



China



The year 2008 is most unusual for power industry in China. Confronted with complicated domestic economic situation, infrequent natural disasters and heavy pressure from guaranteeing power supply security for the Olympic Games, China's power industry successfully overcome all challenges with ardours joint effort.

By the end of 2008, the total installed capacity in China amounted to 792.73GW, increased by 10.37% as compared with that of the previous year. The nation-wide 220kV and above transmission line circuit length and substation capacity totalled 358,900km and 1,475,980MVA, increased by 9.30% and 20.1% respectively over the year 2007. The total electricity generation in the year 2008 was 3451.0TWh, an increase of 5.72% over 2007. And the electricity consumption totalled 3438.0TWh, going up 5.49% over 2007.

Part of the energy related policies released in 2008:

On March 3, 2008, the 11th Five-Year Plan on Renewable Energy Development was released by the National Development and Reform Commission. The goal of increasing the renewable energy proportion to 10% in the total energy consumption of China by 2010 was stated in the plan. The annual consumption of renewable energy then will equal to 300 million tons of standard coal. The total renewable energy capacities will be composed of 190GW of hydro, 10GW of wind, 5.5GW of biomass generation and



Photo: Bloomberg

300MW of solar power generation. China will make fully use of renewable energy to solve the electricity access problems in remote areas. By 2010, the co-effect of renewable energy using and power grid construction and upgrading will help around 11.50 million of China's population access to the electricity.

On January 3, 2008, The National 11th Five-Year

PROFILE

Capital	Beijing	Installed Capacity	792,730MW
Area	9.6 million km ²	Population Electrified	99.2%
Population	1.32802 billion	Main Voltages (kV)	500, 330, 220
GDP	US\$30,067.0 billion	Natural Resources	coal, petroleum, natural gas, uranium, hydropower potential (world's largest)
Currency	RMB		

POWER DEMAND BY SECTOR (GWh)			
Sector	Total Consumption as of 2008 (GWH)	Projected changes as of year ending 2009 (%) (year 2008/09)	Percentage change from 2009 (Projected)
PrimaryIndustrial	199.11	N/A	N/A
SecondaryIndustrial	480.32	N/A	N/A
Tertiary Industrial	602.19	N/A	N/A
Urban and Rural Residential	1698.7	N/A	N/A
Total	3438.0TWh	N/A	N/A

Plan on Acid Rain and SO₂ Pollution Control was co-released by the State Environmental Protection Administration and the National Development and Reform Commission. The goal of 10% reduction of the annual national total SO₂ emission by 2010 than that in 2005 was stated in the plan. The SO₂ emission will be kept less than 22.944 million tons. The SO₂ emission from thermal power industry will be restrained on more than 10 million tons and the SO₂ emission per KWh will be reduced by 50% as compared with that of 2005.

Electric demand and supply situation in 2008

The electricity demand in 2008 went through great turbulence, deficit early of the year followed by surplus afterward. On the whole, the power supply and demand were kept balance in the year 2008.

The amount of energy exported & imported in your country/region.

In 2008, the electricity import volume to China decreased while the electricity exported by China increased. The total import and export volume of electricity was 20.46TWh, mounting 5.61% over the year 2007. The import volume of electricity was 3.6TWh, down by 11.80%, and the export was 16.86TWh, up by 10.25%.

The type of renewable energy that each country generates such as Wind/Solar/Hydro/wave the amount generated must be stated

in MW and as a percentage of the total energy generation of your country/region

By late 2008, the total installed generating capacity in China reached 792.73GW, with 172.60GW of hydro power (21.77% in the total), 602.86GW of thermal power (76.05% in the total), 8.85GW of nuclear power (1.12% in the total), 8.39GW of grid-connected wind power (1.06% in the total).

The amount of power generated by your country/region and how it is generated? (Nuclear/Coal Fired)

The power generated of China in 2008 was 3451.0TWh, with 565.5TWh generated by hydro, 2803.0TWh generated by thermal power, 69.2TWh generated by nuclear, and 13.1TWh generated by wind.

Environmental problems of energy generation and how your country/region is addressing these problems

- To reduce air pollution and raise power generating efficiency, 16.69GW of small thermal power generating units were shut down in China. During the 11th Five-Year Plan Period, 34.21GW of small thermal power generating units have already been phased out.
- Flu-dust control in China is successful. China independently designed, engineered and installed the first fabric filter on 600MW coal-fired unit in 2008. The average flu dust

emission of nation-wide thermal power plants was 1.2g/KWh, down by 0.1g/KWh over 2007. The total flu dust emission of nation-wide thermal power plants was 3.30 million tons, down by 5.7% over 2007.

- SO₂ emission control. According to analysis of China Electricity Council, the SO₂ emission from power industry was about 10.50 million tons, a drop of 12.5% over 2007, greatly contributed to the national effort of SO₂ emission control. By late 2008, the capacity of thermal power units equipped with FGD totalled 363GW, already accounting for 60% of the national total thermal power installed capacity.
- Nitrogen Oxide emission control. NO_x emission in China is slowly increasing in recent years. De-NO_x installation has already been raised on the schedule of China's power industry. By late 2008, capacity of units equipped with De-NO_x facilities in operation reached 19.57GW.

Primary natural resources of your country/ region

Coal dominant energy consumption structure is the basic feature and external condition of energy sector in China.

Coal-fired generation will be the main force for power generation in China for a relatively long period in the future.

Each Renewable source MUST be stated in MW and as a percentage of the total energy generation by your country/ region.

- Total energy production (MWH) by fuel type (Coal, LNG, Oil, Nuclear and renewables)

The total power generated of China in 2008 was 3451.0TWh, with 565.5TWh generated by hydro,



Photo: Bloomberg

2803.0TWh generated by thermal power, 69.2TWh generated by nuclear, and 13.1TWh generated by wind.

- Production of Renewable energy (MWH)
 - Biomass N/A
 - Black Liquor N/A
 - Landfill gas N/A
 - Sewage gas N/A
 - Solar N/A
 - Waste N/A
 - Wind 13.1TWh
 - Wave N/A