

Sustainability Report 2010



**Transforming the Development Mode
Becoming Stronger, Better, Larger**





We support the United Nations Global Compact



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About this Report:

Time Period

Jan 01, 2010 – Dec 31, 2010. When appropriate, the report includes additional content and information that pre-date the stated reporting period.

Reporting Cycle

Our sustainability report is published annually, this being the fifth report since 2006.

Main Contents

This report outlines our performance in 2010 on safety, environmental, economic and social issues. It also includes information and cases from selected subsidiaries and grassroots-level enterprises.

Compilation Conformance

This report is compiled in accordance with the *Guideline on Performing Social Responsibility by Central Enterprises* released by the State-owned Assets Supervision and Administration Commission (SASAC) of the State Council and in light of the *Guidelines on Sustainability Reporting (2006 Edition)* from the Global Reporting Initiative (GRI), *Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises (CASS-CSR 2.0)* by the Chinese Academy of Social Sciences (CASS), *ISO 26000: Guidance on Social Responsibility* by the International Organization for Standards, and *Guidelines on Social Responsibilities of Chinese Industrial Enterprises and Industrial Associations* by the China Federation of Industrial Economics (CFIE).

Major Changes

This report's main theme is "Transforming the Development Mode; Becoming Stronger, Better, Larger". It further improves the sustainable development model of Huaneng, systematically illustrates the concepts, objectives, measures, and performance of the company in promoting safe development, optimized development, energy-conserving development, clean development, healthy development, and harmonious development. The report includes a special feature that reviews the outstanding achievements of the company during the Eleventh Five-year Plan period.

References to China Huaneng Group

In this report, "China Huaneng Group", "Huaneng Group", "Huaneng", "the company" and "We" refer to China Huaneng Group.

Online Access to the Report

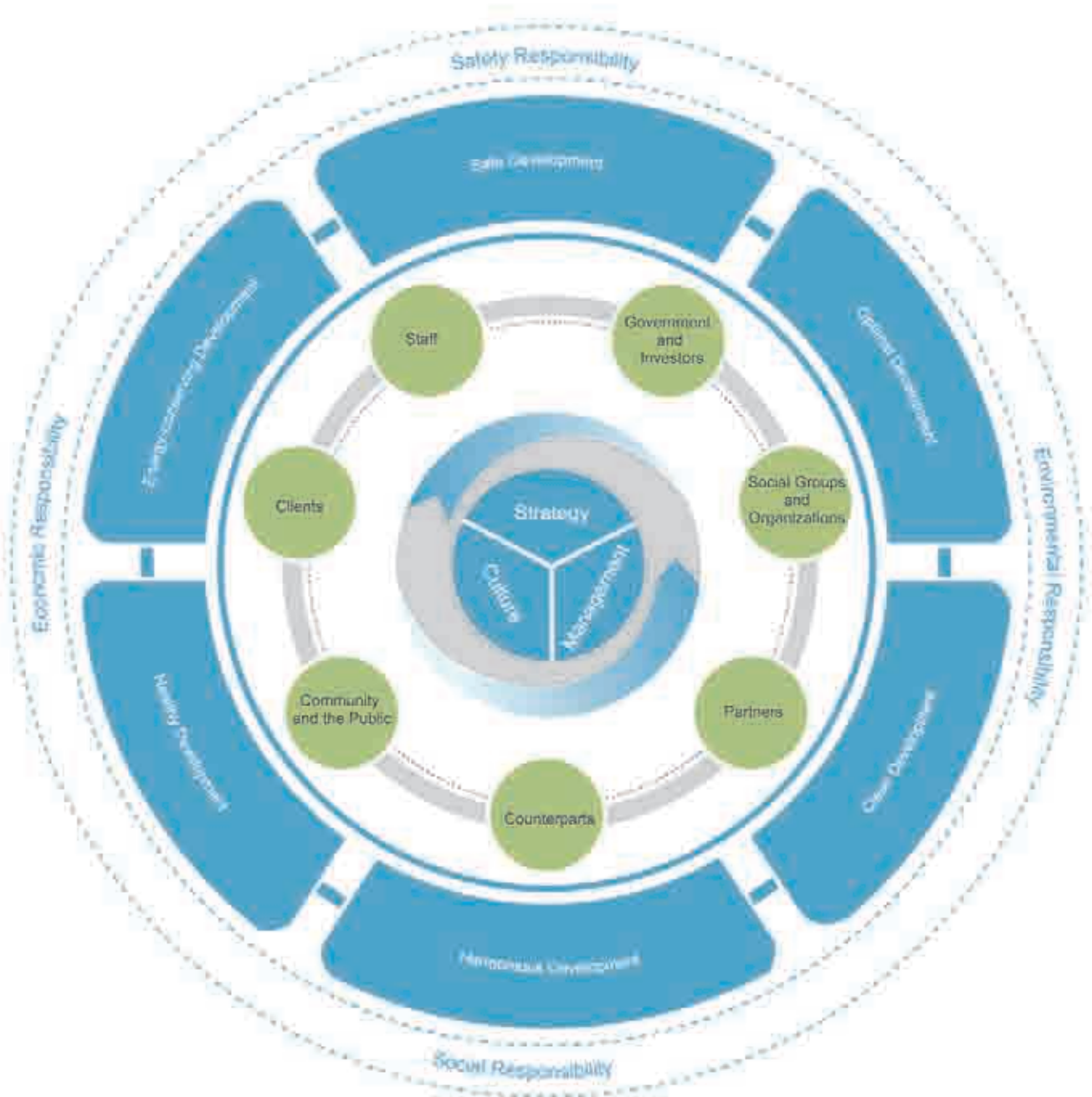
The report is prepared and released in Chinese and English. For more information, please go to our website: <http://www.chng.com.cn>

Huaneng's

Declaration on Sustainable Development

- ◆ Persist in obeying and serving national interests and development strategies, so as to set an example in promoting economic and social development in all respects.
- ◆ Persist in scientific development and technological innovation, so as to set an example in building a resource-conserving and environmental-friendly society.
- ◆ Persist in pursuing operational performance in a rational way, so as to set an example in promoting harmony between enterprises and society.
- ◆ Persist in relying on employees and working with the public to develop the enterprise so as to set an example in putting people first and sharing benefits.
- ◆ Persist in contributing to society and benefiting the people, so as to set an example in practicing social ethics.

Sustainable Development Model of Huaneng



Taking strategy, culture, and management as the core, Huaneng strengthens communications and exchanges with all stakeholders, strives to promote safe, optimal, clean, energy-conserving, healthy and harmonious development, and earnestly implements safety, environmental, economic, and social responsibilities.

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Message from Company Leaders



President of China Huaneng Group and Vice Secretary of the CPC Huaneng Committee, Cao Peixi



Secretary of the CPC Huaneng Committee and Vice President of China Huaneng Group, Huang Yongda

During the Eleventh Five-Year Plan period, China Huaneng Group made outstanding achievements. Over the past five years, we committed to implementing the venerable mission of key state-owned enterprises while strengthening production and operations management, ensuring safe power supply, and constantly enhancing the overall strength of the company. Adhering to the objective requirements of keeping up with the times, we stepped up efforts to transform our development mode, optimized and readjusted our industrial structure, promoted energy conservation and technological innovation, and constantly enhanced our capacity for independent innovation. Also adhering to the objective rules in developing the power industry, we made our core power business stronger and better, improved the layout of the upstream and downstream industry chain, and gave full play to the synergies of various industries. Based on the actual conditions of reform and development in Huaneng, we actively promoted innovation in management, improved our three-level management system, deepened performance evaluations and benchmarking management to constantly improve the general management. Persisting in the common vision of building a harmonious society, we comprehensively deepened social responsibility management, actively participated in social public welfare, and strived to give back society.

In 2010, our installed capacity exceeded 113 GW, ranking second in the world and first in Asia. From 2005, we achieved two-fold increase in power output, coal production, clean energy installed capacity, business revenue and total assets, etc. We fulfilled the objectives of the Eleventh Five-Year Plan, improved the company's overall strength, competitiveness, and sustainable development capabilities. For two consecutive terms, our company was awarded the title of Enterprise with Excellent Performance by the State-owned Asset Supervision and Administration Commission of the Chinese State Council (SASAC), garnering five awards for class-A performance, and taking the lead in ranking among Fortune 500 Companies among Chinese power producers.

Looking back to Huaneng's achievements during the Eleventh Five-Year Plan period, we have deeply understood that safe development is the precondition for sustainable development; optimized development is the very foundation; clean development is an indispensable path; energy-conserving development is the effective means; healthy development is strong support; and harmonious development is an important guarantee. We seriously implement safety responsibility and ensure safety in production, operations, politics and image; conscientiously perform our environmental responsibilities and unswervingly take the green, low-carbon and circular development path; carefully fulfill our economic responsibility and achieve the preservation and growth of state-owned assets; and perform our social responsibility in earnest and adhere to the solemn commitment of common development with all stakeholders.

In today's world, unbalanced, uncoordinated and unsustainable economic and social development problems have still been outstanding. Energy, resources and environment issues are closely related to global sustainable development, and have caused widespread concern and attracted great attention from the international community. Therefore, it is an absolute responsibility for energy enterprises to conserve resources, protect the environment, actively tackle global climate change, and promote sustainable economic and social development. We have been paying great attention to national energy security and environmental impacts from energy development and utilization, and devoting ourselves to clean and low-carbon and sustainable development. In order to achieve sustainable development, we have persisted in the concept of green development, for which we implemented our Action Plans on Green Development, promoted innovation in energy technology, improved the conversion efficiency of resources, and minimized pollution and greenhouse gas emissions. Furthermore, we stuck to sustainable development modes, for which we made efforts to develop hydropower, optimized coal-fired power, and actively promoted wind power, solar energy and other new energy, strived to develop nuclear power, and increased the proportion of clean and low-carbon energy. In addition, we also focused on improving institutional mechanisms while promoting effective, moderate, and orderly development, so as to achieve unity between development speed and quality, and coordination among development, resources and the environment.

2011 is the first year of the Twelfth Five-Year Plan and also an important year for Huaneng to further promote sustainable development. We will take national energy strategy as our guidance, and strive to increase economic efficiency while practicing the "three-color corporate mission" and sticking to our strategic orientation of "building an integrated energy group with international competitiveness that takes power generation as the core business, coal development as the foundation, finance as the supporting business, technology as the driving force, while synergizing various industries." Furthermore, we will focus on readjusting our industrial structure and regional distribution, advancing scientific progress and technological innovation, and enhancing internationalized operations, so as to become stronger, better, and larger while constantly improving our overall strength, competitiveness, and risk prevention capabilities.

It is said that responsibility creates value, and that cooperation contributes to win-win opportunities. Standing at a new historical starting point, we will strive to practice our **Declaration on Sustainable Development** within the framework of the ten principles of the United Nations Global Compact, and cooperate and partner with various stakeholders, so as to be a responsible corporate citizen. We will also be a participant, practitioner, and promoter in the construction of a harmonious society, and create integrated value, so that we can make new and greater contributions to the sustainable development of the economy, the environment, and society.



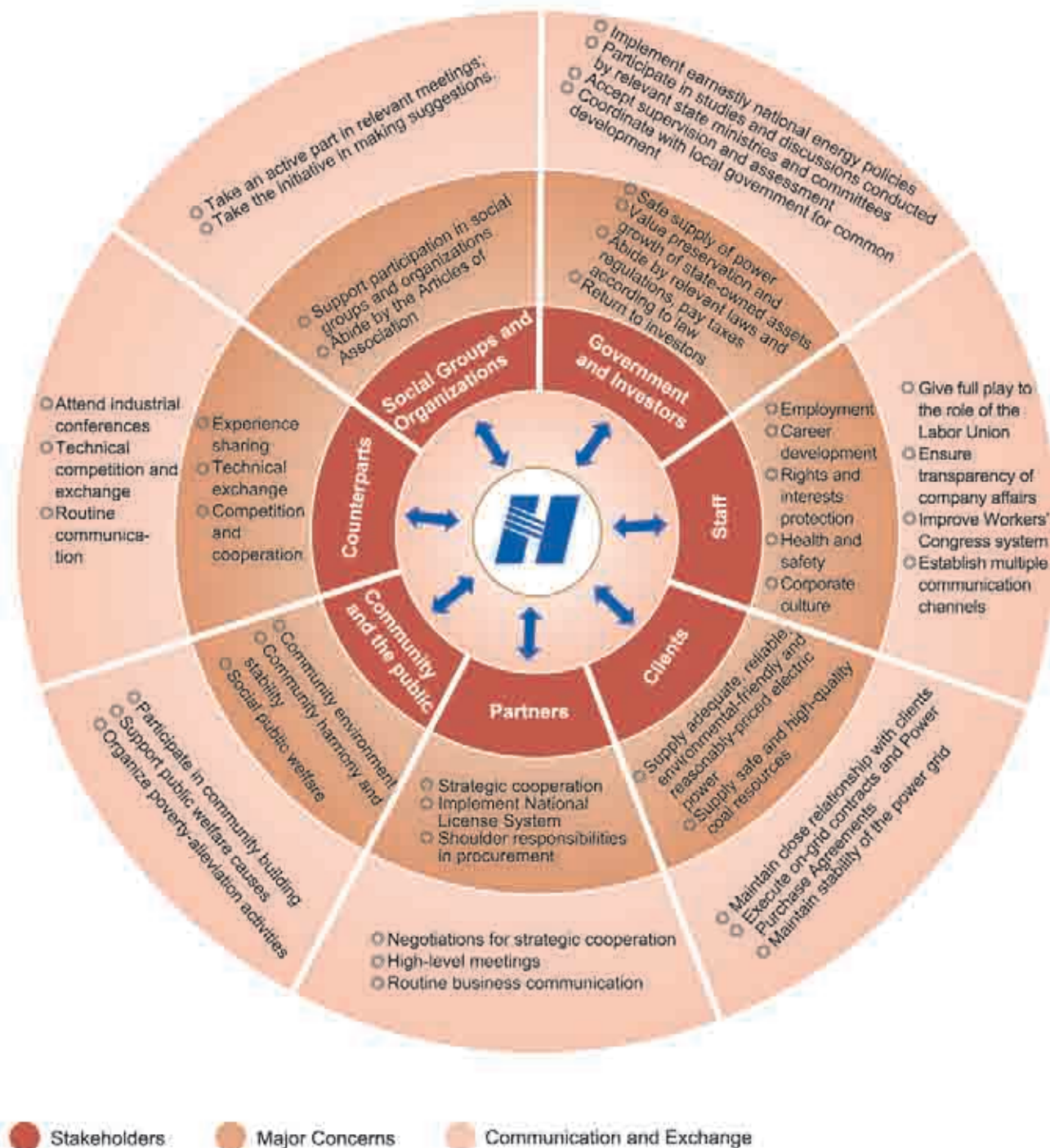
May 2011

≡ Members of the Management Team



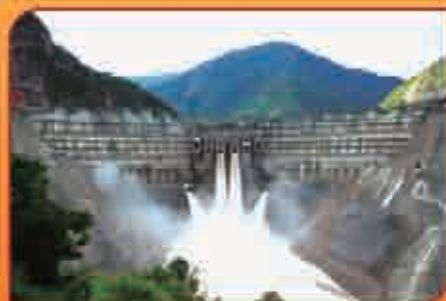
Cao Peixi , President and Vice Secretary of the CPC Huaneng Committee (third from left in the front row)	Ma Jing , Member of the CPC Huaneng Committee and Discipline Inspection Group Leader (third from left in the back row)
Huang Yongda , Secretary of the CPC Huaneng Committee and Vice President (third from right in the front row)	Hu Jianmin , Vice President and Member of the CPC Huaneng Committee (second from right in the back row)
Zhang Tingke , Vice President and Member of the CPC Huaneng Committee (second from left in the front row)	Kou Wei , Vice President and Member of the CPC Huaneng Committee (second from left in the back row)
Na Xizhi , Vice President and Member of the CPC Huaneng Committee (second from right in the front row)	Wu Dawei , Chief Economist (first from right in the back row)
Huang Long , Vice President and Member of the CPC Huaneng Committee (first from left in the front row)	Hu Shihai , Chief Engineer (first from left in the back row)
Guo Junming , Chief Accountant and Member of the CPC Huaneng Committee (first from right in the front row)	

Stakeholders



Outstanding Achievements during the Eleventh Five-year Plan Period

113_{GW}
Installed Capacity



662.4 BILLION
YUAN
Total Assets

✦ Leapfrog Development

- ✦ In 2010, Huaneng achieved total installed capacity of 113.43GW, up by 2.6 times compared with 2005, with overseas installed capacity of 3760MW.
- ✦ In 2010, Huaneng generated electricity of 537600GWh, up by 2.1 times compared with 2005, representing an average annual increase of 16%.
- ✦ In 2010, Huaneng's total assets exceeded 662.4 billion Yuan, up by 2.9 times compared with 2005, and representing an average annual increase of 23.9%.
- ✦ In 2010, Huaneng had 228 billion Yuan in consolidated revenue, up by 3.1 times compared with 2005, and representing an average annual increase of 25.4%.
- ✦ In 2009, Huaneng became the first Chinese power producer to join the ranks of Fortune 500 Companies, ranking 313th in 2010, up by 112 places from the previous year.

✦ Energy Conservation and Emissions Reduction

- ✦ Huaneng implemented **Action Plans on Green Development(2010-2020)** across the board, which indicated the deep promotion of the Huaneng development mode to the green and low carbon fields.
- ✦ In 2010, Huaneng reduced the coal consumption rate to 322.72 g/kWh, down by 23.03 g/kWh compared with 2005.
- ✦ In 2010, Huaneng average of electricity service-power consumption rate was 5.22%, down by 0.57%, saving nearly 1.87 billion kWh.
- ✦ In 2010, SO₂ emissions per unit of power generation were reduced to 2.06g/kWh, down by 65.5% compared with 2005.

✦ Management Innovation

- ✦ We established a three-level management system consisting of the group headquarters, regional and industrial companies, and grassroots enterprises.
- ✦ We improved the performance management system which involves budget planning, benchmarking and accountability, and focuses on indicators, evaluations and compensation.
- ✦ We improved the internal control system, implemented a comprehensive risk management system, strengthened effective supervision, and enhanced rational and standardized management.
- ✦ We effectively met the challenge of the international financial crisis and challenges of environmental disasters, and enhanced our capability in emergency responses and in risks preservation.
- ✦ We won all A-level performance evaluation by the SASAC in the past five years, thus ensuring preservation and growth of state-owned assets.

228 BILLION
YUAN
Operating Income



22.52 MILLION
TONS
Saving of Standard Coal over
Five Years' Time



20.03 GW
Clean Energy Installed
Capacity



Adjustment and Optimization

- Huaneng's clean energy installed capacity reached 20.0345 GW, of which hydropower reached 10.8209 GW and wind power reached 4.8413 GW.
- Huaneng shut down a total of 6.71 GW of small coal-fired power units, completing 267% of the task required by the government.
- In 2010, the installed capacity from 600 MW-or-above coal-fired generating units reached 43.85 GW, accounting for 45% of total coal-fired power production, and the installed capacity from 300 MW-or-above coal-fired generating units accounted for 89%.
- In 2010, Huaneng achieved annual coal production capacity of 64.12 million tons and produced 48.86 million tons of coal, up by 10.7 times and 6.4 times respectively compared with 2005.
- The integration among industry of power, coal, roads, ports, and transportation has developed tremendously and the synergy brought by the transportation, finance, and technology business toward the core business of power has become increasingly significant.

Technology as the Driving Force

- In 2006, the first Chinese-made 1,000 MW ultra-supercritical coal-fired power generating unit was put into operation in Huaneng Yuhuan Power Plant.
- In 2008, Huaneng constructed the first CO₂ capture device (3,000 tons per year) and put it into operation in Huaneng Beijing Cogeneration Power Plant.
- In 2009, Huaneng Tianjin GreenGen IGCC Demonstration Power Station started construction, which is China's first green coal fuel power with proprietary intellectual property rights.
- In 2010, preliminary work for the High Temperature Gas-cooled Nuclear Power project in Shangdong province (a National Science & Technology Special Project) was completed.
- In 2010, the world's first 300 meter level hyperbolic arch dam was constructed at Huaneng Xiaowan Hydropower Station.

Corporate Culture and Team Building

- We constantly improved systems and mechanisms for Party building, and enhanced the capability of the CPC Huaneng Committee in guiding rational development.
- By carrying out campaign of "Study & Practice", we enhanced the capability of grassroots Party organizations and the Party members in tackling tough tasks.
- We emphasized on team building, and continuously improved the quality and capability of management teams at all levels.
- We continually deepened efforts to improve work style and ensure integrity of leading groups.
- We steadily promoted corporate culture development and have enhanced cohesion among the staff.



Strategy and Management

Events

- On January 12th, Huaneng released its *Action Plans on Green Development (2010-2020)*, which indicated the deep promotion of Huaneng's transition toward a green and low carbon development mode.
- On February 22nd, Huaneng held a general meeting of cadres from the group company to make full deployment for further strengthening the building of the group.
- On May 7th, at the Conference of International Cooperation on the Green Economy and Climate Change, Huaneng was praised by conference delegates for its green development achievements.
- On July 8th, the Fortune magazine released the list of the world's 500 largest companies in 2010 and the company ranked 313th, up by 112 places over the previous year.
- On July 23rd, Huaneng was given an award by the SASAC for its excellent performance, and was awarded special prize in "Technological Innovation" and "Energy Conservation and Emissions Reduction".



Company Profile

China Huaneng Group is a key state-owned enterprise approved by the State Council. The registered capital of China Huaneng Group is RMB 20 billion Yuan. The company is engaged in the following businesses: development; investment; construction; operation and management of power sources; production and sale of business and products related to finance, transportation, renewable energy and environmental protection; and industrial investment, operations, and management.

China Huaneng Group was first incorporated in 1985. Since then, the company has provided experience in the reform, development, and technological innovation of the power industry; the company has played an exemplary role in improving enterprise management and increasing economic benefit for power enterprises; the company greatly contributed to meeting the requirements of economic and social development, as well as maintaining and adding value to state-owned assets. The company continuously maintains its leading position, pursues cooperation and mutual benefits, and has gradually cultivated the "Three-color Corporate Culture", which symbolizes a "red" company serving the needs of socialism with Chinese characteristics, a "green" company advocating technological innovation and environmental protection, and a "blue" company growing through relentless innovation and internationalization. Our core values are "Integrity, Cooperation, Continuous Innovation; Performance-oriented; and Serving the Nation".

By the end of 2010, the company had wholly-owned or majority-owned power plants in 30 provinces,

municipalities, autonomous regions and overseas, with total installed capacity of 113.43 GW. Businesses that support the core business, such as coal, finance, scientific R&D, transportation, etc. began to take shape. The company became the first Chinese power producer to be ranked in the Fortune 500 companies, jumping from number 425 in 2009 to number 313 in 2010.

