



CLEAN ENERGY RESOURCE TEAMS

Southwest Clean Energy Resource Team *and* The Rural Minnesota Energy Board *Renewable Energy Action Plan*

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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Part II - SW Clean Energy Action Plan

Background: On January 12, 2004 the SW CERTs met, and asked themselves where they desired to be 10 to 20 years from now. The consensus at that time was that the ultimate goal is to be a net exporter of energy and that the CERTS process should look at ways to expedite that goal.

The large group was divided into four workgroups and was asked to discuss and identify areas the SW CERTs should address as well as topics for future workshops. These were ideas were prioritized by the large group into six major areas that needed to be addressed:

- Ownership. Local ownership is very important.
- Economic development: tax credits and partnering, bringing local businesses and ownership into the equation, financing through local banks, combine technologies for firmer power, legislative initiative to keep energy dollars here and not to sell to out-of-state providers.
- Transmission constraints.
- Education, forum for the Federal Legislators regarding the Federal Tax Credit - there is a change in structure that is needed to allow different local groups to get involved in this, Rural Renaissance Legislation,
- Information distribution. The CERTS Team may be the correct vehicle for assisting and distributing information on Grant funds that are available
- Workshop idea - what can communities do to get started in community-based energy development? How and where does a community go to get started?

These six major areas that were identified by the SW CERTs group in January 2004, can further classified into two main categories: Economic Development and Education.

During 2004, the SW CERTs developed a Core committee, which provided direction in the CERTs process and was overseen by the Rural Minnesota Energy Task Force.

The strategic direction of the SW CERTs has the basic premise to enhance the economic and environmental atmosphere of the SW CERTs region. To achieve this, we must take advantage of our commodities.

The CERTs Core Committee oversaw the development of the draft Action Plan, with their recommendations reviewed by the Rural Minnesota Energy Task Force and submitted to the SW CERTs region for additional input and refinement.

Part 1 of this document is an inventory of the known renewable energy resources in the SW CERTs region. It identifies projects that are developing and potential areas for future development and through the action plan can be refined as projects and was used to identify some of the best bet projects.

12 County Annual Energy Usage:

- Electric (2001 data in MWH) 2,567,183
- Gasoline (2003 vehicles est gal) 93,430,063
- Ag Fuel (2002 est gal on tillable acres) 18,853,935
- Train diesel (2004 MPL RR only) 500,000 gallons

Renewable Energy Produced (estimates)

- 778 MW¹ (2004 developed, and developing with PPAs)
- 91 Million gallons ethanol
- 40.6 Million gallons biodiesel (online - coming on line)

¹ Estimated 2 - 2.3 million MWH - assume 778 MW x 8760 hrs x 30-35% capable capacity; in reality, there is less due to curtailments.

Overall Mission

To be a net exporter of (renewable) energy.

Explanation: The overall goal is to export more renewable energy (wind energy, biofuels, etc), than energy (renewable / non-renewable) imported and consumed. This also includes conservation measures to reduce consumption as well as use of renewable energy generated and used locally. The result will be less dependence on foreign sources of energy, a potential for adding value to base resources available in the SW CERTs region, and implementing more environmentally friendly energy technologies.

This vision is a long term endeavor which includes development, marketing and promotion of a regional energy economy, and will be seen by others as speaking with one voice on renewable energy. It will serve to bring focus to the various efforts that are occurring; and collectively be recognized as part of a regional energy economy. The vision implementation will require continued dedication by many partners in various capacities (business and industrial, research and technology, legislative, and others) to achieve the many elements needed to achieve the mission.

Objective 1. Encourage energy reduction / conservation measures. Implementation of energy use reduction measures will have an overall effect of energy usage and affect the net renewable exportation.

Strategy 1. Bring Utilities, Cooperatives, and Municipal Utilities together with the Community Action Agencies who all do some degree of energy audits (energy efficiency and weatherization programs) and other and encourage sharing of resources (staff and funds) to maximize energy conservation efforts.

- **Task 1.** Identify the entity that has the best likelihood of pulling together the above participants and identifying others, such as SWMHP, local EDA's and HRA's. Work though this entity to facilitate communication and develop a pilot projects in each of the CAP areas. Begin in 2005.

