Winds of change
By LU HAOTING (China Daily) Updated: 2008-01-14 07:31

With oil prices hovering at record highs and concerns about climate change rising, China has reached the tipping point for clean energy development, especially wind power. Despite challenges including low margins due to high costs facing wind energy companies, the country could potentially become one of the world's largest markets for wind power.

So says Gerald Page, CEO of Han Wind Energy Corp. The company will construct a 50 MW wind project in the Inner Mongolia autonomous region this year. The project will involve a total investment of $78 million, Page says. Han Wind is also awaiting approval for a follow-on 250 MW project, which requires an investment of $425 million, in Inner Mongolia. "It is a long-term investment," Page says.

"I think anyone coming to China today thinking they are going to get quick return should go somewhere else. To come to China, you have to be committed to a long-term vision and work with the changes and policies, and hopefully have some input into the policymaking."

Han Wind was established in 2005 to focus on developing commercially viable wind projects in China, with DGM Bank & Trust Inc and Azure International being major shareholders. DGM is an offshore bank located in Barbados, West Indies, and Azure is a specialized advisory and investment firm focused on sustainable energy technologies.

Page, who is also DGM's president of investment banking, was involved in wind projects in Australia, Greece, Canada and the Caribbean during the past eight years. He says he started to take an interest in China six years ago when he found China was developing a renewable energy law.

"When you want to go into a country, there are three things to look at: legislation, policy procedures and economics. If you look at the renewable energy law in the context of the three things, you can make a decision of where this country is in the time of development," Page says. "I can't wait for five years on to make a decision. I have to pick the country that is starting to get ready," Page recalls.

Wind power accounts for less than 1 percent of China's power generation while globally it amounts to 5.7 percent of power generation capacity. But determined to diversify its energy supply and promote sustainable development, China has set a goal of 30 GW of wind power capacity by 2020, which is expected to account for about 2 percent of the country's total power generation capacity. The country's Renewable Energy Law took effect January 2006.

Rich in wind

China has abundant wind energy resources. Practical wind energy potential stands at 235 GW at a height of 10 meters, according to estimates by the Chinese Academy of Meteorological Sciences. China also has a large, shallow coastal shelf along its eastern seaboard. Offshore wind energy potential may be three times greater than onshore potential, scientists estimate.

Since 2004, annual installations of wind power in China have grown dramatically, more than doubling each year due to firm government policies including the Renewable Energy Law and other supporting regulations. A record 1.4 GW of wind power capacity was installed in 2006 and 2 GW is expected to be installed in 2007, according to figures from Han Wind.

Han Wind's project in Inner Mongolia covers a total area of 188 sq km and has a total capacity for 1 GW of wind power development. The company has completed wind data collection, technical assessments and government approvals on the site for the first 50 MW. Construction will start in 2008.

Han Wind is still waiting for government approval for the second phase of 250 MW and the construction is expected to start in 2009 or 2010. Page says he is talking with two State-owned utility companies and one local firm in the autonomous region to jointly carry out the second phase of the project.

"Wind resources across Inner Mongolia are very favorable," Page says, adding that the region has wind speeds of 8 meters per second or higher generating capacity factors to over 34 percent. "The region is very suitable to develop large scale wind farms on the order of 50MW to 300 MW," Page says. Six wind power stations have been completed in Inner Mongolia, with a total installation capacity of 166 MW. The autonomous region's total installed wind power capacity could be greater than 4 GW by 2010, Page says.

Challenge

A big problem on investors' agenda is the higher cost of wind power generation compared with traditional thermal power. The high cost is mainly due to the fact that 80 percent of China's wind turbine equipment is imported. The cost of wind turbine equipment takes up about 80 percent of the total costs. Using domestic turbines, the costs could drop about 15 percent. But the quality of Chinese wind turbine technology still lags behind. Page says Han Wind is using international turbines in its first phase.

"Wind projects are very capital intensive. We cannot afford to be retrofitting the turbines in the first five years because we are losing money right away. So it was difficult in our first project to convince our international investors to deal with domestic turbine manufacturers," Page says.

He says the problem with domestic manufacturers is that some of their turbines are not certified. They also face challenges in the supply chain to ensure components' quality as each turbine should last for 20 years. They also need to be strong enough to provide proper maintenance and support.

But he says Han Wind is looking at equipment produced by some established domestic companies and is considering using their products for future projects. These companies include Goldwind Science & Technology Co Ltd, based in the Xinjiang Uygur autonomous region, Beijing-based Sinovel Wind Co Ltd and Zhejiang Windey Wind Generating Engineering Co Ltd.

"I think over the long term turbine costs in China will decrease because the growth of all these domestic manufacturers will start to bring pressure on international companies," Page says.

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