



DreamAcres Farm: Where Sustainable Energy and Agriculture Meet

By Kathleen McCarthy, U of M RSDP

Imagine a team of oxen plowing the fields of an organic farm. Add to that image a timber-frame home with a woodstove and a water pump in the kitchen, and imagine a solar panel, turning energy from the sun into electricity, for use in that same kitchen. Todd Juzwiak and Eva Barr are combining traditional homesteading practices with modern renewable energy technology at DreamAcres Farm, an off-grid 60-acre organic farm in Southeast Minnesota.

DreamAcres Farm participates in the Community Supported Agriculture (CSA) program, allowing local residents to buy produce directly from the farmer. The farm is also an educational tool for sustainable living. In cooperation with Tillers International, an educational non-profit, they offer classes on a wide range of traditional farming practices such as blacksmithing; timber framing and raising; farming with oxen, horses and mules; maple sugaring; and woodstove cooking.

In summer 2007, DreamAcres got approval and certification through the Minnesota Department of Health and the Minnesota Department of Labor and Industry, and with the help of a CERTs grant began to design and install a solar power system to operate the first renewable energy certified kitchen in Minnesota. Todd and Eva were sure that they wanted only renewable energy to supply the free-standing kitchen with power. Because the kitchen will service the activities of the public through different organizations, they were required to meet the standards of a certified food establishment. Todd explains, "While there are many more efficient appliances and environmentally friendly products available, they are not all approved for commercial use. Therefore we had to forgo the most efficient option and compromise with the best certifiable option. This resulted in the design of a larger solar system to accommodate our energy needs."

Project Snapshot

Purpose: Design and install the first MDH-certified solar-powered sustainable kitchen in Minnesota

Technology:

- Flowlight booster pump & installation kit
- Shurflo booster pump
- OutBack inverter VFX3648, PS2DC junction box, and 175 amp inverter breaker
- Conduit box and solar breaker for PS2DC
- Trimetric meter
- DC lightning arrestor
- 4 Sharp 80 watt modules

Grants:

- \$3,000 CERTs
- \$1,200 Osterud Foundation
- \$10,000 Fisher Family Foundation

Contributions:

- \$400 Go Solar! labor
- 10 yds concrete Fred Carson Concrete Co.
- \$300 Thein Well Co.

Total cost: \$45,000

Benefits: Energy savings, reduced environmental impact, and robust educational opportunities

The kitchen will double as an operational and educational workspace for DreamAcres Farm, workshops with Tillers International, Flourish Arts and Agriculture Camp, and CSA events. It will set the example for renewably-powered kitchens as a "viable and certifiable option," says Todd. They plan to have plenty of posted renewable energy / energy efficiency information in the kitchen to inform visitors at the farm.

According to Go Solar!, the solar contractor that installed DreamAcres Farm's system, they will utilize "320 watts of Sharp solar modules and approximately 10 KWh of battery storage". The batteries could supply a usage level of 2,750 watt-hours for about

CERTS PARTNERS

- University of Minnesota Regional Sustainable Development Partnerships
- The Minnesota Project
- Southwest Regional Development Commission
- Green Institute
- Minnesota Department of Commerce

CLEAN ENERGY RESOURCE TEAMS

helping Minnesota communities determine their energy future

CASE STUDY: SOLAR ENERGY | SOUTHEAST REGION

CERTS FUNDERS

Minnesota
Department of
Commerce
Blandin Foundation
Minnesota Pollution
Control Agency
University of
Minnesota Institute
for Renewable
Energy and the
Environment
University of
Minnesota Regional
Sustainable
Development
Partnerships
U.S. Department of
Energy

three days without any solar production. Dennis Pottratz of Go Solar! worked on this project with DreamAcres. In addition to designing and installing the solar system, he also volunteered a day of his time to lead a solar workshop through Tillers International. In the class, they discussed the solar design and plan, as well as working on the actual installation.

Todd and Eva, along with everyone else at DreamAcres Farm, are very excited to get the new solar system up and running. They have great plans of educating visitors in the ways that sustainable agriculture and sustainable energy go hand in hand.

Todd Juzwaik and Eva Barr can be reached at Dream Acres Farm, 17289 County Rd 8, Wykoff, MN 55990. Telephone: 507-352-4255. Email: evalibarr@hotmail.com

CLEAN
ENERGY
RESOURCE
TEAMS

helping Minnesota
communities
determine their
energy future