide by the international conventions, international practices signed or acknowledged by the Chinese government, follow the laws and regulations of the host countries, respect human rights in its operation, and promote human rights protection among stakeholders with its influence.
- Make sure that SGCC is not complicit in human rights abuses.
- Improve power construction projects in areas without electricity access, and solve the power problem for 115,300 households and 493,700 people without electricity.
- Integrate rural and urban power supply and accumulatively solve the low-voltage problem for 17.849 million households.
- Provide barrier-free services at business places for the disabled to ensure their rights.

- Promote frequent and normalized democratic management through the Staff Congress, operation transparency mechanism, President's Liaison Meeting, and briefing sessions. Employees have raised 280,000 pieces of rational advice throughout 2012.
- Eliminate forced labor and child labor.
- Reject discrimination by nationality, gender, sex orientation, age, disease, race or religion, pay staff on their performance and their position, and implement of the principle of equal pay for equal work to men and women.
- Ensure decent work, provide payment and treatment in line with the national and the company's conditions, pay attention to the balance of employees' life and work, establish a reasonable paid-leave system, pay the pension, medical care, unemployment insurance and other social insurances for all employees.

- The interconnected capacity of wind power in China reached 60.83GW, ranking first in the world. That took US and Europe about 15 years to accomplish, whereas China only spent five years on it.
- Promote the leap-forward development of China's PV generation. The interconnected capacity of PV power in SGCC's service area reached 3.33GW in 2012, up by 44% year-on-year.
- Fully support the development of distributed PV generation by improving integration service management, simplifying technical requirements on integration, and strengthening the construction of auxiliary grid.
- Build a total of 353 charging & battery swapping stations and 14,703 AC charging spots to serve the EV development, making China the country with the most extensive charging infrastructure currently in operation in the world.
- Establish 27 provincial-level energy-saving service companies, and form up 510 teams for energy-saving services and 6 third-party energy efficiency evaluation institutions.

- Publish the Suggestions on Further Deepening the Establishment of Collaborative Supervision Mechanism, the Suggestions on Conducting the Evaluation of Integrity Risk prevention, and the Standard of Establishing SGCC Integrity System in Bidding and Purchasing, further deepen the establishment of collaborative supervision mechanism, and promote the establishment of penalty and prevention system.
- Carry out anti-corruption education among all employees, and establish an open, fair corporate culture.
- Thoroughly analyze and respond to the risks of corruption. Receive 939 letters and visits and verify 687 of them by preliminary investigation. Punish 73 people by party and government disciplinary measures and recover RMB10, 8557 million losses.
- Conduct 1,986 efficiency supervision programs, adopt 13,848 suggestions in relation to supervision work and implement 500 decisions.
- Promote transparent and fair operation. Be open to social supervision. Guard against the risk of corruption.
The Commitment

Embark on a long road to keep improving with heavy responsibilities
The creation of integrated value is a never-ending journey
The long-term effective fulfillment mechanism can always get better
Fulfillment in 2012

