

# Maple Ridge Wind: From greenfield development to Chinese investment

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By Abby Gruen

William Moore, CEO of Deepwater Wind, will never forget the day in 1999 when he met Bill Burke, a fifth generation dairy farmer, on the Tug Hill Plateau in western New York state. It was a day that changed both men's lives.

Gaining Burke's trust was a pivotal step in the fledgling wind developer's success at winning approval from roughly 100 landowners for what would become the largest wind farm in eastern North America.

"Very quickly we realized to make these projects happen you had to establish a local presence," said Moore, then a co-founder of Atlantic Renewable Energy Corp., a pioneering wind developer.

Moore ended up living in upstate New York, and braving Tug Hill's fierce winter blizzards, from 1998 through 2007, as he shepherded projects in New York, West Virginia and the mid-Atlantic region to completion.

Part science, part luck and part sheer stamina, greenfield wind development in the early years, led by people like Moore, who is credited with developing most of the operating wind farms in the eastern U.S. in the early 2000s, set the stage for a robust industry which today contributes 46,916 MW of renewable energy to the nation's economy, almost 3% of its power mix, according to AWEA.

"In '98, no one had even built a smaller wind farm anywhere on the East Coast, much less a very large one like we were proposing," said Moore. "We had a tall challenge to convince these people that we were worth the time of day."

## Location, location, location

Cresting the verdant highland between the Black River Valley and



Maple Ridge wind farm, Lowville, N.Y.  
 Source: SNL Energy

Lake Ontario, the tens of thousands of acres underlying the 322-MW Maple Ridge Wind Farm span communities anchored in the region's historic agricultural past. Bonnet-clad Amish girls hang laundry outside white clapboard farm houses alongside 19th century working dairy farms originally settled by Polish, Irish and German immigrants.

"It's probably the best collection of 250 to 600 acre farms left in that part of New York. That made it possible for us to situate a lot of turbines without being very close to a bunch of neighbors," said Moore.

Atlantic Renewable built four smaller projects, 10-MW to 15-MW, with seven to 15 turbines in Pennsylvania and central New York, in 2000 and 2001 when it was working on early stage development of Maple Ridge, initially called Flat Rock Wind Power. The decision to jump up to 322-MW wind farm at the Lowville, N.Y.-based project, was largely influenced by existing transmission.

"Given its distance of 15 miles from the high voltage line, you really couldn't build another 30-MW project and make the economics work. It had to be a big project, and we had to invest a lot of time and money to put it together," said Moore.

Moore walked the length of the overhead line, which zigzags at 90-degree angles in places, several times during his negotiations with landowners.

"There is a story behind every one of those kinks. One guy's back forty is his favorite pasture, so he wants no poles in it whatsoever," said Moore. "There was a sugar shack where farmers made maple syrup under the line at one point. We had to move it away from that because it had a metal roof."

## Performance

On a clear, breezy day in August, most of the 195 turbines on Maple Ridge are turning. The sound of the machinery is lost in the wind to a visitor touring the facility, but for some locals, the noise of the rotating blades is a nuisance that they can't ignore. Burke, who worked most of his life on his 600-acre dairy farm in Lowville, is not one who is bothered by the hum.

Approaching retirement when he met Moore, Burke was an early advocate of the project. His son now works as a manager at the facility, and the farm earns \$6,600 for each of the six turbines on its property, income that allowed Burke and his wife to retire in the family homestead.

"The turbines are the best cows in the barn," said Burke.

Rated the top non-hydro renewable energy producer in the North American Electric Reliability Corp. region that spans New England, New York and four Canadian provinces in 2009, the project had a capacity factor of 27% in 2011 and net generation of 750,174 MWh in 2011, according to SNL data.

"We had a \$350,000 day recently, which is very rare in the summer," said Burke. "Even though power prices are half what they were when the project first went on line."

## Policy

Built in two phases in 2005 and 2006, for roughly \$400 million, the project moved ahead during a time of uncertainty around the viability of the production tax credit.

In December 2001, the PTC ended and was not restored until March 2002. The delay led to a nearly 54% reduction in completed wind capacity. Similarly the PTC expired at the end of 2003 and was not renewed until October 2004, decreasing incremental wind capacity by 74% in 2004.

For Maple Ridge, however, political forces in New York were working in its favor.

New York Gov. George Pataki signed an executive order in 2001 requiring the state to buy 20% of its electricity from renewables by the end of the decade. In 2004 the Republican governor passed the state's renewable portfolio standard, requiring that 25% of electricity purchased in New York come from renewables by 2013.

In 2005, Maple Ridge, at that point jointly owned by Oregon-based PPM Energy Inc, the U.S. competitive subsidiary of Scottish Power Plc, and Zilkha Renewable Energy Corp., was one of five projects named by the state to provide renewable energy during the first phase of its RPS program, and the New York Power Authority signed a power purchase agreement with the project.

In 2008, Maple Ridge contracted with Northeast Utilities subsidiary NSTAR LLC to sell some of its power to help Massachusetts meet its RPS goals.

