

**Carlisle County School District
Energy Management Plan (EMP)
SY 2011 - 2012**

Executive Summary

In keeping with the vision the Carlisle County School District, we will focus on the elimination of energy and utility waste to achieve energy savings while enhancing the quality of the educational environment. Sustainable practices are not only economically efficient and environmentally sensitive; they are conducive to the well being of all district employees, teachers, and students. Energy management policies can have an important impact on the quality of the learning environment, particularly in the areas of lighting and indoor air quality. Curriculum enrichment can be accomplished by providing teachers and students with classroom activities aligned to the State Standards that help develop awareness of the importance of environmental resource conservation. Experts have found that good energy management policy can actually enhance the benefits of a good classroom environment while optimizing energy use. The Board of Education encourages each SBDM to adopt the plan and tailor it to each school to improve the awareness and conservation of our resources.

The objectives of the Energy Management Plan are in support of the District's strategic plan.

Year 1 Objectives

Utilize SEMP to provide leadership and direction
Create an awareness of energy use and conservation
Identify resources such as KEEPS, NEED, KGHS and Energy Star
Create an Energy Management Committee
Encourage student, teacher, and community involvement
Assess current energy use practices
Develop an action plan

Year 2 Objectives

SEMP develops sustainability as SEMP program ends
Move from an awareness to an orientation and implementation phase of energy use and education
Implement and monitor action plans
Increase student involvement and leadership in energy conservation
Build collaborative network with other districts in the consortium

Energy Management Plan Components and Action Tasks

The Energy Management Plan (EMP) is divided into four components – Education, Waste Reduction, Retrofit Projects, and Monitoring and Assisting. In order to support the district's objectives we will pursue the following action tasks as they pertain to these components:

Education

- Encourage use of educational programs that are correlated to the State Standards and relate to energy use and conservation.

- Conduct an energy-training program for principals, teachers, and staff, which provides specific steps to reduce energy waste.
- Explore, implement and utilize NEED, KGHS, KEEPS, Energy Star and other sources as appropriate throughout the curriculum, PS-12.

Waste Reduction

- Develop detailed guides for each school that can be used to reduce energy and utility waste.
- Monitor conservation efforts. Maintain and analyze data to see where savings can be found.
- Benchmark all schools to determine the most urgent needs and opportunities for savings.
- Encourage all construction/renovation projects to be energy efficient
- Consider the development of an energy performance contract, if feasible, with school board and superintendent approval.

Assisting, Monitoring, and Reporting

Assist schools and departments with the implementation of their own school energy management plan components as addressed in their school improvement plans. Provide internet-based “Information Station” for all schools and facilities, so that all staff can be aware of their progress toward the energy performance objective on the district websites. Provide internet-based resources for teachers and staff on subjects relating to energy and human impacts on the environment.

Policies and Procedures for Energy and Utility Waste Reduction

Temperature Settings:

Cooling temperature settings are to be at 72 degrees in all schools.

Heating temperature settings are to be set as follows in the respective school: Elementary 72 degrees, Middle 72 +/- 2 degrees, and High School at 72 degrees.

Should room or building comfort become adverse, conditions should be reported to the building administrator or the director of maintenance/operations.

Sustainable Practices:

- Turn off lights when area is left unoccupied.
- Turn off machines and equipment when not needed.
- All lights (inside and outside) must be turned off each day after the buildings are locked for the night. Timers must be adjusted for such hours.
- Water heaters must be set for usage time only (pre-heat should be 30 minutes).
- Water heaters that are never used must be turned off (e.g. custodial rooms).
- Kitchen equipment must be turned on for usage time only (pre-heat should be 30 minutes).
- The amount of athletic lighting used should be appropriate for the activity and used only when necessary (e.g. use lights only when it is dark).
- Use appropriate partial lighting for after-hours activities (e.g. partial banks of lights for practice or group meetings).
- Review the activities scheduled, so as to meet the needs of the group (e.g. small group - small room).
- Review use of facilities by outside agencies (can they be housed outside of the school setting)?
- After-school activities must be housed with HVAC efficiency taken into account. (At some schools using even one room requires the entire building or school’s central HVAC system to be turned on.)
- Water cooler thermostats are to be set at the highest setting.
- Investigate the use and location of personal appliances (e.g. microwaves, coffee pots, space heaters, and refrigerators) to determine if they meet all safety requirements. Usage studies could be utilized to help determine cost of operation, practicality and/or the use of personal appliances. Use of these appliances in non-instructional areas may be considered appropriate. School plans should address this issue.
- Identify additional items of equipment that can be turned off during extended school closures.
- HVAC systems should be turned on no sooner than necessary prior to students’ arrival and must be turned off as soon as practical after the completion of school activities.

- Thermostats must not be tampered with to alter HVAC pre-set temperature ranges.
- In any area where HVAC is in operation, doors and windows must remain closed.
- Planned evacuation drills should take place during non-peak HVAC hours.
- Return airflows must be unrestricted.
- When feasible, schedule wet deep cleaning of carpets during the dryer times of the year.