The Twelfth Five-Year Plan is an important period for China Huaneng Group to build a world-class company with international competitiveness. Therefore, the company will continuously hold high the great banner of socialism with Chinese characteristics and take Deng Xiaoping Theory, the "Three Represents" and the Scientific Outlook on Development as guidance, faster transformation of development modes as the focus, and the national energy strategy as the guiding principle while adhering to the corporate mission "three-color culture" and sticking to our strategic orientation of building an integrated energy group with international competitiveness that takes power generation as the core business, coal development as the foundation, finance as the supporting business, and technology as the driving force, while synergizing various industries. We will transform development modes, adjust the business structure and increase economic benefits, with an aim to become stronger, better and larger, so that we will take the lead to become a world-class enterprises with international competitiveness and make new and greater contributions to building a moderately prosperous society.

Organizational Structure

Departments of the Group Company

General Administration Department	Department of Capital Operations and Equity Management	Supervision Department
News Center	Department of Safety Supervision and Environment Protection	Auditing Department
Department of Planning and Development	Infrastructure Construction Department	Department of Ideological and Political Work
Department of Budget and General Planning	Coal Department	CSR office
Department of Corporate Governance and Legal Affairs	International Cooperation Department	Poverty Alleviation Office
Department of Operations	Human Resources Department	Labor Union Working Committee
Finance Department	Retired Personnel Office	

Units Directly under China Huaneng Group

CPC Huaneng Party School	China Huaneng Group Technical Economics Research Institute	China Huaneng Group IT Center
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Industrial Companies

Huaneng International Power Development Company (HIPDC)	GreenGen Co., Ltd.	Huaneng Properties Co., Ltd.
Huaneng Power International Inc. (HPI)	Huaneng Energy and Transportation (Holding) Co., Ltd.	China Huaneng Group Clean Energy Technology Research Institute
Huaneng Renewables Corporation	Huaneng Capital Services Co., Ltd.	China Huaneng Group Fuel Co., Ltd.
Huaneng Nuclear Power Development Co., Ltd.	China Huaneng Group Technology Innovation Center	

Regional Branch Companies

China Huaneng Group Northeast Branch	China Huaneng Group Jiangsu Branch	China Huaneng Group Hunan Branch
China Huaneng Group East China Branch	China Huaneng Group Zhejiang Branch	China Huaneng Group Chongqing Branch
China Huaneng Group Central China Branch	China Huaneng Group Anhui Branch	China Huaneng Group Qinghai Branch
China Huaneng Group South Branch	China Huaneng Group Fujian Branch	China Huaneng Group Guangxi Branch (Preparatory office)
China Huaneng Group Hebei Branch	China Huaneng Group Jiangxi Branch	China Huaneng Group Guizhou Branch (Preparatory office)
China Huaneng Group Shanxi Branch	China Huaneng Group Henan Branch	

Regional Subsidiaries

North United Power Co., Ltd.	Huaneng Jilin Power Generation Co., Ltd.	Huaneng Gansu Energy Development Co., Ltd.
Huaneng Lancang River Hydropower Co., Ltd.	Huaneng Heilongjiang Power Generation Co., Ltd.	Huaneng Tibet Power Generation Co., Ltd.
Huaneng Hulunbuir Energy Development Co., Ltd.	Huaneng Hainan Power Generation Co., Ltd.	Huaneng Xinjiang Energy Development Co., Ltd.
Huaneng Shandong Power Generation Co., Ltd.	Huaneng Shaanxi Power Generation Co., Ltd.	China Huaneng Group Hong Kong Co., Ltd.
Huaneng Sichuan Hydropower Co., Ltd.	Huaneng Ningxia Energy Co., Ltd.	Xi'an Thermal Power Research Institute

Units Directly Managed by China Huaneng Group

Huaneng Shandong Shidaowan Nuclear Power Co., Ltd.	Huaneng Hainan Industrial Co., Ltd.	
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Distribution of Power Plants



List of Power Plants in Operation

1.Yimin Power Plant: 2600 MW (2×500 + 3×600) (Ewenke Autonomous Banner, Inner Mongolia)
2.Yimin Hallaer Thermal Power Plant: 400 MW (2×200) (Hulunbuir City, Inner Mongolia)
3.Dalale Power Plant: 3180 MW (6×330 + 2×600) (Dalinor Banner, Inner Mongolia)
4.Bohai Bay Power Plant: 1060 MW (2×200 + 2×330) (Wuhai City, Inner Mongolia)
5.Fengzhen Power Plant: 600 MW (4×200) (Fengzhen, Inner Mongolia)
6.Baotou Thermal Power Plant I: 1050 MW (2×100 + 2×125 + 2×300) (Baotou City, Inner Mongolia)
7.Baotou Thermal Power Plant II: 1000 MW (2×200 + 2×300) (Baotou City, Inner Mongolia)
8.Hohhot Thermal Power Plant: 500 MW (2×200 + 2×50) (Hohhot City, Inner Mongolia)
9.Wulashan Power Plant: 600 MW (2×300) (Urat Front Banner, Inner Mongolia)
10.Wuhai Thermal Power Plant: 400 MW (2×200) (Wuhai City, Inner Mongolia)
11.Baotou Thermal Power Plant III: 600 MW (2×300) (Baotou City, Inner Mongolia)
12.Linhe Thermal Power Plant: 600 MW (2×300) (Bayan Nur, Inner Mongolia)
13.Jinqiao Thermal Power Plant: 600 MW (2×300) (Hohhot City, Inner Mongolia)
14.Mengqi Power Plant: 600 MW (2×300) (Ordos City, Inner Mongolia)
15.Shangdu Power Plant: 2400 MW (4×600) (Xilin Gol League Plain Blue Banner,Inner Mongolia)
16.Xilinhot Thermal Power Plant II: 36 MW (3×12) (Xilinhot City, Inner Mongolia)
17.Mengqi Thermal Power Company: 60 MW (2×25) (Xilinhot City, Inner Mongolia)
18.Xing'an Thermal Power Company: 136 MW (3×12+2×50) (Hinggan League, InnerMongolia)
19.Meiganets Thermal Power Plant: 12 MW (1×12) (Hulunbuir City, Inner Mongolia)
20.Hallaer Thermal Power Plant: 24 MW (1×12+2×6) (Hulunbuir City, Inner Mongolia)
21.Yakeshi Thermal Power Plant: 12 MW (2×6) (Hulunbuir City, Inner Mongolia)
22.Zhulanlun Thermal Power Plant: 24 MW (2×12) (Hulunbuir City, Inner Mongolia)
23.Hulihe Thermal Power Plant: 100 MW (2×50) (Hulunbuir City, Inner Mongolia)
24.Lingquan Thermal Power Plant: 50 MW (2×25) (Hulunbuir City, Inner Mongolia)
25.East Hallaer Thermal Power Plant: 150 MW (2×25+2×50) (Hulunbuir City, Inner Mongolia)
26.Manzhoui Thermal Power Company: 36 MW (3×12) (Hulunbuir City, Inner Mongolia)
27.Genhe Thermal Power Plant: 60 MW (2×25) (Hulunbuir City, Inner Mongolia)
28.Hegang Power Plant: 1200 MW (2×300+1×600) (Hegang City, Heilongjiang Province)
29.Xinhua Power Plant: 530 MW (1×200+1×330) (Daqing City, Heilongjiang Province)
30.Changchun Biomass Thermal Power Plant: 30 MW (2×15) (Changchun City, Jilin Province)
31.Jutai Power Plant: 1340 MW (2×670) (Jutai, Jilin Province)
32.Changchun Thermal Power Plant: 700 MW (2×350) (Changchun City, Jilin Province)
33.Dalian Power Plant: 1400 MW (4×350) (Dalian City, Liaoning Province)
34.Yingkou Power Plant: 1640 MW (2×320+2×600) (Yingkou City, Liaoning Province)
35.Yingkou Thermal Power Plant: 660 MW (2×330) (Yingkou City, Liaoning Province)
36.Dandong Power Plant: 700 MW (2×350) (Dandong City, Liaoning Province)
37.Beijing Thermal Power Plant: 845 MW (2×220+2×165+1×75) (Beijing City)
38.Yangliujing Power Plant: 1200 MW (4×300) (Tianjin City)
39.Hanfeng Power Plant: 1320 MW (2×660) (Handan City, Hebei Province)
40.Shan'an Power Plant: 2500 MW (2×350+2×300+2×600) (Shijiazhuang City, Hebei Province)
41.Yushu Power Plant: 800 MW (2×100+2×300) (Yushu County, Liaoning Province)
42.Xindan Power Plant: 800 MW (2×300) (Zibo City, Shandong Province)
43.Weihai Power Plant: 1320 MW (2×320+1×680) (Weihai City, Shandong Province)

44.Jining Power Plant: 970 MW (2×135+2×350) (Jining City, Shandong Province)
45.Baiyang River Power Plant: 880 MW (2×145+2×300) (Zibo City, Shandong Province)
46.Rizhao Power Plant: 2060 MW (2×350+2×680) (Rizhao City, Shandong Province)
47.Dezhou Power Plant: 2670 MW (1×300+1×330+2×700) (Dezhou City, Shandong Province)
48.Jiaxing Power Plant: 660 MW (2×330) (Jining City, Shandong Province)
49.Qufu Thermal Power Plant: 450 MW (2×225) (Qufu City, Shandong Province)
50.Jining Thermal Power Plant: 60 MW (2×30) (Jining City, Shandong Province)
51.Huangliu Power Plant: 330 MW (1×330) (Jinan City, Shandong Province)
52.Yantai Power Plant: 590 MW (3×160+1×110) (Yantai City, Shandong Province)
53.Laiwu Power Plant: 660 MW (2×330) (Laiwu City, Shandong Province)
54.Yunhe Power Plant: 1240 MW (4×145+2×330) (Jining City, Shandong Province)
55.Linyi Power Plant: 700 MW (5×140) (Linyi City, Shandong Province)
56.Liaochao Power Plant: 810 MW (2×140+1×330) (Liaocheng City, Shandong Province)
57.Zhongtai Power Plant: 300 MW (2×150) (Xintai City, Shandong Province)
58.Zhanhua Power Plant: 330 MW (2×165) (Binzhou City, Shandong Province)
59.Shidongkou Power Plant I: 1300 MW (4×325) (Baoshan District, Shanghai)
60.Shidongkou Power Plant II: 2520 MW (2×600+2×660) (Baoshan District, Shanghai)
61.Shanghai Gas Turbine Power Plant: 1170 MW (3×390) (Baoshan District, Shanghai)
62.Changxing Power Plant: (Shut down) (1×125+1×135) (Changxing County, Zhejiang Province)
63.Yuhuan Power Plant: 4000 MW (4×1000) (Yuhuan County, Zhejiang Province)
64.Nanjing Power Plant: 840 MW (2×320) (Nanjing City, Jiangsu Province)
65.Jinling Power Plant: 2640 MW (2×390+2×1030) (Nanjing City, Jiangsu Province)
66.Nantong Power Plant: 1404 MW (2×352+2×300) (Nantong City, Jiangsu Province)
67.Taicang Power Plant: 1900 MW (2×320+2×630) (Taicang City, Jiangsu Province)
68.Huailin Power Plant: 1320 MW (4×330) (Huailian City, Jiangsu Province)
69.Suzhou Thermal Power Plant: 120 MW (2×60) (Suzhou City, Jiangsu Province)
70.Chaohu Power Plant: 1200 MW (2×600) (Chaohu City, Anhui Province)
71.Yangtze Power Plant: 2400 MW (4×300+2×600) (Wuhan City, Hubei Province)
72.Yueyang Power Plant:1325 MW (2×36.25+2×30) (Yueyang City, Hubei Province)
73.Lushuang Power Plant: 2640 MW (4×360+2×600) (Jiangling District, Chongqing City)
74.Daba Power Plant:1200 MW (4×300) (Qingtongxia City, Ningxia Autonomous Region)
75.Pingliang Power Plant: 2475 MW (3×325+1×300+2×600) (Pingliang City, Gansu Province)
76.Tongchuan Power Plant: 1200 MW (2×600) (Tongchuan City, Shaanxi Province)
77.Qinling Power Plant: 640 MW (1×200+2×220) (Huayin City, Shaanxi Province)
78.Jingangshan Power Plant: 1620 MW (2×300+2×660) (Jifen City, Jiangxi Province)
79.Anyuan Power Plant: 260 MW (1×125+1×135) (Pingxiang City, Jiangxi Province)
80.Ruijin Power Plant: 700 MW (2×350) (Ruijin City, Jiangxi Province)
81.Fuzhou Power Plant: 2720 MW (4×350+2×660) (Fuzhou City, Fujian Province)
82.Shantou Power Plant: 1200 MW (2×300+1×600) (Shantou City, Guangdong Province)
83.Haimen Power Plant: 2072 MW (2×1036) (Shunde City, Guangdong Province)
84.Diandong Power Plant: 2400 MW (4×600) (Qufeng City, Yunnan Province)
85.Yuwang Power Plant: 1200 MW (2×600) (Qufeng City, Yunnan Province)
86.Haikou Power Plant: 1074 MW (3×136+2×330) (Haikou City, Hainan Province)
87.Nanshan Power Plant: 132 MW (2×50+2×16) (Sanya City, Hainan Province)
88.Dongfang Power Plant: 700 MW (2×350) (Dongfang City, Hainan Province)

89.Qinbei Power Plant: 2400 MW (4×600) (Jiyuan City, Henan Province)
90.Zhouwen Gas Turbine Power Plant: 780 MW (2×390) (Zhaozidian City, Henan Province)
91.Fukang Thermal Power Plant: 135 MW (1×135) (Fukang City, Xinjiang Autonomous Region)
92.Dashi Company: 2670 MW (2×600+4×367.5) (Singapore)
93.Jubao Hydropower Station: 20 MW (2×10) (Linjiang City, Jilin Province)
94.Shilang Hydropower Station: 85.6 MW (3×28.6) (Yunhe County, Zhejiang Province)
95.Lengzuguan Hydropower Station: 180 MW (3×60) (Kangding County, Sichuan Province)
96.Tongtuo Hydropower Station: 80 MW (4×20) (Lushan County, Sichuan Province)
97.Yuchem Hydropower Station: 60 MW (3×20) (Yuan City, Sichuan Province)
98.Xiaoguanzi Hydropower Station: 160 MW (4×40) (Baoding County, Sichuan Province)
99.Qiaoqi Hydropower Station: 240 MW (3×28.6) (Baoding County, Sichuan Province)
100.Baoxing Hydropower Station: 196 MW (3×65) (Baoxing County, Sichuan Province)
101.Taipingyi Hydropower Station: 260 MW (4×65) (Wenchuan County, Sichuan Province)
102.Minghai Hydropower Station: 45 MW (3×15) (Santai City, Sichuan Province)
103.Dongxiguan Hydropower Station: 180 MW (4×45) (Wusheng County, Sichuan Province)
104.Qinglu Hydropower Station: 136 MW (4×34) (Nanchong County, Sichuan Province)
105.Ziyi Hydropower Station: 130 MW (2×65) (Pingwu County, Sichuan Province)
106.Xiaotiandu Hydropower Station: 240 MW (3×80) (Kangding County, Sichuan Province)
107.Shuiniujia Hydropower Station: 70 MW (2×35) (Pingwu County, Sichuan Province)
108.Muzuo Hydropower Station: 100 MW (2×50) (Pingwu County, Sichuan Province)
109.Yiping Hydropower Station: 100 MW (2×50) (Pingwu County, Sichuan Province)
110.Hongyan Hydropower Station: 24 MW (2×12) (Mianyang City, Sichuan Province)
111.Maimen Hydropower Station: 1670 MW (5×250+1×300+1×120) (Yun County, Yunnan Province)
112.Jinghong Hydropower Station: 1760 MW (5×350) (Jinghong City, Yunnan Province)
113.Ruilijiang Hydropower Station: 600 MW (6×100) (Jinghong City, Yunnan Province)
114.Xiaowan Hydropower Station: 4200 MW (6×700) (Fengqing County, Yunnan Province)
115.Nanguo River Hydropower Station: 16 MW (2×8) (Menghai County, Yunnan Province)
116.Jidu River Class-4 Hydropower Station: 12.6 MW (2×6.3) (Nujiang Prefecture, Yunnan Province)
117.Tuoduo Hydropower Station: 30 MW (2×15) (Diding Prefecture, Yunnan Province)
118.Dalia Hydropower Station: 65.6 MW (3×28.6) (Dali Prefecture, Yunnan Province)
119.Guzhai Hydropower Station: 82 MW (2×40+2×1) (Dongfang City, Hainan Province)
120.Dalengtan Hydropower Station: 37.6 MW (3×12+1×1.6) (Enshi City, Hubei Province)
121.Dangshang Class-4 Hydropower Station: 12.6 MW (2×6.3) (Subei County, Gansu Province)
122.Dazhuang Hydropower Station: 11 MW (2×5.5) (Lugu County, Gansu Province)
123.Honghuashiji Hydropower Station: 7.5 MW (3×2.5) (Hulunbuir City, Inner Mongolia)
124.Nan'ao Nubuling Wind Farm: 13.5 MW (Shantou City, Guangdong Province)
125.Qing'ao Wind Farm: 45.05 MW (Shantou City, Guangdong Province)
126.Nan'ao Dongdao Wind Farm: 15 MW (Shantou City, Guangdong Province)
127.Baolongshan Wind Farm: 177 MW (Horqin Left Middle Banner, Inner Mongolia)
128.Maozong Wind Farm: 82.6 MW (Bantou City, Inner Mongolia)
129.Zhurhe Wind Farm: 295.5 MW (Tongliao City, Inner Mongolia)
130.Hallaer Xiaoliang Wind Farm: 99 MW (Hulunbuir City, Inner Mongolia)
131.Wuchuan Litanilang Wind Farm: 188 MW (Wuchuan County, Inner Mongolia)
132.Horqin Right Middle Banner Wind Farm: 196 MW (Jinggan League, Inner Mongolia)

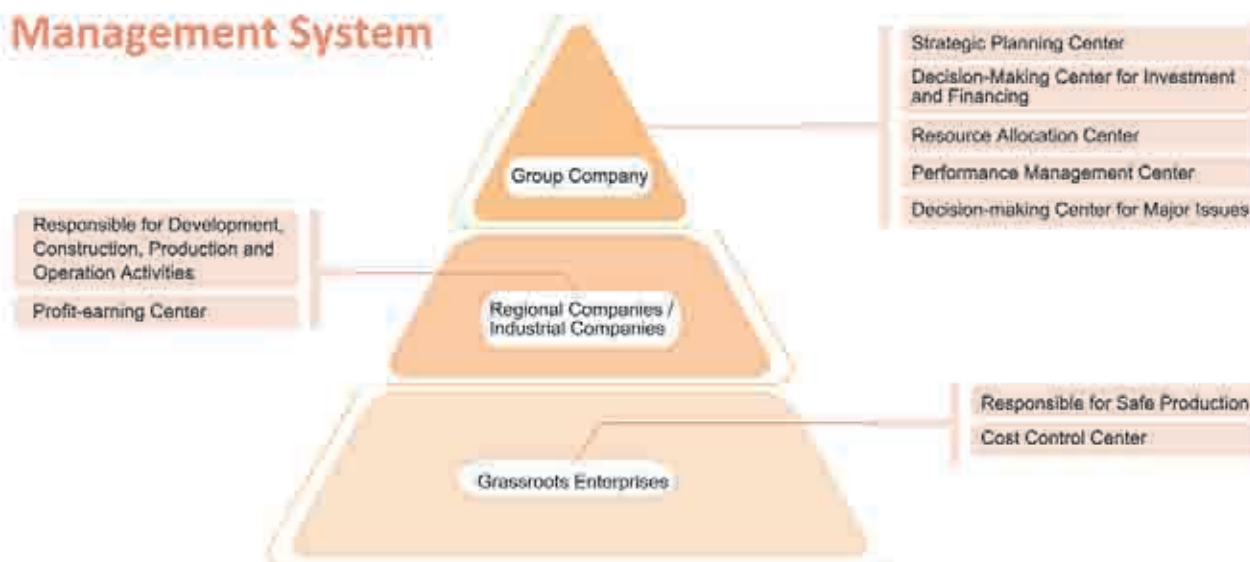
133.Haori Gesu Wind Farm: 300.15 MW (Horqin Left Middle Banner,Inner Mongolia)
134.Tongjiang Wind Power Generation Co., Ltd. Wind Farm: 99 MW (Tongjiang City, Heilongjiang Province)
135.Zhaobei Wind Farm: 98.9 MW (Baicheng City, Jilin Province)
136.Tongyu Wind Farm: 201 MW (Tongyu County, Jilin Province)
137.Zhenlai Mall Wind Farm: 49.5 MW (Zhenlai County, Jilin Province)
138.Siping Wind Farm: 200 MW (Siping City, Jilin Province)
139.Fuxin Fubei Wind Farm: 300 MW (Fuxin City, Liaoning Province)
140.Fuxin Gaozhanzi Wind Farm: 100.5 MW (Fuxin City, Liaoning Province)
141.Fuxin Zhangbei Wind Farm: 300 MW (Fuxin City, Liaoning Province)
142.Pangji Dawa Wind Farm: 49.5 MW (Pangji City, Liaoning Province)
143.Leting Wind Farm: 49.5 MW (Leting County, Hebei Province)
144.Chengde Weichang Wind Farm: 49.5 MW (Chengde City, Hebei Province)
145.Huade Wind Farm: 49.5 MW (Huade County, Inner Mongolia)
146.Kangbao Wind Farm: 49.5 MW (Zhangjiakou City, Hebei Province)
147.Shandong Changdao Wind Farm: 27.2 MW (Changdao County, Shandong Province)
148.Haikou Wind Farm: 181.6 MW (Dongying City, Shandong Province)
149.Binhai Wind Farm: 49.5 MW (Wofang City, Shandong Province)
150.Rongcheng Offshore Wind Farm: 6 MW (Rongcheng City, Shandong Province)
151.Shouguang Wind Farm (Phase I): 49.5 MW (Shouguang City, Shandong Province)
152.Shouguang Wind Farm (Phase II): 49.5 MW (Shouguang City, Shandong Province)
153.Changyi Wind Farm: 99 MW (Weifang City, Shandong Province)
154.Weihai Wind Farm: 69 MW (Weihai City, Shandong Province)
155.Changdao Wind Farm: 24.45 MW (Changdao County, Shandong Province)
156.Rongcheng Wind Farm: 15 MW (Rongcheng City, Shandong Province)
157.Laizhou Wind Farm: 78.75 MW (Weihai City, Shandong Province)
158.Dongying Wind Farm: 49 MW (Dongying City, Shandong Province)
159.Muping Wind Farm: 42 MW (Yantai City, Shandong Province)
160.Ruzhan Wind Farm: 42 MW (Ruzhan City, Shandong Province)
161.Qidong Wind Farm: 141.6 MW (Qidong City, Jiangsu Province)
162.Daili Dafengba Wind Farm: 46 MW (Dali Prefecture, Yunnan Province)
163.Daili Eryuan Maanshan Wind Farm: 99 MW (Dali Prefecture, Yunnan Province)
164.Wenchang Wind Farm: 51.5 MW (Wenchang City, Hainan Province)
165.Hans Santanghu Wind Farm: 99 MW (Baikun County, Xinjiang Province)
166.Tuokexun Baiyonghai Wind Farm: 99 MW (Turpan City, Xinjiang Province)
167.Hultengxile Wind Farm: 160.6 MW (Chahar Right Center Banner, Inner Mongolia)
168.Shangdu Wind Farm: 3.6 MW (Xilinhot City, Inner Mongolia)
169.Baiyin Wind Farm: 49.5 MW (Xilinhot City, Inner Mongolia)
170.Hutengliang Wind Farm: 160 MW (Abag Banner, Inner Mongolia)
171.Wujiquren Wind Farm: 49.5 MW (Jarud Banner, Inner Mongolia)
172.Saihan Wind Farm: 49.5 MW (Xilinhot City, Inner Mongolia)
173.Zhurhe Wind Farm: 14.4 MW (Xilinhot City, Inner Mongolia)
174.Xilinhot Wind Farm: 4.76 MW (Xilinhot City, Inner Mongolia)
175.Shilin Photovoltaic Power Station: 10 MW (Kunming City, Yunnan Province)

(The list is arranged in random order.)

