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Trip lays out pieces of wind-power puzzle

Hurdles are many, Maine officials say, but surmounting them could make the state an alternative energy leader.

By Matt Wickenheiser, Staff Writer
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STAVANGER, NORWAY — Some say Vikings left this region and explored New England hundreds of years before Columbus, harnessing wind with sails, sometimes laboring on banks of oars.

Today Maine officials want to take advantage of that same wind, this time to turn turbines and create electricity.

And there's hard work ahead of them as well.

Gov. John Baldacci and a delegation of state officials and Maine business executives returned Saturday from a week-long trade mission to Spain, Germany and Norway. The trip focused on developing wind power in Maine. Construction-focused companies like Reed & Reed of Woolwich, Cianbro of Pittsfield, Bath Iron Works, Sewall & Co., Sargent Corp., Sullivan & Merritt Constructors and others met with top decision-makers from wind farm developers, supply companies and investment banks.

They strengthened or started relationships, seeking to secure more business for their firms in the United States. Many companies set up follow-up meetings with U.S.-based offices of the European companies.

Baldacci laid out Maine's plans to increase renewable energy generation onshore and offshore many times, encouraging companies to invest in the state. And he and Habib Dagher, director of the University of Maine's Advanced Structures and Composites Center, signed an agreement with Norwegian firm StatoilHydro to collaborate on research and development studying whether the energy giant's deepwater offshore turbine would work in the Gulf of Maine.

Relationships. Agreements. Seeing what has been done, and what could be done in Maine. The trip helped crystallize what steps Maine could take to fully develop alternative energy sources.

If successful, Maine could lead the nation in renewables.

"We're writing the story for America," said Baldacci. "We're trying to wake them up and say 'This is the future. It's here now.' "

But while there were positives, there are obstacles, not the least of which is the economy, noted Baldacci.

It will be challenging to convey why investments in energy infrastructure must be made, even as the state budget will likely have to be cut by up to $100 million, he said.

“People are hurting. Families are hurting. Businesses are hurting. It’s a difficult time,” he said. “I think the energy area holds out a ray of hope, that tomorrow will be better.”

WHAT COMES NEXT

To become a leader in renewable energy, the state and Maine businesses would have to concurrently work on a number of issues, from upgrading transmission lines to legislation that allows for easier development of alternative energy.

Baldacci said that on Monday he will contact U.S. Energy Secretary Steven Chu and tell him about the agreement with StatoilHydro. Chu had suggested Maine seek collaboration to advance the potential of deepwater wind, said Baldacci.

And, in the next few weeks, Baldacci plans to host all the members of the trade delegation at the Blaine House, to talk about what everyone learned and what must be done next.

He wants to talk to the companies about the trip to Norway and what he saw there – business executives didn’t come on that leg of the mission.

“I think our guys would love to sink their teeth in this business,” he said.

The companies are already talking about cooperating on a Chicago wind trade show next year in hopes of providing a unified Maine front to the rest of the world. And on Oct. 6, there’s a wind power conference planned for Augusta.

Officials from StatoilHydro plan to visit Maine this fall to make further plans, and Baldacci said he’s going to take them to Cianbro and BIW, in particular, to show them the companies’ capabilities.

He said the state also needs to sit down with the utility companies and other stakeholders and talk to them about how to involve them in the generation of renewable energy, which includes sources such as wind, tidal, solar, hydro, biomass and others.

A law on the books prevents power-transmission companies from owning power generation facilities in their market areas. That seems to be blocking development of renewable energy, said Baldacci, and he said he would look at whether the law should be changed.

The federal government has begun to focus on renewable energy. Use of fossil fuels is widely recognized as a contributor to global warming. And most acknowledge that the supply of petroleum is limited. Beyond that, said Baldacci, producing renewable energy domestically will help limit dependency on foreign oil, a volatile market.

Tapping into wind, said Baldacci, could make Maine into the alternative energy powerhouse for the region. In particular, developing deepwater offshore wind projects would make Maine a leader in the nation.

