

# Edmonson County

## District Energy Plan

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### **Objective**

Edmonson County Public Schools is committed to promote energy efficiency to our faculty, staff, students, and community.

We shall strive to conserve energy and improve the energy efficiency of our buildings, vehicles, and equipment, and the goods and services that we use. We shall use environmentally safe and sustainable energy sources as often as practical while achieving savings. We shall strive to increase our use of energy from renewable sources.

We shall implement these principles by demonstrating community leadership, collaborative planning, and by adopting best energy management practices. We shall establish goals, objectives and indicators; conduct an annual self-evaluation of our progress; and communicate regularly with the Edmonson County Public School community.

### **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 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 the plan.

Form an Energy Management Team to consist of County Superintendent, Treasurer, Maintenance Staff/Director, Energy Leader, and a mixture of school personnel. The Maintenance Director will chair the meetings.

# INTRODUCTION TO Edmonson County's Action Plan

## Mission Statement

The Edmonson County School District is dedicated to energy efficiency and conservation. We believe that energy efficiency and conservation is important to protect our environment, to preserve our natural resources, and to encourage responsible spending of our community's tax dollars. The program is designed to educate everyone about energy efficiency and conservation and promote energy efficient habits.

## Goals

1. Educate students, staff, and community on WISE use of energy and the importance of energy efficiency.
2. Reduce the Edmonson County School District's environmental impact through better use of natural resources.
3. Reduce energy consumption in all buildings through good practices so that district funds can be redirected for other uses.
4. Empower Administrators to make informed decisions that favorably impact the use of energy at their site.
5. Promote energy awareness and stimulate smart energy efficient behaviors among all occupants and users.
6. Engage students in active responsible citizenship through Energy based activities.
7. Increase student achievement.
8. Encourage the better use of school facilities as a hands-on learning lab.
9. Provide energy leadership opportunities to students.
10. Promote the Edmonson County School District as good and responsible stewards of the environment and community tax dollars.

## Background

The Edmonson County School District spends approximately \$297,194.00 annually in energy costs. We consume 8,486,121,689 kWh of electricity. If we can reduce our electricity consumption by only 10% we will save nearly \$29,720 dollars annually.

Because of our dedication to energy efficiency and the environment, the ECSD plans to adopted Green building practices in all of our new construction and renovation projects. This will ensures that we build schools that are environmentally friendly and provide a healthy environment for its occupants.

We have also committed to improving the energy efficiency in our buildings. We have created a Sustainable Energy Plan to provide direction and goals for continuous improvement of our energy program. We are an ENERGY STAR PARTNER and have signed up to take the ENERGY STAR CHALLENGE to reduce energy consumption.

The program we have developed is to educate building occupants and the community about energy efficiency while reducing energy consumption in our schools. Each participating school will create an Energy team that consists of students, an administrator, a building support person, and a team sponsor. The Energy Team Program Manual will provide the framework and “how to” of the program but the level of success is up to each team and their level of involvement. Each team will receive an Energy Award. The type of award will be dependent on the level of participation in the program.

The Energy program works in conjunction with the Kentucky NEED Project by using NEED energy kits and curriculum. A large portion of these kits have been donated by the Kentucky NEED Project in partnership with GRREC and the Department for Energy Development and Independence. The Kentucky NEED Project will also help with training and implementation of the program.

## **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 69 -74°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 sense 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, 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 energy management department.

**Building Resource Management** – Window and doors should be kept closed during the heating season and during the summer in those areas that have mechanical cooling. 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 should be turned off when school will be out or extended periods such as 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, 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 be high-pressure sodium or metal halide (metal halide is preferred) whenever possible, and will meet minimum current safety requirements. 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. Where it makes sense, occupancy/motion sensors (ultrasonic or infrared) wired to area lighting will be installed to reduce and/or turn off lights in unoccupied, vacated areas. Day-lighting controls will be installed, if economically feasible, to automatically adjust lighting levels as appropriate. 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.

**Refrigerators, space heaters, coffee pots, and other individual appliances** – this equipment is prohibited in individual classrooms. The School Principal can allow appliances in teacher lounges and workrooms. Exceptions may be granted on a case-by-case basis. These exceptions must be approved by the Principal and Superintendent.

**Switchover from Heating to Cooling** - Most systems installed in our schools have automatic changeover capability. Where manual changeover is necessary, maintenance personnel perform required changeover from heating to air-conditioning in the spring. Maintenance performs the changeover on the basis of priorities established to (1) provide comfort to students, (2) maintain required temperatures to protect equipment, and (3) serve the greatest number of individuals and activities. Air conditioning may not begin until outside temperature has reached 75°F for three consecutive days. Temperature projections are also considered. The wide swings in temperature during the spring of the year and difficulty in switching between heating and cooling make this policy necessary. Special problems of hardship with this policy should be addressed to the Director of Buildings and Grounds.

**Switchover from Cooling to Heating** - Most systems installed in our schools have automatic changeover capability. Where manual changeover is necessary, maintenance personnel perform required changeover from air-conditioning to heating in the fall. Maintenance performs the changeover on the basis of priorities established to (1) provide comfort to students, (2) maintain required temperatures to protect equipment, and (3) serve the greatest number of individuals and activities. Heating may not begin until the high outside air temperature has dropped below, at least 55°F, for three consecutive days. Temperature projections are also considered. The wide swings in temperature during the Fall of the year and difficulty in switching between heating and cooling make this policy necessary. Special problems of

hardship, with this policy, should be addressed to the Director of Buildings and Grounds.

**Filters** – Filters shall be changed / checked monthly on ceiling units and bi-weekly on floor units

**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 only minimally heated/cooled during holiday periods. The exception to the policy will be building or areas that contain special collections or sensitive equipment, or building that are officially open during the holidays. Requests for exceptions, to this policy with justification, should be addressed to the Director of Buildings and Grounds.

**New Construction** – The school district shall seek to reduce future energy costs in new facility construction and renovation whenever feasible. Current standards outlined in *ASHRAE Standard No. 90.1 Energy Efficient Design of New Buildings Except Low Rise Residential Buildings* shall be followed as closely as possible. Additionally, all city and state regulations shall be followed. 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, Edmonson County Public Schools shall develop and implement design standards for new construction to include energy efficiency.

**Water Conservation** – Edmonson 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 and shall use native plantings where possible 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

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**(Approved /Revised - 12/12/2012)**