Corporate Strategy

<ul style="list-style-type: none"> Industrial Synergy Strategy 	Persist in the strategic orientation of "building an integrated energy group with international competitiveness that takes power generation as the core business, coal development as the foundation, finance as the supporting business, and technology as the driving force, while synergizing various industries", and promote the harmonious development of the core business (electricity) and supporting businesses.
<ul style="list-style-type: none"> Energy Conservation and Environmental Protection Strategy 	Persist in green development, continually reduce the discharge of pollutants, improve the efficiency of resource utilization, develop a recycling economy, and build an energy-conserving and environmentally-friendly enterprise.
<ul style="list-style-type: none"> Strong Management Strategy 	Give full play to the fundamental role of management and forming a benign mechanism of continuously improving and strengthening management so as to constantly enhance its capacity in decision-making, implementation and control.
<ul style="list-style-type: none"> Technological Innovation Strategy 	Continuously strengthen the important position of enterprises in independent innovation, further improving technological innovation systems and enhancing the capacity for independent innovation.
<ul style="list-style-type: none"> "Going Global" Strategy 	Strengthen international exchanges and cooperation, improving the degree of internationalization, expanding the international market share, widening development space, utilizing both domestic and foreign resources and markets to promote corporate development.
<ul style="list-style-type: none"> Talent-Intensive Strategy 	Stick to the "Scientific Outlook on Development" as the overall guidance in human resource work, continuously optimizing human resource structures, and strengthening the building of a high-caliber workforce so as to provide human resource support for corporate development.
<ul style="list-style-type: none"> Cultural Cohesion Strategy 	Further improve the core value system, optimize the corporate identity system, and build a "three-color corporate culture" which is unified, diverse, and distinct.

Management System



The company has been strengthening the construction of a three-level management system, comprised of the "group company — regional companies / industrial companies — grassroots companies." In 2010, Huaneng pressed ahead with the construction of the group company, and established the Coal Department, News Center, Huaneng Fuels Co., Ltd, and others, improved management functions of the group company headquarters. Huaneng has also completed establishment and revision of 175 management systems of the headquarters, and improved the systems covering main business processes and departmental responsibilities. The

company increasingly standardized the management of regional / industrial companies newly set up eight branch companies, thus enhancing efficiency in resource allocation. We also improved our Four Evaluation Systems, and enhanced our capabilities in decision-making, execution and control. Furthermore, we set up special management committees, such as the Expert Committee, Safe Production Committee, and Finance and Budget Committee, which further enhanced our decision-making abilities.

Opportunities and Challenges

Major Opportunities

© Opportunities for Business Development

China has been deepening development in industrialization, informatization, urbanization, marketization and internationalization. As the world economy recovers, China will maintain its economic momentum, thus the demand of electricity will keep growing, which will be conducive for Huaneng to improve its operations and development.

© Opportunities for Structural Reorganization

We are accelerating the transformation of our development mode, promoting the reorganization of the economic structure, and speeding up the development of new energy. We are also pressing ahead with high-efficient and cleaner utilization of traditional energy, and developing smart grid. These will be of great advantage for Huaneng in optimizing its industrial structure, power sources structure and regional distribution, and improving its sustainable development.

© Opportunities to Become Stronger, Better and Larger

The government encourages merger and acquisition so as to increase industrial concentration, and encourage companies to speed up the "go global" process, so as to build large and medium-sized enterprises with internationally famous brands and core competitiveness. This provides Huaneng with a good policy environment to make better use of the Chinese and international markets and resources, and helps to speed up building Huaneng into a world-class company with international competitiveness.



Tackling key technical problems

© Opportunities for Technological Innovation

We are implementing a strategy for fostering talent-strong and technologically-thriving enterprises, developing strategic and emerging industries, and promoting low-carbon technology. We are also accelerating the implementation of national special major projects in science and technology, speeding up research and development and utilization of low-carbon technology. These will conduce to Huaneng to develop technological industries, improve independent innovation ability, and enhance the level of technological industrialization.

© Opportunities to Deepen Reform

We persist in reform and opening up, establish systems and mechanisms that support scientific development, and protect and improve people's livelihoods. These will create a good external environment for us and be conducive to further deepen reform, promote innovation in management, and improve management levels.

Major Risks

© Risks of Fluctuation in Economic Development

The far-reaching impact of the global financial crisis, delays in economic recovery, continuous fluctuation in major currency exchange rates, and turmoil in financial markets brought China major challenges that could potentially affect fast and steady economic growth and the management of inflation expectations and economic restructuring, all of which can impact the sustained and rapid growth of electric power, thereby affecting the company's business development.

© Coal Supply Risks

Affected by factors such as international coal price increases, high demand in domestic coal market, extreme weather, and transportation bottlenecks, the coal price will remain high and coal supply will likely remain tight for some time, bringing new difficulties to the company in areas of fuels supply, fuels cost control, and improvements in the efficiency of coal-fired power plants.

© Funding Supply Risks

The shift from a moderately loose monetary policy in China to stricter management and control of funds or rise in the lending rate would not only have impacts on investments in fixed assets and the growth of electricity demand, but also bring new challenges to the company in guaranteeing funds and low capital cost.

Corresponding Measures

◎ Focus on Structural Readjustment and Optimizing Distribution

To optimize and readjust industrial structure, we strengthened industrial synergies, and centered on the core power industry to actively develop coal resources and coordinately develop the transportation industry based on coal logistics. We strengthened the combination of industry and finance, so as to play the supporting role of financial. We speeded up the cultivation of the science and technology industry and other emerging industries, so as to build a high-efficiency and synergic industrial system. To optimize power sources structure, we intensified our efforts to develop clean and low-carbon energy, further increased the installed proportion and enlarged high-efficiency and clean utilization of traditional energy. We also sped up the elimination of backward production capacity, carried out energy conservation and emissions reductions efforts, and increased the installed proportion of generating units with high capacity and parameters. To optimize regional distribution, we accelerated western development (in China), stabilized middle development (in China), and improved eastern development (in China) so as to accelerate the formation of new



Making careful maintenance

advantages in regional distribution, as to accelerate the formation of new advantages in regional distribution.

◎ Focus on Enhancing Development Quality and Benefits

We persisted in the guide of development strategy and efficiency as the first, and making enterprise development serve economic benefits, the development strategy, and budgets. In the development of projects, we not only stuck to the concepts of "more aspects, best selection, best construction, and strict management", but also made a priority of developing capability in step with financial status, ensured project preparation was consistent with the progress of infrastructure construction, and ensured that supporting projects were in harmony with the main projects. Furthermore, we aligned scale, structure, quality and productivity while seeking effective, moderate and orderly development.

◎ Focus on Promoting Technological Progress and Innovation

We deeply implemented the scientific and technological strategy, established a sound mechanism for technological innovation, and increased R&D investment, so as to build an innovation-oriented enterprise. We promoted optimal allocation of scientific and technological resources and accelerated the pace of technological innovation and industrialization. Additionally, we must devote ourselves to demonstration projects that represent the development direction of future generating technology and give full play to the energy development national strategy while striving to improve the capability of high-tech industries to serve production and operations.

◎ Focus on Improving the Level of Internationalized Operations

In order to improve international operations levels, we have been actively carrying out the "go global" strategy, persisting in the policy of laying equal stress on project development and assets acquisition, and developing clean, low-carbon power and coal resources abroad. On the other hand, we strengthened management of foreign investment projects, and strived to prevent risk in international operations so as to steadily increase the proportion of overseas installed capacity and coal production capacity, constantly increase overseas business income and achieve reasonable return on investment.



The activity of "Striving for Excellence"

◎ Focus on Getting Stronger, Better, and Larger

In order to get stronger, better, and larger, we further standardized corporate governance, optimized resource allocation, and pursued operational excellence with an aim to achieve internationally advanced level in various indicators, and build an internationally famous brand. Furthermore, we improved our overall quality, strengthened human resources building, and gave full play to the backbone role of the company in economic and social development so as to be a world-class enterprise that can compete with counterparts in the international energy field.

Anti-Corruption

Speeding up Establishment of a Punishment and Prevention System

We developed *Regulations on Evaluating Leading Bodies and Leaders in Huaneng*, *Regulations on Property Rights Buy-outs in Huaneng*, *Regulations on Writing off Capital Losses in Huaneng* and other rules and regulations, which further improved the collective decision-making system. We also established and improved the Anti-corruption System.

We deeply implemented the *Guiding Principles on Honest and Clean Conduct* and *Provisions on Honest and Clean Conduct of the Leadership Members of State-Owned Enterprises*, and strengthened the working style of leaders at all levels of subordinate companies. We also conscientiously enforced a responsibility system for improving work

style, signed letters of responsibility with subordinate companies at all levels, and incorporated anti-corruption into the Performance Assessment System. Additionally, we attached great importance to disciplinary inspection and supervision which cover all business activities.

By making positive use of our experience in risk management and internal control management, we have conducted prevention and control on corruption risks, and have embedded our "Corruption Punishment and Prevention System" into the internal control and risk management systems, as a result, we have made the Corruption Punishment and Prevention System more relevant and effective, and have comprehensively enhanced our capability in corruption prevention.

Strengthening Special Supervision and Inspection

In close connection with key production and management links, we conducted performance monitoring and used various means to standardize operations and management behavior and business processes, thus increasing economic efficiency and ensuring the preservation and growth of state-owned assets. In 2010, through the development of performance monitoring, we received 1,142 supervision suggestions, developed 105 rules and systems, saved capital of 772 million Yuan, and prevented economic losses of 25.4 million Yuan.

In accordance with central government requirements on tackling prominent issues in project construction, and standardizing the behavior of enterprises in operation and management, we implemented the requirements through special campaigns, strengthened the development of internal control systems, improved the financial system to plug management loopholes, and reinforced supervision and inspection.

Promoting Integrity Culture

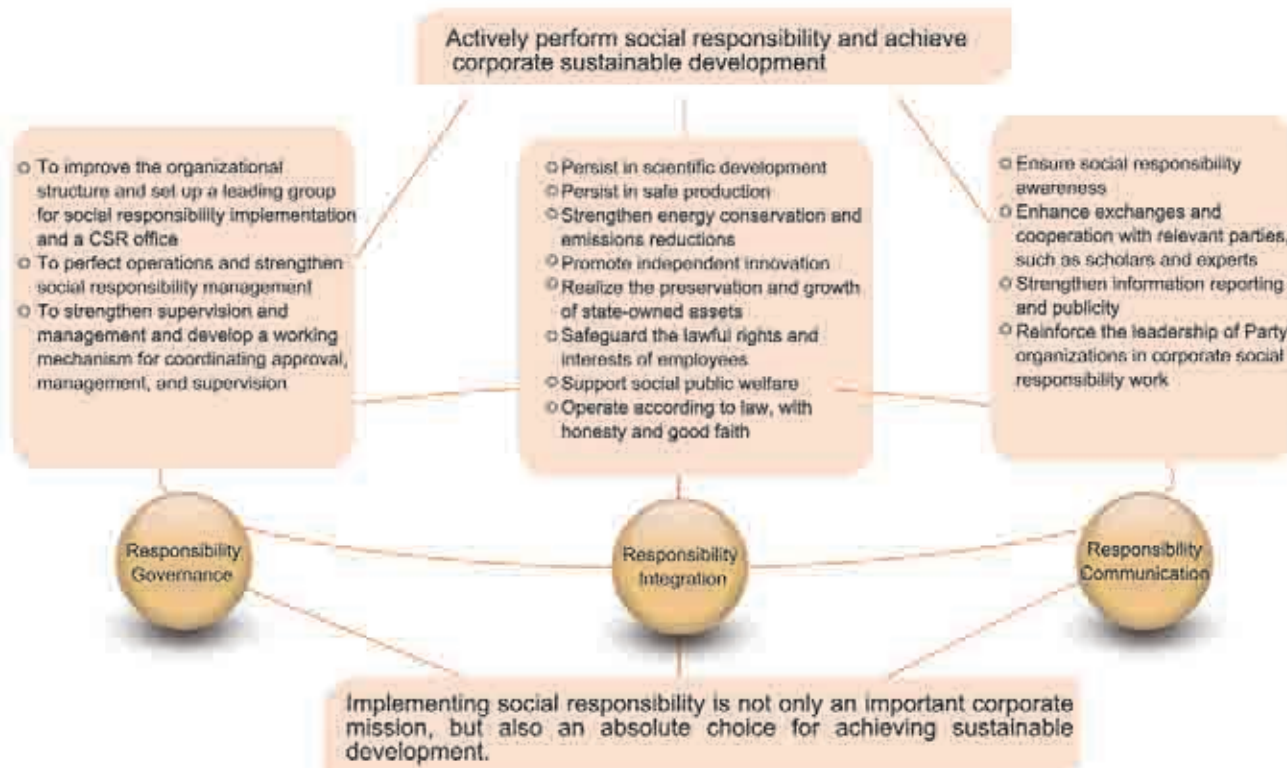
We implemented the spirit of the CPC Central Committee Guidance in building an incorruptible culture, formulated and released *Guiding Opinions on Strengthening the Construction of Clean Enterprise Culture*. Additionally, we made great efforts in building integrity culture through broadening educational channels, enriching educational content, and making full use of the Internet, publications, presentations, and other information channels. We also intensified our efforts to publicize the concepts of honesty, integrity and harmony by means of lectures, knowledge contests, etc. so as to create a good environment for healthy enterprise development.



Signing activities of the "Integrity Commitment"

Social Responsibility Management

At Huaneng, we conform to the company's **Guidance for Performing Social Responsibility** and advance our sustainability commitments and responsibility implementation, while gradually improving our sustainable development management system and constantly enhancing our sustainable development capacity.



Seizing the opportunity of releasing sustainability reports, we continuously update our sustainable development concepts:

- In our **Sustainability Report 2006**, we introduced our "Four Big Developments" including Safety Development, Clean Development, Healthy Development and Harmony Development, which summarized our practice in sustainable development;
- In our **Sustainability Report 2007**, we proposed the "Huaneng Declaration on Sustainable Development" and clarified the "set-an-example in five aspects";
- In our **Sustainability Report 2008**, our theme of "Confidence-Momentum for Development" showed how sustainable development is a strategic part of our daily business operations;
- In our **Sustainability Report 2009**, we took "Green Development • Supplying Clean Energy" as the theme, indicating our commitment to develop low-carbon clean energy;
- In our **Sustainability Report 2010**, our theme of "Transforming our Development Mode • Becoming Stronger, Better, Larger" indicated our decision to constantly improve the quality and efficiency of development.



Key Performance Indicators

Environmental Indicator	Unit	2006	2007	2008	2009	2010
Proportion of clean energy	%	8.79	9.06	12.40	15.01	17.70
Coal consumption per unit of power generation	g/kWh	344.87	337.37	333.59	327.70	322.72
Service-power consumption rate	%	5.91	5.88	5.90	5.61	5.22
Sulfur dioxide emissions	g/kWh	5.12	3.93	3.33	2.41	2.06

Economic Indicator	Unit	2006	2007	2008	2009	2010
Installed capacity	10 MW	5718.50	7157.50	8586.20	10438.20	11343.42
Power output	100 million kWh	2820.32	3270.35	3645.00	4200.95	5376.44
Total assets	100 million Yuan(RMB)	2860.75	3760.86	4635.94	5782.81	6623.99
Total revenue	100 million Yuan(RMB)	853.83	1156.07	1513.75	1777.40	2279.94
Taxes paid	100 million Yuan(RMB)	112.73	141.80	141.20	166.48	172.66
Profits	100 million Yuan(RMB)	96.21	106.82	-58.41	68.85	77.83

Social Indicator	Unit	2006	2007	2008	2009	2010
Usable power coefficient	%	93.39	93.32	91.69	92.27	94.87
Major injury or deaths accidents	No.	0	0	0	0	0
Major equipment accidents	No.	0	0	0	0	0
Common equipment accidents	No.	3	5	4	3	0
Staff	No.	66365	88539	98560	129992	131816
Labor union membership rate	%	100	100	100	100	100
Labor contract signing rate	%	100	100	100	100	100
Collective contract coverage rate	%	100	100	100	100	100
Female staff	No.	20368	24654	26633	27088	31384

Membership in Major Social Groups and Organizations

Name of Organization	Position
China Center for International Economic Exchanges	Standing Director
United Nations Global Compact	Member
Association of the Electricity Supply Industry of East Asia and the Western Pacific	Member
China Enterprises Party Building & Ideological and Political Work Seminar	Vice Chairman
China Electricity Council	Vice Director-General
China Enterprise Confederation & China Enterprise Directors Association	Director
China Group Companies Promotion Association	Vice Chairman
China Society for Electrical Engineering	Vice Director-General
China Power Supervision Standardization Technical Committee	Member
China Association of Work Safety	Vice Chairman
China Association for the Promotion of Industrial Development	Director
China Supervision Association Power Branch	Vice Chairman
China Association of Chief Financial Officers	Standing Director
National Association of Financial Market Institutional Investors	Standing Director
China Federation of Industrial Economics	Standing Director
China Research Institute of Enterprise Culture	Standing Director
China Association of Power Equipment Management	Vice Director-General
China Nuclear Society	Standing Director
China Nuclear Energy Association	Vice Director-General
China International Institute of Multinational Corporation	Vice Chairman
Chinese Society for Hydroelectric Engineering	Vice Director-General
China Institute of Internal Audit	Standing Director
China Electric Power Construction Association	Member
China Information Industry Association	Vice Director-General



1 Safe Development

Events

- On January 4th, the company held the year's first enlarged meeting of the Production Safety Committee to sum up production safety work in 2009 and make deployment for 2010.
- In January, the company arranged activities for the "Outsourced Engineering Safety Management Year" and made clear requirements on further strengthening outsourced project safety management in each Huaneng subsidiary enterprise.
- In February, the company held safety evaluation mobilization meetings to make arrangements for comprehensive safety evaluations.
- In November, relevant units of the company took effective measures to ensure the safe operation of generating units, successfully completing the task of supplying power to the Shanghai World Expo and Guangzhou Asian Games.
- On December 7th, the company held exchange meetings on safety awareness building for coal mine enterprises to further promote their safety culture.



The diagram illustrates the framework for safe development. At the top, a photograph shows a large industrial structure, possibly a bridge or a large crane, with a red and white color scheme. Below this, a flowchart connects three main components: Concept, Objectives, and Measures. The 'Concept' section is divided into four sub-categories: Safety Guidelines, Safety Concepts, Safety Culture, and Safety Awareness. The 'Objectives' section lists three goals: eliminating accidental worker deaths and injury, avoiding serious accidents related to equipment, fire, or traffic, and avoiding incidents that may impact the company's image. The 'Measures' section lists four actions: strengthening organizational leadership and safety management system, carrying out activities like 'Outsourcing Project Safety Management Year', actively inspecting and making efforts in equipment control and safety risk prevention abilities, and strengthening safety culture training and 'Breach of Violations Prevention' work.

Concept

Safe development is the precondition for sustainable development. In order to achieve safe development, we stick to the scientific concept of "putting people first". We regard safety as part of benefits, reputation and competitiveness, and fully implement our Safe Production Responsibility System. We have also improved safety management regulations, strengthened our emergency response mechanisms, and continuously make improvements to our Safety Management System so as to raise safety levels and strive to be the safest company possible.

Safety Guidelines

- Safety first
- Prevention focus
- Comprehensive controls

Safety Concepts

- Safety as benefit
- Safety as reputation
- Safety as competitiveness
- Safety as significant

Safety Culture

Under all circumstances, we put human safety first. Being people-oriented, we stress employee's physical safety and vocational health, making safety the top priority.

Safety Awareness

Viewed as a political issue, safety is a precondition for maintaining stability and promoting development. We emphasize the importance of safety for the interests of employees, enterprises and the nation, and try to spread safety awareness and responsibilities among our employees. We establish correct safety performance concepts, and try to ensure political, production, operational and image safety.

Objectives

- To eliminate accidental worker deaths and injury;
- To avoid serious accidents related to equipment, fire, or traffic;
- To avoid all other incidents that may impact the image of our company.

Measures

- To strengthen organizational leadership, implement safety responsibility, and improve our safety management system;
- To carry out activities like "Outsourcing Project Safety Management Year", step up management of safety across the board, and improve the foundations of safety;
- To actively inspect and make efforts in equipment control and safety risk prevention abilities;
- To strengthen safety culture training, deeply carry out "Breach of Violations Prevention" work, and improve the safety awareness and quality of all employees.

Strengthening the Safety Management System

Organizational Leadership

We established a production safety management system at all levels of the company, including the group company, regional/industrial companies, and grassroots companies. We set up Production Safety Committees in all enterprises. Leaders of each enterprise were responsible for general safety and for organizing and ensuring a safe work environment. On the first working day of the year the company held a meeting of the Production Safety Committee to make arrangements to ensure production safety.

Given the safety, health, environmental management, production and operation realities of the subsidiary companies, Huaneng Power International Inc. has compiled a Management Manual on the Safety System, which plays an important role in enhancing safety performance and realizing stable and safe production.

