

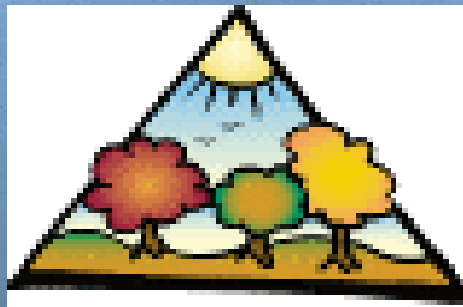
***SAULT TRIBE
WIND ENERGY
FEASIBILITY STUDY***



STATUS REPORT

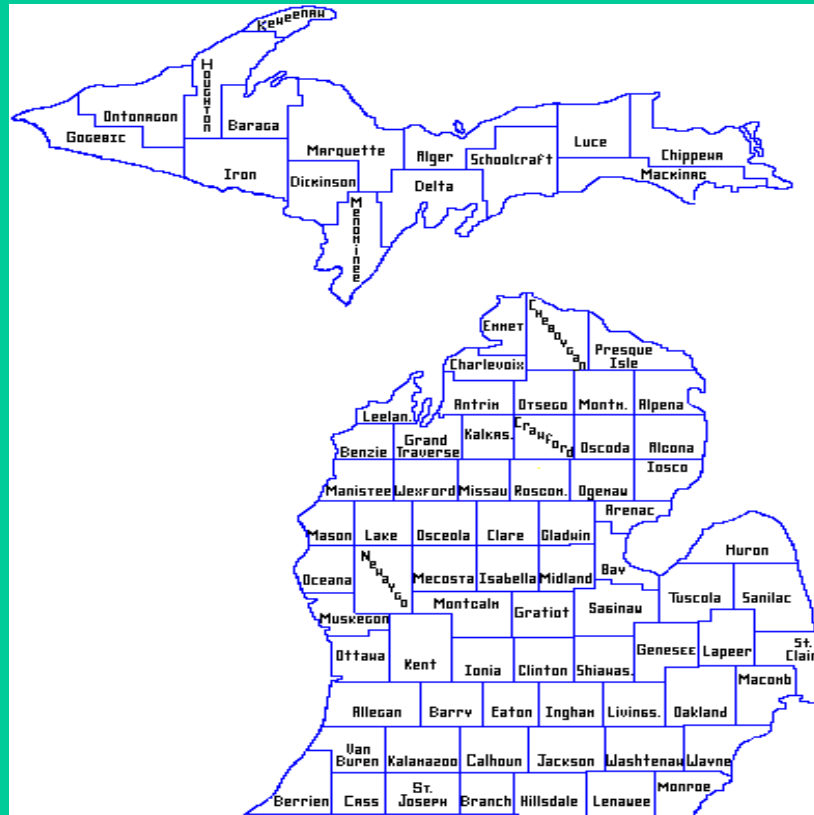


**In 2002, the tribe's electrical energy costs
Were \$1.5MM. Windmill electrical power
may provide a means for energy cost
reduction while environmentally friendly.**



