

Creaky power grid tempers China wind power boom - 2008-7-17

HONG KONG- China is well on its way to generating more than three times its stated target and nearly 3 percent of its power from wind by 2020 -- but only if the country's creaky grid can keep pace with the expansion.

Amid an investment boom fuelled by surging coal prices and Beijing's drive for "greener" economic growth, China could have 100 gigawatts of wind power capacity by 2020, ten times its current capacity, experts and industry officials say.

But for the moment, production from turbine makers and investment by remote generators is moving far swifter than the grid, whose frailty was underscored by a severe icy spell in January that took down power lines.

China is also lagging global standards of turbine efficiency, but should overcome this as its wind power boom sees several world-class turbine manufacturers emerge.

"Quality control is a big problem," Shi Pengfei, vice president of the China Wind Energy Association, told Reuters.

"Another problem is the power grid. Power grids cannot keep up with the rapid development of wind farms."

Targets are there to be topped in the world's fastest growing wind energy producer. In March China doubled its goal for wind power by 2010 to 10 GW -- and is likely to exceed that this year.

It was the world's fifth biggest in installed wind capacity in 2007, accounting for about 6 percent of the total of 94 GW, according to the Global Wind Energy Council.

For a graphic of China's installed wind capacity by province, click on:
(https://customers.reuters.com/d/graphics/CN_WIND0708.gif)

However, data from the China Electricity Council showed wind accounted only for 0.8 percent of the country's overall power generation capacity last year and a meagre 0.2 percent of its total electric energy generation.

A turbine can only produce electricity when the wind is blowing, but generation rates at around 20 percent of installed capacity are significantly below global rates of around 25-30 percent.

Data compiled by the China Wind Association from 47 wind farms in 12 provinces showed the 2007 average annual full load was 1,787 hours, or 20 percent -- below its expectation of 2,000 hours, in part due to engineering problems.

"We've already had many failures. For example, they burn the converters," Shi said. "In three years, I hope things will get better."

TITANS TO EMERGE

The country's wind turbine producers are expanding to fill the turbine shortage, with more than 40 domestic manufacturers now in existence.

Chinese machine builders, like Sinovel Wind Co. Ltd, have set up plants, joining global players, such as Vestas (VWS.CO: Quote, Profile, Research), Suzlon (SUZL.BO: Quote, Profile, Research), or local leader Goldwind Science & Technology Co. Ltd (002202.SZ: Quote, Profile, Research).

"Domestic manufacturing capacity in China will be about 8 GW by the end of this year, and 10-12

GW by 2010. That way, even if it doesn't grow beyond that, it is more than sufficient to reach 100 GW by the end of next decade," Steve Sawyer, secretary General of Global Wind Energy Council, said.

"I think it is realistic, and possibly conservative," he said, referring to the 100 GW by 2020.

While most of turbines are still for the domestic market, some manufacturers have begun exports. Guangdong Mingyang Wind Power Technology Co Ltd will start in August shipping turbines to GreenHunter Energy Inc in the United States.

"The traffic is about to reverse," said the Wind Council in its 2007 report. "Not only does China have an insatiable demand for energy. It also has the industrial infrastructure and manpower to create a major powerhouse for turbine production."

Still, the industry officials say it will take another few years for Chinese manufacturers to mature, as they collect enough experience to improve their prototypes.

INNER MONGOLIA, GRIDS

Despite the problems, industry officials say wind power in Inner Mongolia, known for its vast grasslands in the north, is now cheaper than coal-fired power in the consuming southern province of Guangdong.

"Coal-fired power tariffs in Guangdong are already higher than wind tariffs in Inner Mongolia," said Ming Shao Lin, vice general manager for Inner Mongolia Huadian Huitengxile Wind Power Co Ltd, one of the biggest wind farms in China.

He said wind power cost 0.44 yuan/kilowatt hour, compared with 0.51 yuan/kilowatt hour for coal-fired power in Guangdong.

The province, China's top base for wind power, plans to install 8 GW by 2010 and 18 GW by 2015, with Huitengxile alone doubling its capacity to 1 GW by end-2010.

"The grid capacity is not big enough to transmit all electricity generated from wind," Ming told Reuters in Hohhot, the province's capital.

Though Chinese law requires the two state-owned power grid operators to provide connections and buy up all renewable energy, they have been slow, especially as wind farms are often remote and wind power generation fluctuates, depending on the weather.

"The government must and fully intends to build the grid out," said Paul Eveleigh, chief executive of Honiton Energy Holdings. "It is the question of whether they do it quickly enough the way everybody wants them to do it."

The company is building wind farms in Inner Mongolia, with 50 MW already completed and 100 MW to be added this year, and is using foreign-made turbines.

"I have a lot of confidence in what Chinese manufacturers are going to be able to do. And I would say very quickly Chinese turbines will be an option for everyone." (Additional reporting by Niu Shuping in Beijing; Editing by Michael Urquhart)

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<http://www.energychinaforum.com/news/16216.shtml>