- **Task 2.** Encourage Energy Audits throughout the SW CERTs area - residential, governmental units, and commercial. When energy audit measures are implemented, disperse the information on costs and benefits to encourage others to undergo energy audits.
- **Task 3.** Identify Xcel Energy Communities and select at least one as a pilot project(s) for energy audits.
 - Work with Xcel Energy to bring one of their CIP contractors, at a reduced cost to energy users.
 - Monitor sites that have participated to document what energy conservation measures were identified, what measures were implemented, and identify energy consumption results.

Strategy 2. Encourage renewable energy such as solar, geothermal heat pump, small wind, generation, and digesters as appropriate and as conditions dictate.

- **Task.** Assist with the development of suitable ordinances that protect the public health safety and welfare, without undue burdens on project developers.

Strategy 3. Promotion, Outreach, and General Public Education

- **Task 1.** Identify existing resources (such as the Prairie Ecology Bus and Higher Education Facilities) that through enhancement could implement energy efficient information.
- **Task 2.** Support higher education facilities in development and implementation of programs that will train people in renewable energy infrastructure support (i.e. wind turbine repair, etc).
- **Task 3.** Hold Educational forums for legislative / agency audiences as conditions merit.
- **Task 4.** Use the SW CERTs network to let people know of available funding opportunities, and other renewable energy related information.
- **Task 5.** Encourage the implementation of electric power load management programs through general education and outreach. And potential avenues to assist in increased participation). Load management can help to reduce energy use by allowing more efficient use of generation resources. Managing system costs by reducing the amount of high cost peaking capacity is a

good and reasonable thing to do, but it should not be confused with actual reduction of overall energy consumption. Load management often includes both peak shaving and valley filling.

- Highlight programs on CERTs web page.
- Research: While in most places in the world it is usually better to not to use electricity for heating (gas heating appliances use fuel directly and are usually more efficient) In SW MN, this may be a different case, the overall congestion on the transmission lines, may make increasing the local load a desirable thing.

Objective 2 Increase use of bio fuels. By increasing the use of biofuels in the region, the overall impact of imported fuels will be less and directly affects the net exportation of energy.

Strategy 1. Increase the use of biodiesel fuel in fleets

- **Task 1.** Encourage use and increased use through education the increased use of biodiesel fuel in local unit of government vehicles and purchase of E-85 vehicles. Time line - On-going; Current Audience is Counties, Expanded audience Cities, Townships, School Districts.
County and City Use. In April 2004, at the request of the Rural Minnesota Energy Task Force member counties, a survey of the SW CERTs Counties and Renville, Faribault and Mower Counties was conducted to identify use or policy for use of biodiesel fuel in the counties (County Highway Departments). At the time of the first survey, five of the 12 SW CERTs Counties did not use biodiesel-blended fuel. The survey results and answers regarding warranty questions were sent back out to both the county engineers and county commissioners. The survey was updated in fall of 2004, all 12 SW CERTs counties used biodiesel in their highway departments. In addition, two of the county highway departments also purchase for a community, which results in the community utilizing biodiesel fuel. We plan to survey the Counties again during 2005 before the 2% mandate goes into effect. Success through the survey

and disbursement of the results and accessing information related to warranty questions to both the County Highway Departments and the County Commissioners served to enhance the accelerated use of biodiesel fuel in the County Highway Department fleets.

Detailed Tasks

1. Revise the Survey to also include if there have been any issues inhibiting use of biodiesel fuels (ie warranty, problems, etc). Timeline: Spring 2005
 2. Survey the County Highway Departments to update the biodiesel survey data. Time line Spring 2005.
 3. Survey the Cities above 2500 population to identify a baseline data. Timeline Spring 2005
 4. Research issues / barriers identified through the survey and disperse the information.
 5. Update the survey data on an annual basis.
- **Task 2.** Encourage State Government to increase the use of biofuels
State Government Use. Educate and Initiate interest with State Government Agencies, such as MnDOT Districts 7 and 8 (Mankato and Willmar) in biodiesel fuel use. The Governor has asked that state agencies cut their gas use in half. In the Fall of 2004: MnDOT District 8 Engineer and staff were invited and attended the MN Valley Railroad announcement of the first train in MN using a 2% blend of biodiesel; Initiated conversation with District 7 Transit Manager on use of biodiesel fuel in the diesel transit buses.

Detailed Tasks

- Share the survey data and warranty information with MnDOT District Engineers and staff in the Mankato and Willmar Districts 7 and 8.

