



## A Unique Hybrid for the Horses

**Outline Of Need:** Colby Creek Stables, a horse stable facility located near Ithaca in Saunders County, offers a number of amenities for horses and riders, including a large indoor arena, heated barn aisles, and ventilated horse stalls. The operation requires a notable amount of electrical power to provide such a sophisticated facility. The owners of Colby Creek Stables, Mark and Tara Timm, were interested in renewable energy options to offset the power needs of their operation and to, in the near future, potentially take it off the grid completely.

## How Rural Development Helped:

The Timms determined that a combination, or “hybrid application”, of wind and solar power would be most beneficial for their operation. USDA Rural Development provided a \$20,000 grant from the Rural Energy for America Program-Section 9007 to offset the equipment and installation expenses of the project.

**The Results:** During the spring of 2010 the Timms installed a Bergey BWC Excel 10



kilowatt (kWh) class wind turbine and an array of 18 Sanyo photovoltaic solar panels. The Bergey BWC Excel wind turbine has an estimated annual energy output of 15,637 kWh and will begin producing power with just seven and one-half miles per hour wind. Each Sanyo photovoltaic panel has a total output power of 210 watts, for a total annual potential of 4,969 kWh of power. The hybrid application of the two technologies provides an estimated 76 percent replacement of Colby Creek

Stables’ prior energy usage. At times of low energy needs, power is sent back into the grid. The Timms are evaluating the cost effectiveness of the combination of the wind and solar systems and they are considering the implementation of additional solar panels for future use.



“As someone who is concerned about our environment and our dependence on foreign oil, I was looking at reducing my horse barn carbon footprint. As I did my research, I ran across the USDA Rural Development grant program for solar and wind. The project is complete and my electrical savings is more than 40 percent. I would recommend that anyone who is interested in wind and solar should look into the program.”

- Colby Creek Stables Owners Mark and Tara Timm