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



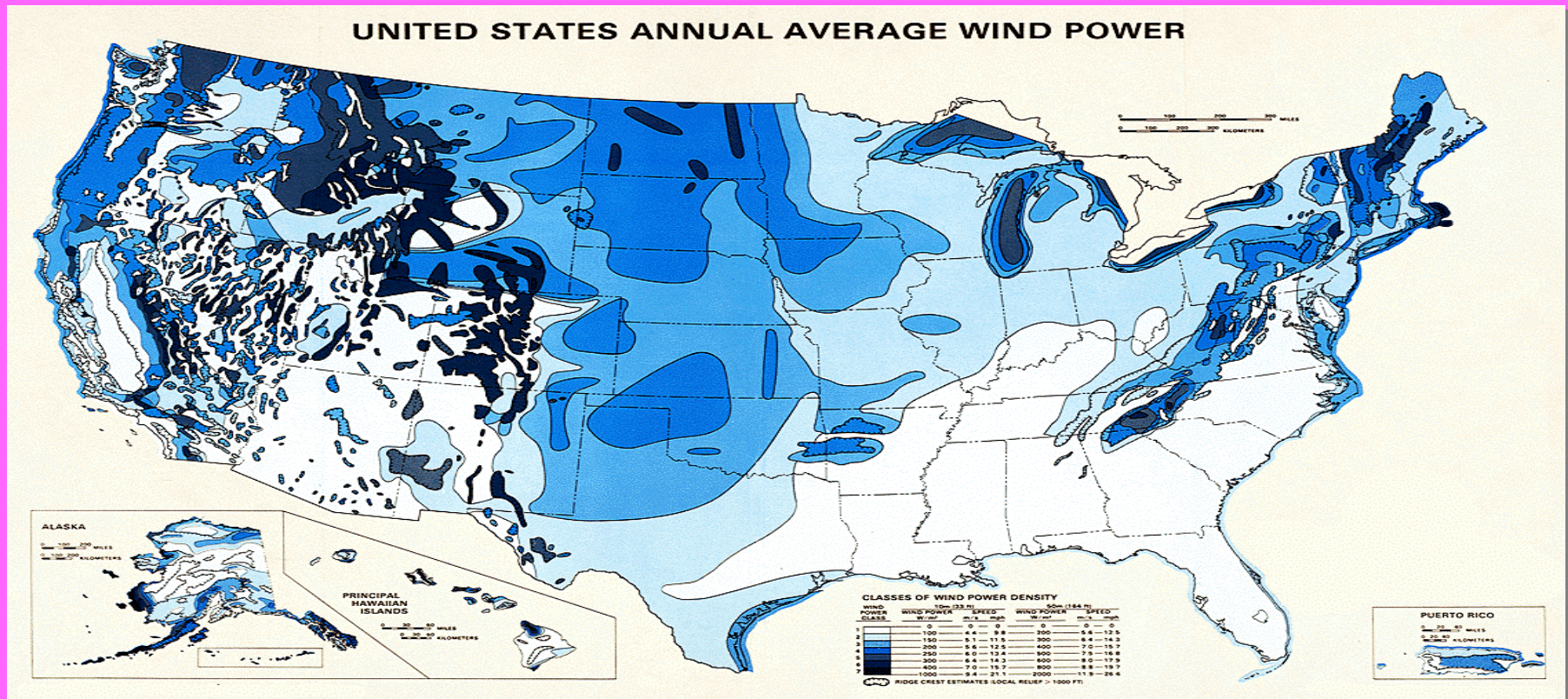
Project Overview (Continued)