- **Task 3.** Encourage Private Fleet use of biofuels
 - Initiate interest in the private sector for use of biodiesel fuel use.
 - Work with the Economic Development Professionals, AURI, SW Foundation, and others to identify companies who may have a willingness to initiate fleet use of biodiesel and fleet conversion to E-85 vehicles.
 - Identify and encourage private sector use / investment in biodiesel fuels. This may include identification of local filling stations that will dedicate a tank / pump for B-20.

Strategy 2. Increase the use of biofuels in peaking diesel generators. There is an exemption on fuel used for the following equipment: (1) motors located at an electric generating plant regulated by the Nuclear Regulatory Commission; (2) railroad locomotives. At a certain time, these engines will be subject to the B2 requirements. If encouraged to run at higher blends i.e. B20 or more, a diesel generator is running on B20 will have 20% of the electricity count toward the Minnesota Renewable Energy Objective.

- **Task 1.** Identify one or more Municipal Utilities in the SW CERTs region that has a peaking diesel generator(s) and or combustion turbines and direct resources to facilitating use of B-20 biodiesel fuel. This would be a pilot project that would have the ability to be replicated and has the potential of reducing emissions currently placed on the facility regarding hours of use of the generator.
- **Task 2.** Encourage Railroad companies to use a B-2 or higher blend of biodiesel in their engines. This has been initiated by the Minnesota PrairieLine Railroad, and can be used as an example for other railroads.

Objective 3. Encourage the development of renewable energy projects. The development of renewable energy project have the ability to reduce the consumption of imported energy sources if used within the region and when exported also support the overall mission of Southwest Minnesota.

Strategy 1. Support adding value to resources in SW CERTs region. These resources include: Wind energy, Waste to Energy (decrease landfill dependency), Biofuels (derived from the agricultural community, and value added manufacturing), methane digesters (from livestock wastes, and wastewater treatment facilities), Solar, Energy Efficiencies and Green building design

- **Task 1** Facilitate / partner economic development initiatives with proposed clean energy projects and resources.
 - Facilitate providing information to the JOBZ Administrators regarding clean energy related businesses / issues. The SW RDC and the southern Corridor are the Administrators of the JOBZ programs in the SW CERTs counties.
 - Maintain a database of clean energy resources (funding and technical assistance) and effective network between service providers.
 - Assist in identification and networking of funding and technical resources (grants, loans) to enable projects to be developed. (Resource Conservation Districts, AURI, USDA - RD, EC Professionals, SW RDC and Region 9 RLF Programs, Prairieland Economic Development Corporation, Small Business Administration, EDA, Local Financial Institutions) and Nonprofits such as Windustry.
 - Maintain a database of technical assistance and referral resources for renewable energy technologies (Wind, Bio-energy, Geothermal, Solar, and other technologies as they become available.)

Strategy 2. Support development of current renewable energy projects, especially those that have a direct economic and environmental benefit to SW CERTs region.

- **Task 1.** Support Energy Park concepts.
 - Lamberton Waste to Energy Facility and Energy Park.
 - MSW Methane use at Publicly Owned Landfills
 - Madelia, use of technology to utilize waste for combined heat and power.
- **Task 2.** Support Community Based Energy Development.
 - Community Wind North and Community Wind South proposed aggregated wind projects.
 - Facilitate activities that encourage co-generation / district heating.
 - Looped systems approach linking technologies and operation one to another. Creating economic benefit at each stop - value-added.
 - Joint cooperation instead of competition by corporations.
 - Encouragement for local ownership.

Strategy 3. Encourage public investment in renewable energy.

- **Task 1.** Identify and encourage school campuses in SW MN to look at wind energy as an alternative energy source, when feasible and as interested. Work to position them for technical assistance and funding to pay for the projects.
- **Task 2.** Continue to provide referral assistance as requested regarding renewable energy projects.

Strategy 4. Identify issues and policies that inhibit or prohibit local participation and benefits to clean energy projects

- **Task 1.** Provide information to the Rural Minnesota Energy Board regarding issues and policies that inhibit or prohibit local participation / ownership and benefits to clean energy projects / project development.
- **Task 2.** Assist the Rural Minnesota Energy Board in facilitating forums that provide information regarding renewable energy information and issues.

