

## Renewable energy project plans presented at conference

by Edward French

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Developers of several renewable energy projects shared their plans with the public at the second annual Cobscook Bay Conference at The Boat School in Eastport on August 23. As people in communities across Maine are struggling with the upheaval in energy costs and supply, the Cobscook Bay Resource Center organized the conference to explore ways in which Maine communities might lower or stabilize costs and conserve energy.

Will Hopkins, executive director of the resource center, pointed out that, with the tidal power projects being developed in the Cobscook area, people often see the benefits of clean energy and local employment opportunities, but then make the assumption that they will also benefit from lower electricity bills. As the regulatory environment currently exists in Maine, that will not be the case; electricity generated by tidal power will go right into the grid. The conference was organized, Hopkins said, to "look at some of the institutional and financial structures that might make it possible for the electricity generated by tidal or wind or other sources to be purchased by local residents and businesses some day."

Hopkins reviewed the proposal for a large offshore wind farm in the Gulf of Maine that former Governor Angus King has been touting. The \$15 billion project would take perhaps 10 years to complete. King has noted that 10 years ago less than 5% of a Maine family's budget went toward energy costs; without any changes in energy production, in 10 years over half a family's budget will go toward the cost of energy.

On a more local scale, George Baker, who is working with the Fox Islands Electric Co-operative, spoke about the proposal for a wind farm that would generate as much power as the islands of North Haven and Vinalhaven use and would be the second largest wind farm on the east coast. "Size the project to the needs of the community," he recommended.

Because of a special law that was passed by the legislature, the co-op is allowed to generate electricity to help lower electric prices on the islands. The wind farm would lower the price for power on the island by 15 to 25% and would make the islands economically self-sufficient, Baker said.

The earliest that construction of the 400-foot high wind turbines could begin is June 2009. The \$11 million project to build the wind farm would be financed by pre-selling renewable energy credits, using federal tax credits to bring in passive investors and obtaining a Rural Utility Service loan. Baker hopes that the project will prove to become a replicable model for community-scaled renewable energy projects. However, he noted that such a project will more difficult in other locations, because local support may not be as strong for a wind project developer coming into a town. With the local electric co-op, the people on the island will share in the benefits.

Baker advocated for fewer centralized power stations and more community-generated power, since there would be less infrastructure investment required. "We should think about building generating capacity closer to where it will be used." He also pointed out that, if a good technology is developed for storing electricity, many of the problems with renewable energy would be solved.

Scott Hallowell, CEO of Eastern Maine Electric Co-operative (EMEC) of Calais, explained that following state deregulation of electricity generation, the co-op was no longer able to generate power beginning in 2000. "We're prohibited from helping with the energy crisis today with the way the laws are today," he noted, adding, "We have tried to find creative, flexible ways to help with the energy crisis." Hallowell noted that EMEC may consider having legislation submitted during the next session so that it could undertake electrical generation projects. "We would like to look at wind, but we need legislative changes."

Doug Stevenson of Energy Options Consulting Group said that the idea behind deregulation was to make it possible to get rid of power generating plants that were not clean and replace them with more efficient technologies such as natural gas, tidal, wind and solar. "The point was environmental, not electric costs."

Concerning locally generated power, Stevenson noted that it cannot be used locally, since it will go into the electricity grid and sold at a good price. "The reason for the grid is it provides reliability to customers," he noted. He recommended that customers with shared values get together as an aggregation and find an electricity supplier whose business model will help them get an optimal deal, both in terms of price and reliability.

Lora Whelan, a researcher for the resource center, presented information about how some communities have found ways to stabilize electricity costs. The nonprofit Madison Electric Works, by purchasing and pre-permitting land, along with offering low electric costs, has been able attract a number of businesses to set up in the town of Madison. The effort is also supporting a number of backyard farms. The town of Bucksport has incorporated renewable energy into town planning and has created a conservation committee to reduce costs. The town is researching wind power for the schools and the possibility of becoming a municipal electric district. Saco has a windmill and an energy committee to save money by replacing light bulbs and appliances. "One person with vision can galvanize others to begin acting," she noted.

### **Tidal power projects**

Four tidal power developers have Federal Energy Regulatory Commission permits for projects in the Cobscook area: Tidewalker Associates, Ocean Renewable Power Company, the Passamaquoddy Tribe at Sipayik and Hydro Green Energy.

The first presenter, Normand Laberge of Tidewalker Associates, discussed his company's proposed plan for a tidal impoundment barrage at Half-Moon Cove. The barrage system allows water to enter and exit, by creating a tidal "head" to generate power. The tidal range within the impoundment would be approximately seven feet rather than the full tidal range. According to Laberge, the great benefit of this type of tidal generation system is the predictability of the energy being generated.

Laberge stated that the benefit of a modular structure is that it would decrease the environmental

footprint, would lower the construction cost by 25%, and would allow for a road to be built across the top of the structure. He commented that many residents might find this advantageous as Moose Island currently only has one road access to and from the island. Laberge noted that there is still much that remains to be seen with this project, including whether it will be economically feasible.

John Ferland, director of projects for Ocean Renewable Power Company (ORPC), gave a presentation of his company's ongoing work with tidal turbine technology. In addition to the presentation's explanation of ORPC's turbine technology, Ferland emphasized the benefits of their work to the regional economy. Along with ocean use, ORPC believes that their turbines may be appropriate for river generation projects.

Ferland elaborated on the economic development aspects of tidal research and development. ORPC believes that there is great potential in tidal energy clusters located in strategic positions around the state. This concept will be important in positioning Maine on the map for global investment in tidal research and development. ORPC believes that the tidal generation industry is going to have a large impact on the economy. These new technologies will allow for spin-off industries to develop as well as major growth in educational opportunities.

Ferland did note that the major challenge any new power generation technology is facing is tied to the size and shape of the current transmission infrastructure. This infrastructure needs to grow to accommodate new sources of energy.

Steve Crawford, environmental director for the Passamaquoddy Tribe at Pleasant Point, spoke about a number of the tribe's renewable energy projects. He touched briefly on the wind power potential of a 5,000-acre blueberry barren in Township 19 that is owned by the tribe. The tribe has a possible tidal energy site for two turbines, utilizing Underwater Electric Kite technology, that would be used to power the sewage treatment plant. The project is expected to get under way by spring or fall of 2009. Biomass projects may include the re-gasification of municipal solid waste. Crawford commented that this particular technology has been used in Europe for at least 20 years. He also spoke about the potential of algae as a new source of both biomass and biofuel. Currently, he is conducting small-scale experiments in growing a number of different types of algae in both fresh-water and sea-water tube tests. Crawford noted that the tribe is also investigating solar panels to generate power and heat.

More information from the conference will be available soon at the Cobscook Bay Resource Center website at [www.cobscook.org](http://www.cobscook.org).