

Wind Energy & Turbine Technology (U.S. Department of Energy)

Project Coordinator: Jolene Rogers

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New Project: \$496,000

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Term: 03/01/04-12/30/05

Scope – Iowa Lakes Community College responds to the Department of Energy’s **Energy Strategic Goal: *To protect our national and economic security by promoting a diverse supply and delivery of reliable, affordable, and environmentally sound energy*** by erecting a wind turbine near the Estherville Campus. As a result, the college will increase the amount of green energy available to the college and area consumers, reduce dependence on fossil fuels and train current and future wind energy technicians.

Background – Iowa is currently the fourth largest producer of wind energy¹. Within 100 miles of Iowa Lakes, 462 megawatts of electricity is generated on an annual basis. The wind quality along the Buffalo Ridge, extending from the Des Moines River north into Minnesota and South Dakota, is ideal for wind energy generation. Funding from the Department of Energy’s Office of Energy Efficiency and Renewable Energy will assist the college in erecting a 1.65 megawatt turbine south of the Estherville Campus. Iowa Lakes Community College is ideally situated near six of nine existing wind projects. The turbine will be instrumental in training current and future renewable energy technicians.

Program Objectives – Erect 1.65 megawatt wind turbine to be used to:

1. Increase supply of green energy available to the college and area residents.
 - Monitor amount of electricity generated and transferred to Iowa Lakes Electric Cooperative.
 - Reduce dependence on fossil fuels.
2. Establish database to track electricity usage (*generated and purchased*) and cost of energy.
 - Evaluate renewable energy generation efficiency.
 - Encourage additional exploration of wind energy impact by disseminating findings through a web link.

Alden Zeitz, Wind Energy and Turbine Technology Program Coordinator will monitor energy generated, perform turbine maintenance and integrate the wind turbine into program curriculum as a training lab. Delaine Hiney, Physical Plant Director, will oversee turbine siting and construction.

¹ American Wind Energy Association. Wind energy projects throughout the United States of America. 2004.