Implementing Responsibility

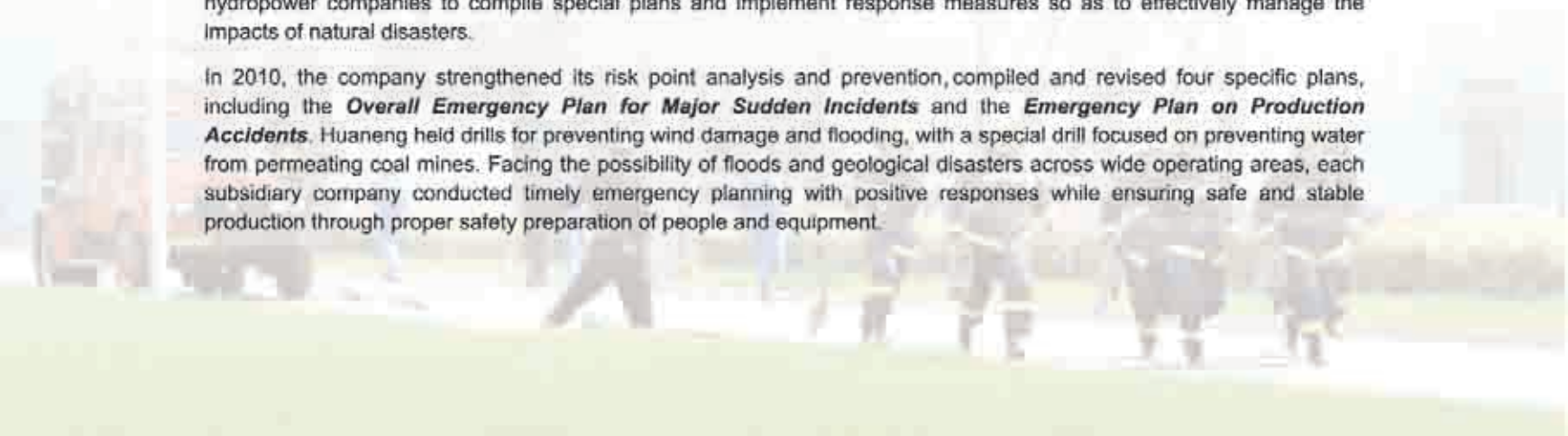
We implemented the nation's policies, laws, and regulations on production safety through our Safety Production Responsibility System, which used a closed-loop management system that ensured decomposition, implementation and performance assessment of responsibility. All companies have signed a **Production Safety Responsibility Agreement** to guarantee the implementation of the safe production responsibility system. In this way, responsibilities for safety are designated level by level to each subsidiary, grassroots company, department, team and post.

We used four major indicators covering production safety, operational safety, political safety and image safety to measure, manage, and further improved our **Detailed Rules for Implementation of Safety Performance Assessment** and other systems. These indicators were the basis for assessing performance and determining responsibility. In addition, we strengthened supervision in assessing and determining responsibilities, annually assessing each company's safety performance targets, and issuing warnings and corresponding penalties to those that fall short of their targets.

Emergency Management

The company strengthened emergency management system and compiled preventive action plans and emergency response teams. We believed that preventive measures should be implemented effectively and that emergencies need to be managed dynamically to ensure proper controls. We enhanced worker safety awareness and improved their abilities to prevent accidents, help themselves, and help others, and developed company capacities to handle emergencies. Additionally, the company paid great attention to handling responses to sudden natural disasters, focused on strengthening our ability to handle abnormal climate, geological disasters, and other issues. We implemented full emergency management measures covering plans, materials, exercises, observation and the like. We organized everything from coastal power generation companies and power generation companies along the Yangtze River to mountainous hydropower companies to compile special plans and implement response measures so as to effectively manage the impacts of natural disasters.

In 2010, the company strengthened its risk point analysis and prevention, compiled and revised four specific plans, including the **Overall Emergency Plan for Major Sudden Incidents** and the **Emergency Plan on Production Accidents**. Huaneng held drills for preventing wind damage and flooding, with a special drill focused on preventing water from permeating coal mines. Facing the possibility of floods and geological disasters across wide operating areas, each subsidiary company conducted timely emergency planning with positive responses while ensuring safe and stable production through proper safety preparation of people and equipment.



Management on Safety Accidents

The company enforced the "four principles" in production accident prevention. Additionally, the company operated in accordance with the **Measures for Assessing and Punishing Production Accidents** and **Regulations on Investigation of Power Production Accidents**. We defined our accident management responsibility system and strengthened our ability to determine accident responsibilities, from assessing company responsibilities to investigating who had personal responsibility for the accident, while compiling various types of accident cases inside and outside the company so as to implement appropriate measures that prevent the reoccurrence of similar accidents.



Operators conducting inspections

Consolidating the Foundations of Safety

Institutional Improvement

The company compiled relevant national, industrial, and regional safety rules to develop comprehensive guidance such as **Provisions on Safe Production Committee Work**, **Regulations Against Code Violations**, **Regulations on Inspection and Treatment of Hidden Dangers**, **Accountability and Punishment Measures for Accidents**, **Evaluation Methods on**

Safe Production Management in Power Plants, **Implementation Measures on Coal Mine Leaders Taking Personal Charge in Mines to Check Safety** and other rules and regulations, to further ensure that the company's safety management is scientific and normative.

Team Building

Focusing on the grassroots, foundations, and basic skills, we treated team building as an essential aspect of safety management. Stressing the concept of "ensuring zero deaths with zero breaches of regulations, and ensuring zero accidents with zero defects", we continued to carry out the activities of "being an excellent group and excellent employees." We encouraged each group to innovate safety management; increased safety education and training to comprehensively advance group safety standardization; and constantly consolidated the foundations of the enterprise's safe production.

In 2010, the unit control group of the maintenance department of Yimin Power Plant, along with the operation department of Baotou Thermal Power Plant III, and the relay protection group of Haikou Power Plant were awarded the title of "Worker Pioneers" by All China Federation of Trade Unions (ACFTU). Additionally, nine groups of the instrument and control section of Beijing Co-generation Power Plant were granted the title of "Red Flag Group."



Through focused safety training, constant self-improvement and improved internal management, and strictly implementing the safe production responsibility system, the 108T No.1 team of the maintenance department of Yimin open-pit coal mine has achieved excellent safety results for 13 consecutive years, and has successively won awards like "Top Ten National Coal Mine Groups in Safety Preparedness", "National Worker Pioneer", and others.

Infrastructure Construction Management

We carried out activities related to the "Outsourcing Project Safety Management Year", strengthened the inspection of outsourcing team qualifications, personnel training, and site management, tightened the management of project contracts and quotas, established systems of ensuring property management, and gradually standardized the safety management of outsourcing teams. Additionally, we strictly enforced the "Three Synchronizations" system comprised of regulations on new construction safety facilities, reconstruction and expansion projects. We also earnestly assigned lead company safety management project responsibilities, strengthened our supervision over constructors, and organized all parties participating in construction to constantly conduct "Special Actions against Breach of Regulations" so as to completely prevent safety incidents during infrastructure construction projects.



Infrastructure construction site of Xiaowan Hydropower station

Huaneng Xiaowan Hydropower Station improved its access approval process, implemented "Hidden Danger Accident Management" and "Accident Accountability" measures while strengthening on-site supervision and management, thus producing the excellent results of having zero accidents for seven consecutive years.

Coal Mine Management

Huaneng continuously improved safety management mechanisms for coal mines, established organizational structures, improved staffing, and focused on preventative action, safety supervision, and responsibility implementation. In the meantime, Huaneng strengthened management of coal mine technology and emergency preparedness, promoted team building and safety, and further reinforced the foundations of coal mine safety management.

At Huaneng, we believe that solving safety problems in the mine requires on-site attention and that responsibility depends on involving coal mine leaders in the process of production. We strictly executed the Safety Production Standard, and deeply promote a "two tickets system" (operation ticket, work ticket) while also focusing on safety evaluations and safety quality standardization, thus enhancing coal mine safety levels.



Distributing Safety Production Manual to underground workers

Prevention and Control of Safety Risks

Safety Evaluations

We prepared and issued **Standards and Evidence on Safety Evaluations** for thermal power plants, hydropower stations and wind farms to establish a scientific evaluation system and working mechanism for carrying out safety evaluations in a comprehensive way. In 2010, 156 grassroots enterprises carried out their own investigations, among which 88 were assessed by experts in secondary units. Additionally, the group company conducted reexaminations and evaluations in Power Plants of Haikou, Hegang, and other sites, and carried out training on safety evaluations at Huating Coal Industry Company. All of these have given impetus to the company to form self-restraint and continuous improvement mechanisms for safe production.

Inspection and Treatment of Hidden Dangers

Huaneng shifted the focus of safety work to the production line, strengthened supervision at the workplace, focused on conducting "Special Actions against Breach of Regulations", deepened the inspection and elimination of hidden dangers to its equipment and overall work environment, and carried out work to prevent breach of rules and regulations. Additionally, Huaneng developed comprehensive safety inspections, and organized 16 supervision teams to supervise 67 grassroots companies. All this work helped ensure the effective implementation of each safety measure for seasonal production, effectively assured electricity supply during the period of significant social activities, and realized closed-loop management of safety production in a comprehensive way. In 2010, subsidiary power generation enterprises inspected 16,752 hidden dangers, rectifying 15,823 (94.45%); and also inspected 33 major hidden dangers, rectifying 24 (72.73%). All hidden dangers not yet eliminated were listed in our rectification plan.



Inspection and treatment of hidden dangers

Equipment Control Management

We strengthened equipment management, improved equipment safety levels, and reduced unplanned outages so as to ensure our leading position in the industry for equipment utilization rates. Taking enhancing security and reliability of the equipment as the objectives, we developed technological modifications and solved important problems discovered in major hazard safety assessments and evaluations. Additionally, we continued to maintain equipment, strengthen the quality of our management and inspection control processes, and organize technical innovation projects. In accordance with new demands on energy conservation and emission reduction, we modified our equipment and strictly implemented rules on protective equipment and explosion prevention measures so as to improve equipment safety levels. 70 power plants realized no unplanned outages throughout 2010, including key plants like Shidongkou Power Plant I, Weihai Power Plant, Haikou Power Plant, Yimin Power Plant, Manwan Hydropower Station, and others.



Maintenance of a steam turbine

Overview of Prize-Winning Units (2010)

Awards	Capacity	Prize-Winning Unit
National Gold Medal for Reliability of Coal-fired Generating Units	600 MW	Unit 7 of Dalate Power Plant
	300 MW	Unit 4 of Dalian Power Plant
	300 MW	Unit 1 of Fuzhou Power Plant
	1 GW	Unit 2 of Yuhuan Power Plant
National First Prize Among Thermal Power Units	600 MW	Unit 2 of Diandong Power Plant
	600 MW	Unit 2 of Shidongkou Power Plant II
	300MW	Unit 4 of Dalian Power Plant
	300MW	Unit 3 of Fuzhou Power Plant

Fostering a Culture of Safety

Employee Training

Huaneng strengthened exchange of experiences inside and outside the company, created a safety training plan based on practical needs, and carried out awareness raising of production safety among our employees, including swarning system, education and training sessions on safety in a planned, targeted, and differentiated way through multiple channels. In 2010, Huaneng organized nearly 40 training sessions for leaders and technical supervisors with more than 8,500 participants, which improved safety awareness and personnel management at all levels.

Additionally, Huaneng established a talent bank of experts in safety supervision and its technical management and strived to foster a high-quality, hard-driving professional team for safety management and supervision so as to ensure personnel security through safety management. In 2010, 73 people passed national CSE qualification examinations successfully. The number of CSE has come to 421 persons.



Training on production safety

Cultural Activities

Huaneng added safety components into the company's overall cultural education plan, creating a culture-rich atmosphere for production safety, cultivating good habits in safe operations, improving the culture of safety and encouraging all employees to participate in the job of ensuring safety. In 2010, Huaneng initiated "Safety Production Month" with the theme of "Safe Development, Prevention First", and organized a signature campaign, competition on safety knowledge, and a safety speech contest, along with other activities to raise awareness among our employees. Huaneng organized its subsidiary companies to participate in national cultural activities on safe production such as "Safety Beside Me" and "Safety Culture Construction Demonstration Enterprises." The group company and its five subordinate companies received excellent prizes in the National Competition on Emergency Knowledge organized by the State Administration of Work Safety.



Pictorial exhibition of safety education



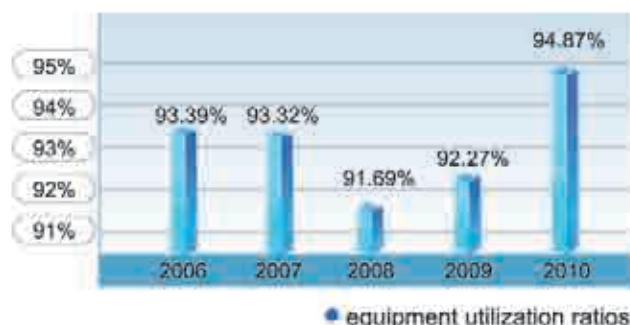
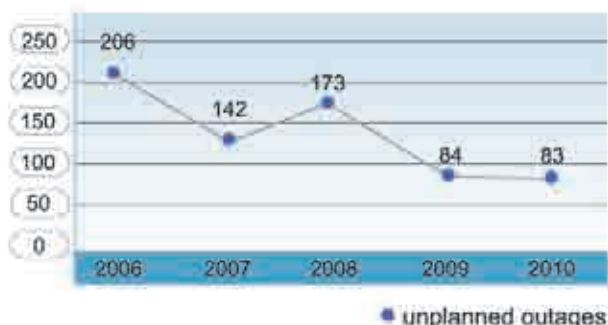
Safety culture gallery

Safety Development Performance

- No serious equipment accidents, no serious fire accidents, no major traffic accidents, or large-scale pollution accidents occurred in 2010.
- In 2010, one serious production-related accident leading to death occurred, reducing the number of death-causing accidents from the year before by one.
- No common equipment accidents in power generation occurred in 2010, versus three in 2009.
- 54 Class 1 equipment failures occurred in 2010, an increase of one compared to 2009; the ratio of unplanned outages was 0.08% in 2010, 0.04% lower than 2009.
- No incidents or accidents that may impact the stability and image of the company occurred in 2010.

Overview of Corporate Production Safety (2006-2010)

Item	Unit	2006	2007	2008	2009	2010
Major equipment accident	times	0	0	0	0	0
Common equipment accident	times	3	5	4	3	0
Casualty-causing accident	times	1	3	3	2	1
Class 1 equipment failures	times	151	122	114	53	54



Alarm Bells and Reflection

As our company develops, our business has extended in the fields of coal, transportation, science and technology, finance etc., which continuously increased the pressure of preventing safety risks and the difficulties in safety production management. Although the overall situation of safety production was stable in 2010, death-causing accidents still happened.

We shall remain constantly on guard, firmly putting people first and ensuring safe development, keep prevention of life-threatening injuries as our top priority, earnestly implement our safe production responsibility system, and constantly improve our prevention capabilities. We shall continue to make prevention a high priority, with earlier warnings at all stages of production. We shall deeply promote the construction of long-term mechanisms for safe production such as safety evaluations, management inspections, and treatment of hidden dangers, with special action toward addressing breaches of regulations and outsourcing project safety management so as to further improve safety management, reinforce safety assurance, and ensure intrinsic safety.



2 Optimal Development

Events

- On February 11th, the vessel "Times 7" of Shanghai Time Shipping Co., Ltd., loaded with 56,000 tons of coal, crossed the Yangtze River and berthed at Taicang Power Plant pier, starting a new era in large-scale coal shipping combining river and sea.
- On April 17th, unit 2 of Changchun Thermal Power Plant was put into operation representing the first Chinese-made 350MW supercritical thermal Power Plant has been constructed and put into operation.
- On April 25th, construction on Hainan Changjiang Nuclear Power Project began, jointly funded by Huaneng and the China National Nuclear Corporation (CNNC).
- On June 25th, the company held a conference on accelerating development mode transformation to implement the strategic development mode transformation plan formulated by the CPC Central Committee and the State Council of China.
- On August 25th, unit 4 of Huaneng Xiaowan Hydropower Station was designated a landmark unit, representing China's hydropower installed capacity exceeded 200 GW.
- In 2010, the approved scale of wind power in Huaneng exceeded 3,000 MW, with an operating capacity of 2,148.2 MW.



Concept

Optimal development is the inevitable requirement for sustainable enterprise development. To promote optimal development, we should change thinking, increase benefits, readjust structures, and strengthen management. We should accelerate development mode transformation, and advance industrial structure reorganization. We should press all advantages in industrial coordination, improve development quality and results, and achieve effective, moderate, and orderly development so as to further enhance sustainable development capabilities.

Objectives

- ❶ To increase coal production capacity by 15 million tons per year;
- ❷ To meet the objectives and requirements set by the National Development and Reform Commission and the former Ministry of Environmental Protection during the 11th Five-Year Plan in the **Responsibility Agreement on the Closing of Small Coal-fired Power Units**;
- ❸ To achieve installed capacity of clean energy proportions to 15%.

Measures

- ❶ To constantly optimize the structure of coal-fired power generation and make great efforts in developing hydropower, wind power, solar energy, and other clean energy.
- ❷ To develop the circular economy, achieve the integrated utilization of coal, water, ash and slag, and transform resource advantages into development advantages.
- ❸ To focus on the power industry to coordinate the development of coal, transportation, finance, and science and technology to deepen industrial synergies.
- ❹ To make overall plans in regional development, speed up western region development, consolidate eastern region development, stabilize central region development, and improve northeast regional development to achieve new regional distribution advantages.
- ❺ To implement the "going global" strategy, advance international operations, acquire and develop power projects with superior assets and earning prospects.

Optimizing the Power Resource Structure

We promoted green development, constantly optimized the structure of coal-fired power generation, and made great efforts to develop clean energy such as hydropower, wind power, and solar energy. At the end of 2010, the installed capacity of low-carbon clean energy exceeded 20 GW, accounting for 17.7% of overall installed capacity, with non-fossil energy reaching 15.8 GW, accounting for 13.5% of overall installed capacity, with hydropower reaching 10.82 GW, having increased 2.23 GW over the previous year, with wind power reaching 4,840 MW, up 2,150 MW over the previous year.

Making Great Efforts to Develop Hydropower

The company continued to focus efforts on developing hydropower projects. In 2010, we made new progress in developing large and medium-size hydropower stations on the Lancang River, Brahmaputra, Dadu River and others. Xiaowan Hydropower Station, with a total installed capacity of 4,200 MW, was put into operation a year ahead of schedule. Its unit 4 became a landmark unit, representing China's hydropower installed capacity exceeded 200GW. Zangmu Hydropower project was approved and under construction. Additionally, the company actively developed and acquired high quality medium-size and small hydropower resources in Yunnan, Hubei and Gansu provinces. Some small hydropower projects were acquired in Gansu, Yunnan and Hubei Province.



The Dam of Jinghong Hydropower Station

Optimizing the Development of Coal-fired Power

The company actively promoted the construction of high-efficient and large clean coal-fired generating units. In 2010, the company put 5.915 GW of generating units into operation, including one set of 1,000 MW ultra supercritical coal-fired generating unit, three sets of 600 MW ultra supercritical coal-fired generating units, and four sets of 600 MW supercritical coal-fired generating units. The 600 MW-or-above supercritical generating units accounted for 91.8% of total new coal-fired generating unit capacity of the year. By the end of 2010, the company had 69 sets of 600 MW (among them 8 are 1000MW units) units, accounting for 45% in the installed proportion of coal-fired generating units.

The company earnestly implemented national industrial development policies, accelerated the pace of eliminating backward productivity, and deeply implemented the policy of "developing large generating units, closing down small ones" to gradually shut down medium-size and small coal-fired generating units that represent high energy consumption, long time of service, and poor economic efficiency. In 2010, the company shut down 1,620 MW of coal-fired generating units. During the 11th Five-Year Plan period, Huaneng shut down 6,710 MW of coal-fired generating units, representing a rate at 267% of that specified by the State.

The company actively developed co-generation project, comprised of stable heat, heat price implemented and efficiency guarantees, and constantly promoted heating technology improvements. In 2010, unit capacity of condensing generating units was increased to 425MW and the installed capacity of co-generation units accounted for 22% of installed coal-fired capacity.

According to the guidelines of extensive investigation, considered selections, good construction and strict management are key to strengthening the development and management of the power supply. Huaneng focuses on developing capability in step with financial status, project preparation consistent with infrastructure construction progress, and keeping supporting projects in harmony with key projects. Furthermore, we continue to pay attention to scale, structure, quality and benefits while seeking speed so as to bring about effective, moderate and orderly development.



The Yuhuan Power Plant Main Power House

Pressing Ahead with the development of New Energy

The company continued to accelerate the pace of wind power development. Based on geography and economic efficiency, the company promoted the development and construction of 1,000 MW of wind power bases in the northeast, north and other regions of China comprising the Inner Mongolia, Xinjiang regions, Gansu and Jiangsu Province, among other regions. In 2010, the approved scale of wind power in Huaneng exceeded 3,000 MW. Large wind farm bases in Tongliao and Fuxin have taken shape and achieved good economic returns.

The company actively developed solar photovoltaic generating technology and promoted industrialized research on new clean energy. The Shilin-based experimental photovoltaic grid-connected station demonstration project with 10 MW of installed capacity in Phase I was put into operation. A photovoltaic grid-connected station in Golmud is under construction.



Fuxi Gaoshanzi Wind Farm

Striving to Develop Nuclear Power

The company steadily advanced the preliminary work of high temperature gas-cooled reactors and pressurized water reactor nuclear power projects, which are national major science and technology demonstration projects. The company also actively cultivated high-quality nuclear power personnel, and strived to promote corporate culture with nuclear safety at the core. We accelerated the construction pace of Shidaowan nuclear power base.

By the end of 2010, the preliminary work on a 200 MW high temperature gas-cooled nuclear power demonstration project in Shidaowan, Shandong Province had been completed to construction conditions. Hainan Changjiang Newclear Power Project of which Huaneng is a shareholder was under construction.