<table>
<thead>
<tr>
<th>Commitments for 2012</th>
<th>Fulfilled commitments for 2012</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ensure reliable and trustworthy power supply</strong></td>
<td>The investment in power grid reached RMB305.4 billion.</td>
<td>accomplished.</td>
</tr>
<tr>
<td>Invest over RMB300 billion in power grid construction</td>
<td>Put into operation 54,900 kilometers transmission lines of 100 (66) kV (and above) with 2600kVA transformation capacities and 2,090 kilometers DC lines with 14.4GW of conversion capacity.</td>
<td>unaccomplished.</td>
</tr>
<tr>
<td>Put into operation 57,000 kilometers transmission lines of 100 (66) kV (and above) with 2600kVA transformation capacities and 2,090 kilometers DC lines with 14.4GW of conversion capacity.</td>
<td>515.89TWh of power was traded in the National Power Exchange Center.</td>
<td>unaccomplished.</td>
</tr>
<tr>
<td>Complete power exchange of 416.5TWh in the National Power Exchange Center.</td>
<td>The Anhui-to-East China UHV AC Demonstration Project accomplished its big span over the Yangtze River. The main part of Xinjiang-Golmud 750kV AC project has been completed. The Jingping-Sunan UHV DC Project and Gaoling Back-to-Back (BTB) Expansion Project have been put into operation.</td>
<td>unaccomplished.</td>
</tr>
<tr>
<td>Ensure the completion of milestone plans of Anhui-to-East China UHV AC Demonstration Project, expansion project of Gaoling Back-to-Back (BTB) Expansion Project, and Xinjiang-Golmud 750kV AC project. Make sure Jingping-Sunan UHV DC Project begin operation by the end of the year.</td>
<td>High-quality projects of 110kV and above levels exceed 90%.</td>
<td>unaccomplished.</td>
</tr>
<tr>
<td>High-quality projects of 110kV and above levels exceed 90%.</td>
<td>The emergency command centers of all levels have been interconnected and interworking, which has played an effective role in all kinds of emergencies.</td>
<td>unaccomplished.</td>
</tr>
<tr>
<td>Speed up emergency system construction. Build interconnected and interworking emergency command centers of all levels. Enhance professional skills of emergency teams, and do a good job in emergency relief work.</td>
<td>The overall productivity reaches RMB550,600 per person per year.</td>
<td>accomplished.</td>
</tr>
<tr>
<td>Ensure the stable operation of UHV transmission, Qinghai-Tibet AC/DC transmission system, and trans-regional grids.</td>
<td>The China Charity Award Committee acknowledged the State Grid Foundation for Public Welfare responsibly.</td>
<td>accomplished.</td>
</tr>
<tr>
<td>Make greater efforts in AC/DC coordination control, ±1100kV DC transmission, large-capacity flexible DC, and UHV controllable high resistance, and speed up demonstration application.</td>
<td>The revenue was RMB1885.9 billion.</td>
<td>accomplished.</td>
</tr>
<tr>
<td>Realize annual revenue of RMB1854.2 billion.</td>
<td>The revenue was RMB1885.9 billion.</td>
<td>accomplished.</td>
</tr>
<tr>
<td><strong>Deal with each stakeholder responsibly</strong></td>
<td>The “Ten Commitments” of power supply, “Ten Prohibitions” to modify staff behavior, and “Ten Measures” to strengthen dispatching transaction services.</td>
<td>accomplished.</td>
</tr>
<tr>
<td>Implement the “Ten Commitments” of power supply, “Ten Prohibitions” to modify staff behavior, and “Ten Measures” to strengthen dispatching transaction services.</td>
<td>Keep the average blackout time for urban power users within 5.17 hours per household.</td>
<td>accomplished.</td>
</tr>
<tr>
<td>Keep the average blackout time for urban power users within 5.17 hours per household.</td>
<td>The average blackout time for urban power users has been kept at 5.18 hours per household.</td>
<td>accomplished.</td>
</tr>
<tr>
<td>Improve the comprehensive voltage qualification rate of rural power up to 98.05% and keep average blackout time per household within 23.70 hours.</td>
<td>The comprehensive voltage qualification rate of rural power was 98.074% and the average blackout time was 23.21 hours per household.</td>
<td>accomplished.</td>
</tr>
<tr>
<td>Solve the power problems for 96,000 households and 400,000 people without electricity.</td>
<td>115,300 households and 493,700 people originally without electricity now have access to power.</td>
<td>accomplished.</td>
</tr>
<tr>
<td>Speed up rural grids’ upgrade, standardize the use of funds, consolidate project management, and improve construction quality.</td>
<td>RMB660.74 billion was invested in rural grid to solve the bottleneck and low voltage for rural power supply.</td>
<td>accomplished.</td>
</tr>
<tr>
<td>The overall productivity reaches RMB555,600 per person per year.</td>
<td>The overall productivity reached RMB550,600 per person per year.</td>
<td>accomplished.</td>
</tr>
<tr>
<td><strong>Be a model of green development</strong></td>
<td>The EIA rate of power construction projects reaches 100%.</td>
<td>accomplished.</td>
</tr>
<tr>
<td>The EIA rate of power construction projects reached 100%.</td>
<td>The comprehensive voltage qualification rate of rural power was 98.074% and the average blackout time was 23.21 hours per household.</td>
<td>accomplished.</td>
</tr>
<tr>
<td>Conduct energy-saving power generation &amp; dispatching and generation rights transaction, and promote the Clean Development Mechanism (CDM) project.</td>
<td>The “Ten Commitments” of power supply, “Ten Prohibitions” to modify staff behavior, and “Ten Measures” to strengthen dispatching transaction services have been thoroughly implemented.</td>
<td>accomplished.</td>
</tr>
<tr>
<td>The “Ten Commitments” of power supply, “Ten Prohibitions” to modify staff behavior, and “Ten Measures” to strengthen dispatching transaction services have been thoroughly implemented.</td>
<td>Keep the line loss rate under 6.5%.</td>
<td>accomplished.</td>
</tr>
<tr>
<td>Keep the line loss rate under 6.5%.</td>
<td>The line loss rate was 6.73%***.</td>
<td>accomplished.</td>
</tr>
<tr>
<td>Strengthen the line management of line loss, keep the line loss rate under 6.5%.</td>
<td>The line loss rate was 6.73%***.</td>
<td>accomplished.</td>
</tr>
<tr>
<td>Deepen the construction of energy-saving service system, and promote contracted energy management.</td>
<td>SGC has established 9 provincial-level and 22 prefecture-level companies to provide services to electric vehicles.</td>
<td>unaccomplished.</td>
</tr>
<tr>
<td>Ensure the completion of the country’s tasks for energy conservation and emission reduction.</td>
<td>The electricity saved was more than what was required by the country.</td>
<td>accomplished.</td>
</tr>
<tr>
<td>The electricity saved was more than what was required by the country.</td>
<td>The “Ten Commitments” of power supply, “Ten Prohibitions” to modify staff behavior, and “Ten Measures” to strengthen dispatching transaction services have been thoroughly implemented.</td>
<td>accomplished.</td>
</tr>
<tr>
<td>Optimize the operation mode of electric vehicles’ charging and battery swapping service network. Promote the national pilots on “one thousand electric vehicles in ten cities” and private car allowance. Introduce policies to support the smart charging &amp; battery swapping service network construction in cities, the Yangtze River Delta area and Bohai Rim region.</td>
<td>The dispatching pilots for energy-saving generation saved 1.71 million tons of standard coal. Generation rights transaction of 109.748TWh was completed. The Clean Development Mechanism (CDM) project of the National Wind/PV/Energy Storage and Transmission Joint Demonstration Project was registered in UN. The Certification Emission Reduction (CER) for the first monitoring period of CDM recycling program of SFv was issued by UN, with 72,414 tons of carbon dioxide equivalents.</td>
<td>accomplished.</td>
</tr>
<tr>
<td>Ensure the completion of the country’s tasks for energy conservation and emission reduction.</td>
<td>The investment in power grid reached RMB305.4 billion.</td>
<td>unaccomplished.</td>
</tr>
<tr>
<td>The “Ten Commitments” of power supply, “Ten Prohibitions” to modify staff behavior, and “Ten Measures” to strengthen dispatching transaction services have been thoroughly implemented.</td>
<td>The overall productivity reached RMB550,600 per person per year.</td>
<td>accomplished.</td>
</tr>
</tbody>
</table>

