

Stora Enso, Biron Facility: Energy Efficiency

Biron, Wisconsin

Focus on Energy Case Study, 2005

The papermaking industry is Wisconsin's largest manufacturing sector as well as one of the state's oldest. In recent decades this important industry faced its share of threats as stiff international competition and rising energy prices have caused mill owners to reconsider how their operations run. Stora Enso is a great example of a paper company successfully combating those challenges to remain a global market leader in the papermaking industry. The company is improving its efficiency, productivity and its bottom line by partnering with Focus on Energy, Wisconsin's statewide energy efficiency and renewable energy initiative.

Since 2001, the public-private partnership Focus on Energy has worked with Stora Enso to lower its annual energy consumption by 22 million kilowatt-hours (kWh) and 3.6 million therms of natural gas, in turn lowering its annual energy costs by \$3.5 million. Stora Enso achieved these significant savings by completing several energy efficiency projects at its six Wisconsin mills. The company employs energy engineers at each of its facilities to oversee implementation of the projects and to identify additional projects that could positively affect the bottom line.

"With the continued rise in energy costs, the payback period for energy efficiency projects is going down," said Dave Leeder, energy engineer at Stora Enso's Kimberly, Wis. mill. "It makes sense for us to continue to reduce our energy consumption, because it keeps us competitive and keeps jobs in Wisconsin. However, without funding from Focus on Energy many of these projects wouldn't have happened."

Updated Drying Process Saves Energy and Operating Costs

One example of how Stora Enso is increasing productivity while reducing energy costs occurred at its Biron mill. Focus on Energy funded a technical study to determine if a dryer management system (DMS) would be appropriate for the mill. The study concluded that a DMS would be the right tool for improving product quality and process efficiency. Based on the findings, Focus on Energy awarded a grant to help with installation of the system.

The DMS installation is the first of its kind in the United States and is designed to automatically and continually adjust to operating changes on the paper drying machines. This new technology has the ability to anticipate problems before they happen, minimizing mistakes and production downtime that result in increased energy use, which negatively affect the bottom line. Installed in 2003, Stora Enso estimates the system will pay for itself in approximately two years by saving the company \$75,000 in annual energy costs. Since the installation at Biron, Stora Enso has added DMS to paper machines in Wisconsin Rapids and Stevens Point.

Fox River Powers Equipment

While the use of a dryer management system at Stora Enso's Biron mill capitalized on energy efficiency to cut costs, the company went even farther by utilizing renewable sources that surround another one of its Wisconsin plants. With the help of two implementation grants from Focus on Energy, two 80 year-old hydroelectric generators at Stora Enso's mill in Kimberly, Wis. were refurbished.

The project involved rewinding the Fox River-powered generators in order to change their electrical output. In their original state, the generators could only be used to power equipment that was outdated and inefficient; however, by completing the rewind, the refurbished generators are now able to operate the mill's modern equipment. The renovation will result in the production of an estimated 6.5 million kWh a year and will save the mill \$300,000 annually on energy costs. Stora Enso estimates that with minimal maintenance the generators could last another 80 years.

Focus on Energy and Stora Enso Encourage Community to "Change a Light"

Stora Enso understands that the sustainability of its surrounding Wisconsin communities is as important as its own corporate community. As a show of support for one of its communities, Stora Enso hosted a "Change Five Challenge" in Wisconsin Rapids, Wis. The "Challenge" was part of a special one-day statewide sale that encouraged Wisconsin

residents to replace their five most used light bulbs with ENERGY STAR® qualified compact fluorescent light bulbs (CFLs). The event was held in conjunction with the larger Focus on Energy "Change a Light, Change Wisconsin" campaign, which promotes the benefits of switching to CFLs.

Residents of the Wisconsin Rapids area responded enthusiastically to Stora Enso's community bulb sale, purchasing almost 4,000 ENERGY STAR qualified CFLs during the sale. The combined savings from these bulbs equaled approximately 264,000 kWh, enough energy to power 26 average area homes for one year. Not only do CFLs save money and energy, they also help protect the environment. The annual environmental impact of the CFLs sold is the equivalent of removing 43 cars from the road.

Commitment to Conservation

Stora Enso has long been involved in energy efficiency and sustainability projects. In fact, the company was recently awarded a number one sustainability performance ranking by Time Inc., for the third year in a row. Stora Enso earned this award for its effective reduction of energy consumption and waste.

Stora Enso is continuing to make improvements to its environmental performance by reviewing its objectives and targets on a regular basis. It is this commitment that has enabled Stora Enso to advance, adapt and thrive through challenges and transitions.

"Along with Stora Enso, a growing number of Wisconsin residents and businesses are looking to Focus on Energy to help them reduce their energy dependence," said Janet Brandt program director for Focus on Energy. "Focus on Energy has a network of experts from across the state who work with businesses and homeowners by demonstrating practical ways they can implement energy and cost saving strategies that meet their specific needs."