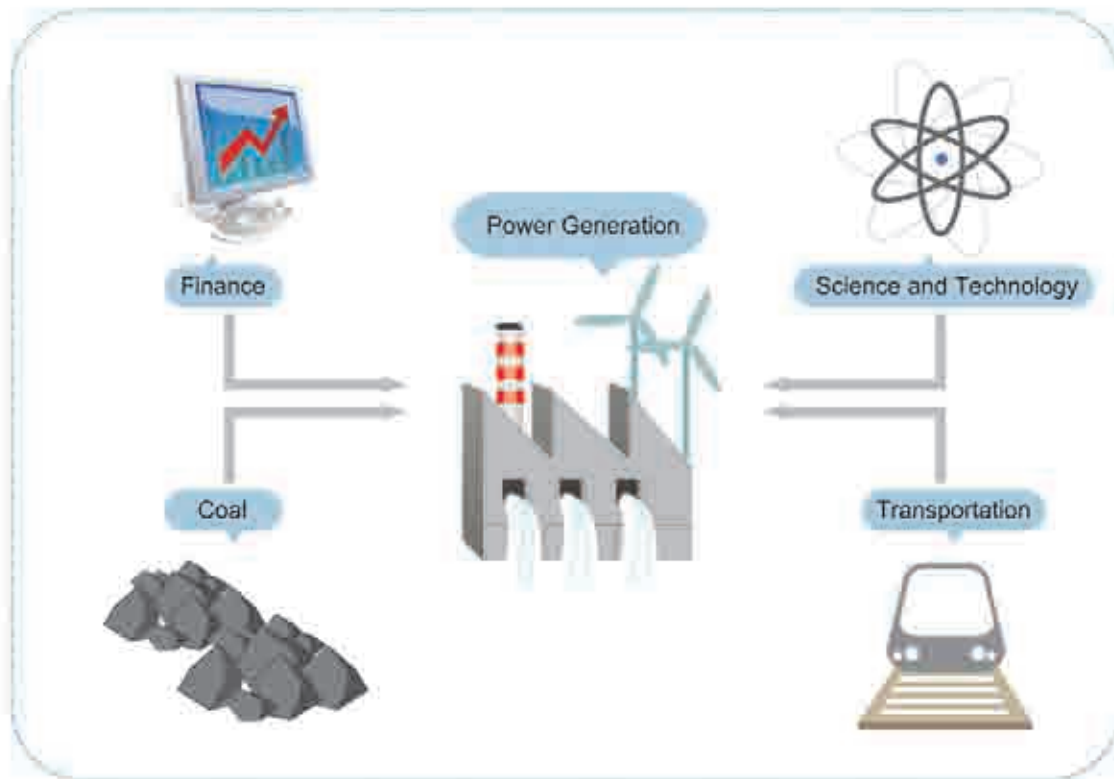
Plan of Huaneng Shidaowan Nuclear Power Plant

Developing a Circular Economy

On December 3rd, 2010, unit 6 in Phase III of Huaneng Yimin Coal & Power Co., Ltd was successfully put into operation. The company had an installed capacity of 3,400 MW, and substantially increased its contribution to the circular economy to become the largest coal-fired power plant in operation in the northeast.

Yimin Coal & Power Co., Ltd stuck to the policy of circular and sustainable development, transforming regional resource advantages into development advantages, realizing recycling and integrating utilization of coal, water, ash, and slag in the process of production. This not only saved land, water, and carrying capacity, but also effectively protected the natural environment. In 2010, while the overall efficiency of the power industry decreased, the company achieved good economic and social benefits with power output of 12.755 billion kWh, coal sales of 15.5 million tons, revenue of 4.348 billion Yuan and consolidated profit of 788 million Yuan.

Promoting Coordinated Industrial Development



Besides power generation, the company promoted the industrial development of coal, transportation, finance, and technology in order to form an entire integrated structure of development which took power generation as the core business, coal development as the foundation, finance as the supporting business, and technology as the driving force, all while synergizing various industries.

Increasing Coal Development

The company continued to actively develop the coal industry, paid much attention to coal mine projects with strong industrial synergy and functional efficiency, comprehensively promoted the pace of building large coal bases and coal-electricity bases, and gradually enhancing coal supply capabilities. By the end of 2010, the company controlled coal resources of 40 billion tons and achieved coal production capacity of 64.12 million tons per year, which ranked top among domestic power generation companies.

In 2010, the company produced more than 48.86 million tons of coal, 3,200 tons of which were supplied to power plants. The synergic rate of coal came to 54% and the self-supply rate came to 9.4%. Zhalai Noor Coal Company coal production capacity surpassed 10 million tons per year.



Coal from Zhalai Noor was transported to the Jiutai Power Plant.

Developing Huaneng's Transportation Business

The company made overall plans to develop its transportation business, including ports, shipping, and private railways, and strived to build a stable, reliable, and efficient coal transportation security system.

In 2010, the company increased investment in the construction of railways and advanced the construction of railway projects at Xiping, Tianping and Mengji. The Nanjing Tianchen Wharf was officially put into operation with annual cargo throughput of 4.2 million tons. The company made positive progress in the preliminary work of Caofeidian Coal Wharf and Haimen Port. Shipping companies like "Times" and "Ruining" shipped 26.05 million tons of coal for the company, accounting for 41% of overall amount of coal transported by water.



Ruining No.2 ready to set out.

Continuous Deepening of the Industry and Finance Businesses



Economic analysis carried out by financial industry

Giving full play to the role of the financial industry including, including its service functions and supporting performance, the company insisted on sound operations, strived to increase operating performance, expanded its business fields, made innovation in products and services, and gradually became an important force in this service industry while also increasing economic efficiency.

The company had nine financial platforms in its financial business, which provided financial services such as credit, insurance, trust, and investments to enterprises in the power industry. The company ranked top among industry groups which developed financial business in terms of business scope, business performance, general management, service, and innovative capabilities, thus demonstrating its strong synergistic effects.

Emphasizing the Leading Role of Science and Technology

We have been actively promoting scientific and technological innovation, increased investment in science and technology, and the benefits of technical and human resources advantages, striving to master key technologies with independent intellectual property rights. We also played a significant role in a number of major national energy field scientific and technical projects and continued to explore the company's development through science and technology with Huaneng characteristics.

In 2010, research projects like CO₂ capture and utilization in Huaneng's Coal-fired Power Plants and green technology were included in science and technology projects in the National Energy Board's Twelfth Five-Year Plan. Furthermore, Xi'an Thermal Power Research Institute provided the company with technical services and signed 644 horizontal contracts, 68 more than the previous year. The central government's second assessment of responsible people in central enterprises honored the company with a "Special Award for Technology Innovation".



Domestic and foreign experts visited Huaneng stand at exhibition.

Planning Regional Development as a Whole

The company maintained pace with national energy development and made changes according practical needs. The company also optimized and readjusted its regional distribution, speeding up development in the west, consolidating it in the east, stabilizing it in the middle and improving it in northeast, so as to form new advantages in regional distribution.

The company made further improvements in the distribution of domestic power supply, increasing its coverage and striving to improve its share in the power market so as to constantly expand its regional distribution. As of the end of 2010, the company had 173 power plants in 30 provinces (autonomous regions and municipalities), accounting for 11.9% of national total installed capacity. In 2010, the company signed strategic cooperation agreement with relevant enterprises in 12 provinces, autonomous regions, and municipalities.



The company signed agreements on strategic cooperation with the Shanxi provincial government

Implement the "Going Global" Strategy



Shweli River Hydropower Station Stage I in Myanmar



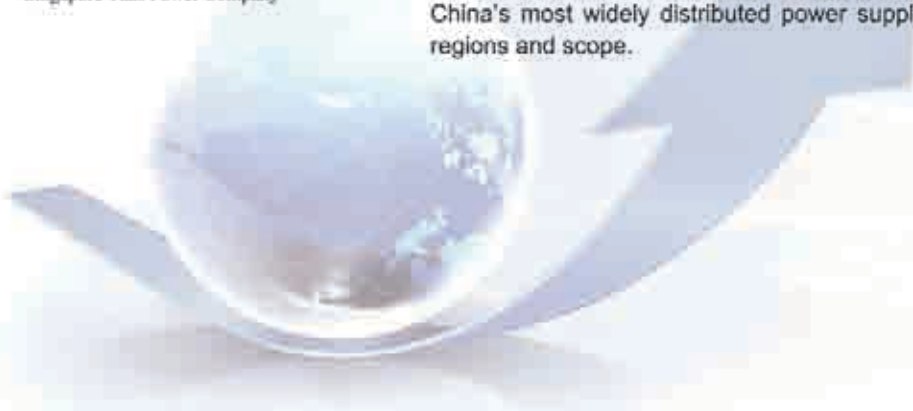
Singapore Tuas Power Company

The company was actively implementing the policy of "going global", promoting internationalized operations, and acquiring and developing power projects in Australia, Singapore, Myanmar and other countries. These companies were selected because of superior asset, earning prospects, and be beneficial to strategic development. As of the end of 2010, the installed capacity of the company wholly-owned and controlling share holding overseas units reached 3,760 MW.

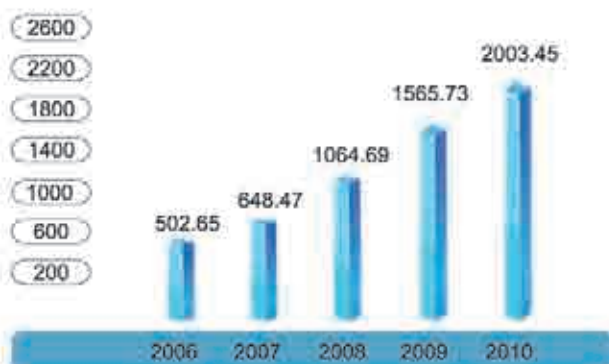
In 2010, Huaneng further developed its business in Singapore. On November 11th, the Tembusu combined power generation project of Tuas Power Ltd. was started in Jurong, Singapore, with over S\$ 2 billion in investment.

On November 24th, Huaneng Lancangjiang Hydropower Co., Ltd. signed a Memorandum of Understanding on the Rights of Developing Hydropower on the Shweli River for Stage II with the First Power Department of Myanmar and Myanmar's Asia World Company, Ltd. The project has an installed capacity of 520MW and was developed by China and Myanmar with a BOT (Building-Operation-Transfer) model.

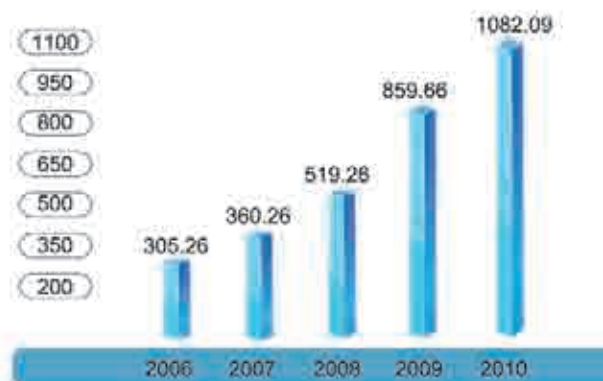
At the end of November, the company, in association with the Guangdong Yudean CO., Ltd. signed an agreement with the India GMR Group to acquire 50% stake of its affiliated company, InterGen, with USD \$1.232 billion. Huaneng has now expanded its business to the United Kingdom, Netherlands, Mexico, Philippines and other countries. Thus, the company became a global power generation group, and China's most widely distributed power supply company by operating regions and scope.



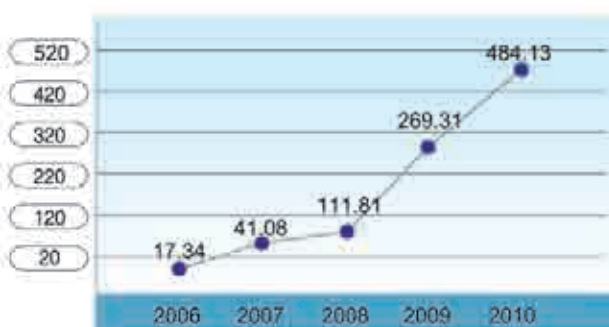
Performance of Optimal development



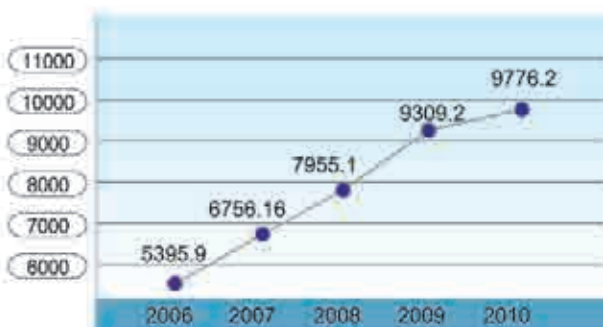
● low-carbon clean energy installed capacity
(unit: 10 MW)



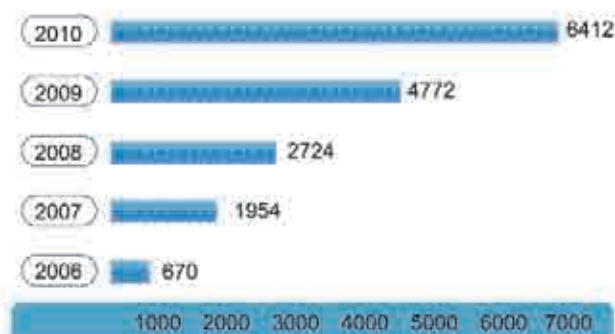
● hydropower installed capacity
(unit: 10 MW)



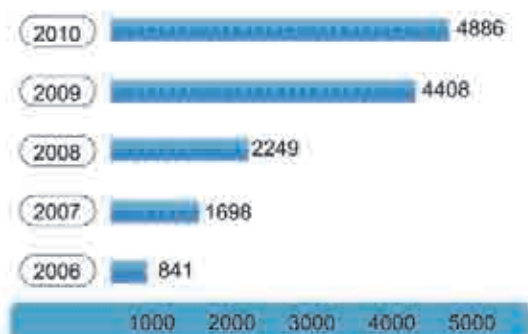
● wind power installed capacity
(unit: 10 MW)



● coal-fired power installed capacity
(unit: 10 MW)



● coal production capacity
(unit: 10 thousand tons/year)



● coal output
(unit: 10 thousand tons)



3 Clean Development

Events

- On May 20th, Huaneng Yuhuan Power Plant took the lead in retrofitting its unit 2 for denitrification to become China's first denitrified power plant operating ultra super-critical generating units of over 1 GW.
- On July 9th, Huaneng Carbon Asset Company was formally established.
- On July 18th, National Energy Administration approved the establishment of Huaneng National Coal and Clean Low-Carbon Power Generation Technology Research & Development Center.
- On October 18th, the CO₂ capture project (120,000 tons per year) at Huaneng Shanghai Shidongkou Power Plant II was named by the United Nations as an Environmental-friendly City Demonstration Project.
- On October 30th, Huaneng completed the installation of China's first homemade IGCC gasifier for the demonstration project of Huaneng Tianjin IGCC Power Station.



Concept

Clean development is indispensable to sustainable development. Clean development requires development model innovation. This means comprehensively implementing **Action Plans on Green Development (2010-2020)**; earnestly implementing environmental responsibilities and continuously reducing pollution and emissions; giving full play to the leading role of science and technology, researching and developing low-carbon clean energy technology; and devoting ourselves to ecological and environmental protection.

Objectives

- ① To achieve the annual objectives set in **Action Plans on Green Development (2010-2020)**;
- ② To meet the requirements and the objectives set by the Ministry of Environmental Protection in its **SO₂ Emissions Reduction Goal** as part of the 11th five-year plan;
- ③ To avoid major environment pollution accidents.

Measures

- ① To constantly improve the environmental protection system, strengthen whole-process supervision and management, and ensure effective implementation of responsibilities;
- ② To tighten management of pollutant emissions, constantly reduce the emissions intensity of pollutants, and improve clean production;
- ③ To constantly improve technical innovation systems and make great efforts to promote technical innovation in clean energy;
- ④ To strictly abide by national laws and regulations on environmental protection and protect the environment throughout project development and production processes.

Strengthening Supervision and Management

Improving Systems

In 2010, the company strengthened environmental management, released the **Notice on Strict Compliance with Laws and Regulations of Environmental Protection**, **Notice on Strengthening the rectification of 'Three Synchronizations' in Environmental Protection for New or On-going Projects** and other regulations, revised **Planning on Establishment of Environmental-friendly Enterprise (2011 – 2015)** to further strengthen environmental protection of entire process such as production and operation, project construction and so on.

Implementing Responsibilities

The company strictly enforced emissions reduction targets and implemented the "Three Synchronizations" for environmental protection in new construction projects. We assigned responsibilities in accordance with the three-level management system and performed responsibilities with clear objectives and thorough implementation while accepting government and societal supervision.

Intensifying Training

The company stresses the importance of enhancing the quality of the environmental protection team. In 2010, the company carried out environmental protection rules and regulations training, along with technical training on prevention and control of pollutants for more than 140 environmental professionals from 95 subsidiary enterprises. Additionally, the company held seminars on desulphurization facilities management to discuss operating experiences of desulphurization equipment and CEMS (Continuous Emission Monitoring Systems).

Tightening Pollution Emissions Control

Sulfur Dioxide

The company paid great attention to the operation and management of desulphurization systems, and strengthened coal management and internal supervision over operations and maintenance of desulphurization devices. For this reason, we examined desulphurization equipment and the CEMS of the generating units in 69 power plants, and increased the capacity and efficiency of desulphurization systems of 16 generating units (total of 6370MW).



Lead-sealed bypass damper desulphurization facility

Nitric Oxide

The company strengthened construction and management on denitrification systems of new generating units, and advanced de-NO_x retrofit on existing generating units in key areas. In 2010, the rate of generating units equipped with denitration devices reached 18%.



Liquid ammonia storage facilities for denitrification devices

Treatment of Smoke and Dust Pollution

The company intensified the upgrading of existing dust removers while also promoting advanced technology to improve dust collection efficiency. On August 20th 2010, renovation of filter bags on four sets of 300MW generating units in Huaneng Daba Power Plant was completed with each performance index surpassing design value.



Installing composite electric bag dust collectors

CO₂ Capture



US Secretary of Energy Steven Chu visiting CO₂ capture devices

In 2010, CO₂ capture devices capturing 3000 tons per year installed in Huaneng Beijing Co-generation Power Plant and other devices capturing 120,000 tons per year installed in Huaneng Shanghai Shidongkou Power Plant II were in stable operation. The latter completed all key technical upgrading tests to National Energy Administration certification processes to reach an internationally advanced level.

Carbon Asset Management

The company established a sound system of pollution emission and carbon asset management, released the **Regulations on Clean Development Mechanisms (For Trial Implementation)**, and set up a professional carbon management agency called Huaneng Carbon Asset Company to actively participate in the development and trading of carbon asset markets at home and abroad. In 2010, the company received approval for 29 clean development mechanism (CDM) projects from the National Development and Reform Commission, and registered 27 CDM projects successfully with the United Nations.



The ceremony for signing CDM project contracts

Comprehensive Utilization

The company actively adopted technology, such as that of separating fine coal and ash, grinding coal, and producing new types of building materials with slag and gypsum to improve the use rate of production byproducts. We worked to realize high resource utilization rates in our coal-fired power plants as well as reducing emissions of solid waste. In 2010, the company achieved a slag and ash utilization rate of 74.3%, an increase of 4% over the previous year, and 22 power plants realized the comprehensive utilization of all ash and slag.

In 2010, Huaneng Yingkou Power Plant invested more than 5 million Yuan to build a special pipeline through the Angang Bayuquan Branch Company, which is separated from the Power plant only by a wall, to recycle coke oven gas produced from the steel furnace for mixed combustion of boilers to generate electricity. Through this measure, we could reduce 240 million cubic meters of waste gas emissions, saving about 108,000 tons of standard coal, which is equivalent to shutting down a 50 MW coal-fired generating unit.

Promoting Technological Innovation

Improving Innovation Systems

The company used a three-level science and technology management system and technological innovation system combining industrial, academic, and research areas. In 2010, the company established Huaneng Clean Energy Technology Research Institute, and constructed the State Key Laboratory of Coal-based Clean Energy, the National Coal Cleaning and Low-carbon Power Generation Technology Research and Development Center, and the Beijing Talent Base for Innovation and Entrepreneurship. Additionally, the company developed *China Huaneng Group Acceptance Rules on Science and Technology Projects* and *China Huaneng Group Implementation Draft on Science and Technology Project Coordinator Management*, and compiled *2010-2015 Medium and Long Term Science and Technology Development Planning*, *12th Five-Year Science and Technology Industry Development Special Projects Planning* and *12th Five-Year Plan Major Science and Technology Project Planning*, all of which laid the foundation for encouraging a leading role for science and technology.



Self-developed components of the FCS165 control system for coal-fired generating units

Spurring Project Research and Development



Installing pressurized gasifier — key equipment of the Tianjin IGCC demonstration project

In 2010, we successfully completed manufacturing and installation of a two-stage dry pulverized coal pressurized gasifier (at 2,000 tons per day), which was the key equipment in an IGCC demonstration project. These IGCC-based CO₂ capture and utilization projects were listed in 863 12th Five-Year Plan programs. In addition, the company started experiments and research into quality upgrading of industrial lignite, key coal-to-gas process systems and technology, and photovoltaic power generation.

In 2010, 15 of the company's science and technology achievements passed China Electric Power Research Institute Technology Award assessments. The company received 47 national patents, including with 15 invention patents and 11 software copyrights. Additionally, the company won three prizes for "Scientific and Technological Achievements for China Power Construction."

Enhancing Exchange and Cooperation

The company initiated the Strategic Alliance of Technological Innovation in the Coal-fired Power Generation Industry, participated in a Technological Innovation Alliance of 700 °C Ultra Supercritical Coal-Fired Power Generation, and the National Strategic Alliance of Technological Innovation in New Generation Coal Chemical (Energy), and established the National Industrial Alliance of CO₂ Capture, Utilization, and Storage Technology. Additionally, the company took an active part in Sino-US joint research in the development of clean energy, Sino-Italian supercritical and CCS technology research, and other projects, so as to constantly deepen international cooperation and research.

Protecting the Environment

The company strictly abided by international environmental regulations and mechanisms for evaluating environmental impacts of new projects. During production, business operations, and developing projects, the company carefully planned and took measures to ensure soil and water conservation, and the protection of biodiversity and vegetation.

Xiaowan Hydropower Station, one of 13 units implementing environmental supervision pilot projects in China, planted more than 100 kinds of seedlings and nearly 70,000 square meters of lawn around the station and achieved a vegetation coverage rate of 45.06% in the construction area.

Around Nuozhadu Hydropower Station, the company transplanted 2,465 plants from eight species to phase I of its Rare Plants Garden, and rescued more than 30 animals including nycticebus and silver pheasant and put them in a Rare Animal Rescue Station. In July 2010, employees of Nuozhadu Power Station succeeded in releasing 12,000 young fork tail catfish into the Lancang River for the first time, which created a precedent that Yunnan enterprises independently re-introduce depleted fish.



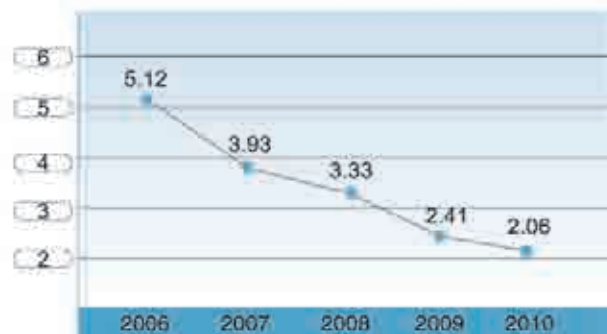
Employees of Nuozhadu Hydropower Station released young fork tail catfish.