**The growth of electricity sales didn’t get a chance to rise in 2012 due to lower economic growth than expected, which resulted in the failure to meet the goal for revenue.**

**The overall productivity failed to meet its commitment for 2012 due to the lower-than-expected growth in industrial added value, which was resulted from the unaccomplished revenue goal.**

***If calculating with the same diameter, the line loss rate was down by 0.8% percentage point, honoring its commitment at the beginning of the year. However, due to the fact that 133 rural power companies were transferred up, the line loss rate failed to meet its target.**
Commitments for 2013

- Eliminate massive blackouts.
- Grid investment exceeds RMB300 billion.
- Put into operation over 50,000 kilometers transmission lines of 110 (66) kV (and above) with 230GVA transformation capacities and 2,210 kilometers DC lines with 8,0GW of conversion capacity.
- Build the pilot project of the new-generation smart substation and deploy over 30 million smart meters.
- Put into operation the Anhui-to-East China UHV AC Demonstration Project, Southern Hami-Zhengzhou UHV DC Project, Second Xinjiang-Northwest Main Grid HVDC Transmission Line, and Yushu-Qinghai Main Grid Interconnection project.
- Keep the average blackout time for urban power users within 5 hours per household.
- Keep the average blackout time for rural power users within 20 hours per household.
- Promote the “one grid, one tariff” for various rural and urban power uses.
- Employees’ volunteer service is up to 700,000 person-times.
- The investment in staff training is no less than that of 2012.

