

# Zephyr Wind Project

Developed by



Including representatives from City of Mahtomedi, ISD 832, Century College, St. Andrew's Church, St. Jude's Catholic Church, White Bear Unitarian Church, other local community businesses, citizens and environmental organizations.

# Goals of Zephyr Wind

- **Analyze the potential for clean wind energy in the Mahtomedi area**
- **Provide educational opportunities for ISD 832 and Century College students**
- **Demonstrate the community's commitment to renewable energy (HS is the home of the God of the West Wind)**



# Zephyr Wind Partners

- **Mahtomedi Area Green Initiative** – project development and management, years of relationship building
- **ISD 832** – turbine owner, maintenance, power user
- **Mahtomedi High School/Middle School Students and Staff** – education/outreach, fundraising, project management support
- **Mahtomedi Area Education Foundation** – fiscal agent for project financial donations
- **City of Mahtomedi** – use approval, education/outreach
- **Century College** – education/outreach and project support
- **St. Andrews Lutheran Church** – neighbor, initial property location, supporter



**“Truly, a model community project!”**

# Project Basics

- **Starting small and smart – understanding the wind potential**
- **Turbine tower includes anemometer for the purpose of collecting wind speed data to be used to assess future wind project development.**
- **Designed to maximize educational opportunities, including student planning (helped with site survey), monitoring (real-time data connections), fundraising and management of project.**



# Turbine Location

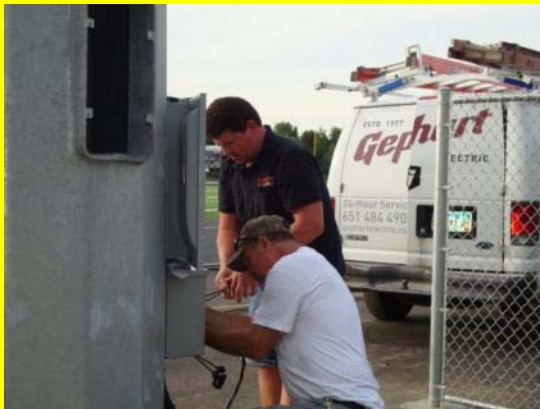
- **St. Andrew's property near city water tower and HS football field was originally identified by wind installer as best location**
- **Tower height would ideally be around 130 feet.**



# Turbine Basics

## 10 kW Bergey Excel

- energy production – 1,000 kwh/month = enough to power 1-2 average homes
- rotor diameter = 23 feet
- 120 foot monopole tower
- Final project cost approx. \$100,000
- manufactured in Oklahoma
- environmental impact – annually eliminate 33,000 lbs of CO<sub>2</sub>, 100 lbs of SO<sub>2</sub>, 0.36 g of Hg



# Outreach and Education

- **Students led education and fundraising outreach**
  - Starting the Eco Club
- **Community education**
  - Find every opportunity/event
- **Real-world model integrated in many classes**
  - Data on-line at [www.mahtomedigreen.org](http://www.mahtomedigreen.org)
  - Great model of urban turbine



# Fundraising

- **Community donations and grants for entire purchase and installation of turbine.**
  - CERTs Seed Grant
  - ARRA (stimulus funds of \$25,000)
  - In-kind services
- **T-shirts**
- **Event - kids key**
- **Early supporters key (Mayor, St. Andrew's, Vicky and Si Ford)**





# Lessons Learned

- **Get Involved – start by talking to others about your passion**
- **Cultivate relationships – involve important people early (City officials key in siting/ordinances)**
- **Build respect and trust**
- **Dream big, start small**
- **Be reasonable – reduced concerns about noise, shadows, aesthetics/sight lines**
- **Persistence and patience**
- **Involve youth**
- **Communicate – early and often**
- **Celebrate**



# Next Steps

- **MAGI and students continue to work on other projects**
  - New green elementary school
  - Natural playgrounds
  - Organic composting
  - Solar Works in Mahtomedi last spring
- **Green Initiative Fund from turbine proceeds support additional renewable energy (i.e. solar) and other sustainability projects.**



# Contact Information

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