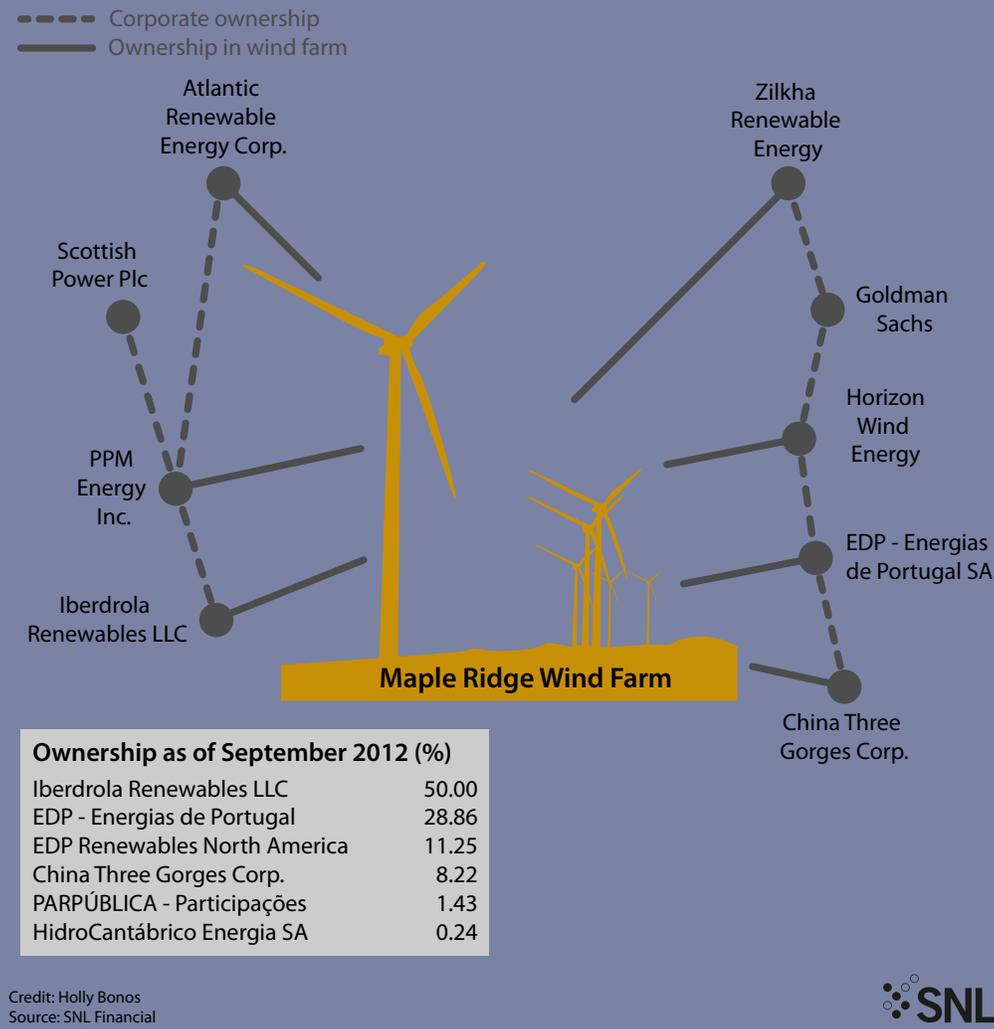
## Players

As project sizes and costs grew in the wind industry, with the dizzying heights of new generations of turbines, early developers, like Atlantic Renewables, were replaced by large corporations.

Using a back-of-the-envelope calculation that assumes a large plant would cost \$2.5 million per megawatt, the cost of building the Maple Ridge Wind Farm today would double to over \$800 million.

In January 2005 Atlantic Renewables, which had sold some of their projects to NextEra Energy Inc. subsidiary NextEra Energy Resources LLC, then called FPL Energy LLC, announced they had sold their company to PPM Energy, keeping Moore in his role at Maple Ridge.

## Maple Ridge Wind Farm corporate family tree



“Atlantic Renewables — good, strong, developers — ended up having to sell because they just didn’t have the money to invest and commit to turbines, which at that point in the development cycle of wind were hard to get,” said Paul Kaufman, an attorney at Chadbourne & Parke who previously was general counsel for PPM Energy.

Zilkha Renewables subsequently sold its 50% interest in the project to Goldman Sachs Group Inc., parent of Horizon Wind Energy in March 2005.

Horizon Wind Energy was later acquired by EDP - Energias de Portugal SA in 2007 in a deal that valued the wind developer at \$2.15 billion. Scottish Power, including PPM Energy, was acquired by Iberdrola SA in November 2006 for \$22.6 billion

“If you watch the ownership of just this one project you get a feeling for what has happened with the industry,” said Kaufman. “Now, many of the European companies are pulling back because of crises at home, and access to capital from the European banks is drying up a little bit.”

Forced by the Eurozone economic crisis to privatize assets and retire sovereign debt, Portugal sold a 21.35% interest in EDP, including Maple Ridge, to China Three Gorges Corp., China's largest clean energy company, in an auction Dec. 22, 2011 for \$3.5 billion.

Wind project equity investments, like Three Gorges', are expected to continue as U.S. lawmakers debate renewing the PTC, scheduled to expire in 2012, but not at the whole company level of the past, or with the same multiples as before the European economic crisis, said Kaufman.

"It hasn't stopped transactions in the business, it has changed the nature of them — consolidations, reconsolidations, flips. In the end, the wind resource is still very strong," said Kaufman.

### Moving on

For Moore, whose latest venture, Deepwater Wind, received signoff from the U.S. Bureau of Ocean Energy Management in August for a transmission line to its proposed Block Island Offshore Wind Farm, building Maple Ridge will always be a seminal experience of his life.

"The whole cast of characters, the ferocious winters in Lowville, the long winter nights and getting stuck in the snow on the way to town meetings. All the wonderful things that happen when you are in a rural area trying to put a project like this together, it had a wonderful impact on my life," said Moore. "I go up there once a year at least. I feel an affection for that area and many of those land owners of a sort that will be hard to match in any other project." *i*