- 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

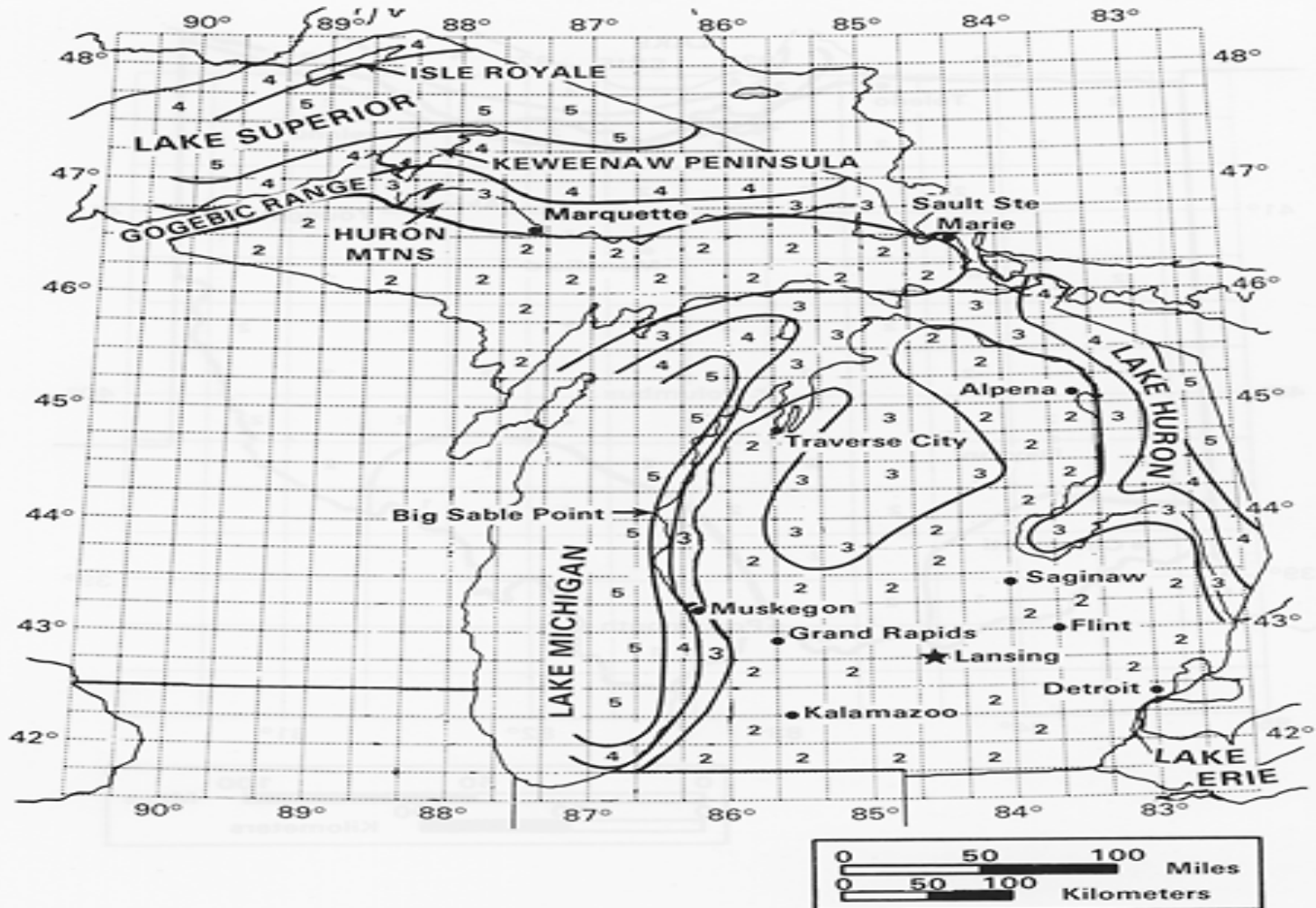


Estimating Wind Energy Resource

- 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



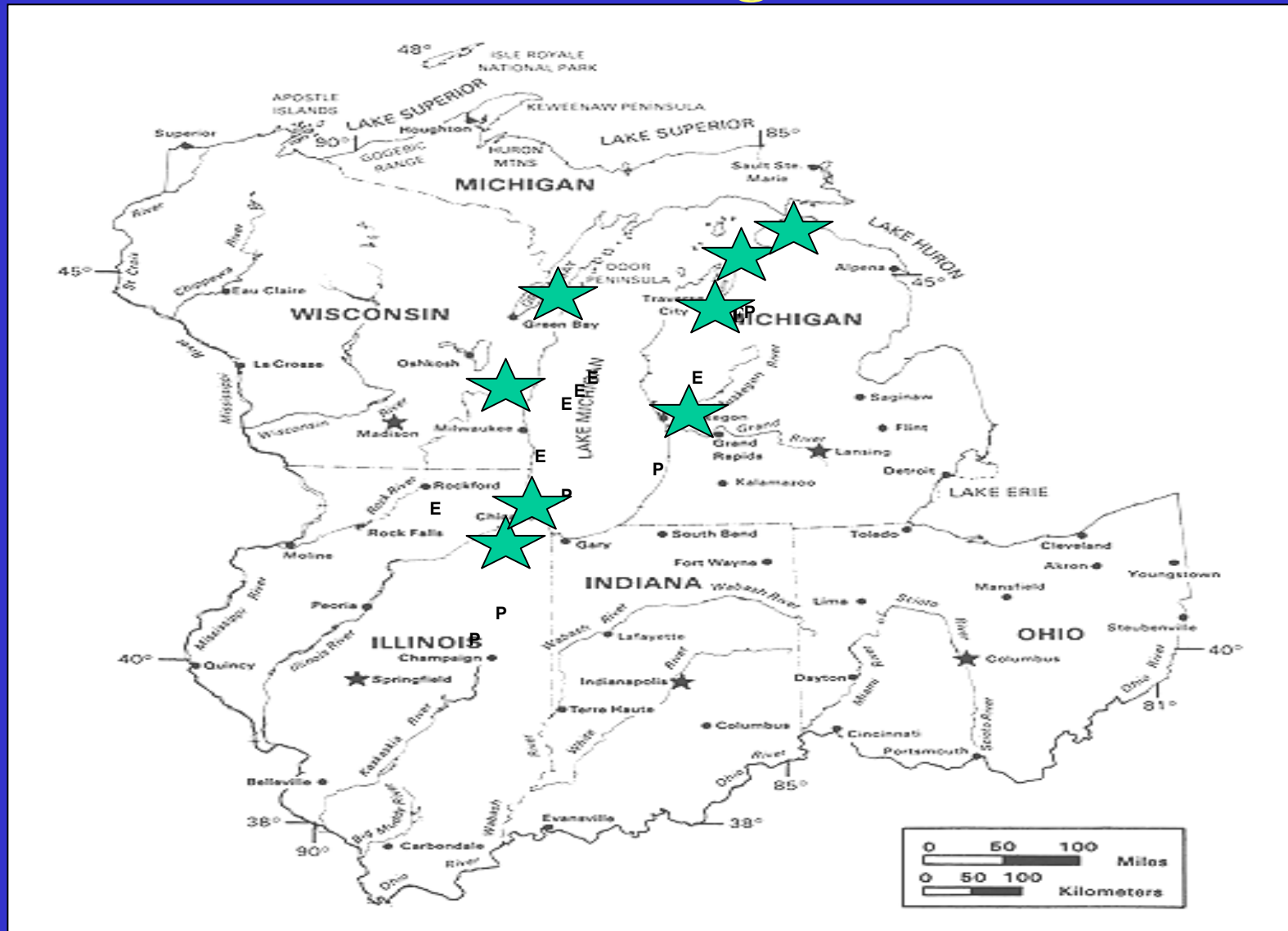
Windmill Power Plant Locations in Great Lakes Region

- 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

The background of the slide features two large, white, three-bladed wind turbines. They are positioned on the left and right sides of the frame, with their towers extending from the bottom towards the top. The blades are spread out, and the sky is a clear, light blue. The overall image conveys a sense of clean, renewable energy.

- **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



Sault Tribal Health Center



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!!!!!!



New Manistique Tribal Community Center

(Under Construction)



MANISTIQUE TRIBAL COMMUNITY CENTER

Sault Ste Marie Tribe of Chippewa Indians
630 National Street Sault Ste. Marie, Michigan 49783

Goudreau/Wakely Associates, Inc.
111 South Main Street, Escanaba, MI 49829

Roy Ness Contracting & Sales Inc.
1441 North Union Road, Escanaba, Michigan 49829

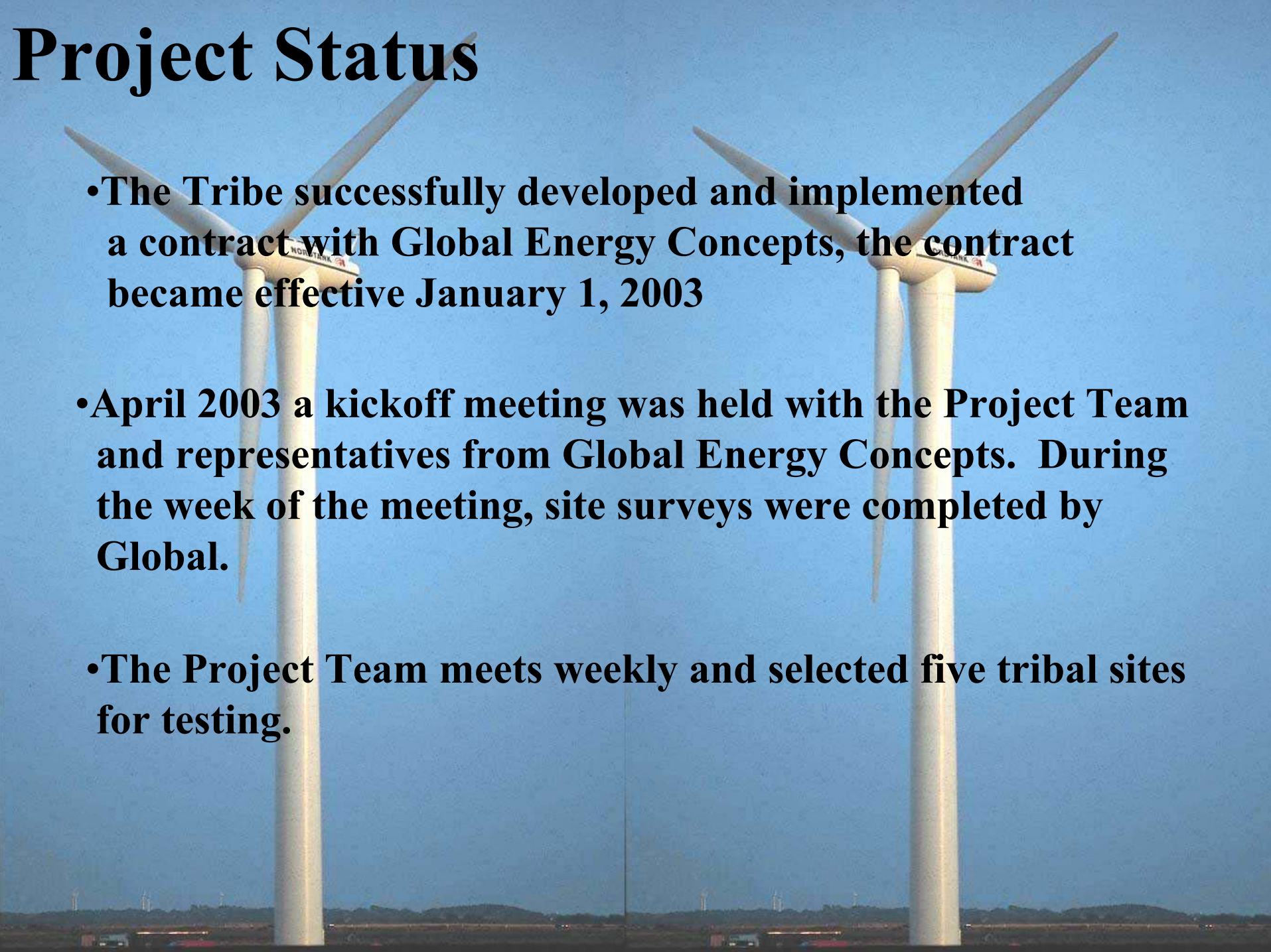


A Rural Development project financed by:
Rural Housing Service - United States Department of Agriculture

This institution is an equal opportunity provider.

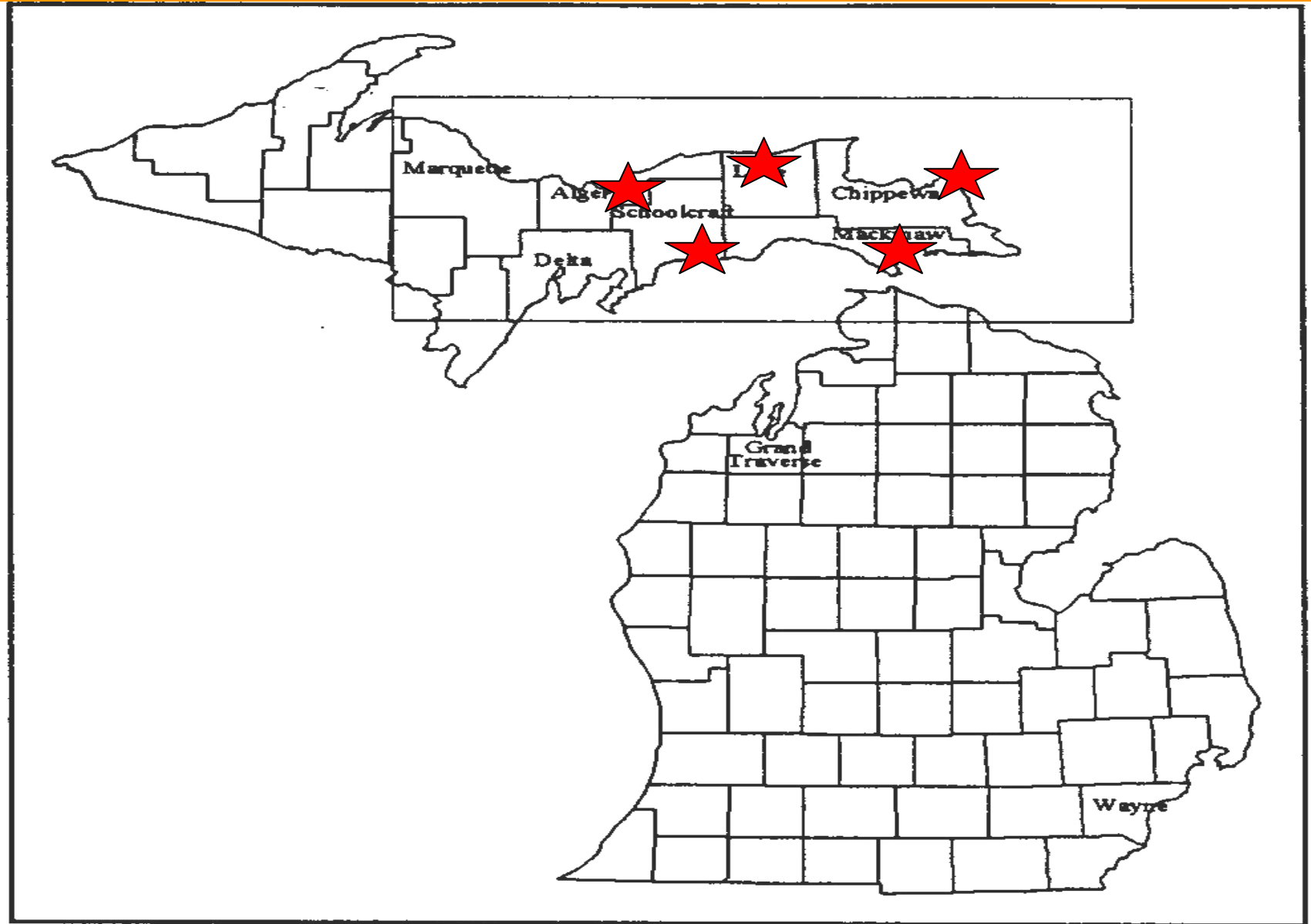
George W. Bush, President of the United States
and M. Danquah, Secretary of Agriculture

Project Status

The background of the slide features two large, white, three-bladed wind turbines. They are positioned on the left and right sides of the frame, with their towers extending from the bottom towards the top. The sky is a clear, solid blue. In the far distance, a low horizon line shows some smaller, fainter wind turbines and a dark, silhouetted landscape.

- **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**



TOWER INSTALLATION - SAULT STE. MARIE



OK GUYS IT ISN'T THAT DIFFICULT!



COME ON LADIES *SHOW EM' HOW IT'S DONE!!*



UP.....

UP.....

& AWAY!!!!



Technical Issues



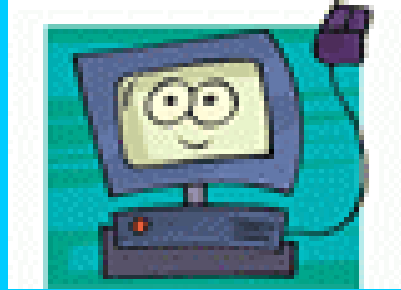
Manistique and Newberry Sites Near Airports

- **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**

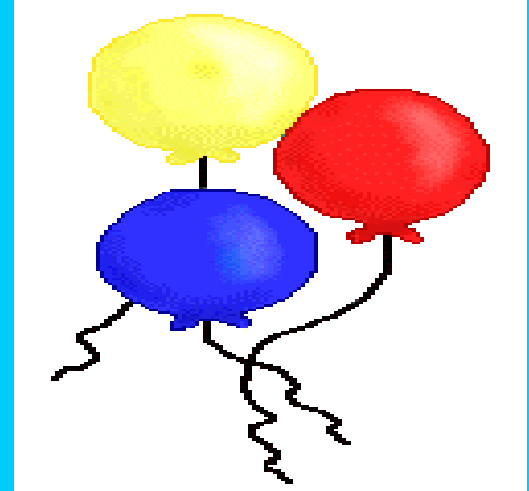
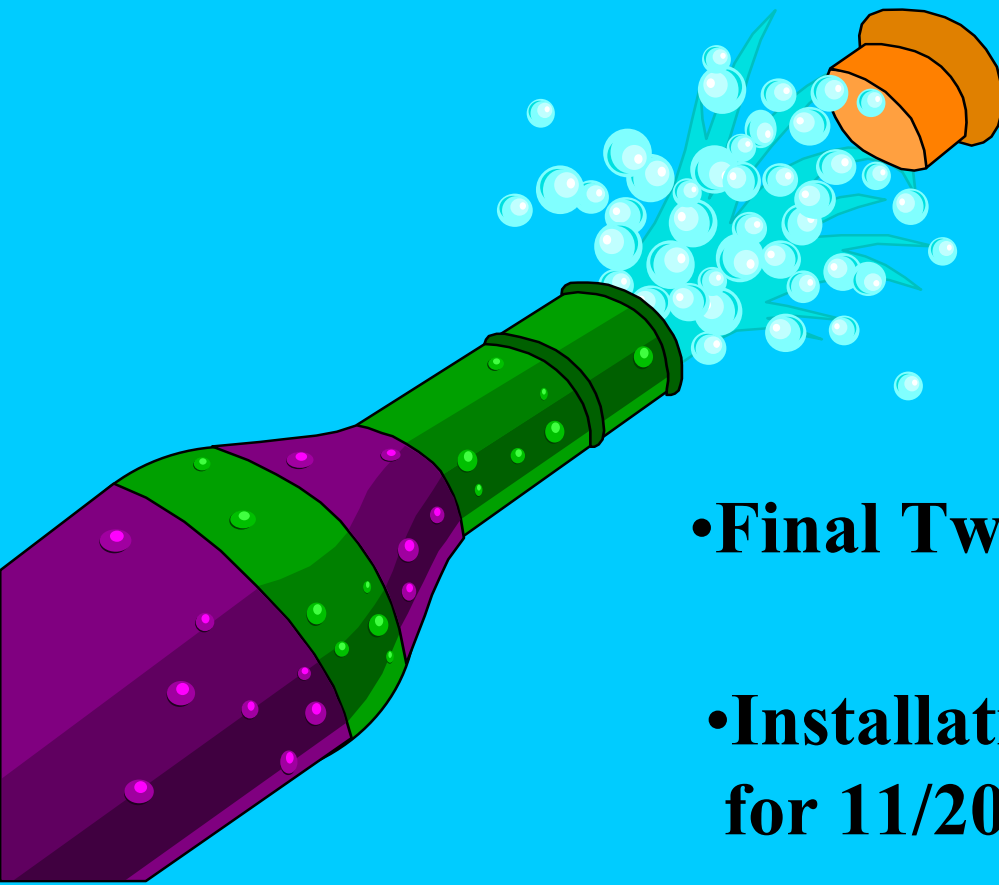


- **Financial & Economic Assessment**

- **Review Energy Market**



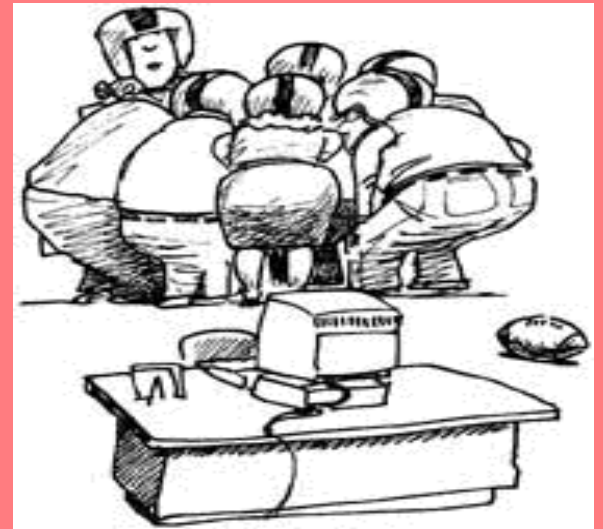
Update as of 11/13/03



- **Final Two Sites Approved by FAA!!**
- **Installation of Towers Scheduled for 11/20/03**

FUTURE PLANS

- Continue collecting data
- Complete Feasibility Study
- Look for Wind Energy Opportunities



We told you it was cold in the U.P. !!!!!

