



The State of New Hampshire
Department of Environmental Services



Thomas S. Burack, Commissioner

March 28, 2014

The Honorable Russell Prescott
Senate Energy and Natural Resources Committee
Legislative Office Building, Room 101
Concord, N.H. 03301

RE: HB 1312 establishing a committee to study off-shore wind energy development.

Dear Chair Prescott and Members of the Committee:

Thank you for the opportunity to testify on HB 1312. This bill would create a legislative committee consisting of three senate members and three house members who would be charged with developing a report on off-shore wind energy development by November 1, 2014. The Department of Environmental Services (DES) takes no position on this bill but offers the following information as background for your consideration.

In 2005, the New Hampshire DES Coastal Program hosted a Coastal and Ocean Wind Energy meeting to provide state and federal agency staff and interested parties with an overview of the science, technology and regulation of offshore wind energy. The meeting was also intended to identify tools for assessing potential impacts from offshore wind energy on coastal resources.

The expert panelists identified some of the advantages and disadvantages of off-shore wind development. Advantages include: proximity to population centers, high-quality wind, increased transmission options, and reduced land use and aesthetic concerns. The disadvantages include: high capital costs, increased maintenance costs, and jurisdictional issues. We learned that the primary technical siting issues for off-shore wind development are wind speed, water depth, and economics (grid connection costs, foundation costs, and access for construction and operation & maintenance); and, the key environmental siting issues are aesthetics, bird collisions, cables and conflicts with other ocean uses.

At that time in 2005, the assembled experts concluded that due to technological limitations, off-shore wind energy development was limited to those areas having water depths less than 20 meters (~65 feet), which would be within a few miles of the NH shore, in an area that has limited wind quality.

Since 2005, there have been advances in three areas: 1) permitting and leases in nearby states; 2) ocean planning and mapping; and, 3) technology.

Permitting and leasing in other states – In 2008, Maine created an Ocean Energy Task Force to examine strategies for meeting state wind energy goals and to promote research on offshore wind energy. The Maine Public Utilities Commission (PUC) recently voted (January 2014) to approve a contract to build a two-turbine pilot project off the coast of Maine. Maine is also working with the Federal Bureau of Ocean Energy Management (BOEM), part of the US Department of the Interior, to create an off-shore lease area.

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In July 2013, BOEM held the first-ever auction for offshore renewable energy, offering 164,750 acres for commercial wind energy leasing in two separate lease areas offshore of Massachusetts and Rhode Island.

Ocean planning and mapping – NH is an active member of the Northeast Regional Planning Body (RPB). The RPB, which was established under the National Ocean Policy, is charged with leading a cooperative effort to develop a comprehensive, regional, ecosystem-based approach to planning in order to reduce conflicts among uses, reduce environmental impacts, and facilitate compatible uses. NH is represented on the RPB by the DES Commissioner, Tom Burack, and the Executive Director of the Fish and Game Department, Glenn Normandeau. While the state's participation in the RPB and in the Northeast Regional Ocean Council (a state and federal coordinating entity) have generated interesting new datasets on commercial fishing, recreational boating and maritime commerce, there are significant data gaps, especially in the area of seafloor mapping. In fact, our knowledge of offshore surficial geology and habitats is limited.

Nearby, Rhode Island has completed a multi-year planning process that resulted in a balanced approach to the development and protection of its ocean-based resources. Similarly, in Massachusetts, the proposed Cape Wind development led to the Mass Oceans Act, which directed the state to develop a comprehensive management plan (completed in 2009) which provides protections for critical marine habitats and sets standards for the development of offshore renewable energy. It should be noted that the Mass Ocean Plan identified a provisional renewable energy area in federal waters adjacent to New Hampshire's southern offshore boundary.

Technology – Technological advances now enable turbines to be placed in water depths up to 60 meters (~200 feet). The majority of New England's offshore wind resources, however, are located in areas where the water depths are much greater than that. Conventional turbine foundations are not applicable in these areas. The water depths off of the New Hampshire coast are less than 60 meters from the shore out to just east of the Isles of Shoals.

Given these limitations, floating technologies are being developed for deeper water environments. For example, Maine Aqua Ventus, a consortium that includes the University of Maine, recently received approval from the Maine PUC to construct a pilot project consisting of two, six-megawatt floating turbines on concrete semi-submersible foundations in waters near Monhegan Island.

Thank you for your consideration in this matter. If you have questions or need additional information, please contact either Ted Diers, Watershed Management Bureau Administrator (ted.diers@des.nh.gov, 271-3289) or Chris Williams, Federal Consistency Coordinator (christian.williams@des.nh.gov, 559-0025).

Sincerely,



Thomas S. Burack
Commissioner

cc: Representatives Cushing, Backus, Baber, and Grossman, and Senator Fuller Clark