Goals for 2015

Build a modernized company with “A Strong Grid, Excellent Assets, Services and Performance” in its preliminary phase

- The lines of 110 (66) kV (and above) reach 900,000 kilometers with 4,000, GVA (kW) transformation (conversion) capacities, 1.5 times and 1.8 times than those of 2010 respectively.
- UHV and trans-regional transmission capacity reaches 210GW and ensure the delivery and accommodation of 350GW of clean energy.
- Major breakthroughs are made in key technology and equipment of smart grid. Basically, all customer information is collected automatically and the dispatching and controlling technology of smart grid is popularized.
- Total assets reach RMB3,200 billion, increased by 55% than 2010.
- Revenue reaches RMB2,500 billion, increased by 67% than 2010.
- The overall productivity reaches RMB800,000 per person per year, doubled from 2010.

Goals for 2020

Comprehensively build a modernized company with “A Strong Grid, Excellent Assets, Services and Performance”

- The lines of 110 (66) kV (and above) reach 1.2 million kilometers with 5,500GVA (kW) transformation (conversion) capacities, twice and 2.5 times than those of 2010 respectively. The grid scale is more than doubled than 2010.
- UHV and trans-regional transmission capacity reaches 450GW and ensure the delivery and accommodation of 550GW of clean energy.
- The intelligence of the grid is world-leading. The dispatching operation of the grand grid is internationally advanced.
- Total assets reach RMB4,300 billion, 2.2 times than that of 2010.
- Revenue reaches RMB3,500 billion, 2.3 times than that of 2010.
- The overall productivity reaches RMB1,200,000 per person per year, tripled from 2010.
## GRI index

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### 2. Corporate profile

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### 5. Economic performance indicators

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<tr>
<td>EC1</td>
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<tr>
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<tr>
<td>EC7</td>
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### 6. Social performance indicators

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<td>P63–P64/P83–P85</td>
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<td>P49/P83</td>
</tr>
<tr>
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### 10. Product responsibility performance indicator

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<tr>
<td>PR3</td>
<td>P16–P41/P56–P61</td>
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<tr>
<td>PR4</td>
<td>N/A</td>
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<tr>
<td>PR5</td>
<td>P28/P38/P45/P85</td>
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<td>PR6</td>
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</tr>
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<td>PR7</td>
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<td>PR8</td>
<td>N/A</td>
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<tr>
<td>PR9</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Note: the index can be found on http://csr.sgcc.com.cn.

*Electric utility supplement
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 2012 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 2012, 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 2012” as disclosed in its 2011 Report.
  - the core indicators set forth in the GRI G3.1
• DNV has not verified the financial data disclosed in the Report.
• The verification was completed by DNV in January 2013.

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 2012 provides a credible and objective presentation of State Grid’s overall sustainability performance and application of the AA1000 Accountability Principles 2008. Within the scope of assurance, DNV has not observed any untrue statements of systematicness and Materiality.

Inclusivity: Acceptable. State Grid China fully considers the expectations of key stakeholders as described in Report including customers, agriculture, countryside, farmers, employees, commercial partners and communities, and determines the main topics of performing responsibility concerned by internal and external stakeholders through a systematic 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. Also the Report discloses the State Grid’s internal management mechanism for how to implement the selected key sustainability topics and key performance indicators. Its achievement is also presented to the public in the report transparently.

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

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

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

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

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

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

- It is suggested to disclose more information about labor issues based on the LA indicators of GRI 3.1.
- It is suggested to disclose more information on the risk assessment and monitor mechanism to the investment in high risk area abroad.
- It is suggested to have a more specific description about the reporting boundary setting.

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

For DNV Business Assurance Group

Cai, Kun Quan
Lead Verifier

C. K. Wong
Reviewer
Sustainability Service Manager,
Greater China

Antonio Astone
Reviewer
Global Sustainability Manager

Beijing, China February 2013

Note: In case of discrepancy between the English and Chinese language text, the Chinese text shall prevail.
Environmental friendly measures taken by SGCC in printing:

CTP is applied to reduce pollutant emission. The printing house has obtained ISO14001 certificate.