Dairy Farm Entrepreneur Installs Solar Thermal and Builds Community

Written by Michelle Vigen  • Edited & templated by Ashley Stucky  • September 2011

Dairy farmers are an industrious group by nature, and farmer and entrepreneur Peter Reese of Goodhue County has eyes for common sense and untapped opportunities. The basic concept of Perpetual Harvest, LLC, came from Peter’s thoughts about how our economy is under-utilizing available and renewable local resources.

He found that while dairy products make up just 10.5% of total Minnesota farm revenues, they use over 30% of the electricity used in agriculture. Most of this demand is due to energy-intensive processes such as harvesting milk, cooling it, and washing and sanitizing equipment.

To decrease the energy costs endured by Minnesota dairy farmers, Peter launched Perpetual Harvest, LLC, to help them become energy-independent. Through conducting local site assessments, using strategic energy efficiency and renewable energy technologies, and convening the necessary technical assistance, Peter strives to empower farmers with ownership of their energy futures.

Peter began by using his family’s farm as a prototype. A basic assessment showed that 41% of a dairy farmer’s energy budget goes towards heating water to wash and sanitize equipment. Solar thermal water heating was a clear best option for the Reese farm, and Peter began to reach out to allies.

Having worked with CERTs on a Common Grounds (University of MN pro bono consulting group) project, Peter was encouraged to apply for a CERTs seed grant. Peter recalls, “CERTs served as an early sponsor and mentor, creating a safe platform on which the Reeses were given the freedom to learn by discovery…and transform tacit understandings into explicit understandings” (italics from Van de Ven, 2008).

To pull together the project, concept, and technical and financial support, Peter conducted extensive research, sought new relationships and partnerships, and simply talked with other interested folks about his progress on the project. He developed a network that gave him insight into what communities and farmers in his area needed, and feedback as to how he could make his project more complete. “Showing passion and letting people know your goals can unearth remarkable support,” Peter recommends.

**Project Snapshot**

**Project:** Installing four 4x8’ Solar Skies solar hot water collectors on Reese Family Dairy Farm

**Energy Saved:** 4,700 kwh/year in hot water heating costs

**Benefits:** Reducing energy costs to dairy farmers, spreading knowledge and interest in the possibilities of using renewable energy on farms

**Grant:** $5,000 Southeast CERT grant

**Total Cost:** $14,000
The Perpetual Harvest story is a true testament to the role that community can play in a successful clean energy project. With Peter’s hard work and research, and by building upon his community and local support, late in December 2010 Peter announced to CERTs that he would have the system up and installed by the end of the year and the seed grant deadline.

Some of the challenges Peter faced are important to share, in that they will likely be common among others embarking on similar ventures. The first challenge was finding the optimal placement for the solar collectors. Armed with the expertise of James Darabi of Solar Farm, Peter decided to invest more to increase his collector exposure to over 90%.

The second challenge was that state and federal incentives rarely provide the cash upfront: while a rebate will buy down the eventual overall cost of the project, the cost may go up due to regulatory requirements, and the project will still need some up-front funding.

After making it through a year-long process, thinking hard about developing support, learning about clean energy financing, and researching innovation models, Peter has more than a little advice for others interested in a similar project. He encourages “attention to detail” and a clear focus on the task at hand to overcome the project’s variable challenges.

Peter also emphasizes the importance of communicating with others about the project. “Not everyone sees four black 4x8 collectors in the middle of the lawn as beautiful.” And finally, reaching out is crucial for both information and support. While dairy farm applications of solar thermal are fairly new in the United States, other countries can also offer valuable advice and lessons.

Finally, Peter advises, “Anyone looking to install on-site renewable energy systems has to be a dreamer and a big-picture thinker.” Today, community energy is a dream that is coming true across Minnesota in communities of all shapes and sizes—rural, metro, big, and small. As Peter identified, for dreams to come true, there must first be a clean energy dreamer!

For more information, contact Peter Reese by email at reesepm2000@yahoo.com, or call 414-793-9260.