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## **ENERGY: New York's future: A wind superpower?**

*By Jeremy Moule*

The promised investment is staggering: Iberdrola says that if it is allowed to merge with Energy East, parent company of RG&E and NYSEG, it will invest \$2 billion in wind power across the state.

The merger hasn't been a smooth one. Advisors to the state board that must approve it - the Public Service Commission - oppose the proposal. They say Iberdrola should have to give up its wind investments. If one company controls both production and distribution, they say, it will have too much clout in the market. If the commission does approve the merger, staffers say, it should include provisions to protect customers from those risks. Iberdrola officials have made it clear that they will walk away from the merger if the company can't invest in wind.

Merger backers are eager for that money to flow into New York and for the boost in renewable energy development. It would be a significant investment, they say, and one not likely to be repeated for some time.

The PSC will meet on August 20 and again on August 27 to discuss the proposal.

A lot is riding on the merger, particularly wind-power development in New York State. It's gained much interest from high-profile political and business leaders, who are pushing for the PSC to approve it.

One of the most important elements of the proposal is that it highlights New York's potential as a wind power producer.

Wind power accounts for 1 percent of New York's generating capacity - the amount of electricity power plants could produce in a given moment if they ran full tilt. When it comes to the electricity actually generated and consumed over a full year - the kilowatt-hours a customer would be charged for on an RG&E bill, for example - wind produces less than 1 percent.

To compare, nuclear and hydroelectric account for 27 percent of the state's capacity, but 45 percent of the actual electricity generated. Those two sources, for the time being, are the most economical in New York, says Gary Paslow, manager of communications for New York Independent System Operator, the organization that oversees the state's power grid. That's because of the rising cost of fossil fuels like natural gas and coal.

But New York is attractive to wind developers. There's enough wind to power the turbines, state policies require increasing use of renewable energy, and laws allow consumers to specifically choose to buy wind power.

What's tough to get at is just how much wind power New York could produce. The American Wind Energy Association, an industry group, ranks the state as 15th in the nation in terms

development potential. But one of the most reliable estimates comes from NYISO. In a 2005 analysis, the organization studied 101 prospective wind-generating sites in New York State.

The sites had a total potential capacity of 10,026 megawatts, says the analysis. One megawatt can power up to 1,000 homes.

But there are caveats that go along with that number: capacity is only one part of the picture, and since developers can't control when the wind blows, it's tough to predict actual output over time; the potential capacity is based on peak, not average, output; not all of the sites will be developed; and there are physical limits to what the state power grid can handle from an intermittent power source like wind.

The last bit is crucially important as a limiting factor. The NYISO study says that, based on technical factors and physics, the grid can only handle 3,300 megawatts of wind power.

"That's what everybody has based the short-term planning for," Paslow says.

But those numbers are three years old and already considered out of date, both by the industry and NYISO. A new NYISO study is under way and officials expect they'll find that the grid can handle larger amounts of wind generation than was estimated in 2005, Paslow says.

NYISO has also put more emphasis on wind forecasting. Because generation is at the mercy of the wind, which is not a controllable resource, the amount produced varies. Studying historical wind patterns will help the agency estimate how much wind power could come into the grid at a certain point in time, says Valerie Strauss, deputy director of the Alliance for Clean Energy New York, a pro-wind organization backed by renewable energy companies and advocates.

That data will also help grid operators know how much they need generated from other sources, such as natural gas or nuclear, to accommodate electric needs, Strauss says.

As for generation technology, turbines themselves have become more efficient and are better able to harness lower-speed wind, Strauss says.

If Iberdrola does invest \$2 billion in New York wind, that will turn a good chunk of "potential" into "capacity." A brief prepared on behalf of PSC staffers says Iberdrola intends to develop 998 megawatts of wind power at \$2 million per megawatt - hence, \$2 billion. (The staffers, in their brief, say they don't have faith in the promise since it is unenforceable. Also, they say, the company has only proposed \$100 million worth of investment on the record.)

Some of that money could land here. Iberdrola has agreements with some Hamlin landowners to lease to the company. Earlier this year, over great controversy, the town passed laws to allow wind towers. There's no proposal yet from Iberdrola or any other company, says Supervisor Dennis Roach. He expects that Iberdrola is waiting on the merger decision.

Hamlin, like Iberdrola, is playing the waiting game.

"I really don't know what to expect, to be honest with you," Roach says.

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