

Case Study – Vestaburg Community Schools



The Challenge

- Escalating energy costs, potential for doubling energy costs in near future
- Already tight operating budgets
- Inefficient and dated HVAC and water heating systems
- Various sources of energy loss throughout the facilities
- Overall environment was not optimized for learning
- Understood need for improvements; however, a creative solution was required to overcome budget challenges

The Solution

- Sheren Energy conducted an energy audit to learn how and where we were using energy
- From the energy audit results, the team created a customized energy savings plan to answer Vestaburg's specific challenges
 - **Upgraded steam boilers to hot water boilers**
 - More energy efficient, less utility costs
 - Provides a failure backup, meaning less school closures
 - Prevents water freezing in the pipes
 - Prevents water leakage at joints
 - Better protects the District's system and investment
 - Less costly to maintain
 - **Updated lighting**
 - Provides better lighting for an environment more conducive to learning
 - Reduces energy usage and utility costs
 - **Added solar hot water heater**
 - Provided free-of-charge as part of a study to test the solar hot water heater's effectiveness in this application
 - The solar hot water heater is a secondary water heating source
 - Ideally, the solar hot water heater will enable the standard hot water heater to be even more efficient
 - Further reducing energy usage and utility costs
 - **Upgraded doors, improved seals**
 - Reduces energy loss, saves on utility costs
 - **Improved computer setup**
 - More energy efficient, runs four to seven computers from one tower
 - Energy efficient monitors use less energy

- Automatic system shut-off reduces wasted energy
 - This affects our three computer labs: the elementary, middle school and high school.
 - Overall greater efficiency means less utility costs
- We also quantified the amount of anticipated energy savings in terms of usage and dollars.
 - The team also created a financing plan whereby Vestaburg could use the identified savings to pay for the needed upgrades...meaning no out-of-pocket expenses for the district.

The Results

- **Enables savings of \$1,600,000 in energy costs over 15 years**
- Combats escalating energy costs
- Provides a more comfortable and conducive to learning
- Offers systems that are easier and less costly to maintain