Clean Development Performance

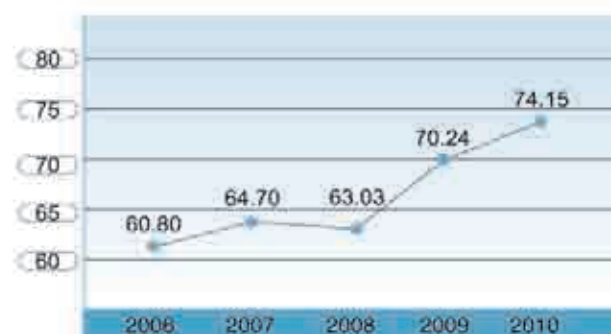
In 2010, all generating units planned to equip with desulphurization facilities reached the objectives, and generating units in service equipped with desulphurization devices realized 169% of the objectives stated in *Responsibility Agreement on Energy Conservation* during 11th Five-Year Plan; SO₂ emission per generating unit reduced to 2.06 g/kWh, down by 65.5% compared with 2005, and the total amount of SO₂ emission reduced 37.17% compared with 2005.



capacity of generating units equipped with desulphurization facilities(10MW)



SO₂ emissions (g/kWh)



slag and ash utilization rate(%)



4 Energy-Conserving Development

Events

- On April 29th, the company held a working conference on energy conservation, reliability management, and technical supervision to arrange key 2010 energy saving and consumption reduction tasks.
- On June 10th, the company held a video conference on system-wide energy conservation and emissions reductions to communicate the work involved in exceeding the 11th Five-Year Plan's energy conservation and emission reduction targets.
- On July 23rd, the company was awarded the "Special Prize for Energy Conservation and Emissions Reductions" by SASAC of the State Council in the second-term examination of administrators in central enterprises.
- On August 27th, the Sino-German cooperation and demonstration project in water conservation's slow decarbonization renovation project to circulate cooling water was formally transferred and put into operation at Huaneng Dezhou Power Plant.
- By the end of 2010, Huaneng Haimen Power Plant had achieved complete success in the first domestic machine driven by small turbines.
- By the end of 2010, the company had converted coal-fired power plants with single unit capacity of 100MW or above into energy-conserving and environmental-friendly ones (excluding newly purchased or new plants).



Concept

Energy-conserving development is an effective way to achieve sustainable development. For energy-conserving development, we must persist in taking the Scientific Development Outlook as guidance and rely on technological innovation and fine management to tap the potential of production technology; utilize advanced energy technologies to realize high-efficient utilization of resources; and build energy-conserving enterprises through pooling the wisdom and efforts of employees.

Objectives

- ④ To achieve a coal consumption rate of 324.5 g/kWh.
- ④ To achieve the objectives set by the National Development and Reform Commission and the Ministry of Environmental Protection during the 11th Five-Year Plan set out in the **Responsibility Agreement on Energy Conservation**.
- ④ To complete establishing energy-conserving and environmental-friendly coal-fired power plants with all key technical and economic indicators reaching Chinese top levels and advanced global levels.

Measures

- ④ To constantly improve energy conservation by strengthening the organizational leadership and deepening supervision over energy conservation and benchmarking management;
- ④ To conduct in-depth diagnosis and analysis of energy conservation to speed up technological modification and upgrading, implement fine management and reduce energy consumption of active units;
- ④ To constantly introduce design optimization of infrastructure engineering to reduce energy consumption of new units and achieve energy targets sooner;
- ④ To make great efforts in reducing costs and increasing efficiency, mobilize all staff and pool their wisdom and efforts in energy conservation.

Strengthening Energy Conservation

Strengthening Organizational Leadership

The company made a point to integrate energy conservation into production, operations, management, and the entire process of infrastructure construction, constantly improved the organizational system and management system of energy conservation, and required the leaders of each subsidiary enterprise to be responsible for organizing and implementing energy conservation.

Deepening Supervision Over Energy Conservation

We implemented an energy-saving performance appraisal system, distributed tasks step by step to achieve the goals, and gave corresponding rewards and penalties according to the system. Additionally, we dynamically promoted, tracked, and managed energy conservation, holding regular coordination meetings, analyzing performance objectives, solving key problems, and ensuring the advance of the work as a whole.



Working conference on energy conservation, reliability management, and technical supervision

Tightening Benchmarking Management

We carried out activities to improve energy consumption indicators and steadily promoted monthly analysis of indicators and management benchmarking. We also established a unified data platform to release indicators, publicize the monthly ranking of different units according to the index of energy consumption, and hold quarterly television and telephone conferences on release of energy consumption indicators and environmental protection so as to encourage the advanced and spur the laggards. In addition, we compared domestic and foreign levels for benchmarking, gap analysis, and developing specific measures to implement improvements.

Improving our Indicator System

In 2010, the company revised its *Guidelines on Huaneng Thermal Power Generating Unit Energy Conservation*, *Guidelines on Huaneng Thermal Power Generating Unit Power Conservation*, published *Regulations on Technical Supervision*, *24 Standards on Technical Supervision of Hydropower and Coal-fired Power*, and other systems, which realized standardization and systemization in the management of energy-conservation indicators and unit reliability.

Reduced Energy and Water Consumption



Making diagnosis of energy conservation

Diagnosing Energy Conservation

The company paid great attention to energy conservation in coal-fired units of between 30MW and 60MW. In 2010, relying on the technological advantages of Xi'an Thermal Power Research Institute, the company diagnosed energy conservation for 43 units (17.98 GW), and made specific measures to optimize operations and upgrade technology. The company accomplished *Research on Energy Conservation of Huaneng Active Units*, which passed inspections and was a key scientific and technological project of the 11th Five-Year Plan.

Strengthening Detailed Management

Taking improvement of energy-conserving indicators as our means, we initiated various measures to optimize operations. We actively carried out competition on small indicators like temperature, steam pressure, vacuum, oxygen content, and combustible fly ash to reasonably adjust the operation modes of the main and auxiliary equipment and improve their operations. We also promoted the maintenance of equipment status, strengthened daily elimination of defects, and earnestly implemented the system of "planning before repair, supervising during repair, and evaluating after repair" so as to achieve excellent conditions and equipment operating indicators. In order to ensure combustion stability and the economic operation of boilers, we intensified efforts in fuel management, adopted scientific blending and burning techniques, and optimized the combustion of boilers. In 2010, the coal consumption for the power supply in 13 power plants was reduced 10 g/kWh over the previous year, and the service-power consumption rate in 15 power plants decreased more than 0.5% over the previous year.

Implementing Energy-Saving Modifications

We actively adopted advanced energy-saving technologies and intensified our equipment transformation efforts. Through transforming turbine flow and adopting new gas seal technology, we effectively reduced heat consumption and decreased coal consumption for power supply units of 6.8-29 g/kWh on average. In addition, we significantly reduced oil consumption through adopting plasma ignition and other boiler oil ignition technology, while improving the energy efficiency of single units by about 40% through the use of high-voltage frequency conversion technology. Xi'an Thermal Power Research Institute modified over 10 blower units at Dalate Power Plant, Tongchuan Power Plant and others, and achieved significant energy-saving results.



Implementing energy saving technical modifications

Reducing Fresh Water Consumption

The company adopted many water-saving technologies, including air-cooling, desalination of sea water, sewage treatment, using recycled water, dry removing slag and pneumatic conveying ash, and built a water-saving power plant tailored to local conditions. The company also strictly managed daily water consumption, tested the water, increased the operational efficiency of water treatment equipment, and graded water according to its quality so as to reduce consumption of fresh water.

In August 2010, the Sino-German cooperation and demonstration project in water conservation's slow decarbonization renovation project of circulating cooling water was operationalized at Huaneng Dezhou Power Plant. With the change of power output, water consumption of four 300MW units saved about 20% more water than the comparable units, thus saving 7 – 10 million tons of water per year, representing an exemplary project.



The Sino-German slow decarbonization renovation project of circulating cooling water

≡ Optimizing the Design of New Generating Units

We strengthened energy conservation management in our newly-built coal-fired power generating units, strictly implemented **Standards on Infrastructure Engineering Design, Technical Reference on Infrastructure Engineering Energy Conservation**, and made great efforts to promote the **Typical Design of Coal-fired Power Plants** and **Typical Design of Wind Farms**. From equipment configuration to type selection, from optimizing system processes to manufacturing and installing equipment, we strictly controlled the entire process so as to improve technical and economic indicators of newly-built units from their sources and ensure their conformity with design standards.

At the end of 2010, unit 3 engineering design optimization project added a suction fan driven by a small turbine. This project was put into trial operation at Huaneng Haimen Power Plant with great success. The project used blower suction fans and desulfuration booster fans combined into an adjustable axial suction fan, driven by a small turbine, which not only solved the problems in combining suction fans, but also significantly reduced the plant's power consumption rates. Through this optimization, when at full load in trial operation, the power consumption rate of unit 3 is only 2.95%, 1.27% lower than comparable units, which created the lowest rate of any 1 GW unit in China.



Suction fan driven by small turbine

List of Projects Named Chinese Excellent Power Project in 2010

Prize-Winning Projects	Capacity	Prize
Phase I of Haimen Power Plant	2× 1.036 GW	Gold Prize
Phase I of Chaohu Power Plant	2× 600 MW	Silver Prize
Dali Dafengba Wind Power Project	48 MW	Silver Prize
Phase I of Ruljin Power Plant	2× 350 MW	Silver Prize
Phase I of Shouguang Wind Power Plant	49.5 MW	Silver Prize
Phase II Extension Project of Zhaobei Wind Power Plant	49.5 MW	Silver Prize
Project of Tongliao Baolongshan Wind Power Plant	148.5 MW	Silver Prize
Phase I of Zhenlai Mali Wind Power Plant	49.5 MW	Silver Prize
Phase II of Rizhao Power Plant	2× 680 MW	Silver Prize
Phase II of Yuhuan Power Plant	2× 1 GW	Silver Prize

Involving all Employees in Reducing Costs and Increasing Efficiency

We took energy conservation as the theme and focused on saving coal, water, oil, electricity, and office materials while also extensively collecting employee suggestions. We also guided our employees to establish a sense of cost efficiency and pooled their wisdom and efforts to build an energy-conserving enterprise.

We actively provided conditions to carry out the "Five Smalls" (that is, small inventions, small creations, small innovations, small designs and small suggestions), and developed specific systems to encourage employees to repair the old and reuse the waste. In 2010, we carried out about 570 large and medium-size technical innovation projects with profit of 162 million Yuan. In the light of common features and difficulties in energy conservation, nine discussion teams concerning optimizing boiler combustion, transforming gas seals and the like were established in Huaneng Shandong Branch Company. Eighteen achievements in total quality control of northern companies were awarded the "Achievement Prize for Total Quality Control" in the Inner Mongolia Autonomous Region.



Signing Activities of Energy-saving and Cost-reducing

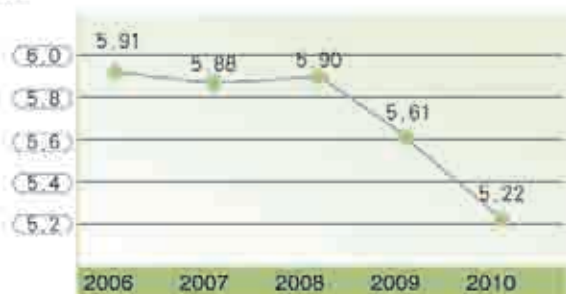
Energy Conserving Development Performance

In 2010, the company reduced the average consumption of coal to 322.72 g/kWh, down 4.98 g/kWh over the previous year. We reached a power consumption rate across power plants at 5.22%, down 0.39% from the previous year. Water consumption per unit power generated reached 1.3 kg/kWh, which remains the industry's leading level.

By the end of 2010, the company had constructed coal-fired power plants with generating units of 100 MW or above into energy-conserving and environmental-friendly ones (excluding newly purchased or new plants).

The company achieved advanced levels in China in coal consumption of generating units such as super-critical wet cooling units of over 600 MW, super-critical air cooling units of over 600 MW, wet cooling units of 350 MW and 300 MW and air cooling units of 300 MW.

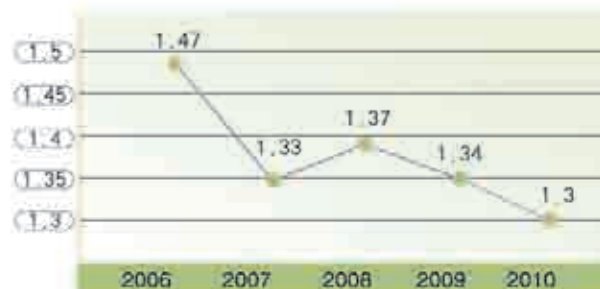
Nineteen power plants participating in the "1,000 Companies Energy Conserving Campaign" realized energy savings levels of 3.76 million tons of standard coal, or 353% of the energy conserving targets set in the 11th Five-Year Plan.



power plant electricity consumption rate(%)



coal consumption per unit of power generated(g/kWh)



water consumption per unit of power generated(kg/kWh)



5 Healthy Development

Events

- On April 23rd, Huaneng Yimin Coal and Electricity Company won first prize in the the National Coal Enterprises Management Innovation contest for the "digital strip mining design" project.
- On August 10th, the company achieved daily power output of 1.701 billion kWh, accounting for 12.35% of the national power that day, creating a new record of daily power output among domestic power generating companies.
- On December 18th, Huaneng Power International Inc. won the "2010 Board of Directors Award" in "The Ninth Chinese Corporate Governance Forum," which is by far the highest honor given to listed companies in the field of corporate governance by domestic securities regulatory authorities.
- On December 23rd, Huaneng won the "National Quality Engineering Gold Medal" for the Huaneng Haimen Power Plant Phase I (2×1,036 million kilowatts) project, which was the only national quality demonstration project in the domestic power industry to utilize whole-process quality control.



Concept

Healthy development strongly supports sustainable development. To achieve healthy development, we must use modern management and operate in compliance with all laws and regulations. We shall expand our operational scale, improve operational quality and enhance profitability. We must realize value preservation and growth of state-owned assets and continue to build Huaneng into a highly efficient company that benefits all.

Objectives

- ⊗ To achieve 466.5 billion kWh power output;
- ⊗ To achieve coal production of 56.86 million tons;
- ⊗ To achieve sales revenue of RMB 200 billion Yuan;
- ⊗ To realize positive growth of profit over the previous year;
- ⊗ To secure power projects above 10 GW and coal projects above 10 million per year.

Measures

- ⊗ To constantly improve performance management, intensify budget management, strengthen comprehensive risk management, and enhance the enterprise management level;
- ⊗ To strengthen power marketing and electricity effectiveness and practically improve economic efficiency;
- ⊗ To fully carry out "Fuel Management Year" activities and improve cost control and supply capabilities;
- ⊗ To continuously standardize infrastructure construction procedures and strengthen source control and process management;
- ⊗ To strengthen minute production management, strictly control expenses, improve profit rates;
- ⊗ To improve capital management, increase capital efficiency, and strengthen financial support capabilities;
- ⊗ To advance information management, improve the efficiency of information resources, and build a unified information platform for the group.

Improving Management Levels

Performance Management

We continuously improved our performance management system with budgeting at its core, utilizing benchmarking, assigning responsibility, and linking performance and compensation, and separating the important factors influencing operations and development into four aspects: safety, operations, development, and Party building. We designed corresponding evaluation indicators, systematically reflecting the overall situation of the company with respect to operations and development. We also improved our incentive and constraint mechanisms and linked this to our all-employee performance mechanism. Additionally, we earnestly strengthened all EVA elements and full process management, researched and implemented effective measures to improve EVA levels, and strived to fulfill the EVA assessment target set by SASAC.



Signing a Responsibility Agreement on Performance Assessment in Grassroots Enterprises



Budget Management

The company constantly improved its budget management system, including having issued **Regulations on Budgeting of the Group Company**, carried out reviews of the budget management process, and clarified management responsibilities and the rights in budget approval, all of which have laid solid foundations for the promotion of comprehensive budget management.

Through the implementation of budget management, the company strengthened the management and control of the group, made rational allocation of internal resources, ensured that elements of business activities were in conformity with budget objectives, and each link to investment activities was subject to capital budget arrangement. In 2010, we made overall plans to coordinate production operations and physical development and made full use of a settlement platform and budget system to strengthen capital budget management, which played an important role in promoting the business development of the company and achieving annual working targets.

Comprehensive Risk Management

With the principle of "Revolving the general situation, strengthening supervision, inspection and innovation, promoting development with complete coverage and protective measure" we continuously strengthened internal controls and risk management, and carried out construction audit, economic responsibility audit and post evaluation for investment projects in fixed assets to fully build up a basic line of defense with internal audit. This effectively prevented financial, management risks, and legal risks. In 2010, we carried out comprehensive internal auditing, completed 1,076 auditing items, and made 1,968 suggestions on rectification and rectified 1,628 issues.

The company conducted medium and long-term trend analysis to determine risk factors. We strengthened yearly and daily risk evaluations and prepared comprehensive reports on risk management. We also tracked risk year by year, with continuous monitoring, intensified risk warnings, improved system processes, and effective guarantees for achieving strategic planning objectives.



Training on compliance and risk management

Enhancing Power Marketing

Expanding the Power Market

The company made efforts to overcome difficulties like high coal prices, incomplete linkage between coal and electricity, and funding constraints. We further analyzed the power market and developed reasonable strategies, took corresponding measures, continuously optimized the power supply structure, and ensured that unit usage hours surpassed local levels to reach leading levels. We continued to pursue an energy-saving generation and distribution model with local alternative energy policies to increase power output and efficiency, and strived to take full advantage of high capacity coal-powered units.



Direct transaction pilot contract signing ceremony

Ensuring the implementation of Electricity Pricing

The company actively implemented the national policies according to electricity and heating prices, and ensured effective electricity pricing implemented. We also carried out benchmarking work and published monthly reports. Additionally, we conducted visits and spot checks on plants with poor utilization hours and great losses to supervise rectification measures and help them make plans surpass others. By strengthening benchmarking, focus, and supervision, we increased total account settlement rates so that average electricity account settlement rates steadily increase.

Strengthening Recovering of Electricity Bills

We intensified our efforts to recover electricity bills and old debts in key areas, managed contracts strictly to increase both production and income, and strived to increase economic benefits. We achieved a 100% recovery rate for all annual cumulative electricity bills.

Speeding up Development and Construction

Project Preparation Work

The company's project management revolved around the basis of "extensive investigation, best selection, good construction, and strict management." The company developed and implemented a series of programs on resource optimization and allocation and strived to maximize investment returns of infrastructure construction projects. In 2010, the company continued to see its core work as power project preliminary work, prioritizing projects according to their economic efficiency, and focusing on advancing the preliminary work of power projects with better economic indicators. The company emphasized design optimization at earlier stages, realizing benefits in emphasizing preparatory works in infrastructure construction.



Unit 4 of Xiaowan Hydropower Plant



Turbines in Fuzhou Power Plant

Infrastructure Construction Management

In 2010, the company continued to strengthen its infrastructure construction management system and successively developed a series of management systems from start to finish, including Management Budget Preparation Methods for Hydropower and Thermal Power, Evaluation System for Reaching Standards in New Hydropower Station Construction, and Regulations on Applications for Power Engineering Excellence, which standardized infrastructure construction procedure.

The company used source control and process management to manage construction projects, focusing on equipment supply sources, strengthening equipment supervision and management, compiling guidelines on thermal electric, wind power, and hydropower equipment manufacturing, and improving equipment inspection and testing to reduce the probability of substandard products before delivery. We also strengthened our major equipment procurement management, developed a database of power engineering equipment and materials suppliers and related management practices, and established strategic partnerships with domestic large-scale power generation equipment manufacturers. Additionally, we intensified process management in

engineering construction, regulated construction behavior, increased the roles of the supervisory and construction companies, strictly controlled construction quality, and put an end to major quality problems.

In 2010, the installed capacity of new power projects reached 12.866 GW, including 88.53 GW of coal-fired power, 10.3 GW of hydropower, and 29.78 GW of wind power. As Huaneng made striking improvements in project quality, Huaneng had 10 projects awarded the National Excellent Power Project Prize.



Installing wind farm equipments

Standardizing Fuel Management

Focusing on guaranteeing quantity, improving quality, controlling price and reducing consumption, we carried out "Fuel Management Year" activities, setting up its leading group, and developing a **2010 Fuel Management Year Activity Plan**. We also promoted four strategies, including resource-oriented, market-oriented, intensive, and information-based management. We implemented a closed-loop management process from fuel procurement to use, while focusing on quality, price, quantity, and consumption. Furthermore, we improved the fulfillment rate of important contracts, continuously optimized the coal supply structure, and strived to improve our ability to respond to market changes and ensure coal supply.

Each subsidiary company paid close attention to changes in the coal market, carried out comprehensive reviews of fuel management, and deeply analyzed the current fuel management situation, including identifying problems, developing corrective measures, making fuel benchmarks, expanding procurement channels, developing rules and systems, and plugging management loopholes. In the meantime, they accumulated good experiences, discovered good methods, and achieved increasingly higher stages of success. The power plants in Dalian, Shangdu, and Weihai, along with other grassroots enterprises were named "Fuel Management Year Advanced Enterprises." In 2010, the company procured 26.75 million tons of overseas coal, and made blending combustion of 9.85 million tons of economic coal such as lignite coal from Zhalai Noel, which reduced 3.56 billion Yuan in fuel costs.



Coal yard sampling



Modern coal storage facility

Strengthening Cost Controls



Indicator analysis done by the production and operation groups

In order to strengthen detailed production and operation management, we intensified cost tracking and supervision and benchmarking analysis, effectively improved cost control on four types of expenditures, and greatly reduced non-productive expenditures. We also increased the role of industrial synergies, enhanced capabilities in domestic coal supply, decreased fuel costs, decreased small thermal power plant losses, and improved profitability.

The group company continued to strengthen supervision, coordinate, and solve comprehensive and common problems. The regional and industrial companies emphasized solving problems locally. The grassroots companies paid attention to implementation and ensured cost controls to achieve tangible results. In 2010, although the fuel costs increased substantially, the cost remained 680 million Yuan less than budgeted expenditures.

Strengthening Financial Support

We paid equal attention to capital and production operations, vigorously promoting capital operations, strengthening financial management, actively exploring the sources of funds, making reasonable arrangements for the use of funds to improve capital efficiency, and improving fund protection mechanisms. Confronted with weak capital markets and many other difficulties, Huaneng Power International Inc. overcame them and achieved the largest single refinance in domestic listed power companies. The total additional funds of A shares and H shares raised 10.38 billion Yuan. Additionally, in only one year did the new energy company complete the approval process and satisfy the requirements for issuing H shares in Hong Kong.

