

## **Wind Turbine Project Summary (February 2008)**

At the 2007 October Board of Trustees meeting, President Osgood shared his plan for significantly reducing carbon emissions at the College. Setting a goal of a 20% reduction of our estimated emissions by 2010, the plan included on-going efforts to change energy-using behaviors and to improve the efficiency of our buildings and mechanical systems, to install a 132-well geothermal system, to demolish a particularly inefficient and redundant building (the PEC) upon the completion of the new Athletics and Fitness Center, and to construct a utility-scale wind turbine project that would directly supply a substantial proportion of the campus's electricity needs.

### **What We Propose To Do**

- 1) We propose to install a 3-4 MW wind turbine project on a site relatively near to campus. We are considering acquiring approximately four 900 kW gear-less turbines; the design should help us avoid some of the largest predictable costs of maintaining wind turbines (repairs to gear boxes).
- 2) We propose to lease land for the turbines. Legal advice indicates that leasing (rather than purchasing) land is the most common approach. It has the advantage of making neighbors partners in the project rather than alienating them. Provisions in the original lease can include the right to renew the lease at an adjusted rate. Six potential sites have been identified by a consultant utilizing wind models.
- 3) We propose to utilize 100% of the energy produced by the turbines by re-directing any excess energy to operate an electric boiler that would supplement our heating plant. This has a number of advantages, including (a) further reducing our dependence on fossil fuels, (b) allowing us to avoid selling energy to our regional energy provider at a lower-than-market rate, and (c) perhaps allowing us to avoid a costly and time-consuming MISO study.\* All three of these items lower the payback period for the project.

The estimated cost of the project is roughly \$8 million.

The payback period is approximately 14 years.

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\* Midwest Independent Transmission System Operator. The purpose of a MISO study is to ascertain the impact of turbine-produced power on the electrical grid. Since we are proposing to directly consume all of the electricity produced by the wind turbines, we do not believe that such a study is necessary. However, whether we undertake the MISO study is a decision that Alliant Energy makes.