BUSINESS PROGRAMS

Athens School District, Athens, Wisconsin

PARTNER NEWS UPDATE

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Energy efficiency represents a practical way for schools of all sizes to manage energy-related costs. Athens School District, with just two schools and 555 students, is learning this lesson firsthand. "A few years ago, our district made a commitment to stay in our existing buildings instead of constructing new ones," said David Wessel, the District Administrator. "So we wanted to do everything we could to make them as energy efficient as possible."

David Wessel, the Athens School Board, and the school's staff are working collaboratively with Focus on Energy's Schools Program to implement smart, cost effective, energy efficient measures. The commitment of this team to making these improvements will help the Athens School District reduce monthly energy bills as well as operation and maintenance costs for years to come.

Athens School District has two buildings, one for kindergarten through fifth grades, approximately 34,000 square feet, and one for sixth through twelfth grades, approximately 75,000 square feet. In a previous state-sponsored program (WEI-2), Charlie Schneider, now Focus on Energy's Schools Program Manager, conducted an energy audit of the schools. The district also paid for a study of its HVAC system, using North American Mechanical, a Focus on Energy Program Ally.

ENERGY SAVING TIP: GET EVERYONE INVOLVED

One no-cost way for schools to maximize energy savings is to get everyone involved in the energy-saving process. Schools should encourage staff and students to take action. They play an important role.

Focus on Energy's Schools Program encourages students and staff to make energy efficiency a habit every day. They can turn off unnecessary lights and keep doors and windows closed on cold or hot days.

These habits represent good lessons learned, and help reduce school energy costs.

"Athens is a typical school district, even though it is small," noted Charlie Schneider. "It isn't easy to find money in a tight budget to make energy efficiency improvements."

These two different analyses identified multiple ways to reduce energy use. Some were equipment-related and some involved simply changing behaviors. The first step that Focus on Energy Advisors always recommend: get students and staff involved in saving energy. Athens High School was one of the first to take up the challenge.

Five equipment-related recommendations were implemented. First, the district upgraded the lighting systems in both school buildings. These lighting retrofits included exchanging old lamps and fixtures for energy efficient T-8 fluorescent models and adding occupancy and light sensors in office spaces.

"We know it's important for our staff and students to turn off lights and make good decisions about energy efficiency," said David Wessel. "But the occupancy and light sensors help, too."

Second, the district tuned up the building's boiler. This critical maintenance step is often overlooked, or its importance is downplayed by building managers. While this step does cost money, it can save many more dollars in the long term. It ensures a boiler operates as efficiently as possible. Routine maintenance usually extends equipment life as well.

Third, it changed the HVAC system's morning warm-up procedure. In the past, the energy management system (EMS) would automatically open the outside air dampers at 6:00 a.m., bringing in cold (sometimes frigid) fresh air to ventilate the facility. This typical procedure wastes energy by heating cold air well before staff and students arrive for the day. Now, the EMS keeps the dampers closed until just before the school day begins. This slight adjustment (only an hour or so each day) saves the district $1,570 per year.

Fourth, the district was able to remove an electric booster heater in the kitchen by readjusting the existing water heater temperatures and repiping the system. (The school needs to heat water to 180° F for the dishwasher's rinse cycle, to meet the State Health Code.)

Finally, the district installed VendingMiser™ units on its vending machines. These power control units reduce the energy consumed by cold drink vending machines by an average of 46 percent. Like a refrigerator, a vending machine runs 24 hours a day, every day. VendingMiser powers down these machines when they are not in use. A sensor detects when students or staff approach a vending machine, and it powers up automatically.

These five energy efficiency measures should yield annual energy savings of 204,661 kWh, 109 kW and 3,150 therms. In addition to these energy-saving measures, the district made two improvements that increase energy use, but improve the comfort of staff and students. It added air conditioning in the library and improved the heating and ventilation systems in the band room. (The problems in the band room dated to the building's construction in the 1960s.)

When all measures are combined, the district will achieve two important goals. First, overall energy costs should drop by approximately $6,000 per year. Focus on Energy awarded the Athens School District an Implementation Grant to offset the costs of making these investments. Second, these improvements increase energy efficiency and comfort levels of the existing buildings — one of the district's initial goals for this project.

Collaboration is a critical part of the ongoing energy efficiency efforts in the Athens School District. "To work effectively, we have to build strong, long-term relationships with decision makers," said Charlie Schneider. "When we're successful at this, we save schools money."

David Wessel concurs. "Our plan was to institute the most effective energy savings projects that offered the quickest paybacks. And with Focus on Energy's help, we did. We will continue to work with Focus on Energy to monitor our energy savings as well as find additional ways to improve our buildings."

PROJECT TECHNICAL SUMMARY— Energy Saving Measures *Athens School District*

SAVINGS PROJECTIONS	ANNUAL ELECTRICITY SAVINGS (kWh)	ANNUAL DEMAND SAVINGS (kWh)	THERM SAVINGS	PROJECTED ANNUAL COST SAVINGS
Focus on Energy Action Item				
Lighting system retrofit	165,052	71	1,458	$11,680
Change morning warm-up procedure	0	N/A	2,850	$1,570
Tune up boilers	N/A	N/A	512	$282
Eliminate electric booster heater	33,169	38	–1,670	$2,890
Install VendingMiser™	6,440	0.16	N/A	$430