

## CASE STUDY:

## *Haubenschild Farms: Making Electricity on the Farm*



Haubenschild Dairy Farm is a 1000-acre, family owned and operated dairy farm located near Princeton,

Minnesota. In 1999 the farm installed a biogas digester at a total cost of \$355,000, including the engine and generator. It is a great example of a local waste to energy project, although owner Dennis Haubenschild would

dispute the fact that manure from his dairy cows is a waste. “Manure is a valuable resource that we need to use to its fullest extent,” says Dennis.

The Haubenschild Dairy Farm collects manure from its approximately 750

cows. Over a period of about 15 days, the manure passes through a covered 350,000-gallon, in-ground concrete tank – the biogas digester. Suspended heating pipes heat the manure inside the digester to create the optimal conditions for creating biogas. A 135-kilowatt engine-generator set is then fueled with the biogas captured from the digester and used to generate electricity. The hot water used to heat the digester is recovered from the engine-generator’s cooling jacket and reused to heat the barn floor space.



*Haubenschilds: Dennis, Bryan, Marsha, Tom*

The digested manure is stored in a lined storage lagoon until it can be spread on the fields for fertilizer.



The farm produces enough electricity to meet all on-farm electric needs plus enough excess electricity to power about 75 homes. The excess electricity is sold to East Central Energy, the Haubenschild’s local electric cooperative, which markets the “cow power” as green electricity to its customers for a slight mark-up to cover its increased distribution expenses.

Haubenschild Farms expect the value of the energy from the digester will pay back total project costs in about 5 years.



*Digester engine with heat recovery system*

*For more information, a full report on the Haubenschild digester is available at [www.mnproject.org](http://www.mnproject.org) or contact Henry Fischer, East Central Energy, 763-689-8055, [Henry.Fischer@ecemn.com](mailto:Henry.Fischer@ecemn.com)*