

Electricity Sector Development Strategy in China

National Development & Reform Commission

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Ladies and Gentlemen,

Good morning! It's a pleasure to participate in this seminar - *Coal Industry Investment: The Outlook to 2030*. According to the seminar organizer's requirement, now I would like to give an overview on the current conditions, situation and future development strategy of power industry in China.

1. The current conditions of power industry

During the past 25 years since the reform and opening up, China's power industry has carried out a multi-leveled and multi-channeled strategy to manage the power industry□utilizing foreign capital actively and rationally, and implementing various electricity pricing policies. As a result, the industry keeps climbing up to new stages.

In terms of total volume, the installed size of China's electric power jumped to No.2 worldwide in 1996. By the end of 2003, China's power station install capacity reached 390,000 megawatt. Power generation of the year was 1.9 trillion kilowatt-hours. The total length of the electricity transmission line for 220 kilovolt and above reached 200,000 kilometers.

Power transforming capacity was close to 600 million kilovolt - ampere. The development of the power industry has contributed greatly to ensuring and promoting the economic and social development.

At present, generating units of 300 mw and 600 mw have become the major unit type for coal based power generation. The coal consumption of power supply decreased from 471 gram coal equivalent per kilowatt- hour in 1978 to 382 gram in 2003. With the Three Gorges Project as the landmark, China's hydro power engineering technology has reached advanced international level. Power grid development has entered a new phase of large generating units, large power grid, transferring the power from the West to the East and nationwide interconnection. Power grid operation has basically realized automatic and modernized management, and is advancing toward higher goals of achieving highly efficient, environmental friendly, safe and economical operation.

With the diversification of electricity investment, the original electric power system can hardly meet the requirements of the changing situation. In order to further promote the electric power industry to develop continuously and healthily, better meet the country's constantly growing demand for power and improve the overall competitiveness of the national economy, the State Council of China issued "Plan for Electric Power System Reform" in March 2002, a guiding document of China's electric power system reform. The "Plan for Electric Power System Reform" clearly puts forward the overall objectives of electric power system reform, which are to break up monopoly, introduce competition, improve efficiency, lower cost, perfect power pricing mechanism, optimize resource allocation, promote electric power development, push ahead with nationwide grid construction, and establish a power market system. This system, regulated by the government, should encompass fair competition,

orderly opening up, healthy development and the principle of separating government functions from enterprise functions. At the same time, the “Plan for Electric Power System Reform” also sets forth detailed implementation principles including “plan as a whole, implement step by step, be active while at the same time cautious and push forward with coordinated actions”.

In the past two years, according to the set plan, the power system reform has been implemented in an orderly way and the objectives of each phase have been realized smoothly. Two major grid companies, five power generating groups and four ancillary companies, and the State Electric Regulative Commission were established one after another, indicating the basic completion of the reform mission of “Separation of generation from grid”. At the moment, the electric power system reform is advancing steadily according to the principle of being active while at the same time cautious. Reform for the power pricing system and power project approval system are actively underway.

2. Current situation of electric power

China had experienced a period of power shortage for as long as 20 years since the 1970s. Basic balance between power demand and supply was not realized until 1997, when a slight oversupply occurred in that year. Entering the new century, due to the continuously rapid development of the national economy and the improvement of people’s living standard, the power supply across the country began to be tight again. Since June 2002, the growth rate of the power consumption has been maintained at double digits for 21 months in a row. The shortage of power supply once again becomes a prominent bottleneck in economic operation, and also a hot topic among all walks of life.

The main reasons behind the short power supply are as follows. First, the fast development of the economy, especially high energy consuming industries, is the leading factor driving up power demand. Secondly, after the rebuilding of the urban and rural power grid, residents' power consumption for living usage is increasing dramatically. Thirdly, influenced by the water circumstances, power generated by hydro has decreased. Fourthly, the electric power construction at the end of last century and the beginning of this century was relatively insufficient. Fifthly, constrained by coal supply and the transportation, the capacity of some thermal power plants can not be brought into full play. Against this backdrop, the Chinese government has already adopted a series of macro regulating policies and it can be expected that in the coming two to three years, the contradiction between the power supply and demand can be relaxed.

