



China



By the end of year 2006, the national total installed capacity hit 623698.2MW, a 20.59% increase over the year 2005. According to the annual statistics bulletin the national total transmission line circuit length and substation capacity of 220kV and above reached 281,500km and 981,310MVA, increased by 10.4% and 15.7% respectively over the year 2005.

The total electricity generation in the year 2006 amounted to 2,849.855TWh, an increase of 14.11% over last year. China went on taking the second position in the world referring to both the total installed capacity and the annual electricity generation. Since June of 2006, the nationwide continuous power shortage situation was ultimately alleviated, and the all year round power supply and demand maintained an overall balance.

In the year 2006, the net coal consumption of generation enterprises was 367g/kWh, decreased by 3g/kWh. The rate of transmission line loss was 7.08%, a drop of 0.12 percentage point in comparison with that of the year 2005.

All newly built coal-fired power plants throughout the year were equipped with high-efficiency dust removal technologies with an average de-dust efficiency over 99.5%. Compared with that of the last year, the national thermal power installed capacity and the thermal power generation output increased by 23.8% and 16.2% respectively, while the smoke and dust emission performance rate (dust emission quantity per unit



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of electricity generation) fell to 1.6g/kWh with a decrease of 11.1%. By the end of 2006, the newly installed FGD capacity of thermal power plants in China had reached 160GW, and the number exploded by 30 times over the year 2000. The proportion of FGD capacity in the total surged to over 34% from the original 2%. The SO₂ emission control ability of China's power industry increased

PROFILE

Capital	Beijing	Installed Capacity	713,000MW
Area	9.6 million km ²	Population Electrified	99.2%
Population	1.321 billion	Main Voltages (kV)	500, 330, 220
GDP	US\$3.55 trillion	Natural Resources	coal, petroleum, natural gas, uranium, hydropower potential (world's largest)
Currency	RMB		



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in essence.

According to one industry study conducted at the end of 2005, over 120 gigawatts (GW) of generating capacity is currently under construction in China. Rapid growth in electricity demand has spurred significant amounts of investment in new power stations.

Although much of the new investment has been earmarked to alleviate electricity supply shortages, some independent analysts forecast the possibility of oversupply as an assortment of new projects are scheduled to come online between 2007 and 2009. To ward off a possible supply glut, Chinese government officials have made an effort to approve new projects at a steady and measured rate.

Power Production

In the year of 2006, the national electricity generation kept rapid growth speed. The total generation amounted to 2849.85TWh, with a growth rate of 14.11%, 0.29% higher than the growth rate of last year, of which, hydro-electricity generation amounted to 414.769TWh, accounting for 14.55% of the total which was 4.64% higher than the year of 2005; 2374.146TWh of thermal generation occupied 83.31% of the total with a growth rate of 16.17% than the previous year; nuclear electricity generation accounted for about 1.92% of the total, amounted to 54.844TWh, up 3.31%; wind power arrived at 2.845TWh and

3.251TWh for other power generation.

Utilization Hours of Generating Equipment

Influenced by the enhancement of power supply, the national utilization hours of generating equipment in 2006 continued the decreasing trend started from the fourth quarter of 2005, and presented the trend of gradually decreasing from comparatively high level. In 2006, the accumulative average utilization hours amounted to 5200 hours, decreasing by 225 hours over the previous year.

Of them, the average utilization hours of hydropower equipment amounted to 3352 hours, decreasing by 312 hours over the previous year; that of thermal power equipment was 5613 hours, decreasing by 253 hours over the previous year. The decreasing of utilization hours of hydropower equipment in company with the decreasing of that of thermal power occurred for the first time for years. The average utilization hours of nuclear power equipment amounted to 7806 hours.

Interregional Electricity Sending Status

In 2006, there was rapid power resource construction in all regions and the demand and supply situation further balanced within each region. The national interregional electricity sending status kept stable: the nationwide interregional sent electricity all year long completed 81.067TWh, up 0.85% over the previous year.

Power Import and Export Status

The total of import and export electricity in 2006 reached 17.902TWh, up 7.27% over the previous year. Of them, the export electricity from Guangdong to Hong Kong amounted to 10.873TWh, down 0.9% over the previous year; the export electricity from Guangdong to Macau amounted to 0.963TWh, up 181.72% over the previous year; the import electricity from Hong Kong to Guangdong amounted to 4.526TWh, up 0.71% over the previous year; the export electricity to Vietnam from Yunnan and Guangxi increased by 278.12% and 132.60 respectively.

Electricity Consumption in the Whole Society

Electricity consumption in the whole society was 2824.8TWh in 2006, or 13.99% increase over last year. The growth rate increased by 0.4% than the previous year and increased by 1.1% over the first half year.

