

Wind Projects for Schools & Colleges



Wind Powering America

May 19, 2005

The Lake House, Evergreen, Colorado

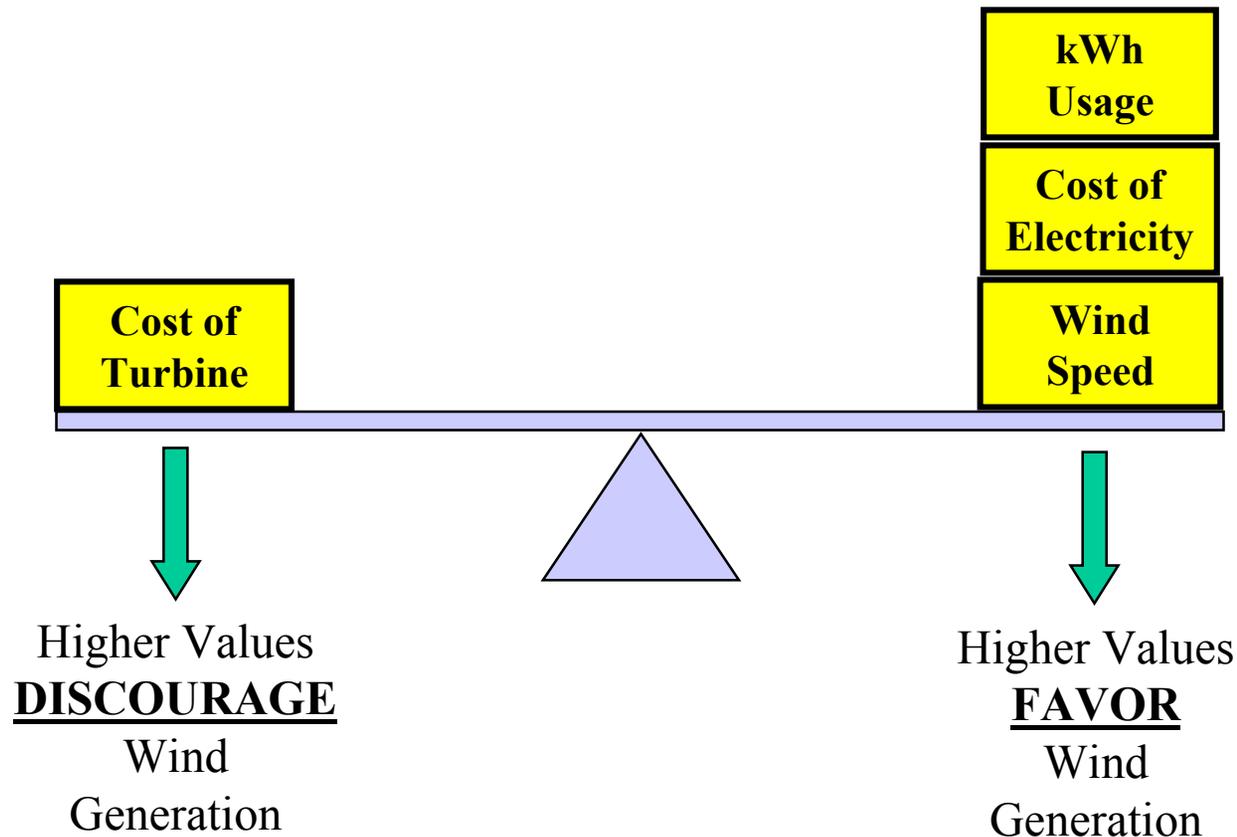
By

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Six Factors Determine Feasibility for Schools

- 1) Good wind resources / High electricity costs
- 2) Net billing with high capacity limits
 - 1) Cost of power from utility is not too low and no demand charges
 - 2) High electricity usage levels allow larger wind turbines and better economics
 - 3) Availability of nearby suitable site
- 3) OR Ability to sell all power to the utility
- 4) State programs providing technical support or loans
- 5) Renewable Energy Funds to provide grants
- 6) Leader or Champion

Economics of Wind Generation for Schools is Determined by Balance of Factors



Examples of Wind Projects



750 kW Wind Turbine in 2002 at
Eldora-New Providence High School



600 kW Wind Turbine in 1998 at
Akron-West Field Schools

Examples of Wind Projects



65 kW Refurbished Wind Turbine in 1994
at Sentral Schools Football Field at Fenton,
Iowa