3. Future development strategy for power industry

According to the strategic arrangement of all-round building of a well-off society, by 2020, China's GDP will have been quadrupled that of 2000, on the bases of optimizing the structure and improving the efficiency. The fundamental standpoint in formulating power industry development strategy in the new era is to provide abundant, stable, clean and economical electricity for realizing this magnificent goal. Looking into the future, the major characteristics of China's power development include:

First, the prospect of the market is bright. The accelerated industrialization and urbanization process represents an important feature of China's economic and social development in the next 17 years. International experiences show that during the industrialization, the demand for power generally maintains a relatively high growth rate. The

urbanization causes a significant increase of power consumption by residents in their everyday life. According to the strategic objective of quadrupling the 2000 GDP, China's GDP by 2020 will top 4 trillion US dollars. A higher level well-off society benefiting a population of over 1 billion will definitely give rise to a greater power demand.

Secondly, to implement a sustainable development strategy constitutes a basic requirement for future development of China's electricity. One of the important goals of all-round building of a well-off society is to constantly strengthen the capacity of sustainable development, so that the eco-environment can be improved, the efficiency of resource utilization can be dramatically enhanced, the harmony between human and nature can be realized, and the whole society can be on a track of civilized development offering production progress, prosperous lives and benign ecology.

Scientific progress and technological innovation changing with each passing day have created favorable conditions for China's power industry to implement the sustainable development strategy. Therefore, China's power industry in its future development will make great efforts to improve technical equipments and management level, continually reduce energy consumption and circuitry loss during the power generating process, pay great attention to ecosystem protection, and strengthen technological transformation of the electricity equipment so as to mitigate the pollution.

Thirdly, the basic feature of future China's power structure is to take coal-fired generation as the foundation, and pursue comprehensive progress of hydro, gas, nuclear, and new energy generation. China has rich coal resource. It leads the world in hydro resources that can be developed economically. It also has huge potential in

wind, solar and other new energies. It's our inevitable choice to vigorously develop clean coal generation with high efficiency and environmentally friendly hydro power, to make best use of power generated by affordable new energy and to realize a scientific and rational power structure in which multi types of energy supplement each other.

Fourthly, “To transfer electricity from the West to the East, to supply electricity to one another between the North and the South, and to realize nationwide interconnection” are important principles guiding the future power construction layout. The uneven geographical distribution between primary energy recourses and power markets determines China's development pattern of transferring electricity from the West to the East, supplying electricity to one another between the North and the South, and realizing nationwide interconnection. “To transfer electricity from the West to the East” can turn the resource advantages of the West into economic benefits, which is good for reducing the disparities in regional development and realizing coordinated regional economic development. “To supply electricity to one another between the North and the South” is to achieve the inter-regional adjustments, making full use of the time difference of the flood season and hydro-coal mutual supplement, so as to reduce the power industry cost and improve the overall efficiency. “To realize nationwide interconnection” can strengthen the security and stability of the grid, and improve the capability coping with any contingency.

Fifthly, further deepening the power system reform and continuously perfecting the opening up are important guaranties for the healthy development of power industry.

To perfect the socialist market economic system is one of the major

tasks of China's economic construction and reform in the first 20 years of this century. It is the objective requirement of the changing situation to continue with the market-oriented reform of the power industry, and to further develop the fundamental function of the market in electric power resource allocation. For this purpose, China will constantly improve the macro control and power market regulatory system, deepen the power system reform, and try hard to build up an incentive mechanism for resources conservation, efficiency improvement, environmental protection and development promotion.

Under these circumstances, China's development strategy for its power industry for the next period of time is as follows: make good plan and layout of power generation and grid construction based on the demand of the market and the macro regulation. Strengthen grid construction as well as scientific and rational dispatch to ensure a save, stable and reliable power supply. Relying on the scientific and technological progress, continuously enhance the level of energy efficiency and environmental protection. Devote great efforts to develop hydro power, optimize the development of coal-fired power generation, steadily promote nuclear power plant generation, do everything possible to develop renewable energy generation, and actively research and develop new energy power. Further deepen the system reform and improve the level of opening up.

Ladies and gentlemen, it can be seen clearly from the above preliminary prospects of China's power industry development that the fast growing power demand in the future will provide a huge consumption market for coal industry. It is forecasted by departments concerned that by 2020 the ratio of coal consumption for China's power generation of the total coal consumption will possibly be close to 70%. To carefully examine the laws of power industry development is an important topic for

scientifically estimating coal demand, rationally arranging coal investment, and ensuring the healthy development of the coal industry.

At this crucial juncture when China's economic development is entering a new historical phase and China is faced with arduous tasks in energy construction and reform, it is of great significance for the World Coal Institute, International Energy Agency and China National Coal Association to jointly hold this high level international seminar, and to discuss the prospects of the demand and investment of coal industry in Asia. Please allow me, on behalf of the Energy Department of National Development & Reform Commission, to extend congratulations to the smooth convening of this seminar, and to wish this event a complete success.