

Scott County District Energy Management Plan

January 3, 2011

Objective

In support of student learning, Scott County Schools collaborate to reduce energy consumption of buildings, classrooms, equipment and vehicles.

It is the intent of Scott County Schools to use energy resources in a safe, efficient and responsible manner with an on-going focus on identifying and implementing cost savings measures. It is also the intent to develop staff and student commitment to identified energy management practices.

The Scott County Schools Energy Manager and District Energy Management Committee will direct the development, update and maintenance of this energy management plan (EMP). The Energy Manager and District Energy Management Committee will track and monitor the EMP to determine progress toward managing and reducing energy costs. Effective with the 2011-2012 school years, the Energy Manager will report the EMP results for each fiscal year, including annual District energy usage, costs and anticipated savings to KPPC – The Kentucky Pollution Prevention Center – by October 1st annually through the Kentucky Energy Efficiency Program for Schools (KEEPS).

A status report on implementation of the EMP in all facilities will be provided to the Board following the end of each fiscal year.

Responsibility

Faculty, staff and students must use energy prudently. Everyone must turn off lights when rooms are not in use. Each person is responsible for turning off energy using devices such as office equipment (computers, printers, etc.) when they are not being used. One should not assume that someone else will do it. Occupied space temperature set points shall be maintained at the temperatures set forth in this plan. Windows and exterior doors must be kept closed to prevent the loss of conditioned air. Faculty, staff and students should report inoperable equipment to Maintenance and wasteful practices to the Energy Manager so corrective action can be taken. The Energy Manager shall monitor utility usage and strive to promote and implement the guidelines outlined in this plan.

General Guidelines

Temperature — To maintain reasonable comfort and lower energy expenditures, the school district has established the following standards for comfort heating and cooling. Summer thermostat settings (air conditioning) during occupied periods are to be 72-76°F. During unoccupied periods thermostats are to be set back to 80°F. Winter settings (heating) during occupied periods are to be 68-72°F. During unoccupied periods, thermostats are to be set back to 60°F. Exceptions to these guidelines must be approved by the Energy Manager. To properly monitor temperature in rooms, areas around thermostats must be clear of computers, televisions, and other electric appliances that give off heat. Additionally,

supply air vents must be clear of obstructions such as flags, banners, signs, etc., that may interfere with the design airflow which in turn affects occupant comfort.

Occupied temperature settings will be maintained for each school facility from 7:00 am until 5:00 pm Monday through Friday to allow for after school club meetings, faculty meetings, etc. After this time and on weekends the HVAC system will be in the unoccupied mode. If an event is scheduled outside of the occupied time period, school personnel may use local temporary overrides or put in a request to the maintenance department.

Building Resource Management — Windows and doors must be kept closed during the heating season and during the summer in those areas that have mechanical cooling. Gym exhaust fans are to be turned off when the air conditioning unit serving that area is operating. Every member of the school district should assume the responsibility of closing windows, turning off office equipment when not in use, and shutting off the lights when leaving a room. Computer monitors should be turned off when not in use and printers should be turned off at the end of the day. Computers, printers, etc. should be turned off when school will be out for extended periods such as Fall Break, Christmas Break, Spring Break and Summer Break. If at all possible personal refrigerators should be shared as it costs the school district between \$40 and \$50 per year for each one and with the number currently in the district it costs over \$20,000 each year to operate. For the personal refrigerators that are in the district, the following conditions shall apply. They are to be cleaned out and turned off for Fall Break, Christmas Break, Spring Break and Summer Break. Energy management devices and strategies will continue to be added. Schedulers of classes, meetings, and other school activities should endeavor to minimize energy use. Evening activities should be concentrated in the fewest areas possible, and where appropriate, the areas used should be those that already have late night temperature setback.

Lighting — Interior lighting shall be fluorescent or LED, whenever possible. New energy-saving fixtures, lamps and ballasts will be used to replace existing less efficient lighting whenever economically feasible and appropriate. Exterior lighting will utilize energy efficient lamps and ballasts. Decorative lighting shall be kept to a minimum. Lighting levels recommended by the most recent edition of the IES (Illuminating Engineering Society) Lighting Handbook shall be used as guidelines. Also, new and renovated lighting design will adhere to the International Energy Code's "watts per square foot allowed" for a school building, which the State of Kentucky has adopted. Where it makes economic sense, automatic, digital lighting controls on a programmed time clock system and/or occupancy/motion sensors (ultrasonic or infrared) wired to area lighting will be installed to reduce and/or turn off lights in unoccupied, vacated areas. Task lighting, such as desk lamps, is recommended to reduce overall ambient lighting levels. Teachers are encouraged to use task lighting at the end of the day after the students have left instead of the overhead fluorescent lighting. Compact fluorescent bulbs should be used in desk lamps. These are now readily available at local stores.

Space Heaters — Whether they are purchased by the school district or personal property, two issues affect the use of space heaters in buildings — fire safety and energy efficiency. All space heaters used must be approved for fire safety, as classified by the National Fire Protection Association. No liquid fueled space heaters (e.g., kerosene heaters) shall be used in any office or classroom. Some electric

space heaters also pose an unacceptable fire hazard. All space heaters must meet the following four specifications: Heaters must (1) be UL approved, (2) have elements that are protected from contact, (3) be tilt-proof (when tipped over, heater goes off), and (4) be thermostat-controlled. Space heaters must be unplugged when not in use. The issue of energy efficiency is also important — electric space heaters are a very costly means of heating. If a member of the school district feels that a space heater is necessary for adequate warmth, this may indicate that the central heating system needs repair. Maintenance should be consulted if the central heating system is incapable of meeting comfort requirements. Space heaters should never be used to offset excessive air conditioning. Excessive cooling of a space below the summertime Temperature Guidelines should be reported to Maintenance so that air-conditioning levels can be adjusted.

Holiday Periods — A period of closure for the school district offers a great opportunity to save money on utilities that can be spent in other areas. Past history has shown that very few people occupy the buildings for any substantial time during the holidays. With this in mind, buildings shall be in setback mode (heating at 60°F degrees and cooling at 80°F) during holiday periods. The exception to the policy will be buildings or areas that contain special collections or sensitive equipment, or buildings that are officially open during the holidays. Requests for exceptions to this policy with justification should be addressed to the Director of Maintenance. Personal refrigerators should be cleaned out and turned off for Fall Break, Christmas Break, Spring Break and Summer Break.

New Construction — The school district shall seek to reduce future energy costs in new facility construction and renovation whenever feasible. The school district shall comply with the Kentucky Building Code's energy provisions and regulations of all out state agencies having jurisdiction. All planning for major construction and equipment purchase/installation must include energy life cycle costing. New equipment purchased must carry the ENERGY STAR label as often as practical. As resources become available, Scott County Public Schools shall develop and implement design standards for new construction to include energy efficiency. The energy manager can play a key role in planning new building construction and should be used in this role when possible.

Water Conservation — Scott County Public Schools is committed to promoting the conservation of water in addition to energy. Faculty, staff, and students should report malfunctioning water faucets, toilets and urinals to Maintenance so corrective action can be taken. Faculty and staff shall educate students on the importance of turning off water after using restroom facilities. The school district shall seek to implement methods of capturing rainwater for use in non-potable applications only when determined by the Maintenance Department as fiscally and esthetically sound. Use of native plantings where possible shall be used to reduce the amount of watering needed.

Suggestions

The Energy Team encourages suggestions for additions or modifications to this Energy Plan as well as other energy or water conservation suggestions. Please send to jim.mcclanahan@scott.kyschools.us