In 2002, the tribe’s electrical energy costs were $1.5MM. Windmill electrical power may provide a means for energy cost reduction while environmentally friendly.
Project Overview

- Feasibility of a windmill power plant in the Upper Peninsula of Michigan
  - Analyze the economic and technical feasibility of both small and large scale wind power plants
Project Overview (Continued)

• Economic and technical analysis
  – Wind resource assessment on tribal lands
  – Evaluation of existing transmission system to evacuate power
  – Designs and cost estimates
  – Environmental issues
  – Electricity cost and economic viability
  – Partner with utility companies
Estimating Wind Energy Resource

- Michigan’s wind energy potential ranks 14th out of the lower 48 contiguous states
- Michigan has wind potential to justify a wind feasibility study
In the Upper Peninsula of Michigan, we have wind classes from 2-5
Project Location

The Seven Easternmost Counties of the Upper Peninsula of Michigan

Climate: Long, windy, cold winters
Mild summers
International Bridge, Soo Locks & St. Mary’s River
St. Mary’s River
View from the International Bridge
Windmill Power Plant Locations in Great Lakes Region

- Wind power plants in the Great Lakes Region exist only in Wisconsin and Michigan

  - Since 1998, five Wisconsin wind power plants have gone online and are located northeast of Green Bay, south of Lake Winnebago and the Wisconsin river

  - Michigan has two wind power plants
    - Traverse City operating since 1996
    - Mackinaw City operating since 2001
Windmill Power Plant Locations in Great Lakes Region

- Proposed wind power plants in the Great Lakes Region are planned for Wisconsin, Illinois, and Michigan
  - Wisconsin’s project is planned for north of Milwaukee, off Lake Michigan
  - Illinois has two proposed projects located southeast of Chicago
  - Michigan has two proposed projects both are in the Lower Peninsula: Friendship township in Emmet county, and Benona township (north of Muskegon, off Lake Michigan)
Existing & Proposed Windmill Power Plant Locations in Great Lakes Region
Project Participants

- **Global Energy Concepts**
  - Chief Executive Officer
    - Karen Conover
  - Registered Professional Engineer
    - Kevin Smith
  - Technical Assistance
    - Rana Vilhauer
- **Global Energy Concepts - Subcontractors**
  - Lake Michigan Wind & Sun
    - John Hippensteel
  - Engineer and Meteorologist
    - Robert Owen

- **Sault Tribe Project Team**
  - Project Director
    - Susan McCoy
  - Grants Administrator
    - Toni Osterhout
  - Resource Specialist
    - Jeff Holt
  - Legal Department
    - Todd Gravelle
  - Technical Advisor
    - Tammy Graham
  - Administrative Assistant
    - Kim Green
Objectives

- Lower long-term energy costs by using wind energy to offset current costs
- Diversify employment opportunities
- Develop renewable energy resources to become economically self-sufficient
- Develop a significant source of renewable energy for our community
WELCOME TO OUR COMMUNITY

Tribal Administration Building
Long, windy, cold winters and......
Niigaanagiizhik Ceremonial Building

Mild Summers !!!
Joseph K. Lumsden
Public School Academy

YES……WINTER AGAIN !!!
Chi Mukwa (*Big Bear*) Community Recreation Center
Soo Indians Junior A Hockey Team
One of Two Ice Rinks at Chi Mukwa

Go Indians!!!!!!
Project Status

• The Tribe successfully developed and implemented a contract with Global Energy Concepts, the contract became effective January 1, 2003

• April 2003 a kickoff meeting was held with the Project Team and representatives from Global Energy Concepts. During the week of the meeting, site surveys were completed by Global.

• The Project Team meets weekly and selected five tribal sites for testing.
Five selected sites are located in:
Sault Ste. Marie, St. Ignace, Wetmore, Newberry, & Manistique
Accomplishments

• Three Towers Installed
  1. Sault Ste. Marie
  2. St. Ignace
  3. Wetmore

• All Three Towers Transmitting Data

• Equipment Ordered for Final Two Towers
OK GUYS … .. IT ISN’T THAT DIFFICULT!
COME ON LADIES ..... SHOW EM’ HOW IT’S DONE!!
UP......

& AWAY!!!!
Technical Issues

Manistique and Newberry Sites Near Airports

• Need FAA Approval Prior to Installation

• Application for Permit Sent in August

• Window for Installation Short Prior to Winter Setting In

• Could Lose Opportunity for Installation of Final Two Sites
Activities Yet to Be Completed

• Installation of Final Two Towers
• Data Collection
• Evaluation of Transmission Capacity
• Conceptual Designs & Cost Estimates
• Financial & Economic Assessment
• Review Energy Market
Update as of 11/13/03

• Final Two Sites Approved by FAA!!

• Installation of Towers Scheduled for 11/20/03
• Continue collecting data
• Complete Feasibility Study
• Look for Wind Energy Opportunities
We told you it was cold in the U.P. !!!!!

TELL THEM
THEY CAN TURN
ON THE HEAT
WHEN THE WIND
BLOWS!