

Superhighway for wind power proposed for Mid-Atlantic Coast

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Investors on Oct. 12 proposed to build an underwater electricity superhighway that would carry wind power generated off the Mid-Atlantic Coast to land.

The \$5 billion [transmission line](#), announced by backers including [Google](#), would run about 15 to 20 miles offshore.

It would act like a spine, linking the offshore projects to land at four locations -- North Jersey, South Jersey near Atlantic City, the coast of Delaware and the coast of Virginia south of Norfolk.

"This is a huge, bold project," said Robert Mitchell, CEO of Trans-Elect, an independent transmission company operating nationwide, which is leading the project. "It's going to result in thousands of megawatts of offshore wind being delivered to the East Coast" along with thousands of jobs.

"Instead of multiple connections, this will serve as a superhighway with on-ramps for [wind farms](#)," said Rick Needham, director of green business operations at Google, a major investor.

It also would increase the reliability of wind, they said. By joining the projects together, the variability of wind at any one location is smoothed out, lulls in one place compensated for by gusts elsewhere.

Critics said the project was unnecessary and would be expensive --

potentially for the very ratepayers it is proposed to serve.

"The transmission spine adds a layer of cost, time and complexity. It simply is not needed," said Scott Jennings, president of PSEG Global, which is part of a joint venture, Garden State Offshore Energy.

Garden State and two other groups already have state backing to build three wind farms off the coast of New Jersey. Two other projects also have been proposed -- all independent of the proposed line, dubbed the Atlantic Wind Connection.

Critics also said the line might serve as a conduit not just for clean wind [power](#), but also for dirty coal power from the south. It could be routed onto the line in Virginia and, in essence, get an express ride north.

Supporters counter that carrying coal power is a good compromise and that the line's flexibility could help prevent brownouts in major metropolitan areas.

The initial phase would be from central New Jersey to Delaware, incorporating the territory where several wind farms have already been proposed, including PSEG's.

If the myriad regulatory permissions needed -- from 13 agencies, by Mitchell's count -- were granted, construction would begin in 2013 and the first phase would be completed by 2016.

Implicit in the plan is a vision of not just a few farms, but vast arrays of turbines off the Mid-Atlantic Coast.

The line would be capable of carrying 6,000 [megawatts](#) of power -- or enough to power 1.9 million homes.

In addition to Google, the plan has attracted backing from Good Energies, a consortium of renewable energy investors, and Marubeni Corp., a Japan-based global company operating in many sectors, including energy.

None would give specific dollar amounts, but their initial seed investment is estimated to total tens of millions of dollars.

"We're willing to take risks on large-scale projects that can move an industry," said Google's Needham.

John Breckenridge, managing director at Good Energies, said renewable energy has been "deployed in a haphazard manner." The proposed line would "create the basis for the kind of energy infrastructure that we as a country and the world need to evolve to."

The Mid-Atlantic is considered a prime area for development of wind farms. The winds are strong and consistent, it is close to major population centers that need electricity, and the continental shelf is shallow enough to make construction easier than in deeper waters.

A 2007 study led by University of Delaware professor Willett Kempton estimated that two-thirds of the power that could be generated offshore in the Northeast would provide all the electricity needed -- and then some -- from Massachusetts to North Carolina.

Kempton is a professor of marine science and directs the school's Center for Carbon-Free Power Integration.

In an April study published in the Proceedings of the National Academy of Sciences, Kempton envisioned just such a shared power spine as a way to even the power output.

Modeling wind speeds at offshore buoys, he determined that the north-south line would take advantage of weather tracks. Basically, turbines would always be spinning somewhere, if not everywhere.

He said the proposed line would give developers the flexibility of building wind farms where the wind is strongest, but still move the power to the best markets.

Right now, wind power is costly, Kempton said, "but as we start industrializing this industry, instead of one-at-a-time boutique assemblies, it will push the cost down below the cost of dirty power."

Spokesmen for both the New Jersey Department of Environmental Protection and the Board of Public Utilities -- both strong backers of offshore wind -- said they were awaiting more details.

"We're watching it with keen interest to see exactly what it is that they would be looking to do," said DEP spokesman Larry Ragonese.

The plan likely would not be finished in time for the several offshore wind farms planned for state and federal waters off New Jersey.

These developers "cannot risk stranding their assets in the event that there is no means to deliver their power to their customers," said Jim Lanard, president of the Offshore Wind Development Coalition, an advocacy and education arm of the American Wind Energy Association.

PSEG's Jennings concurred. "Each project already has a transmission plan, is including the costs for the radial lines in their project plans and is ready to move forward on that basis."

Among other critics, New Jersey Sierra Club director Jeff Tittel said the project raises many questions.

"Would we be better off using the \$5 billion this line would cost to build 1,200 MW of offshore wind? Will we lose political support from New Jersey elected officials if the electricity from New Jersey wind farms goes to another state? We are concerned that many of the answers are 'yes.'"

But a lobbyist for the national Sierra Club, Melinda Pierce, said the project "is the kind of new idea we need to really jump-start a sleeping offshore wind industry."

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