NEWTON TAB
on TOWNONLINE.com

Of Wind & Water

By Michelle Portman
Wednesday, July 11, 2007

When discussing renewable energy, the conversation often turns to Cape Wind – the proposal to build 130 wind turbines in Nantucket Sound. Everyone wants to talk about this project or rather the controversy surrounding it. Countless public meetings have been held on it; "Cape Wind" gets over 37,000 hits on Google and a newspaper database search for those words references 463 articles. We can now add a book entitled "Cape Wind: Money, Celebrity, Class, Politics, and the Battle for Our Energy Future on Nantucket Sound", to our summer reading list.

Cape Wind is not the only offshore wind farm proposed in the U.S. and many other offshore energy structures exist in U.S. waters; oil and gas facilities have been constructed on the outer continental shelf for decades. But Cape Wind impacts nearby landowners and other stakeholders with abundance of political clout. Also, the siting of the facility has exposed faults in offshore regulation that seems inadequate to protect resources that belong to everyone and at the same time to no one.

Wind power, generated only on land in our country, is the fastest expanding alternative energy sector, growing at 25-30% per year. The American Wind Energy Association estimates that the industry will
install over 3,000 MW of new capacity in 2007 bringing total production to 31 billion kilowatt-hours (kWh), enough electricity to power the equivalent of nearly 3 million homes. Globally, wind power grew in 2005 by 43% when installed capacity went from 8,207 MW to 11,769 MW with the U.S. leading the increase.

Offshore wind power is also growing. Europeans installed the first offshore facilities in the early 1990s driven by limited land for onshore farms and desirable ocean conditions such as higher wind speeds, less turbulent airflows and unobstructed open space that facilitates access for construction and maintenance. Only around 600 MW of offshore wind energy capacity has been installed worldwide (all in water less than 30 meters deep). Yet a recent U.S. Department of Interior report estimates 58,000 MW of available wind resources just in near-shore areas of the U.S.!

Although offshore wind energy production has begun slowly in the U.S. – Cape Wind was unveiled six years ago and is not yet passed the permitting stage – two centuries ago New Englanders relied on coastal winds for their wellbeing. Colonizers used wind to pump seawater for salt farms and gristmills. By the 1830s, the coasts of Cape Cod were dotted with hundreds of wind-powered salt mills and some 40 wind-powered gristmills. These provided energy for industry and became important aesthetic and navigational landmarks. Ironically, the same basic technology unleashes fierce opposition from Cape Cod landowners today.

Following Cape Wind's proposal, nearly two-dozen sites have been considered for offshore wind farms by three different entities. Other projects include Long Island Power Authority's Offshore Wind Park consisting of 40 wind turbines in a 8-square mile area. Winergy Power is evaluating 11 sites for wind farms off the coasts of Delaware, New Jersey, Maryland and 4 off Massachusetts. Another farm is proposed offshore of Galveston, Texas.

In 2005, Congress determined in that the Mineral Management Service (MMS) -- and not the Army Corps of Engineers as previously determined -- will lead the federal permitting of Cape Wind and other alternative energy projects (e.g., wave, ocean current, solar, hydrogen, and projects that make alternative use of existing oil and gas platforms). Although the MMS is developing rules for the development of renewable energy projects on the Outer Continental Shelf, a system for public compensation such as royalty payments or leasing fees seems as yet unresolved.

Last February, Cape Wind's final Environmental Impact Report was accepted by the state's environmental review authority; calls for further (supplemental) analysis were not. So project opponents filed a lawsuit in May seeking to overturn the state's approval of the report. Federal authorization is still pending and MMS recently reported that its draft environmental report will not be ready until late summer. When Cape Wind is operational as planned by 2010, it will be one of the most significant (and long awaited) strides towards renewable energy development.

Dr. Michelle Portman is a research fellow at the Marine Policy Center, Woods Hole Oceanographic Institution.