In 2010, we actively developed direct financing, cultivated market players with the capability of self-development, and built a financing platform for them. We also enhanced financial strength, reduced our asset-liability ratio, promoted optimization of capital distribution, revitalized existing assets by means of restructuring and transferring equity, and other ways to increase the liquidity of assets and profitability. In addition, we innovated our financing modes, optimized our debt structure, and realized a composite interest rate that was 14.70% lower than the average rate of interest, reducing the interest by 3.95 billion Yuan.



Network Bank Training

Promoting Information System Construction



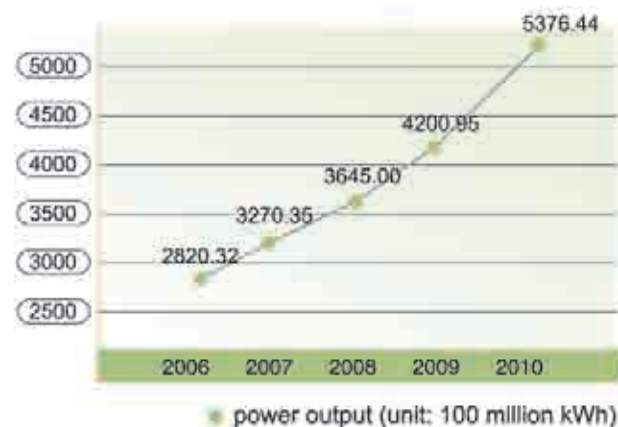
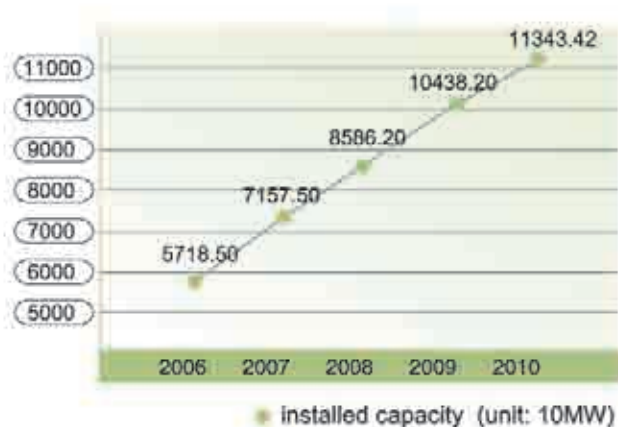
Power generation monitoring center

In 2010, the company's information management was greatly improved. We fully completed promotion of the Human Resource Management System, piloted the Integrated Finance and Assets Management System, put a real-time power production monitoring system into operation, and promoted a paperless office plan.

Furthermore, the company raised its awareness on the importance of information systems, fully realizing the complexity and difficulties of building up information systems in a power generation company. Based on active, reliable and efficient principles, with high reference points for planning, construction projects with good quality, and high management levels, Huaneng continuously promoted the level of company management to be more scientific and modern.

The integrated finance and assets management system pilot project covers two aspects of finance, production, and operations management, guiding and building a unified information platform. The system provides power generation management in the group company, regional-industrial companies, and grassroots companies. The system shows the overall integration of cash flow, logistics and information flow during the whole process of production and operation to ensure that company management is standard, elaborate and efficient. Huaneng also built up a modern financial management system with the group to realize concentrated monitoring and management within the group company.

Healthy Development Performance





6 Harmonious Development

Events

- On April 8th, the company was named the "Domestic Enterprise with Best Care" by the China Charity Federation.
- On June 22nd, the company was granted the "2010 Special Award for Social Responsibility by a Chinese Enterprise" by the Foreign Investment Enterprises Association of China in association with the China Charity Federation.
- On June 24th, the company aided the Daxuesi Altay Ake Reservoir Expansion Project, which is of great significance to promote local economic development and improve people's livelihoods.
- On September 25th, the company built a 110,000 KW transition power supply project in Tibet and transferred it to local governments, which effectively alleviated the serious shortage of power in the middle of the Tibet and All areas.
- On November 14th, the company was awarded the prize of "Top 60 Enterprise Spirit for the 60th Anniversary of the Founding of People's Republic of China".



Concept

Harmonious development is an important prerequisite for sustainable development. To achieve harmonious development, we must adhere to the basic principle of mutually beneficial cooperation, actively shoulder our social responsibility, strive to create both a favorable internal and external business environment, and share the fruits of our development with our stakeholders, so as to promote the construction of a harmonious society and become a model corporate citizen.

Objectives

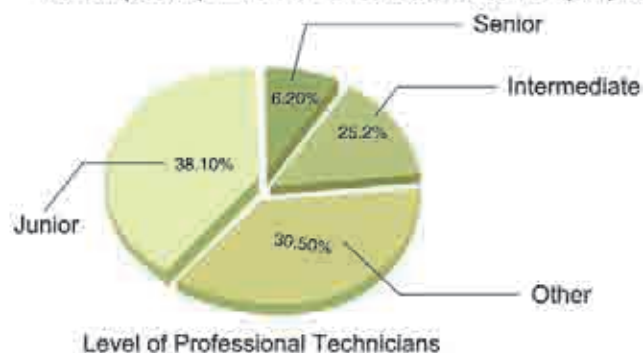
- ⊙ Be responsible to our employees to achieve common development;
- ⊙ Be responsible to our clients and partners to achieve mutual benefit and win-win outcomes;
- ⊙ Be responsible to the community in order to contribute to society and promote a harmonious society.

Measures

- ⊙ To safeguard the legal rights and interests of employees, promote their development, focus on their health and safety, and build harmonious labor relations;
- ⊙ To strengthen strategic cooperation in key areas, promote the development of the power industry, propel the construction of the industry chain, and build harmonious partner relations;
- ⊙ To guarantee power supply for social and economic development, actively participate in public welfare, support the construction new rural communities, and build harmonious community relations.

Building Harmonious Labor Relations

We believe that our employees are central to our operational success and company development. We rely on them and do our best to stimulate and encourage their enthusiasm, innovation and creativity at work, and encourage staff to achieve development in common with the enterprise. By the end of 2010, we employed 131,816 people, 31,384 of whom are women (23.8%). In 2010, we recruited 4,430 new people, 3,088 of whom were this year's university graduates.



Protecting the Rights and Interests of Employees

Always adhering to "people-oriented" development, we strictly implemented the **Labor Contract Law** and other related laws and regulations, enforced all staff labor contracts. We signed labor contracts with employees according to the law, and achieved 100% of signing collective contracts, medical insurance, industrial injury insurance, endowment insurance, unemployment insurance, housing provident fund and maternity insurance of female employees. We fully implemented annual leave with pay, standardized management of supplementary pensions, and effectively protected the legal rights of employees.



Conference on establishment of the trade union

We supported labor union organizations at all levels to strengthen their self-improvement and developed their work according to law. The enrollment ratio of employees in labor unions at all subsidiary enterprises was 100%. We continuously improved the Workers' Congress system and encouraged openness and employee participation in our management of operational affairs. We smoothed communication channels for employees, encouraged staff to offer advice and suggestions, and safeguarded employees' rights to know, to participate, to express, and to supervise. All grassroots enterprises were sticking to the regulation that leaders communicate with employees regularly at scheduled time.

We concerned ourselves about bad-off employees and established normalized mechanisms to visit and express sympathy to them. Furthermore, we developed systems to assist workers suffering serious diseases, and organized "heart-warming, care-showing" activities so as to effectively help needy workers overcome difficulties.

Promoting Employee Development

We believe in a corporate strategy that stresses strong human resources and continuously cultivate senior management, senior professionals, and senior technical staff so as to provide a strong human resource base for promoting the sustainable development of our company. Additionally, we actively formulated plans for the introduction of overseas talent, implemented a "going global" human resources strategy, and explored the establishment of intensive management of human resources. We innovated incentive mechanisms with an aim to arouse the enthusiasm of employees to be talented at their posts.

We enhanced employee capacity building, increased education and training, and made full use of the Huaneng Education and Training Center, Shanghai Electric Power Maintenance Training Center and other platforms to conduct diversified and normalized training. At Huaneng, there were 10 national technical experts, 23 state-owned enterprises technical experts, and 38 power industry technical experts.



△ Taking "broadening horizons of employees, expanding their humanities knowledge, fostering their professional integrity, and building a harmonious Xiaowan" as the goals, Xiaowan hydropower station created its own unique Xiaowan Forum to invite accomplished scholars and experts inside and outside of Yunnan province to spread advanced culture and popular social knowledge.

Focus on Employee Health and Safety

We continuously improved our healthcare system, pension system, and occupational health management system, and established a medical assistance program for coping with major diseases. Coal mine enterprises established security systems for employees to monitor their health, prevent and control occupational diseases.

We intensified our efforts in the supervision, examination and management of occupational disease and labor environment hazards; actively organized training about occupational diseases for employees in special posts, and improved protection facilities and first-aid equipment of anti-dust, anti-virus and noise reduction. We conducted regular inspection, maintenance and management to labor protection articles, and provided all employees annual physical examinations, with special inspection of occupational diseases for employees in special posts. We improved health and medical archives and implemented tracking and reexamination, which decreased the incidence of occupational diseases year by year.

We also implemented a program of assisting employees step by step, helping them address mental health issues, conducting an employee satisfaction survey, and increased investment in rectifying the inferior aspects, which increased employee satisfaction and the Happiness Index year on year.



Extended outdoor training for new employees

2010 National Labor Model



Lv Hui

President and Secretary of the Party Committee of North United Power Co., Ltd.

Motto: A distant journey tests the strength of a horse and a long task proves the character of a man.



Pan Fengtao

Technician of the Transportation Department and Shift Leader of Huaneng Zhalsi Nuor Coal Industry Co., Ltd.

Motto: Cherishing high aspirations in the coal mine, and creating a remarkable career at an ordinary post.



Zhou Yanan

Assistant Chief Engineer of Huaneng Jinan Power Generation Co., Ltd.

Motto: The enterprise is our breadwinner and equipment is fundamental to our survival.



Xie Liming

Assistant Chief Engineer of Huaneng Lancang River Hydropower Co., Ltd.

Motto: Take learning as the keystone of our life and regard the work as our career to pursue, and as a subject to study.



Ren Luguang

Assistant Chief Engineer of Huaneng New Energy Co., Ltd. and General Manager of Huaneng New Energy Company Shandong Branch

Motto: Bearing responsibility in mind and bowing respectfully while performing energetically.



Huang Changyue

Deputy Director of Generation Department of Haikou Power Plant, Huaneng Hainan Power Generation Co., Ltd.

Motto: All available means belong to those who have the will, but all possible difficulties to those who have no will.



Liu Hongkun

Assistant Chief Engineer, and director of Planning Department of Huaneng Pingliang Power Generation Co., Ltd.

Motto: Conduct myself seriously and apply myself to work steadfastly.



Chen Wei

Deputy General Manager, Haikou Sheraton Hot Spring Resort of the Huaneng Hainan Industry Co., Ltd.

Motto: Diligence, persistence, sunshine, and sincerity.

Rich Cultural Activities

We provided employees with places for recreation and sports, and organized sports competitions, knowledge lectures, art shows, painting and photography activities, essay competitions, and other cultural and sports activities to enrich their cultural life.

In 2010, we organized cultural and artistic performances with theme of "New starting point, New advances" and a New Year's party for employees, carried out baseball games and table tennis matches. We participated in various competitions, including the 2010 Tennis Tournament for Power Generation Companies in Beijing, the first "Huaneng Cup" Bridge Tournament for Employees in the National Environmental Protection Industry, bridge matches for workers in the power industry, and table tennis matches for employees of state-owned enterprises.



Building Harmonious Labor Relations

We continuously focused on managing enterprises by law, doing business with integrity and fulfilling win-win responsibilities to partners in earnestness. We strengthened communication and collaboration with strategic partners, implemented the policy of localized staff and operations in remote ethnic minority areas and overseas so as to make contributions to the economic development and the improvement of people's living standards wherever we have projects.

Strengthening Strategic Cooperation

We continued to improve our regional distribution and strengthened strategic cooperation in key areas. In 2010, we signed cooperation agreements on regional construction and energy strategy with eight provinces (including autonomous regions and municipalities),

including Heilongjiang, Liaoning, Anhui, Chongqing, Xinjiang, Qinghai, Tibet and Shanxi. Furthermore, we intensified our efforts in the development of clean and renewable energy, and jointly promoted local economic development.

Promoting Power Industry Development

We improved our technology innovation system, monitored advanced technologies in the international energy industry, encouraged subsidiary companies to conduct academic exchanges and cooperation with Tsinghua University and other universities. We also increased investment in the research and development of power generation technology with non-fossil energy and coal-based clean energy, pushed scientific and technological advancements into the market, and effectively played the main role of key state-owned

enterprises in developing national innovation systems.

In 2010, we successfully produced China's first proprietary two-stage dry pulverized coal gasifier and passed technical achievement appraisals of CO₂ capture devices at 120,000 tons per year for coal-fired powered plants and demonstration projects, which promoted the industrial upgrading of China's power industry.

Promoting Industrial Chains Building

The company adhered to operational standards, abided by contracts, made payments and settlements in a timely manner, and achieved a 100% contract fulfillment rate. Additionally, the company strictly examined qualifications in materials procurement and project construction, strictly performed bidding procedures, and resolutely resisted all types of commercial bribery. We strengthened our communications and cooperation with coal suppliers, equipment manufacturers, and financial institutions to expand cooperation fields and improve the quality of cooperation. In 2010, the company signed cooperation agreements with the China Shipbuilding Industry Group, the China South Locomotive & Rolling Stock Corporation Limited ("China CSR"), the China Aerospace Science and Technology Group, and other units to strengthen cooperation in the new energy, information technology, equipment manufacturing, and other industries.

In 2010, the company signed general framework agreements on bidding and purchasing equipment (totaling nearly 1.8 million KW) with six major domestic manufacturers of wind turbines, which was important to promote the sustainable and healthy development of the wind power industry and speed up the progress of China's power equipment manufacturing industry.

Building Harmonious Community Relations

Guarantee the Power Supply

In 2010, we faced a number of challenges in providing a continuous and steady power supply, most notably in fighting against snow disasters and southwest drought, in meeting peak demands for electricity in the summer, and facing both floods and typhoons. We employed all available means to guarantee a safe and steady supply of thermal coal. During each challenge, we suffered no shortage of coal, nor did we shut down any of our power plants, thus ensuring we were able to provide reliable energy to local power grids.



Assuring the Power and Coal Supply



On September 27th 2010, construction on Huaneng Zangmu Hydropower Station, the first Tibetan large-scaled hydropower station, started officially. The power station was fitted with six scales of 85 MW hydroelectric generating units for a total installed capacity of 510 MW. After completion, it will effectively solve the Tibet power grid's power shortages and meet the electricity demands to support Tibetan economic development.

Participating in Public Welfare

We made great efforts in disaster relief, showed care to vulnerable groups, made donations, and undertaken other social welfare undertakings, while encouraging employees to participate in various volunteer activities. We also worked on poverty alleviation and aid projects in Xinjiang, Tibet and Qinghai. In 2010, we donated approximately 120 million Yuan to Southwest area, Xinjiang, Yushu, Zhouqu, and other disaster-stricken areas.



Visit to the Siwen Primary School



On August 8th, a serious avalanche and mud-rock flows occurred in Zhouqu, Gansu province. Huaneng Zhouqu Hydropower Company promptly organized more than 120 people from the companies taking part in construction of a hydropower station to set up six rescue teams to help the local government conduct rescue operations using Huaneng's loaders, excavators, dump trucks and other equipment. The rescue team helped save several injured people.



In 2010, the company started the project "giving aid for supplying a transitional power supply in Ali Tibet" in Shiquanhe, which is over 4,290 meters above sea level. With the spirit of serving the country, bearing heavy responsibilities, surmounting difficulties, and fearing no sacrifice, workers spent only four months in building equipment while facing the highest elevation in the world and extreme construction challenges, and effectively guaranteed our ability to meet Tibetan electricity demand.

On April 28th, construction on the Ali project officially began.

On June 10th, diesel generators for unit 1 and unit 2 Ali power projects were loaded and sent from Shenzhen after passing quality tests.

On August 27th, the last unit passed a 72-hour test run, signaling the completion of Huaneng 110 MW Emergency Transitional Power Supply Aid Tibet Project.



In the middle of May, the department in charge of the Ali project conducted field reconnaissance on the 1,600 km transportation route from Lhasa to Ali, which confirmed this route as the main channel for equipment, personnel, and goods transport.

In early July, the main unit and major auxiliary equipment arrived safely at the working site, meaning Ali Power Supply project had entered the installation stage.

On September 25th, the Ali Project was transferred to Tibet Power Company, bringing satisfactory results to the Party, the country and the people.

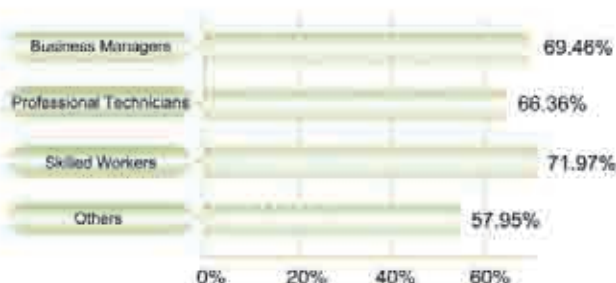
Boosting New Rural Community Construction

We continued to support economic development of the communities where power plants operate, including the participation in the construction of new rural and pastoral communities. In addition, we continued to participate in the "100-1000-10000 Campaign", the "Enriching and Benefiting Farmers" project, the "Rainbow Grants" project and other activities as part of our overall efforts to "Construct power stations, stimulate the local economy, protect the local environment, and promote complete harmony."

Over the past three years, Lancang River Power Generation Company has successively invested more than five million Yuan in the construction of a drinking water project which includes over 30 specific projects. These projects are in remote mountains and water-scarce areas. The projects have completely solved drinking water problems for five million people who previously had to pass through the mountains to fetch water, especially during dry periods. Therefore, the local people said, "Without the drinking water project, we would have no water to drink."



Harmonious Development Performance



■ employee training in 2010



■ training ratios



■ total donations (unit: RMB 10 thousand Yuan)

Honors	No.
National Model Worker	8
National Labor Medal	1
National Worker Pioneer	3
Central Enterprise Advanced Worker	9
Central Enterprise Advance Worker Red Flag Teams	9
National Model Employees' Family	2
Power Industry Technical Expert	7
Domestic Enterprise with Best Care	1
National Power Industry Excellent Organization Award for Employee Skills	1
2010 Special Award for Social Responsibility of Chinese Enterprises	1
Top 60 Enterprise Spirit for the 60th Anniversary of the Founding of People's Republic of China	1
National Power Industry Special Award for Corporate Culture	1
Golden Bee Sustainable Development Award	1
Leading Enterprise Award of the "Golden Bee 2009 Excellent CSR Report"	1
2010 Award for Board of Directors	1
Special Style Award for Model Sustainability Report	1
National Award for Outstanding Corporate Culture Achievements in the Power Industry	15
National Excellent Unit Corporate Culture Construction	7
Excellent Case of Corporate Culture Construction of Central Enterprises	2
Advanced Unit in the All People's Stay Fit Campaign	1
Outstanding Unit in the All People's Stay Fit Campaign	1

Looking to the Future

The Twelfth Five-Year Plan's Guiding Ideology

We will hold high the great banner of socialism with Chinese characteristics and take Deng Xiaoping Theory and "Three Represents" important thought as guideline. We will deeply implement the Scientific Development Outlook and take scientific development as our theme, promote faster development mode transformation, and use the national energy strategy as guidance. We will also adhere to Huaneng's "three-color corporate culture" and stick to the strategic positioning involved in "Building a comprehensive energy group with international competitiveness that takes power generation as the core business, coal development as the foundation, finance as the supporting business, and technology as the driving force while synergizing various industries." Through transforming development modes, adjusting the economic structure, increasing benefits, promoting development, improving quality, achieving first class performance, and getting stronger, better, and larger, we will take the lead in edging into the ranks of world-class enterprises with international competitiveness and make new and greater contributions to building a moderately prosperous society.

Prospect in 2011

Safe Development

Objectives

- ❶ To avoid major or serious equipment-related accidents, fire-related accidents, and serious traffic accidents
- ❷ To avoid all other incidents that may negatively impact the image of our company

Measures

- ❶ To further advance the construction of safety management system, strictly implement responsibility system on safety production, and enhance capabilities of safety security
- ❷ To intensify our effort against breach of regulations, deepen the safety management of outsourcing projects, strengthen equipment maintenance, reinforce safety management of coal, and consolidate the basis for safety production
- ❸ To carry out safety evaluation, improve the emergency management system, and enhance the capabilities of safety risk prevention

Optimal Development

Objectives

- ❶ Production capacity of updated coal mines will exceed 19.7 million ton/year
- ❷ To achieve an installed proportion of 15% clean energy

Measures

- ❶ To optimize the structure of the power supply and make great efforts to develop clean energy
- ❷ To strengthen industrial synergies, and give further play to the synergic effects of coal, electricity, transportation, and other industries
- ❸ To actively develop capital operations, control the capital coefficient, and improve the service efficiency of assets
- ❹ To implement the "going global" strategy and constantly improve internationalized operations

Clean Development

Objectives

- ❶ To achieve the annual objectives set in *Special Regulations on Energy Conservation and Environment Protection and Overall Planning on Reduction and Control of SO₂ and Nox during the 12th Five-Year Plan*
- ❷ To avoid major environmental pollution incidents

Measures

- ❶ To pay attention to governance and ensure pollutant emission in conformity with standards
- ❷ To lay emphasis on the "three synchronizations" of environmental facilities for new construction projects
- ❸ To steadily carry out modifications to fume and gas denitration equipment and the pilot program of mercury monitoring
- ❹ To strengthen science and technology innovation and further enhance R&D capabilities of independent innovation

Prospects in the “Twelfth Five-Year Plan”

Initially, we aim at establishing a highly-efficient industrial system with power generation as the core, supported by the coal, transport, finance, and technology branches, while striving to take a lead in edging into the ranks of world-class enterprises with international competitiveness. By 2015, the company will have consolidated operating income of more than 300 billion Yuan; controllable installed capacity breaking beyond 150 GW; low-carbon clean energy accounting for over 25% of installed capacity, coal production capacity breaking beyond ten million tons per year; the self-supply rate of coal for power generation reaching above 25%, the proportion of overseas installed capacity in which the company stock shares reaching over 5%; the coal consumption rate falling below 317 g/kWh; and CO₂ emissions per unit of power generation down to 600 g/kWh.

