

# **Commitment to Energy Management Yields Cost-Saving and Productivity Benefits for Eau Claire Area School District**

## **CASE STUDY**

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**E**ffective energy management programs require dedication from administrators, staff and students. The Eau Claire Area School District decided to make a commitment to energy management because they wanted to be environmentally responsible, and most importantly, the dollar savings could be used in district classrooms and to purchase books for the students. Charlie Kramer, director of buildings and grounds, and his maintenance staff team worked for several years with Energy Advisors from Focus on Energy, Wisconsin's energy efficiency and renewable energy program. Focus on Energy conducted energy audits for all of the district's facilities and recommended that the district consider hiring an energy manager. They also recommended a long list of energy efficiency actions that would reduce the district's energy costs and make its facilities more efficient and productive. So, in 2003, Mr Kramer assigned existing district lead facility manager, Todd Wanous, to take on this task.



Todd Wanous, district lead facility manager, reducing vestibule thermostat to comply with district wide temperature settings.

"After the energy audit was conducted, we realized how much money we were wasting by not implementing simple and effective energy efficiency improvements," said William Klaus, superintendent for the Eau Claire School District. "By making this commitment to energy management and identifying a

dedicated energy manager, our schools use far less energy. Our energy costs have been reduced and our staff, students and visitors are more comfortable and more productive."

### **CONSERVATION AND EFFICIENCY ACTIONS ADD UP**

The Eau Claire School District has reduced its energy use and costs by taking several energy efficiency actions at its facilities. The district estimates it will reduce energy costs by \$224,000 each year by taking energy efficiency steps described below.

#### **1. Reduce Lighting Use In Areas When It Is Not Needed**

Some areas in different facilities were over-lit, which wastes energy unnecessarily. The staff conducted light level surveys of each facility so it could determine which areas were properly lit and which were either over- or under-lit. Maintenance staff delamped the areas that were overlit. That is, they removed approximately 3,700 bulbs, reducing the district's kilowatt (kW) demand by 118 kW and saving approximately \$13,000 each year.

The district replaced the high intensity discharge (HID) fixtures in several of the district's gymnasiums with high efficiency fluorescent fixtures. These new fixtures give staff and students more control; they can adjust lighting levels based on actual need. For example, the light level required for a Friday night basketball game is much higher than the level required for an after school meeting. Also, occupancy sensors were installed so that the lights would automatically turn off when no one was using the space. Estimated energy cost savings for these projects are \$20,000 annually.

Four additional lighting changes reduced lighting energy use. First, staff targeted all of the

district's soda vending machines and removed the bulbs that light the front display panel. This action has no impact on the product, but it saves energy. Second, they replaced the lighting in pool spaces with more energy efficient, controllable lighting fixtures. Third, during the summer months excess lamps were removed from existing fixtures to reduce lighting levels in areas with higher than needed light levels. And fourth, they replaced all old exit signs, which were a combination of incandescent and fluorescent lights, with light-emitting diode (LED) units. Estimated annual energy cost savings for the four lighting changes are \$41,000.

## 2. Manage HVAC and Boiler Systems More Effectively

Focus on Energy recommended a number of improvements to the district's heating, ventilating and air conditioning systems as well as boiler operations. First, staff made several adjustments to air handling equipment in different areas. In gym spaces, they installed motion sensors that allow the units to go into a standby mode when the space is unoccupied. This action reduces both natural gas and electricity costs. The run time of air handling equipment in some buildings was reduced as well; this action also saves both natural gas and electricity.

Staff made several standard operation and maintenance adjustments. These actions should be taken every year, at minimum:

- Fine tune the heating and air conditioning equipment controls
- Tune up boilers to run efficiently
- Install tabulators in several boilers
- Reduce temperature set points to save heating costs
- Increase temperature set points to save air conditioning costs

Annual energy cost savings are estimated to be in excess of \$100,000.

## 3. Turn Off Computers During Non-business Hours

The information technology department turns off the district's computers during evenings, weekends, holidays and summer vacation. This one action saves the district an estimated \$50,000 a year.

## 4. Everything Else

Maintenance staff installed three additional cost-saving pieces of equipment. These included a load control system to reduce electricity demand charges, pool covers to save heating and chemical costs, and adjustable speed drives on motors to reduce electricity costs.

Finally, the district made changes to its purchasing and staff training policies. It formally changed equipment purchasing

policies so that staff must look for energy efficient options when buying equipment for the district. And last, but extremely important, the district recognized that it must train its staff – both teachers and maintenance personnel – about the benefits of energy efficiency and why the district is taking these actions. Accordingly, it is using the K-12 Energy Education Program (KEEP), which is supported by Focus on Energy, to offer training opportunities. Maintenance staff have also attended Focus on Energy's training courses to learn equipment-specific efficiency actions.



Lakeshore Elementary facility located adjacent to Dells Pond

## COMMITMENT IS KEY

As shown by the Eau Claire School District's experience, a top-level dedication to energy management is crucial to the success of school districts in Wisconsin.

"Believe it or not, U.S. school districts spend over 9 billion dollars each year on energy," noted Charlie Schneider, sector manager for Focus on Energy's Schools and Government Program. "By making a commitment to energy management, a school can improve its energy efficiency and lower its energy bills by 25 percent or more, saving money for other resources such as books, computers or maintenance. Obviously, district-wide, the savings can be substantial."

The Eau Claire School District's action plan delivered savings to its bottom line because the district achieved its performance goals, made technical improvements and clearly defined roles and responsibilities to continue at optimal energy efficiency levels. The school district continues to identify projects that will provide additional savings as they fine tune their buildings.

## FOCUS CAN HELP YOU

If you are interested in learning more about energy efficiency opportunities for your school or district, contact Focus on Energy at 800.762.7077 and ask to speak with a member of the Schools and Government Team. Or visit our Web site at [focusonenergy.com](http://focusonenergy.com).