



West Central Clean Energy Resource Team *Strategic Energy Plan Summary*

June 2005

WEST CENTRAL
CERT IS
CONNECTING
CITIZENS WITH
TECHNOLOGIES
AND RESOURCES
FOR
COMMUNITY-
BASED
RENEWABLE
ENERGY
SYSTEMS.

CERTs Partners:

Minnesota Department of Commerce, The Minnesota Project, University of Minnesota Regional Sustainable Development Partnerships, Rural Minnesota Energy Board, Metropolitan Counties Energy Task Force, Resource Conservation and Development Councils

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The West Central Clean Energy Resource Team wants to fundamentally change the way energy is produced and consumed in its region's communities and across the state. Its overarching vision is to use local resources to make both the region and the state energy self-sufficient.

After taking an inventory of regional energy resources, the West Central Team identified priorities in five focal areas:

- **Conservation/Energy Efficiency:** get conservation back into people's consciousness
- **Biomass:** educate the general public and people interested in economic development
- **Biogas:** develop and distribute information about community financing models
- **Wind:** help get a turbine on the ground
- **Geothermal/Solar/Hydrogen:** focus on education about and installation of geothermal and air source heat pumps, but continue to watch for opportunities to develop integrated building systems that include solar and opportunities to educate the public about hydrogen

Much of the team's efforts have focused on how to provide better education to the general public on each of these priorities. This approach has led the team to develop projects that focus on demonstration, applied research and educational initiatives within each focal area.

CERT PURSUES COMMUNITY-BASED RENEWABLE ENERGY SYSTEMS

West Central Minnesota is becoming well known for piloting community-based renewable energy systems. There are several communities where institutions and area businesses are working together to use local resources to generate power for all. This enables the team to explore renewable energy opportunities and address environmental concerns in a way that allows all community members to play a role.

The CERT hopes to help other communities mimic the community renewable energy system coming together at the West Central Research and Outreach Center (WCROC) and University of Minnesota-Morris (UMM). On April 22, the WCROC commissioned a 1.65 MW wind turbine that will supply roughly half of UMM's electric needs. The WCROC is also planning a wind to hydrogen demo and dual-fuel demo to explore options to make day-to-day



Dennis Gibson talks to the West Central CERT about biomass during a tour.

decisions about which fuel to use given fluctuating prices. Plans for a "Solar Smart" building and biomass/district heating options are also in the works.

CERT HAS A MULTI-FACETED APPROACH TO ENERGY EDUCATION

The team is implementing a two-pronged approach to energy and conservation education. It includes pursuing outreach to children through the Willmar Public Schools and other community centers such as the Prairie Woods Environmental Learning Center and to adults through various civic groups. The team will also educate and empower the public with available information and demonstration sites that incorporate biomass technology. For the industry to move ahead, the team realizes that economic developers and entrepreneurs need to understand the technology and how to transfer it to the commercial sector.

An early first step for the team was co-planning a Renewable Energy Conference on January 13, 2005, with the Kandiyohi County Value-Added Agriculture Business Development group. The conference, which drew nearly 200 people, included a productive panel discussion with technology experts, utility and economic development representatives.

CERT IS EVALUATING EMERGING ENERGY TECHNOLOGIES

In their efforts to build a broad resource base in West Central Minnesota, the CERT has been active in assessing the potential for a number of energy projects. Working with the West Central Research and Outreach Center, the team is trying to include some of its questions in the Morris community digester feasibility study. By gaining more insight into bio-gas technology at Morris, the team then wants to explore the feasibility of a com-

munity digester in Willmar. The primary objective of these studies is to determine whether the fuel has more value as a natural gas or electricity substitute.

The team is using GIS technology to correlate strong wind regimes with topographic highs, available transmission lines and substations to identify priority

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wind development areas in their region and plans to use this technology to encourage community-based projects in these prime locations. Finally, the team is evaluating the costs and benefits associated with ground source heat pumps and intends to

distribute its findings to contractors.

The distinctive aspect of the West Central CERT is the broad, community scale approach to renewable energy. As the team continues to lead education efforts aimed at a variety of demographics, the seeds of change are bound to blossom into a more sustainable energy future.

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West Central CERT Member Snapshot:

Agricultural Utilization
Research Institute
Congressional aides
Green Resources
Innovative Ventures
Individuals interested in
energy issues
Kandiyohi Cooperative
Kandiyohi County
Agri-Business
Development Committee
KDJS Radio
Kerkhoven Banner
League of Women Voters
Minnesota Agroforestry
Coop
Minnesota Department
of Natural Resources
Prairie Country RC&D
Prairie Woods
Environmental
Learning Center
University of Minnesota-
Morris
USDA ARS Lab
Wes Min RC&D
West Central Research
and Outreach Center
Willmar Municipal
Utilities