- **Comment:** Some issues have been currently identified as: Federal incentives are not geared toward local ownership (PTC); more participation by municipal utilities and cooperative cooperatives; transmission constraints and funding.

Strategy 5. Monitor the success of the SW CERTs mission.

- **Task 1.** Identify specific energy parameters to be monitored on an annual basis and over time.
- **Task 2.** Identify and establish a method for input into the SW CERTs process, inventory update and Action Plan revisions / updates.
- **Task 3.** Update the resources and Action Plan as identified in Task 2.
- **Task 4.** Work with the SW CERTs Core Committee to address updates / revisions to the Action Plan on an Annual Basis.
- **Task 5.** Report to the Rural Minnesota Energy Board on an annual basis for the review and revisions to the Action plan.

Best Bets 2005-2006.

Affect the increase use of biofuels

Increase public fleet use

County and City Use. In April 2004, at the request of the Rural Minnesota Energy Task Force member counties, a survey of the SW CERTs Counties and Renville, Faribault and Mower Counties was conducted to identify use or policy for use of biodiesel fuel in the counties (County Highway Departments). At the time of the first survey, five of the 12 SW CERTs Counties did not use biodiesel blended fuel. The survey results and answers regarding warranty questions were sent back out to both the county engineers and county commissioners. The survey was updated in fall of 2004, and all of SW CERTs counties indicated they used biodiesel in their highway departments. In addition, two of the county highway departments also purchase for a community, which results in the community utilizing biodiesel fuel. We plan to survey the Counties again during 2005 before the 2% mandate goes into effect. Success through the survey and disbursement of the results and accessing information related to warranty questions to both the County Highway Departments and the County Commissioners served to enhance the accelerated use of biodiesel fuel in the County Highway Department fleets.

- Task 1. Revise the Survey to include if there have been any issues inhibiting use of biodiesel fuels (ie warranty, problems, etc), include Ethanol use and number of gallons. Timeline Spring 2005
- Task 2. Survey the County Highway Departments to update the biodiesel survey data and extended data. Time line Spring 2005.
- Task 3. Survey the Cities above 2500 population to identify a baseline data. Timeline Spring 2005
- Task 4. Research issues / barriers identified through the survey and disperse the information.
- Task 5. Continue to update the survey data once per year.
- Task 6. Initiate incorporation of other units of government such as school districts.
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State Government Use. Educate and Initiate interest with State Government Agencies, such as MnDOT Districts 7 and 8 (Mankato and Willmar) in use of biodiesel fuel use. Pawlenty's Exec order is to cut gasoline use by 50% and Diesel use by 25% by 2015 (interim reductions of 25% and 10% by 2010). This can be accomplished by both improved efficiency and using biofuels

In the Fall of 2004: MnDOT District 8 Engineer and staff were invited and attended the MN Valley Railroad announcement of the first train in MN using a 2% blend of biodiesel; Initiated conversation with District 7 Transit Manager on use of biodiesel fuel in the diesel transit buses.

- Task 1. Share the survey data and warranty information with MnDOT District Engineers and staff in the Mankato and Willmar Districts 7 and 8
- Task 2. Share the survey data with other state agency offices within the SW CERTs regions, such as MnSCU, and DNR.

Increase Private Company Fleet use. Educate and initiate interest in the private sector for use of biodiesel fuel use.

- Task 1. Work with the Economic Development professional, AURI, SW Foundation, and other to identify companies who may have a willingness to initiate fleet use of biodiesel.
- Task 2. Identify and encourage private sector use / investment in biodiesel fuels

Increase the use of biofuels in peaking diesel generators.

- Task 1. Identify a Municipal Utility in the SW CERTs region that has a peaking diesel generator(s) and direct resources to facilitating use of biodiesel fuel. This would be a pilot project that would have the ability to be replicated and has the potential of reducing emissions currently placed on the facility regarding hours of use of the generator. Comment: Outreach to communities with combustion turbines could help move biodiesel into that market too.

Public investment in renewable energy.

- Assist interested school in development of wind power
- Continue to provide referral assistance as requested regarding renewable energy projects.
- Lamberton Waste to Energy Facility and Energy Park.
- Community Wind North and Community Wind South proposed aggregated wind projects.
- Madelia - turkey plant looking at technology to utilize waste for combined heat and power.
- MSW Methane use for heating buildings, generator, water at Regional Landfill facility