250 kW Wind Turbine
At Nevada Schools

Examples of Wind Projects



600 kW Wind Turbine at
Forest City Schools in 1998



750 and 250 kW Wind Turbines at
Spirit Lake Schools in 2002 & 1993

Examples of Wind Projects



95 kW Wind Turbine in 1996 at
Clay-Central Schools at Royal Iowa

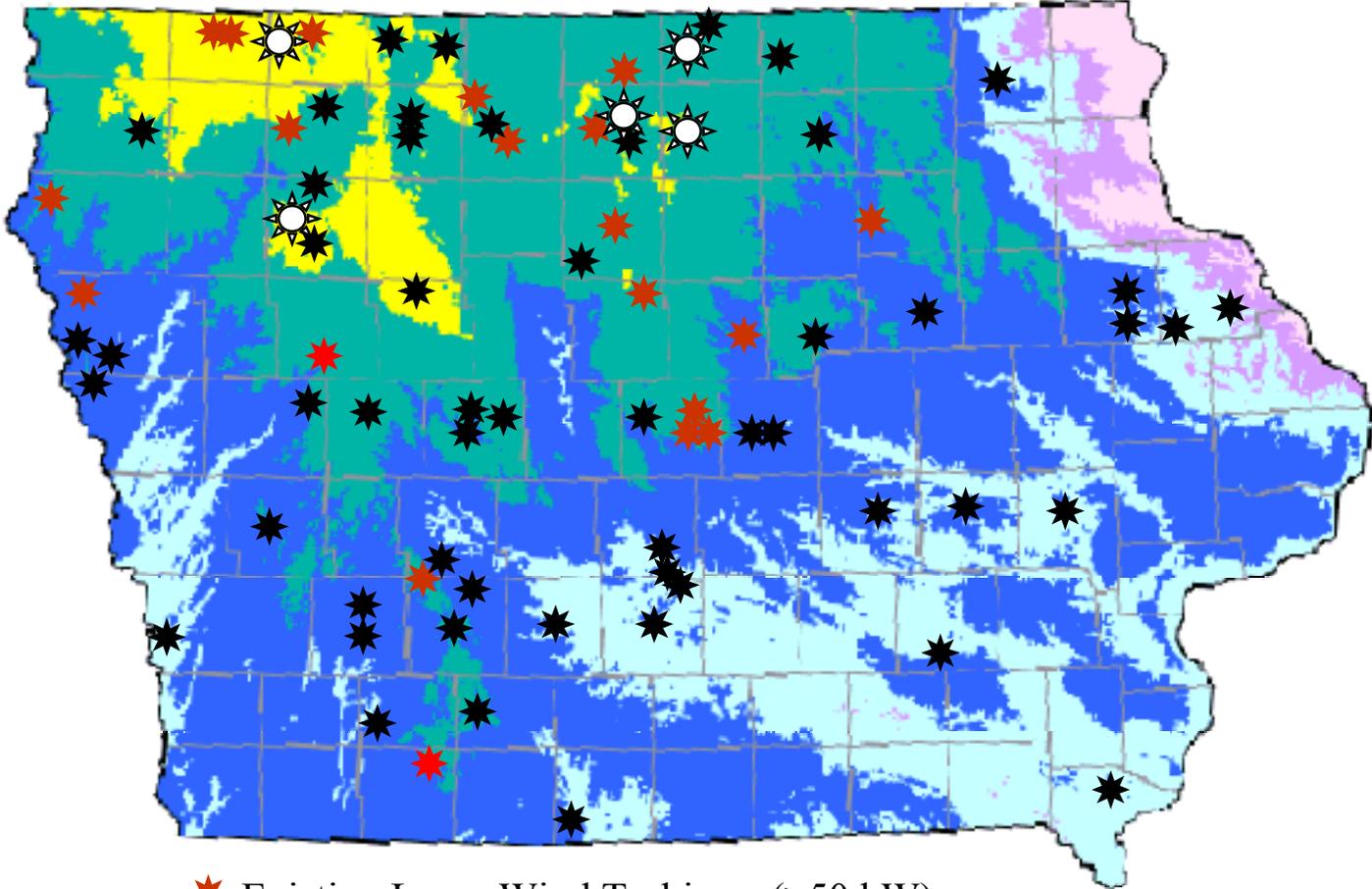
Other New Projects for Schools in 2004 & 2005

- Carleton College in Minnesota, 1650 kW, all power sold to utility
- Iowa Lakes Community College, 1650 kW, all power sold to utility
- Bureau Valley in Illinois, 660 kW, connected behind the meter
- Wray Schools in Colorado, 1500 kW, all power sold to utility (summer 2005).

There is Widespread Interest in Locally Owned Wind Generation in Iowa

Locations of Farmers, Schools, Businesses, and Communities in Iowa That Have Seriously Considered Installing a Large Wind Turbine

MPH		mps
>19.0	Red	>8.5
17.9-19.0	Orange	8.0-8.5
16.8-17.9	Yellow	7.5-8.0
15.7-16.8	Green	7.0-7.5
14.5-15.7	Blue	6.5-7.0
13.4-14.5	Cyan	6.0-6.5
12.3-13.4	Purple	5.5-6.0
<12.3	Pink	<5.5



- ★ Existing Large Wind Turbines (>50 kW)
- ★ Locations Having Feasibility Studies (Excludes Large Wind Farms)

Iowa Energy Center

This map was generated from data collected by the Iowa Wind Energy Institute under Iowa Energy Center Grant No. 93-04-02. The map was created using a model developed by Brower & Company, Andover, MA.

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Summary of What Makes Wind Generation Feasible for Schools



School Children Visiting Wind Turbines At Algona, Iowa

- Net Billing with high maximum cap for large wind turbines
 - Average or above average cost of electricity
 - Single part rate schedule (no demand charges)
 - Higher kWh usage levels
- Option to sell all electricity to utility
- State programs encouraging renewable energy
- Proper wind resources / electric rate combination
- Local leaders and Champions.