
China's green energy goes to waste in distribution bottleneck

by Xinhua writers Zhang Lina, Yang Dingdu

HOHHOT, Dec. 22 (Xinhua) -- Green electricity from north China's growing wind power generators is being wasted because the country's power grid cannot absorb it, power experts have said.

"The greatest headache for wind power developers is that a large part of the power capacity cannot be absorbed by the grid and is wasted," said Si Jun, Inner Mongolia wind power project manager of China Datang Corporation (Datang).

Inner Mongolia's wind power turbines have a capacity of 7.05 gigawatts. Wind power units under construction will have a capacity of 3.25 gigawatts.

But less than 2 gigawatts generated by wind power goes into the grid, according to the Inner Mongolia Development and Reform Commission.

This means 8.3 gigawatts of wind power is yet to be connected to the grids in Inner Mongolia, which have a total capacity of 60 gigawatt.

Usually, a grid must have more than five times the capacity of the amount of wind power generated to avoid overloading due to the inconsistency of wind, he added.

As wind power is inconsistent, thermal power takes 91.6 percent of the grid capacity in Inner Mongolia.

Power generated by wind turbines in remote areas must be transmitted over long distances, which was unsuitable for the grid's existing structure and transmission capacity, said Tian Shuping, director of the development and planning department of IMPC.

IMPC had been investing heavily in expansion of the grid, but the pace of construction simply could not keep up with the growth of wind power, Tian said.

Much of the wind power, which cannot be transmitted to other parts of the country, was sold to less developed areas in Inner Mongolia, competing with existing thermal power in a market of little demand, Tian said.

"This causes so much losses to thermal power plants that some of them are about to be driven out of business," said Tian

"Despite the bottleneck, the Kyoto Protocol's Clean Development Mechanism (CDM) carbon trading project can at least help us break even," said a Datang investor.

“Every 50 megawatts of wind power capacity can be traded for 10million yuan (1.46 million U.S. dollars),” he said.

ACTIONS TAKEN FOR BETTER UTILIZATION

IMPC would soon build two 500 kilovolt lines to transmit power to Hebei Province, bringing the power transmitted from Inner Mongolia to other parts of China from 4 gigawatts to 11 gigawatts, Tian said without specifying the date.

To better utilize idle wind power, China Three Gorges Corporation started in 2006 to build four pumped-storage power plants with 1.2 gigawatts of capacity in Hohhot, capital of Inner Mongolia, according to the region’s development and reform commission, which approved the project.

The plants are expected to be completed in 2013 at a cost of 5.6 billion yuan, according to the commission.

In pumped-storage power plants, wind power is used to pump water from a lower reservoir to a higher one in off-peak times. During periods of high demand, the stored water is released through turbines, turning wind power into hydropower.

Two more pumped-storage power plants, each with a capacity of 2gigawatts, are to be built in the cities of Baotou and Erdos, according to the 12th five-year development plan (2011–2015) of Inner Mongolia.

A draft amendment to the Renewable Energy Law, requiring electricity grid companies buy all the power produced by renewable energy generators, was submitted Tuesday to the Standing Committee of the National People’s Congress (NPC) for its second reading Tuesday.

The State Council energy department and the state power regulatory agency should supervise the purchases. Power enterprises refusing to buy power produced by renewable energy would be fined up to an amount double that of the economic loss of the renewable energy company, the draft said.

Some lawmakers also pointed out the development of renewable energy in China faced many problems such as difficulties in connecting with the grid, over-production of wind power and solar cell materials, and a lack of innovative key technologies.

A national plan on renewable energy development issued in 2007 set a target to increase renewable resources to supply 15 percent of its total energy consumption by 2020, in a bid to reduce greenhouse gases emissions and promote sustainable economic growth.

Special report: Global Climate Change