Central Region CERTs Meeting Summary
Eco-Domes Conservation Campus – Brainerd, Minnesota
Thursday, June 14th, 2007
5:30 pm – 7:30 pm
Directions: Eco-Domes Conservation Campus, 9121 County Road 23, Brainerd, MN 56401-0806
To get to the Eco-Domes, travel five miles east of Brainerd, MN on Highway 18, then south five miles on County Road 23 (South Long Lake Road).

Phone 218-764-2321 for more information.

Attendees: Dallas Flynn, Linda Ulland, David Evert, Jeff Nandello, Haley Bower, Barb Bower, Peter Nelson, Tom Burgwald, Louise Johnson, Cal Lutzke, Bill Davis, Rick Pederson, Dan Fundingsland, Becky Miller, John & Marilyn Anderson, Robert Manary, Jim Lease, Deb Eatros, Dean & Barb Garton, Joel Haskard, Tom Eng, Ashley Vargo, David Winkelman (please forgive us if your name is misspelled or not listed).

AGENDA
5:30 pm Introductions, announcements and pizza

6:00 pm Tour of the Eco-Domes Conservation Campus
We want to thank David Winkelman and the Eco-Domes staff for giving a great tour of the facility, highlights of which include residential-scale wind turbines, solar PV, geothermal, sustainable construction techniques, and composting toilets. For more information, see:
http://www.bogfrog.com/ecotour.htm
Below is a detailed list of technologies from the Eco-Domes website. Not mentioned is their Used Fryer Oil (UFO) conversion to biofuel and their new greenhouse which will utilize dome construction, solar thermal and geothermal technologies.

1. Solar Electric Products The sun is the primary source of all energy on earth. Photovoltaic (PV) generators can be used anywhere because they do not require an infrastructure for fuel distribution. There are no moving parts to wear out and no pollution created. Our PV system will pay for itself in about seven years.
2. Permeable and Recycled Paving Products Permeable paving has many advantages over asphalt or "ridged" paving. The HOP Shop Center's parking lot was paved using recycled asphalt and concrete. The 4 inch class 5 base is made of recycled asphalt. The 2 inch thick hot mix is made of 20% recycled concrete and 30% recycled asphalt.
3. Wind Power The center is also powered by a wind generator which creates most of the electricity for the utilities and appliances. The investment in wind power will pay for itself in a relatively short period of time, and after that the electricity is virtually free.
4. Efficient Wood Heating The center is heated by a Central Boiler efficient outdoor wood furnace They are a safe and efficient way to heat your home. It is designed to look like an attractive storage building and is installed away from the building being heated.
5. Granite Works Local granite flagstones, retaining walls, boulders and plaques adorn the premises because they are environmentally responsible, beautiful and will last hundreds of years. Little Falls Granite Works (of Little Falls, MN) made our unique plaques.

6. Track Lighting The compact fluorescent track fixtures are energy efficient, consuming only 26 watts per bulb, which saves a lot of energy. Halo Power Track system by Cooper Lighting is well made, durable and features a convenient two circuit system.
7. Native Hardwoods Beautiful red oaks and other hardwoods were supplied by mother nature within 200 yards of the domes. No live trees were sacrificed for our decor-- only selected harvesting of the dead native trees was used.
8. Native Red Oak Flooring The craftsmanship displayed in the floor enhances the dramatic setting of the domes natural wood interior. The beautiful oak floor was installed by Warnberg Floor Service. Enhance any building with beautifully crafted wood floors.
9. No VOC Paints & Sealers Our paint contains virtually no VOC's, has very low odor and no heavy metals like lead or mercury. This paint cleans up with water, is stain and mildew resistant, and yet it is durable to last for many years. Ace Hardware's Paint Division has supplied us with this unique paint.
10. Ceiling & Wall Lighting Fixtures Our beautiful light fixtures all utilize compact fluorescent light bulbs which consume only an average of 13 watts per bulb. This not only helps reduce pollution, but saves us money.
11. Thermal Ceiling Tile These attractive ceiling tiles are called "Thermotile" because they supply a thermal resistance (R factor) of 4.55 per inch. Besides being good insulation, they are made from recycled polystyrene and have high light reflection without glare. These tile are also washable, reversible and do not shed fibers.
12. Compact Fluorescent Bulbs All bulbs in the domes are energy efficient compact fluorescents (CF) which saves up to 75% of the energy used by standard incandescent bulbs. CF bulbs are quiet and produce a soft natural light with an excellent color rendering index.
13. Recessed Lighting Fixtures Our energy efficient and highly reflective recessed fixtures feature compact fluorescent light bulbs which only consume 32 watts per bulb. Compared to equivalent incandescent bulbs (150 watt), this saves us 5 fold on energy. Our lighting fixtures were supplied by Cooper Lighting (Iris brand).
14. Commercial-size Composting Toilet Our large composter offers a waste management system that conserves water and prevents the pollution of waterways. The biological toilet (by Clivus Multrum) produces odor-free, pathogen-free compost fertilizer for the enrichment of the earth's soil, and thus, human waste is converted from a problem to a product. The Clivus Multrum is available through the Eco Domes.
15. Hydronic Heating/AC The HOP Shop Center is exclusively heated and cooled by geothermal energy from our pond (and the earth), and thus, no fuel is burned and no pollution is created. The systems use only electricity and water, are energy efficient and constructed with quality in mind. Bullen Construction of McGrath, MN built our geothermal, plumbing, and other mechanical systems.
16. Recycled Paper Insulation Spray-on cellulose is good insulation (R=5.5/inch), a sound reducer as well as fire-retardant and pest resistant. Cellulose is made from recycled paper, then mixed with borax.
17. Residential Composting Toilet One of the most advanced, self contained composting toilet systems available. No water, no chemicals and no septic system is required to turn waste into a harmless, useful product.
18. Geothermal Walk-In Refrigerator This walk-in cooler for the HOP Shop Center was designed by Dennis and David Winkelman. This energy-efficient natural refrigerator is kept cool by the earth. The humidity and temperature are controlled with adjustable ventilation and the steel substructure acts as a Faraday cage in screening out cosmic radiation.
19. Energy Saving Foundation The permanent wood foundation (PWF) for both domes, made from Wolmanized pressure-treated wood, is more energy efficient than traditional block or concrete foundations. The PWF does not crack like block, is warmer in winter and is more user-friendly for mounting items on the interior walls.
20. Recycled Plastic Lumber This beautiful decking is made from recycled plastic shopping bags and shrink-wrap (high density polyethylene HDPE), then mixed with 50 % waste wood fiber. This material

