



## Wind power industry expands with elusive profits

In a corn field near the Guanting reservoir in suburban Beijing stand 33 towering white wind towers.

With a capacity of 50,000 kw, the Guanting project is expected to meet the daily demand of 100,000 households. One-fifth of the power supply for the Olympics also depends on the wind blowing through the project.

Qin Haiyan, general secretary of China Wind Energy Association, called the 580 million yuan (\$84.51 million) investment a symbol of China's resolution and ability to develop wind energy, although he admitted the natural conditions around the plant were not ideal for wind power generation.

In 2007, China became the world's fastest-growing market for wind power following the United States and Spain, with capacity increasing 3.28 million kw. This year's wind capacity is estimated to exceed 10 million kw, or 1.7 times that of 2007.

Chinese Academy of Engineering member Ni Weidou, however, doesn't view all these developments positively.

"The industry is growing too fast. I can't help but worry," he said.

### **An industry ahead of target**

With rich wind sources for development in Inner Mongolia, Xinjiang, and other regions in northern and southeastern China, the country's wind capacity has jumped to fifth in the world.

China's wind energy development sped up following the implementation of a national law on renewable resources on January 1, 2006. Capacity reached 5.9 million kw last year, more than doubling from 2.6 million kw in 2006.

The 2010 target is 10 million kw, equal to half of the nuclear capacity, according to the five-year plan on renewable energy released this March by the nation's top economy regulator.

"With current wind capacity already exceeding 6 million kilowatts, the 2010 goal is likely to be realized by the end of this year," said Zhang Xiliang, associate professor of energy at Tsinghua University.

The growing industry arouses growing concerns, though.

"Quite a number of wind power projects were built out without a correct evaluation of usable wind resources, which led to losses," said Qin.

The industry has also been troubled by equipment shortages and quality problems. Some domestically developed power units failed to pass testing. While some imported components proved to be incompatible with domestic projects while costing 20 to 30 percent more than Chinese products.

"It is common to see power plants waiting for qualified equipment. Some projects could be thus postponed for as long as 18 months," Qin said.

Another barrier is the grid, which hasn't kept up with the rapid growth in wind plants. Grid capacity in most wind energy-rich regions remains too low for wind power transmission.

### **Rich power, poor business**

"Profit has emerged as the biggest problem in the wind power industry," said Qin. Even with government subsidies, most of the more than 100 wind power plants nationwide have lost money.

The price for wind power has fluctuated between 0.38 yuan and 0.52 yuan over the years, which is less than the break-even point of 0.6 yuan that project developers anticipated.

Under the wind power development system established by the National Development and Reform Committee (NDRC) in 2003, wind energy development rights and prices are both decided through bidding.

So far, only those offering the lowest price have won the bidding with grid companies for transmission rights.

Losses don't deter state-owned companies, however. To meet government stipulations that renewable resources must provide at least 5 percent of total energy consumption by 2010, national power suppliers usually would choose to sacrifice profits -- with the consent of local governments.

Price competition among wind power developers continues despite NDRC limits on the highest and lowest bidding prices earlier this year.

"I hope that the development of wind power will not turn out to be another image project," said Ni.

### **Domestic products, foreign standards**

"All the technologies essential for wind power generation remain in foreign hands," said Zhang, adding: "China's strategy is to learn the technologies through purchasing foreign equipment."

To encourage domestic products, the NDRC asked investors to buy up to 70 percent of the equipment from domestic manufacturers. But imports still take up 70 percent of the market, as China's manufacturing capacity lags more than a decade behind.

Domestic producers have made a strong effort. They provided 56 percent of the wind power generating units installed last year, overtaking foreign companies for the first time.

But the success of made-in-China waits to be proved. Xinjiang-based Jinfeng Technology Co, equipment supplier for the Guanting project, reported that 80 percent of their products were domestically made, but the core technologies came from abroad.

According to a wind energy researcher in Beijing who declined to be identified, it is very difficult to learn the advanced technologies as nearly all the foreign companies put technology barriers over their products.

He said that merely providing equipment was only the first step for such companies. "Foreign capital has already begun to show interest in building wind power plants," he said.

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