Information Guide for School Officials

For the Principal

- Appoint an Energy Coordinator for your school if practical
- Shutdown computers and monitors at the end of each day
- Make sure room temperatures are consistent with the Energy Management Program.
- Blinds or drapes on windows that receive direct sunlight should be closed when air conditioning systems are on and at night during the winter.
- Do not use assembly areas, such as the auditorium or gymnasium, for small groups that can comfortably meet in smaller areas.
- Schedule the use of classrooms and other spaces wisely to reduce energy consumption. Do not allow teachers or students to use vacant classrooms. Use the fewest number of rooms necessary for summer and night programs. Schedule teachers into one room for preparation periods, and place support staff in fewer rooms, if possible.
- Schedule classes to maximize the utilization of classroom space in the buildings.
- Implement a lighting procedure. Keep lights off when space is unused.
- Reduce the movements of students and staff in and out of buildings.
- When repainting buildings, specify light, reflective colors.
- Establish a resource center for energy education in your school. Take advantage of KEEPS and related resources.
- Solicit feedback from students and staff on energy conservation.
- Inform the public, parents and other groups about your school's energy conservation efforts.

For the Teacher

- Do not block classroom air supply and return grills with furniture or displays.
- Keep classroom doors and windows shut when heat or air conditioning is on.
- Close all windows and doors when leaving the classroom at the end of the day and turn off all machinery and lights.
- Do not cover or block thermostats.
- Do not adjust thermostats beyond the Energy Management Program guidelines.
- Report faulty thermostats and other equipment that may be malfunctioning.
- Wear warmer clothes in cold weather and encourage students to do the same.
- Wear cooler clothes in hot weather.
- Combine classes when practical, especially when using A/C or heating equipment.
- Involve students in monitoring energy usage.
- Turn off lights when leaving room.
- Shut down computers and monitors at the end of each day.

For Custodians

- Check for proper thermostat settings and functions.
- Check for overheated and over cooled areas.
- Turn off power ventilators and exhaust systems when not needed.
- Isolate unoccupied spaces from heating and cooling systems.
- Turn off lights in unused spaces.
- Disconnect all unused electrical equipment.
- Follow procedure for turnoffs during weekends and vacations.

For Maintenance

- Check all building insulation, caulking and weather-stripping. Repair caulking and weather-stripping as necessary.
- Inspect heating and air conditioning equipment periodically.

- Replace worn seals, fittings, traps, etc., check ducts for leakage.
- Check the hydraulic system pipes that pass through uninsulated areas.
- Keep refrigerator compressors and condensers clean.
- Inspect drinking fountains for proper operation and leaks.
- Check all plumbing for leaks.
- Reduce hot water temperatures to 120 degrees F except in food preparation areas.
- Secure all attic and roof hatches.
- Replace ceiling tiles when dislodged, broken or missing.
- Keep door closer in good working condition.
- Repair damaged windows and doors immediately.
- Adjust timers to coincide with changes in Central Standard Time and Daylight Savings Time.
- Inspect and clean water coolers.

Motivational Tips

For Staff

- Staff cooperation in support of energy management practices starts with effective communication. Most school-based personnel are not aware of energy costs in the operation of their school. One obvious way to develop staff awareness of energy waste is to regularly communicate energy costs.
- How these costs are communicated can make a big difference between staff being mildly interested in saving energy or highly motivated to take an active role in the conservation of energy. The impact of energy waste becomes real when energy costs are expressed in terms of numbers of teaching positions or textbooks instead of just dollars. If a conservation program is to work, the staff at each school site must understand and support it. Here are some suggestions for communicating the high price of energy to staff in order to interest school people in changing wasteful habits.
- At school staff meetings, discuss energy costs and practical ways to reduce waste.
- Advertise the use of energy in visible places, such as bulletin boards, front lobbies, newsletters, etc.
- Conduct periodic energy contests on school energy use. There are a number of methods to bring about competition in saving energy among teachers and students.
- Involve SBDM Councils, PTA's and other community groups in an effort to gain support for energy conservation.
- When staff is made aware of the impact that energy costs have on the school's budget and are motivated to reduce energy consumption, there are several opportunities that can be used to make them a part of the solution. These are some suggested strategies:
- Turn off lights and air-conditioning when they are not needed.
- Be sure classroom doors and windows are kept closed when heaters or air conditioners are operating.
- Cooperate with the energy audit team to see that the ideas suggested are followed.
- Organize student energy conservation teams to help monitor school energy use.

For Students

- Students can become a strong force in helping schools realize energy savings. Many young people today subscribe to programs designed to preserve our natural resources. The importance of conserving these resources and being a part of the "team" to actually save energy around the school is an important start in a successful program. This can be realized in part by the following:
- Giving students an opportunity to learn energy savings skills they can use at school and at home.
- Ask students to chart and organize school energy data that in turn can support the overall effort.
- Students can feel pride in their school when they work to make it a better place.
- Since there are more students than staff, involving students creates more energy savers.
- Staff will be more likely to save energy if reminded by students.
- In order to foster enthusiasm and involvement in energy savings activities, teachers should:
- Give students a challenge to let them know they can make a difference in energy costs.
- Provide opportunities for recognition and sponsor awareness contests that are available through energy conservation programs.
- Use civic activities and ideas provided through the Energy Management Committee.