will not rot, sliver or crack and contains a UV inhibitor. The decking material is made by Trex Company LLC.

21. Water Flowforms Water, flowing through figure-of-eight patterns, generates a series of vortices (whirlpools) which pulsate rhythmically. This action cleans and oxygenates water in a natural, soothing manner. We've installed a variety of flowforms from around the world that you can purchase to enhance any pond or landscape.

22. Greywater Systems take sink water that would have been wasted down the septic systems and reuses it in outdoor and indoors planters.

23. Radiant Distribution Center Warm water is circulated through PEX tubing embedded in the floor of the Eco Domes Conservation Campus. The heat radiates up through the floor, warming the people, furnishings and air in the room. The warmth stays down around where the people are, not up at the ceiling or lost to the outdoors every time a door or window is opened. It's a comfortable, even heat where cold spots and drafts are eliminated.

7:00 pm New Business

Incentives for Central Region Clean Energy projects

The CERTs project will soon have funds available to support clean energy projects in the Central Region and throughout the state. Joel gave an update that included the following information:

CERTs Funding

Over the past four years the CERT program has shifted from research and evaluation of regional resources in years one and two towards catalyzing local projects via project identification, technical assistance and funding in years three and four. Over the coming biennium this shift will continue with each regional CERT having access to greater local seed grant funding and additional money to support some regional staffing or technical assistance initiative.

Specifically, the CERTs program has been awarded $1.25 million dollars over the two year FY 2008-2009 biennium[1]. This funding includes two sums of money for each team to use for clean energy projects:

- $18,000/region/year to foster region-wide project(s), initiative(s), staffing that will further regional priorities;
- $25,000/region/year to be disseminated throughout the region as seed grants to catalyze local energy projects (in a fashion similar to the 2006 CERT Request for Proposals (RFPs). Dollars can be used for technical assistance, broadly defined, to energy efficiency and renewable energy projects.

In addition, each CERT has $3,200/region from the Blandin Foundation (for both calendar year 2007 and 2008) to catalyze local projects and $5,000 per region from the MPCA (for FY 2008) to jump start local energy efficiency, wind and solar projects.

Thus, during fall 2007, each regional CERT Steering Committee will have $51,200 to manage and allocate. This additional funding is a tremendous opportunity for each of the CERTs, but it will also affect the roles and responsibilities of each regional steering committee.

For the Central, Northeast, Northwest, Southeast and West Central CERTs this funding will come to each team via the University of Minnesota's Regional Sustainable Development Partnerships (Regional Partnerships). Each of the afore mentioned CERTs is already aware of this connection to the Regional Partnerships, as the Executive Director's from each Regional

Partnership have been involved with guiding each regional CERTs since inception. Some of you may not be aware that each Regional Partnership also has regional board members involved with CERTs. To strengthen the CERT and Regional Partnership connection and satisfy any University concerns about fiscal responsibility, we're proposing that at least two Regional Partnership board members join the CERT Steering Committee in their region.

Regional Funding Availability for July 2007-June 2008

Funding Source	**Amount/ region**	**Purpose**	**Potential Breakdown**
MN DOC [2]	$25,000	Community technical assistance seed grant funding for energy efficiency & renewable energy projects	$5,000/project
MN DOC [3]	$18,000	Regional staffing/technical assistance	One lump sum
MPCA [4]	$5,000	Project funding and technical assistance to catalyze community energy efficiency and/or wind & solar projects	One lump sum
Blandin Foundation [5]	$3,200	Financial assistance to energy efficiency/renewable energy project	One lump sum

This funding is exciting news for the CERTs program and for helping to catalyze projects throughout the Central Region.

7:30 pm Meeting adjourns

[1] $250,000 of this funding has been allocated to create a Metro CERTs.
[2] Funding available for Central, Northeast, Northwest, Southeast, Southwest and West Central Teams.
[3] Funding available for Central, Northeast, Northwest, Southeast, and West Central Teams.
[4] Funding available for Central, Northeast, Northwest, Southeast, Southwest and West Central Teams.
[5] Funding available for Central, Northeast, Northwest, Southeast, and West Central Teams.