Compared to the previous year, the electricity consumption accumulative growth rate presented a trend of increase month by month with certain month fluctuant a bit. The rate increased from 11.70% in January and February to 13.71% in August and dropped slightly back to 13.7% in September and rose again to 14.15% in November, the rate finally fell to 13.99% at the year-end.

Electricity Consumption in the Whole Society

Along with the reinforcement of power supply ability, some power demand was released from power shortage circumstances to make the maximum power demand growing rapidly. However, its gap with the increase rate of unified dispatched electricity consumption was further reduced.

The total maximum power demand of national main power grids under unified dispatch in 2006 amounted to 385.75GW, or 16.12% higher than last year; the unified dispatched electricity consumption amounted to 2397.3TWh in 2006, or 15.93% higher than last year. The growth rate



Photo: Bloomberg

of national unified dispatched maximum power demand was 0.19 percentage points higher than that of the corresponding unified dispatched electricity consumption in 2006.

Particularly the maximum demand in East China unified dispatched power grid amounted to 106.54GW, almost the ultimate power supply capacity of the region. It is the second largest regional grid within a country with the maximum demand reaching 100GW, after PJM market in the United States. In the East China grid, the power demand and safe supply was mainly guaranteed during the "facing peak, passing summer" period other than Zhejiang province where power cuts and interruptions occurred due to its limited power supply capacity and distribution system failure.

PThe interregional electricity sending status by regions in 2006

	Electricity sent (TWh)	Growth rate over last Year (%)
Total	81.067	0.85
North China to Northeast China	0.660	
North China to East China (Yangcheng to Jiangsu)	11.151	-3.91
Northeast China to North China	3.278	-16.57
East China to Central China	0.300	534.84
Central China to East China	24.330	-10.18
Central China to South China	23.534	7.26
Northwest to Central China	3.030	108.73
Guizhou to Chongqing	0.981	17.41
Guizhou to Hunan	0.822	1.1
Electricity sent out from three Gorges	49.100	0.34

Power Production in 2006

	Electricity Generation (TWh)	Growth Rate over Last year (%)	Hydropower (TWh)	Growth Rate over Last Year (%)	Thermal Power (TWh)	Growth Rate over Last Year (%)	Nuclear Power (TWh)	Growth Rate over Last year (%)
National total	2849.855	14.11	414.769	4.64	2374.146	16.17	54.844	3.31
Beijing	21.132	-1.21	0.437	2.60	20.57	-1.19		
Tianjin	36.276	-2.63	0.013	58.58	36.263	-2.64		
Hebei	146.098	9.14	0.617	33.94	145.117	8.91		
Shanxi	152.640	16.34	2.387	17.47	150.254	16.33		
Inner Mongolia	141.600	34.02	1.295	14.81	139.714	34.05		
Liaoning	101.052	11.76	4.589	-19.10	96.184	13.83		
Jilin	45.561	5.12	5.150	-34.22	40.060	13.11		
Heilongjiang	64.611	6.50	1.474	-18.02	62.968	7.16		
Shanghai	72.666	-2.02			71.066	-2.26		
Jiangsu	253.552	19.60	0.305	-6.97	251.258	18.85	1.404	
Zhejiang	176.636	21.28	13.976	3.34	140.349	28.21	22.226	-1.70
Anhui	73.416	13.14	1.294	3.35	72.123	13.33		
Fujian	90.425	16.21	34.682	19.23	55.580	14.16		
Jiangxi	43.577	16.68	8.832	30.12	34.746	13.69		
Shandong	227.260	18.90	0.154	19.01	226.949	18.85		
Henan	158.256	14.53	8.031	13.85	150.226	14.56		
Hubei	131.299	1.80	75.038	-7.76	56.242	18.13		
Hunan	74.830	16.12	27.640	14.56	47.182	17.04		
Guangdong	247.189	8.48	25.392	22.23	190.341	7.87	31.213	2.42
Guangxi	52.335	17.33	24.369	24.44	27.966	11.76		
Hainan	9.477	15.31	0.935	-10.92	8.529	19.21		
Chongqing	28.866	13.78	5.323	-20.93	23.441	26.16		
Sichuan	112.980	10.90	68.951	5.53	44.029	20.49		
Guizhou	98.616	23.63	20.118	-5.71	78.498	34.35		
Yunnan	75.741	25.17	35.232	6.03	40.509	48.49		
Tibet	1.309	-5.68	1.176	-6.91	0.006	-2.72		
Shaanxi	57.468	4.72	3.815	-24.51	53.365	7.62		
Gansu	52.883	4.63	16.755	1.94	35.686	5.97		
Qinghai	27.991	25.89	20.721	24.04	7.270	31.45		
Ningxia	39.128	26.74	1.656	-0.74	37.417	28.77		
Xinjiang	35.615	14.84	4.993	17.96	30.233	13.88		