StatoilHydro's deepwater turbine, the Hywind, is the only one of its kind in the world, dramatically advancing the far-offshore wind sector. And Maine wants to have the next one.

"We could be sitting on the beginning of an era of affordable electricity," said Baldacci.

OFFSHORE WIND FARMS

But what would that take?

If, after an initial feasibility study, StatoilHydro and UMaine decide to continue, by 2012 or 2014 there could be similar test turbines miles off the Maine coast in state or federal waters, said Sjur Bratland, asset manager for Hywind.

Building a full offshore wind farm could happen in the Gulf of Maine by 2016 if the test project works, and there are favorable market conditions and the necessary regulations in place. If one farm is built, others could follow by 2020

Sen. Susan Collins, R-Maine, has put a $5 million earmark into next year's federal budget for the project, and UMaine has applied for a $12 million Department of Energy grant.

Overall, Maine officials envision developing $20 billion worth of far-offshore wind farms, creating up to 15,000 jobs and generating 5 gigawatts of power, and $7 billion of land-based wind farms, generating 3 gigawatts of power.

During the trip, Baldacci has constantly referenced farm fields in northern Maine as possibly ideal places for land-based wind farms, helping farmers and providing electricity. Throughout Europe, wind turbines could be seen in farm fields.

Concurrent with development of generation systems, the state would push weatherization of homes and the installation of heat pumps to heat houses, further cutting dependency on oil. And the state would also seek to encourage consumers to purchase plug-in hybrid vehicles – further utilizing clean wind energy and getting away from petroleum products, said UMaine's Dagher.

Additional electricity would flow through the grid into the rest of the region. To make all this happen, transmission upgrades would have to take place to handle the power, at a cost to the region.

Several transmission upgrade proposals are on the table. Central Maine Power wants to make a $1.5 billion upgrade of its transmission system, putting in a smart grid that would better manage energy demands and help avoid power outages throughout New England. New England ISO has just agreed to fund the project, spreading the cost throughout ratepayers in the region, with Maine customers picking up 8.3 percent of the tab.

Baldacci suggested that, with dropping fuel prices, a factor in electricity prices, ratepayers may see their rates go down, even with the investment in the project.

And, he said, estimates are that the project would employ 2,000 people for four years. The proposal is in front of the Public Utilities Commission.

Canada-based Irving is interested in putting in a transmission line down through the northern part of the state, potentially opening up Aroostook County to wind farm development. Another firm is seeking to utilize old Maine Yankee nuclear power plant lines to transmit green power. And BangorHydro is also eyeing a transmission project running underground along I-95.

Working on those transmission upgrades while setting up proper agreements and permitting systems, and working on the industrial base and supply chains could attract energy developers to Maine in a variety of areas. With proper attention to detail, a growing energy sector could grow jobs, provide tax revenues to the state and lower electrical rates.

Maine’s high electricity costs are a major impediment to attracting new business. If the rates are lowered, more businesses might view Maine as an attractive place to locate.

That, in turn, would create more jobs and a wider tax base.

FEDERAL SUPPORT CRUCIAL

But whatever Maine does, action is needed at the federal level, too. At the very least, Baldacci said, the United States needs to issue renewable production standards. That means that power companies must procure a certain set amount of their electricity from renewable resources. Different states have different standards now, but a national level would provide overall stability and give proof of commitment to the renewable concept, said Baldacci.

Part of the thinking would have to be a comprehensive accounting of the costs of fossil fuels, including everything from the societal burden of acid rain, global warming and war in the Middle East, said Baldacci. Once that cost is recognized, the benefit of alternative energies will be more apparent.

In addition, all over Europe, alternative energy producers said the federal government must provide some financial incentive to help defray the costs of building a new sector. As energy sectors mature, the costs will lower. But for the first 20 years or so, the United States must give some sort of baseline subsidy that will entice developers to invest. That could be a feed-in tariff, green credits, a cap-and-floor system or something else, Baldacci said.

And if all that happens?

“We’ve got a lot of work ahead of us, but I’m excited about it,” said Baldacci. “It will put people to work.”

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