BUSINESS PROGRAMS

New Drying Equipment Saves Energy and Delivers Increased Capacity at Oregon Farm Center

CASE STUDY

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Rich Hasselman, Energy Advisor – Focus on Energy, Maureen Martin, Secretary-Treasurer – Oregon Farm Center, Larry Roosli, General Manager – Oregon Farm Center and Jeff McCarthy, Strategic Account Manager – Alliant Energy

Oregon Farm Center needed a change. For 11 years, the growing agribusiness had processed grain the same way: farmers delivered grain to downtown Oregon for drying, and the farm center's employees trucked it to a facility on the outskirts of town for storage. Always a time-consuming approach, the process became increasingly cumbersome and expensive as the village grew and transportation costs followed suit. Add to this an aging and inefficient drying system that frequently needed repair, and it was clear there had to be a better way. In 2005, the Oregon Farm Center decided to move all operations to its former storage location—conveniently located at the intersection of two rural highways—and turned to Focus on Energy, Wisconsin's energy efficiency and renewable energy initiative. The Oregon Farm Center had to weigh the options of keeping their old drying system or looking at new technology. With Focus on Energy's help they decided on a new system.

"We were looking for a system that could deliver both energy efficiency and higher capacity," said Maureen Martin, secretary-treasurer at the Oregon Farm Center. "We believed that farmers who hadn't done business with us in the past (because of our location) would more likely come to us now, and we needed the capacity and drying efficiency to meet their needs."

The Oregon Farm Center's old equipment was a horizontal cross-flow dryer that was nearly a quarter-century old. The system could process about 800 bushels an hour—a capacity that often forced farmers to wait in line to drop off their corn.

Rich Hasselman, an energy advisor with Focus on Energy, recommended investigating a continuous cross-flow tower dryer. The vertical dryer had a smaller footprint, could process roughly 1,900 bushels per hour—depending on moisture content—and offered a number of energy efficient features.

"The newest generation of grain dryers offers two big advantages over older models: heat recovery and automated control systems. Together, these can add up to big energy savings," said Hasselman. "Given the age of this system, it made sense to purchase a new unit; in some cases a retrofit can also deliver excellent savings."

HEAT RECOVERY

A perforated column in the middle of the dryer houses the heating system that provides the hot air used to dry the corn and the fans that move it across the corn. It's ringed by two stainless steel walls that create a one-foot wide channel around the column's perimeter. As corn pours through this channel it's first heated, then cooled with a suction cooling system that captures the heat that's built up in the grain and routes it for re-use. A heat recovery feature can typically save 10 percent to 20 percent on energy costs; Hasselman estimates that the Oregon Farm Center is drying about one and one-half times the grain with less than half the gas used by the old system.

AUTOMATED CONTROLS

The Oregon Farm Center also increased its efficiency by choosing a system with automated controls that adjust for temperature and moisture content variances as grain moves through the system. These controls deliver optimal moisture removal throughout the drying season without the manual sampling and system adjustments required by the old equipment.

"Now our employees can handle other tasks instead of babysitting the equipment and we have a more consistent end product," said Martin.

IMPRESSIVE SAVINGS — AND INCREASED CAPACITY

Although the facility's true energy savings will be most accurately measured over a five-to-ten year period—to account for moisture differences from one season to another—the Oregon Farm Center has seen an impressive and immediate drop in its natural gas costs.

"Our energy costs for the whole drying season (typically two months to three months) are about the same as they were for one month with the old system," said Martin.

Adjusting for seasonal moisture variation, the Center saved 31,274 therms of natural gas in 2006, processing 650,000 bushels of grain. This translates to more than $31,000 in savings at today's $1/therm rate.

"We wish that we'd made the decision to change to a more energy efficient system sooner," said Larry Roosli, general manager. "Not only has our energy use decreased, but we have the opportunity to expand the amount of grain drying we do to one million bushels."

Martin applauds the role Focus on Energy played in their upgrade. "Rich helped us to understand what to look for in terms of technology and the gas savings levels we could expect to see. He also directed us to a number of equipment suppliers who could meet our needs. Rich did a lot of the leg work and made the process extremely easy for us."

THE OREGON FARM CENTER

Established in 1984, The Oregon Farm Center is a growing agri-business located in the Village of Oregon. The business offers customers grain drying and warehousing services and sells horse feed, pet foods and birdseed.

Equipment Upgrade Cost	Estimated Year 1 Energy Savings (therms)	Estimated Year 1 Dollar Savings (at $1/therm)
$156,675	31,724	$31,724

HOW CAN FOCUS ON ENERGY HELP YOU?

"With our new equipment we're saving energy, we're saving employee time and we're providing faster, better service to our customers. Focus on Energy played a critical role in helping us learn more about the best choices for our facility."

Maureen Martin
Secretary-Treasurer, Oregon Farm Center

Improve energy and operational efficiency with the help of Focus on Energy. Our energy advisors can offer in-depth, up-to-date knowledge on a variety of energy topics plus a neutral, third-party perspective that can help you to determine the most effective ways to solve your energy challenges.

For more information, call 800.762.7077 or visit focusonenergy.com

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