Joint Committee on Telecommunications, Utilities and Energy.
Co-Chair Senator Benjamin Downing
Co-Chair Representative John D. Keenan

Re: Wind Turbine Siting bills Comments - for submission Nov. 7, 2011

We understand that there are several bills before your committee relative to the appropriate siting of wind turbines, e.g., S01666, S01695, H01757, H01759, H01666, and H01770.

Clearly, wind turbines come in a variety of sizes both in terms of power production and in terms of height and blade widths. Any proposed bill needs to consider the physical size of the proposed turbines, the projected power output which is a function of the wind resource and turbine size, and the benefits of that power output in terms of the replacement of fossil fuels for both health, air quality, and lessening the emissions of GHG, for energy independence and reliability, and, of course, as those benefits relate to possible negative or positive impacts of the turbines on local residents.

An example of a useless blanket rule is HR 1757 which states that "No wind turbine may be erected ...closer than 3,000 feet from any residence..." Here, there is no consideration of turbine power output, or height or blade diameter. This is effectively a ban on wind turbines of all sizes for much of the Commonwealth.

Our experience of over two years with a Northern Power 100 kW wind turbine on our 8-acre campus and less than 300 feet from our office building has been highly positive. Despite the proximity of the turbine to our offices, noise has never been an issue for our employees or for any aspect of the performance of our work. We operate with windows open in the summer and have never had to shut them because of noise. We typically gather more than 180,000 kWh per year from the turbine, enough to provide more than two thirds of the energy required to run our two buildings which total about 25,000 sq ft and house 60 employees. Our campus is specifically designed to run entirely on electricity, so the turbine combined with a 25 kW rooftop photovoltaic array makes us both fossil-fuel free and a model of efficiency.

As a scientific organization that studies the global carbon cycle both nationally and internationally, we are acutely aware of climate change already occurring and the likely future climate change that we will all suffer unless we dramatically reverse our reliance on fossil fuels. We are concerned in particular how climate change affects food security and water availability. Our staff who work in the Amazon Basin have recently seen unprecedented droughts and fires in forests thought to be nonflammable. Our staff who work in Alaska's

tundra have recently seen the largest tundra fire in history. Our staff who work across the Arctic have seen massive and unprecedented losses of permafrost, exposing carbon-rich peat to oxidation and consequent CO_2 emissions.

Massachusetts has among the largest opportunities for wind power in the US. This can be a vital, clean and independent energy resource for the Commonwealth's power needs as it moves forward and builds an economy for the future.

We would be pleased to provide additional testimony if requested.

Sincerely,

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