Energy-Conserving Development

Objectives

- ❑ To realize a coal consumption rate of 321 g/kWh
- ❑ To maintain China's leading level of overall energy consumption indicators in the power generation industry, and advanced levels of energy consumption indicators of main generating units in comparable units
- ❑ To build ten energy-conserving environmental-friendly coal-fired power plants

Measures

- ❑ To deeply promote the creation of energy-conserving, environmental-friendly coal-fired power plants
- ❑ To focus on the management of main generating units in energy conservation, and creating excellence in energy conservation indicators
- ❑ To comprehensively carry out the activities to create excellent energy-conserving, environmental-friendly coal-fired power plants

Healthy Development

Objectives

- ❑ To achieve 600 billion kWh power output
- ❑ To achieve coal production of 60 million tons
- ❑ To achieve sales revenue of 2,600 billion Yuan
- ❑ To get approval of power projects (12 GW) and coal project (8 million ton/year)

Measures

- ❑ To intensify our efforts in marketing power and efficient electricity
- ❑ To intensify full-process management of development, and further strengthen management in investment, preliminary work, and infrastructure construction
- ❑ To focus on closed-loop management of fuel and strictly control costs and expenditures
- ❑ To strengthen centralized management of funds and improve EVA value

Harmonious Development

Objectives

- ❑ To realize the development of both enterprise and employees
- ❑ To realize the mutual benefit of enterprise and partners
- ❑ To realize the harmonious progress of enterprise and society

Measures

- ❑ To strengthen leading groups and teams building, intensify democratic management, and improve scientific mechanisms for selecting talent
- ❑ To strengthen regional cooperation, lay emphasis on partner cooperation, and improve the quality of cooperation
- ❑ To actively participate in social public welfare projects such as donations to charity and others ways of giving back to society

Indicator Index 1

GRI Index (G3.1)

Full disclosure ● Partial disclosure ◐ Not disclosed ○ Not applicable ⊗

GRI Indicators		Disclosure in the Report	Degree of Disclosure
1	Strategy and Analysis		
1.1	Statement from the top decision-maker of the organization on the relevance of sustainability to the organization and its strategy	P1-2	●
1.2	Description of key trends, risks and opportunities	P13-14	●
2	Organization Profile		
2.1	Organization name	P8	●
2.2	Major brands, products and/or services	P8	●
2.3	Operational structure of the organization (including main departments, the operating company, subsidiaries and joint ventures)	P9-11	●
2.4	Location of Headquarters	back flap	●
2.5	The number of countries where the organization operates, names of countries where organization has main businesses, names of countries which are particularly relevant to the sustainable development described in report	P8/P10	●
2.6	Nature of ownership and legal form	P8	●
2.7	Markets served by the organization (including regional markets, trains served, types of beneficiaries)	P8/P10	●
2.8	Scale of the organization	P8	●
2.9	Significant changes in size, structure or ownership of the organization during the reporting period	P8	◐
2.10	Awards received in the reporting period	P24/P62	●
3	Report Parameters		
3.1	Reporting period(financial year or solar year)	Inside front cover	●
3.2	Date of the previous report(if any)	Inside front cover	●
3.3	Reporting cycle(such as annual, biannual)	Inside front cover	●
3.4	Content point for inquiring report and report content	Back flap	●
3.5	Process of drafting report content	Inside front cover	●
3.6	Boundary of the report(such as the state, the department, subsidiaries, leased facilities, joint ventures, and suppliers)	Inside front cover	●
3.7	Limits to the scope or boundary of the report	Inside front cover	●
3.8	Basis for this report on joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities that can significantly affect comparability from period to period and/or between organizations	Inside front cover	●
3.9	Data measurement techniques and the bases of calculations, including assumptions and techniques underlying estimations applied to the compilation of the indicators and other information in the report	Inside front cover	●
3.10	Explanation of the effect of and reasons for any reassessments of information provided in earlier reports(such as merger/acquisition, base year/year period changes, business nature, design procedure)	Inside front cover	●
3.11	Significant changes from the previous report in the scope, boundary, or measurement methods applied in the report		no significant changes
3.12	Table identifying the location of the Standard Disclosure in the report	P65-68	●
3.13	The organization listed in the assurance report accompanying the sustainability report provides policy and current practice for assessing external assurance. (if not listed, explain the scope and basis of any external assurance provided, and also explain the relationship between the reporting organization and the assurance provider(s))	P72	◐
4	Governance, Commitments and Engagement		
4.1	Governance structure of the organization, including committees under the highest governance body responsible for specific tasks, such as setting strategy or organizational oversight	P12	●
4.2	Indicate whether Chairman of the Board is also an executive officer		○
4.3	For organizations that have a unitary board structure, state the number and gender of members of the highest governance body that are independent and/or non-executive members		⊗
4.4	Mechanism for shareholders and employees to provide recommendations or direction for the highest governance body	P12	●
4.5	Linkage between compensation for members of the highest governance body, senior managers, and executives(including retirement arrangement), and the organization's performance(excluding social and environmental)	P49	◐
4.6	Procedures for avoiding conflicts of interest within the highest governance body	P12/P15	●
4.7	Process for determining the composition, qualifications, and expertise of the members of the highest governance body and its committees, including any consideration of gender and other indicators of diversity	P15	◐

GRI Indicators		Disclosure in the Report	Extent of Disclosure
4.8	Externally developed statements of mission or values, codes of conduct, and principles relevant to economic, environmental, and social performance and the status of their implementation	Head page/P19/P27/P35/ P41/P47/P55	●
4.9	Procedures of the highest governance body for overseeing the organization's identification and management of economic, environmental, and social performance, including relevant risks and opportunities, and adherence or compliance with internationally agreed standards, code of conduct and principles	P12/P15	●
4.10	Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance	P12/P49-50	●
4.11	Explanation of whether and how the constitutory approach or principle is addressed by the organization	P12/P15	●
4.12	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses	P71	●
4.13	Memberships in associations (such as industry associations) and/or national/international advocacy organizations	P18	●
4.14	List of stakeholder groups engaged by the organization	P4	●
4.15	Basis for identification and selection of stakeholders with whom to engage	P4	●
4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group	P4	●
4.17	Key topics and concerns that have been raised by stakeholders during their engagement, and how the organization has responded to three key topics and concerns, including through its reporting	P4	●
5	Economic Performance		
EC1	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments	P17/P54/P62	●
EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	P38	●
EC3	Coverage of the organization's defined benefit plan obligations	P57-58	●
EC4	Significant financial assistance received from government		○
EC5	Range of ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation		○
EC6	Policy, practices and proportion of spending on locally-based suppliers at significant locations of operation	P59	●
EC7	Procedures for local hiring and proportion of senior management hired from the local community at significant locations of operation	P57	●
EC8	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind or pro bono engagement	P59-61	●
EC9	Understanding and assessing significant indirect economic impacts, including the extent of impacts	P59-61	●
6	Environment		
EN1	Materials used by weight or volume	P48	●
EN2	Percentage of materials used that are recycled input materials		○
EN3	Direct energy consumption by primary energy source	P46	●
EN4	Indirect energy consumption by primary energy source	P46	●
EN5	Energy saved due to conservation and efficiency improvements	P43-46	●
EN6	Initiatives to provide energy-efficient or recyclable energy based products and services, and reductions in energy requirements as a result of these initiatives	P29-30/P46	●
EN7	Initiatives to reduce indirect consumption and reductions achieved	P43-46	●
EN8	Total water withdrawal by source	P43-44	●
EN9	Water sources significantly affected by withdrawal of water		no such incidents
EN10	Percentage and total volume of water recycled and reused		○
EN11	Location and size of land owned, leased, managed in or adjacent to, protected areas and areas of high biodiversity value outside protected areas	P40	●
EN12	Description of significant activities, products and service on biodiversity in these areas	P40	●
EN13	Habitats protected or restored	P40	●
EN14	Strategies, current actions and future plans for managing impacts on biodiversity	P40	●

GRI Indicators		Disclosure in the Report	Extent of Disclosure
EN15	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	P40	●
EN16	Total direct and indirect GHG emissions by weight	P40	●
EN17	Other relevant indirect GHG emissions by weight	P40	●
EN18	Initiatives to reduce GHG emissions and reductions achieved	P37–39	●
EN19	Emissions of ozone-depleting substances by weight		○
EN20	NOx, SOx and other significant air emissions by type and weight	P40	●
EN21	Total water discharge by quality and destination	P43–44/P46	●
EN22	Total weight of waste by type and disposal method	P38	●
EN23	Total number and volume of significant spills	P26	◐
EN24	Weight of transported, imported, exported or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III and VIII, and percentage of transported waste shipped internationally		⊗
EN25	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff	P44/P40	◐
EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation	P23–24/P37–40	●
EN27	Percentage of products sold and their packaging materials that are recycled by category		⊗
EN28	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulation		no such incidents
EN29	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce		○
EN30	Total environmental protection expenditures and investments by type	P43–44/P37–38	●
7	Labor practices and decent work		
LA1	Total workforce by employment type, employment contract, and region, broken down by gender	P57	●
LA2	Total number and rate of new employee hires and employee turnover by age group, gender, and region		⊗
LA3	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations	P57–P58	●
LA4	Percentage of employees covered by collective bargaining agreements	P57	◐
LA5	Minimum notice periods regarding significant operational changes, including whether it is specified in collective agreements	P57	◐
LA6	Percentage of total workforce represented in formal joint management worker health and safety committees that help monitor and advise on occupational health and safety programs		○
LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region and by gender	P26/P58	●
LA8	Education, training, counseling, prevention and risk-control programs in place to assist workforce members, their families or community members regarding serious diseases	P25/P58	●
LA9	Health and safety topics covered in formal agreements with trade unions	P57–58	◐
LA10	Average hours of training per year per employee by gender, and by employee category	P62	◐
LA11	Programs for skills management and lifelong learning that support the continued employability of employees and assist them with managing career endings	P57	◐
LA12	Percentage of employees receiving regular performance and career development reviews, by gender	P57	●
LA13	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	P57	◐
LA14	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation		○
LA15	Return to work and retention rates after parental leave, by gender		○
8	Human Rights		
HR1	Percentage and total number of significant investment agreements and contracts that include clauses incorporating human rights concerns, or that have undergone human rights screening		○

GRI Indicators		Disclosure in the Report	Extent of Disclosure
HR2	Percentage of significant suppliers, contractors and other business partners that have undergone human rights screening, and actions taken		
HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	P57	
HR4	Total number of incidents of discrimination and corrective actions taken		no such incidents
HR5	Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and actions taken to support these rights		no such compliances
HR6	Operations and significant suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	P57	
HR7	Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures taken to contribute to the elimination of all forms of forced or compulsory labor	P57-60	
HR8	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations		
HR9	Total number of incidents of violations involving rights of indigenous people and actions taken		no such compliances
HR10	Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments		
HR11	Number of grievances related to human rights filed, addressed and resolved through formal grievance mechanisms		
9	Society		
SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	P59-60	
SO2	Percentage and total number of business units analyzed for risks related to corruption	P15	
SO3	Percentage of employees trained in the organization's anti-corruption policies and procedures	P15/P62	
SO4	Actions taken in response to incidents of corruption	P15	
SO5	Public policy positions and participation in public policy development and lobbying	P59	
SO6	Total value of financial and in-kind contributions to political parties, politicians and related institutions, by country		no such contributions
SO7	Total number of legal actions for anti-competitive behavior, anti-trust and monopoly practices, and their outcomes		no such legal actions
SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations		no such compliances
SO9	Operations with significant potential or actual negative impacts on local communities		
SO10	Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities	P23-24/P37-38/P40	
10	Product Responsibility		
PR1	Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures		
PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services, by type of outcomes		
PR3	Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements		
PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information, and labeling, by type of outcomes		no such incidents
PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction	P59	
PR6	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship		
PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion and sponsorship, by type of outcomes		no such incidents
PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data		no such incidents
PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services		no such incidents

Indicator Index 2

Social Responsibility Indicator System for Power Generation Industry

Indicator	Location in the report
Part I: Foreword (P Series)	
(P1) Report Specifications	
P1.1 Reporting period	Inside front cover
P1.2 Scope of reporting organization	Inside front cover
P1.3 Reporting cycle	Inside front cover
P1.4 Reported data description	Inside front cover
P1.5 Reference standards	Inside front cover
P1.6 Guarantee on report reliability	P12
P1.7 The contact person for inquiries and questions about the report and its content, and his or her contact details	P16
P1.8 How to obtain the report and extended reading	Inside front cover
(P2) From the CFO	
P2.1 Statement of the mission between the organization and social responsibility	P1-2
P2.2 Summary of social responsibility performance and areas for improvement in the reporting year	P1-2
(P3) Responsibility Model	
P3.1 CSR Model	head page
(P4) Company Profile	
P4.1 Company name, form of ownership and location of headquarters	P68
P4.2 Main products and services of the organization	P68
P4.3 Geographic coverage and structure of business operations	P69-11
P4.4 Size of business	P68
P4.5 Corporate governance structure	P12
P4.6 Structure of board of directors	Not applicable
(P5) Key Performance Indicator Matrix	
P5.1 Social responsibility performance comparison schedule	P26/P34/P40/P46/P54/P62
P5.2 Key performance data sheet	P17
P5.3 List of recognitions received during the reporting period	P34/P62
Part II: Responsibility management (G Series)	
(G1) Responsibility Strategy	
G1.1 CSR Concepts	head page/P16
G1.2 Core issues on social responsibility	P16-26/P27-34/P35-40/P41-49/P47-54/P55-62
G1.3 Planning on CSR	P63-64
(G2) Responsibility Management	
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Indicator Index 3

Implementation of the United Nations Global Compact

The United Nations Global Compact requires companies within their influence area to comply with, support and carry out a set of ten universally accepted principles in the aspects of human rights, labour standards, environment and anti-corruption. These principles are from **Universal Declaration of Human Rights**, **Declaration on Fundamental Principles and Rights at Work** by International Labour Organization, and **Rio Declaration** on Environment and Development.

Huaneng, as the first Chinese power company joined the United Nations Global Compact in November 2007, has been actively carrying out the ten principles of United Nations Global Compact by promoting safe, optimal, clean, energy-conserving, healthy and harmonious development since then.

	Ten Principles	Location in the Report	Implementation
Human Rights	Respect and support the protection of internationally proclaimed human rights	P56–58	Abide by laws and regulations at home and abroad, support international conventions on human rights approved by the State, safeguard and respect human rights, and guarantee employees' legal rights and interests.
	Not complicit in human rights abuses	P56–58	
Labor	Uphold the freedom of association and the effective recognition of the right to collective bargaining	P57	Adhere to fair and just employment policy, strictly follow national laws and regulations on labour relationship management and labour contract, so as to strengthen the management of employees' labor contract. Establish workers' congress system and the system of making the company affairs public, so as to ensure 100% employee membership in labor unions at all levels, and strengthen democratic participation of employees.
	Eliminate all forms of forced and compulsory labour	P57	
	Effective abolition of child labour	P57	
	Elimination of discrimination in respect of employment and occupation	P57	
Environment	Take a precautionary approach to environmental challenges	P38/P46/P63–64	step up transforming development modes, optimized and readjusted industrial structure, shut down small coal-fired power generating units, develop clean energy, vigorously develop wind energy, hydropower and nuclear energy, and actively respond to global climatic change. By means of the scientific and technological innovation, actively research and develop clean power generation technologies, and create energy-conserving and environmental-friendly coal-fired power plants, thereby mitigate impacts on environment.
	Undertake initiatives to promote greater environmental responsibility	P35–46	
	Encourage the development and promotion of environmental-friendly technologies	P29–30/P37–39/P43–45	
Anti-corruption	Work against corruption in all its forms, including extortion and bribery	P15	Strengthen the construction of anticorruption system, carry forward the probity culture, strictly implement the responsibility system of improving work style and building a clean governance, thoroughly carry out special activities on combating commercial bribery, and standardize our operations and transactions.

Rating Report of China Huaneng Group Sustainability Report 2010

Upon the request of China Huaneng Group, CSR Research Center of Chinese Academy of Social Sciences selected experts from Chinese selected experts from Chinese Expert Committee on CSR Report Rating to form a rating team for evaluation and rating of *China Huaneng Group Ltd Sustainability Report 2010*. The rating team rated *China Huaneng Group Ltd Sustainability Report 2010* (the "Report") based on the relevant criteria specified in *Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises (CASS-CSR 2.0)*.

1. Basis of rating

Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises (CASS-CSR 2.0) published jointly by the aforesaid Center, China Enterprise Confederation, China Petroleum and Chemical Industry Association, China Light Industry Federation, Sino-German CSR Projects, WTO Tribune and China Committee of Corporate Citizenship

2. Conclusions

Completeness (★★★★☆)

The "Report" systematically discloses concepts, measures and performances on the safety, optimal, clean, energy-conserving, healthy and harmonious development, and provides information on the key indicators for power generation industry.

Materiality (★★★★☆)

The "Report" provides information on such key social responsibility topics as responsibility management, market responsibility, environmental and social responsibilities, and responds to the expectations of various stakeholders, with excellent materiality.

Balance (★★★★☆)

The "Report" discloses "major equipment breakdowns, minor equipment breakdowns, injury and death accidents, and Class I disorders over past five years, with good balance.

Comparability (★★★★☆)

The "Report" provides information on some key performance indicators during the 11th Five-Year Plan period, with good chronological comparability.

Readability (★★★★☆)

The "Report" is quite readable with well-designed structure, clear and understandable language, and excellent pictures.

Creativity (★★★★☆)

The "Report" reviews the social responsibility practice and performances of the company during the 11th Five-Year Plan period in the form of responsible topics, and makes systematic summary, which is of good creativity.

Overall rating (★★★★☆)

Through evaluation, the rating team agreed to give a four-and-half-star rating to the report, believing that this report is an excellent one.

3. Suggested improvements

- To further increase the coverage on core indicators of social responsibility, and improve the completeness of the Report.
- To provide more information on key indicators related with counterparts, and improve the chronological comparability of the Report.

4. Rating team

Team leader: Peng Huagang, Vice President of Executive Council of the Center and Director General of Research Bureau of State Assets Supervision and Administration Commission of the State Council (SASAC)

Team members: Hu Xiaozheng, Director of Electric Power Reliability Management Center, State Electricity Regulatory Commission

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彭華崗



中国企业社会责任报告
专家评级委员会
China Expert Committee on CSR Report Rating

Terminology

“Three Synchronizations” in Environmental Protection

The Article 26 of *Environmental Protection Law* in China stipulates “Installations for the prevention and control of pollution at a construction project must be designed, built and commissioned together with the principal part of the project. No permission shall be given for a construction project to be commissioned or used, until its installation for the prevention and control of pollution are examined and considered up to the standard by the competent department of environmental protection administration that examined and approved the environment impact statement.” This stipulation is known as “Three Synchronizations” system in Environmental Protection Law in China.

Ultra Supercritical Power Generation Technology

Ultra supercritical power generation technology improves thermal efficiency in a boiler and reduces electricity and coal costs by increasing boiler steam pressure (25-31 MPa) and temperature (580°C -610°C). Currently, this is the world's most advanced environmental-friendly technology for power generation.

GreenGen

GreenGen refers to the research, development, demonstration and promotion of a coal-based energy system that focuses on hydrogen production through gasification, combined cycle power generation with hydrogen turbines, and fuel cell-based power generation, while capturing and storing CO₂, so as to raise efficiency in coal-fired power generation and achieve near zero emissions of pollutants and CO₂.

Economic Value Added (EVA)

Economic Value Added is a comprehensive tool or index used to measure if an enterprise creates values or if the enterprise realizes real profit of production and management. It is based on retained profits after tax by deducting the opportunity cost of equity and debt capital from its operating profit.

Preliminary Work

It refers to the work during the decision-making stage of the project, which includes: project proposal, feasibility research report, program design, environmental planning, employee health plans, organizational forms of personnel and organs, planning on use of funds, etc.

High Temperature Gas-cooled Reactor (HTGR)

High Temperature Gas-cooled Reactor is a kind of nuclear reactor that takes helium gas as cooling agent, with high exit temperature. High temperature gas-cooled reactor uses coated particles fuel, and takes graphite as moderator. The exit temperature of reactor center is from 850°C to 1,000°C, and even higher. The fuel is usually uranium dioxide with high concentration, and sometimes is uranium dioxide with low concentration. High temperature gas-cooled reactor has such advantages as high thermal efficiency (40-41%), high burn-up fraction (up to 9,000 MW day/ton uranium, and high conversion ratio (0.7-0.8).

The Clean Development Mechanism (CDM)

The Clean Development Mechanism (CDM) is one of the three flexible mechanisms under the framework of the *Kyoto Protocol*. It allows developed countries to cooperate with developing countries in projects that reduce emissions and generate Certified Emission Reductions (CERs), by providing financial and technical support to help developed countries fulfill their greenhouse gas emission commitments.

Composite Electric Bag Precipitator

It is a kind of new high-efficient dust remover integrated the mechanism of the electrostatic precipitator and filter collector, adopted several unique technology such as high-frequency and high-voltage power supply, overall layout, transition structure and characterized by compact structure, long dust collecting period, long service life of the filter bags, long-term reliability and stability in operation, low maintenance cost and others.

“100-1000-10000” Campaign

The “100-1,000-10,000” Campaign refers to the project to construct 100 schools, build 100 rural clinics, renovate 100 natural villages, and establish 100 rural culture rooms; to train 1,000 rural teachers, provide financial aid for 1,000 junior and senior high school graduates to enter vocational technical schools, and 1,000 poverty-stricken students in middle schools and primary schools to complete their education; to resolve the problem of drinking water of 10,000 people, to train 10,000 rural labor force for employment transfer and support 100,000 people to participate in the national new rural cooperative medical service.

Feedback Questionnaire

Dear Readers,

This report is a **Sustainability Report 2010** issued to the public by China Huaneng Group. We are looking forward to your advice and suggestions so that we can improve our reporting in the future. We are grateful if you answer the following questions and send this questionnaire back to us in one of the following ways.

Fax: +86-10-63228866

Mail to: No. 4, Fuxingmennei Street, Xicheng District, Beijing (100031)

Your Personal Information

Name: _____

Organization: _____

Position: _____

Tel: _____

Fax: _____

E-mail: _____

Readers Feedback Questionnaire on this Sustainability Report

Single Choice(Please mark your choice with "v")

	Yes	Average	No
1、 Do you think this report reflects CHNG's significant impacts on safety , environment, economy and society?			
2、 Do you think this report makes an accurate and complete analysis of the relations between Huanneng and its stakeholders?			
3、 Do you think the information disclosed in this report is clear, accurate and complete?			
4、 Do you think this report is convenient for reading with respect to contents and and design?			

Open Question

1、 In your opinion, which part of this report is most satisfactory?

2、 What information that you need to know is not included in this report?

3、 What's your advice on our future sustainability reports?

Thank you for your support and cooperation.

CHINA HUANENG GROUP

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	Stamp
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No.4,Fuxingmennei Street,Xicheng District,Beijing

China Huaneng Group



Postal Code: