

2008 is shaping up to be a banner year for wind farm development in North America.

Demand is extremely strong for cranes that have the ability to erect ever taller, ever heavier windmills.

D. Ann Shiffler reports

Tall and twirling

Wanzek Construction's Terex-Demag CC2500-1 (550-ton) setting tower sections in North Dakota



Wanzek Construction's Terex-Demag CC2800-1 NT (660-ton) setting tower sections at the Marengo wind project near Dayton, WA

JPW Riggers has done a lot of work for Minnesota-based Mortenson Construction, one of the largest constructors of wind farms in the nation. "They have done over 50 farms," says Schwalm.

JPW Riggers also does a lot of work for Lone Star Transportation, one of the busiest transport companies for wind tower components. "We unload all the parts at rail stations and ports onto Lone Star's trucks," Schwalm explains. "They haul them to the wind farm site and then our cranes erect them. We often handle the wind farm construction from the beginning to the end."

In the 10 years his company has been involved in wind work, Schwalm says windmills have gotten taller and heavier. "For this reason, the Model 16000s are

Initially, West Texas residents may have been apprehensive that the tall, white twirling structures would litter the horizon and disrupt the scraggly, rugged terrain they call home. But unlike the unsightly oil wells that pump black gold from beneath the earth, the pristine white windmills reach majestically skyward as they twirl quietly while providing clean, renewable energy to the homes and businesses in the region. Texas now leads the nation in the number of megawatts of power generated by windmills.

But it's not just Texas where wind power development is a booming business and the preferred source of power. Wind farms are now as prevalent as cornfields in Iowa, and they are springing up coast to coast, from upstate New York, to the Plains states, to the Pacific Northwest and more recently throughout Canada.

Dave Schwalm, executive vice president

of Syracuse, NY-based JPW Riggers, says his company's cranes are erecting windmills all over the country. "We have 20 cranes working in Texas, Iowa, Wisconsin, Nebraska, Washington and West Virginia," Schwalm says. "It's been great business for us. The problem is getting the cranes we need."

Windmill workhorse

The Manitowoc 16000 has been the windmill workhorse for JPW Riggers Schwalm says, and his company has been a big customer of this model machine. "Manitowoc has probably produced about 40 of the Model 16000 so far, and we own Number 6, 24 and 40," he says. "We've been buying them but can't get them quickly enough."

Schwalm says his company was one of the first crane companies to get into wind tower erection, erecting the first windmills in upstate New York in 1998.

JPW Riggers uses its Link-Belt 348 crawler to service a wind tower in Blue Canyon, OK

real nice because they have the capacity to erect these taller and heavier components," he says. "These cranes go together so nice and quick too, which is very good for the timeframe we work in."

Extending the tax credit

Schwalm envisions the wind market will be strong for several years to come, perhaps even if the US Congress does not extend the Wind Production Tax Credit (WPTC) through 2009. "I think the tax credit does stimulate the industry," he says. "Will these jobs shut down if there isn't a tax credit? I don't think so for the next few years anyway. This used to be a little game but now it's a major league game. So much more has been invested in wind power than ever before. There are so many more key players than in the past. But the tax credit definitely will help."

Wind is a strong market, says Brian Thomas, manager of business development for the wind division of Barnhart Crane & Rigging. "As gas prices increase, the demand for renewable energy continues to grow," he says. "I think there is an infrastructure built up to handle the demand for new wind power. It could be these resources could go from high demand to a surplus if the legislation is extended or not."

He explains that even if there is not a federal incentive, there are incentives at



the state level as many of the wind states are working toward having 15 to 20 percent of their energy resources being renewable power, such as wind.

"There seems to be a lot of support at the state level," he says. "Wind has been a good, steady growth market. If Congress extends the tax credit for wind development, there will be an impact; it will continue to

help the wind industry build momentum. After that, there may be enough momentum to continue on without a tax credit."

Technology may be the answer, Thomas says. "The technology is getting better and reliability on wind power is getting better," he says. "The entire industry is getting smarter. From a crane guy's perspective, there are a lot of smart people in this industry that have invested a lot of talent and resources in this industry. It's a smart thing to do. It's a viable form of energy. Countries like Germany and Denmark, a large percentage of their power comes from wind."

Thomas says Barnhart has evolved as a contractor in the wind market. "There are several companies that have invested heavily in cranes that are more tailored for the wind market," he says. "We do have several heavy lift cranes we use in wind and that we use in other markets," he says.

Investment in innovation

Crane manufacturers have also invested heavily into the wind market, designing cranes specifically for wind tower erection. "They are tailoring cranes to this market," Thomas says. "They see it as a viable market and it has been for them. Manitowoc has cranes for the wind market, and so does Liebherr with their narrow track."

Kobelco's SL6000, introduced in 2007 to the US market, is a major player in wind tower erection. Link-Belt and of course Terex Demag also have developed heavy lift cranes for the wind market. The 550-ton capacity Terex-Demag CC2500-1 has become a choice machine for wind tower erection.

Geographically, Barnhart has worked on wind farms coast to coast, Thomas says. "We've worked in Texas, where the largest boom has been for wind and the Midwest has



JPW Riggers handles a blade change at a wind farm in Maple Ridge, NY



been a place for quite a bit of work as well as Oregon, California and even some in the Northeast. There is

very little work in the Southeast. Canada is booming and we have been requested by several manufacturers to go to Canada to work because of the wind power boom. So far we haven't, but that's not to say that we won't."

Canadian boom

Ron Sims, vice president of corporate affairs for Canada-based NC Services Group, affirms that the wind market in Canada is booming. The company has been amid an aggressive effort to pursue the wind market. The company acquired Northern Crane Services in November 2006 and since that time has acquired A-1 Crane Services, Mullen Crane and Transport and TransTech Contractors, a specialized hauling firm. "We've become a one-stop shopping crane and transport company," Sims says. "And the wind market, for us it's a hot item. We are aggressively pursuing this market."

In eastern Canada, Sims says there are several wind farms under construction and the western Canada market is beginning to take off. "We bought Mullen Crane because the wind market is one of their niche markets," he says. "We want to be the dominant provider of wind tower erection in western Canada and western North America."

Canada is a great market for wind development because of the 70 to 80 mph winds that blow regularly. On the other



JPW's Manitowoc 16000 at a wind farm in Sweetwater, TX

hand, this makes wind tower erection a constant challenge. "We often have to stop and put the crane booms on the ground to wait out the wind or the other environmental conditions," says Sims. "Erosion is also a big factor in Canada. The big footprints of the cranes rip up the ground, creating huge erosion problems. That's why we use the Liebherr LG1550 because it leaves less of a footprint behind it. Our goal is to assure the least amount of disturbance to the natural terrain and grasses on these wind farms."

Expert skills required

Operator training is a huge factor in wind tower erection, with companies that specialize in this work needing to assure that the operators are expertly skilled to operate the expensive cranes and erect the expensive wind towers.

"We have one of the most extensive operator training programs in-house of any crane company in Canada," says Sims. "I'd say we provide more investment in training than any of our competitors. We utilize the Virtual Training Assistant online program. Our training program is a four-year program that rates the operators on four levels. We have an in-house training coordinator and two field trainers. Training is an important component of our business."

Forward bookings

Kevin McCrory, crane service manager for Wanzek Construction, says the wind market is a major component of his company's business. "It's doing very well right now," he says. "We are booked out for 2008 and going into 2009. The only thing we are concerned about is the Wind Production Credit Tax."

McCrory says if Congress does not extend the credit, the market will definitely slow down. "This tax credit is giving the life blood to things right now and makes wind farm development attractive to investors."

For Wanzek, 70 percent of the company's business is related to wind power," says McCrory. "It was a strategic decision to go after this market and we have added cranes as the need has arisen," he says. "Long term, we saw a future in wind and jumped on it right away, and we are now established as a market leader in the field."

McCrory says that his company tries to go after an entire wind farm project, from the site work to the concrete work to the wind tower erection. "It varies a lot but we prefer to do the entire project," he says.

Geographically, Wanzek does work in Texas, Montana, Wyoming, North Dakota, South Dakota, Minnesota and Washington. McCrory agrees that "Canada is taking off," he says. "We have not done any work in Canada but we never say never."

Erecting a wind tower is "good, solid crane

Kettle Hills Wind project

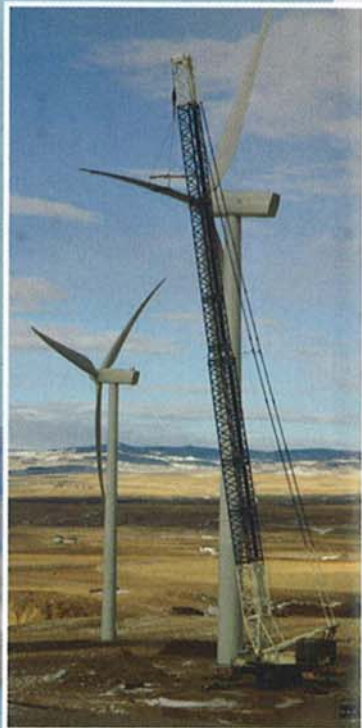
The Kettle Hills wind mill project in Pincher Creek, Alberta required the placement and erection of 35 wind mills of which Northern Crane Services Inc. hoisted 30 nacelles and hubs for the project. NCSI used its Liebherr LG1550 rigged with 276 feet of main boom and a lifting capacity of 240,000 pounds at a 60 foot radius. It was NCSI's job to get each nacelle and hub to the center of the hub at a height of 220 feet.

"We lifted the nacelle and hub together which had a combined weight of 218,735 pounds," explains Ron Sims, executive vice president. "As this project was on First Nations land, there were many environmental considerations and the crane that we choose to use had the least amount of impact on the environment."

Due to weather conditions the project lasted seven months during which time NCSI had a 100% safety record, Sims says. "The Kettle Hills wind mill project is one of the many types of projects where NCSI's equipment, skills and knowledge are utilized to the fullest," he says.

To further the company's commitment to the wind industry, NCSI in 2007 placed a large order for cranes with Liebherr. In 2008 the company has placed an order for additional Liebherr crawler cranes, including the LTM 11200, which was specifically designed for the wind market. The crane is set for a fall 2008 delivery, Sims says.

"We think the LTM 11200 will give us an edge in the Canadian wind market," Sims says. "We think the crane will do well because of its mobility. You can have it ready to roll in six hours."



Northern Crane Services utilizes its Liebherr LG1550 on the Kettle Hills wind farm in Pincher Creek, Alberta, Canada



work," Wanzek says. "It's a specialty to a point."

Erection process varied

As far as the process for how the turbines are erected, Wanzek says it varies from job to job. "We will always have one large erection crane for setting the top sections but sometimes there can be two or three erection cranes on site. There's also a need for support cranes to assist in the lifting or to stand up the tower sections, or even for off loading. We have from

three to 10 cranes per site. But there are a lot of variables."

Wind work is also hard work and can be dangerous, which is why Wanzek also invests heavily in operator training, McCrory says. "This work requires well trained, skilled operators," he says. "We have been into the NCCCO certification since its inception and we have been actively pursuing getting all of our operators certified. As new operators are hired, we try to get them certified as well."

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