

2018-19 Boone County Schools District Energy Plan

Objective

Boone County School District is committed to protecting and conserving energy and the environment by seeking innovative solutions that encourages long-term sustainability. We will strive to engage students, faculty, administration and the community in our quest to develop a sustainable school environment. From large-scale initiatives, like constructing environmentally friendly buildings, to everyday practices, like recycling, we are taking big steps to ensure our district leaves a smaller footprint. Boone County Schools shall strive to use energy resources in a safe and efficient manner with an on-going focus on identifying and implementing cost saving measures and developing staff and student commitment to identified energy management practices. Our objective is to save money on energy consumption so more money will be available to spend on students – our primary focus!

The original version of this plan was developed in 2011. The current version was revised and updated by the District Energy Coordinator and Energy Committee in 2017/18. The Energy Coordinator and the District Energy Committee will track and monitor the energy management plan to determine progress toward managing and reducing energy costs. The Energy Coordinator will report the energy costs for each fiscal year, including District Energy usage, costs and anticipated savings to the Kentucky School Board Association (KSBA) by October 1st annually. Our school district will work in partnership with EPA Energy Star, National Energy Education Development Project (NEED), Kentucky Green and Healthy Schools (KYGHS), US Green Building Council (USGBC), and the KSBA to broaden our energy initiatives and maximize our opportunities for improving our energy performance.

Responsibility

Faculty, staff and students must work together to use energy wisely. Everyone must turn off lights when rooms are not in use. Each person is ultimately 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 Coordinator so corrective action can be taken. The Energy Coordinator will 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 set globally at 72 - 74°F. Winter settings (heating) during occupied periods are to be set globally at 68 - 70°F. Exceptions to these guidelines must be approved by the Energy Coordinator. 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. Instituting clear guidelines for “occupied” and “unoccupied” HVAC settings during both warmer and cooler months which will allow for faculty, staff, students and other building users, including parents, to dress appropriately. Education and awareness are an important part of the long-term success of Boone County’s energy program. Please see below for our HVAC procedures and work order guidelines while school is in session:

- OCCUPIED HVAC settings are in place for **classrooms** for middle and high schools from **6:00 am to 3:30 pm**. Monday – Friday.
- OCCUPIED HVAC settings are in place for **classrooms** for elementary schools from **6:00 am to 4:00 pm** Monday – Friday.
- OCCUPIED HVAC settings are in place for **activity areas** (i.e., gyms, cafeterias, library and auditoriums) from **6:00 am to 9:00 pm** Monday – Friday.
- OCCUPIED HVAC settings are in place for **office** areas from **6:00 am to 6:00 pm** Monday – Friday.
- OCCUPIED HVAC settings are in place for main high school gymnasiums from **6:00 am to 9:00 pm** on Saturday

If you have a scheduled activity or event that falls within these time zones – NO work order is need. If your activity or event is outside of these times – please put in a work order. No email or telephone requests to the Facilities Management department regarding schedules.

Please note that the above “in-school” HVAC settings will still be in place for the first ten days of the summer as well as the last ten days of the summer to accommodate the teaching staff. After this time period, summer “Occupied” Hours for the offices will be set from 6:30 am to 3:30 pm.

Monday – Friday. Summer School Schedule (locations, dates and times) should be sent to Facilities Management/HVAC department **one week** before summer school begins so occupied set-points can be programmed for those areas.

Request for Heating and Air-Conditioning — The district strives to use resources in an efficient manner by setting temperatures back in schools during unoccupied periods. **Thermostats are to be set back to 78°F for cooling and 60 °F for heating during the unoccupied periods.** When activities are planned outside of the normal school operating hours, a work order should be submitted to Maintenance/HVAC. The work order should be submitted **at least two (2) business days in advance of the event** and must include the date(s), start/end times and area of the school to be used. When a large crowd is expected for areas such as gymnasiums, it is advisable to include such information in the work order so set-point adjustments can be made, if necessary.

Building Resource Management — Windows and doors should 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 should be turned off when school will be out for 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 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. 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 economic 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 or LEDs should be used in desk lamps. These are now readily available at local stores.

Space Heaters/Portable Cooling — Maintenance/HVAC should be consulted if the central heating/cooling system is incapable of meeting comfort requirements. Maintenance/HVAC should also be contacted if a space heater/fan/portable cooling system is to be used to offset excessive air conditioning/or heat. It should be noted that the goal of the global HVAC policy is to meet our designated set-points. If the occupied set-points are not met, a work order should be submitted. In the rare event that one believes space heaters or portable cooling is required – it should be prior approved by the administration and Facilities Management.

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 set as unoccupied during holiday periods. The Energy Coordinator will work with school personnel to determine which areas need regular heating and cooling, if applicable, during these periods.

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, Boone County Schools shall develop and implement design standards for new construction to include energy efficiency.

Water Conservation — Boone County 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 Committee encourages suggestions for additions or modifications to this Energy Plan as well as other energy or water conservation suggestions. Please send to karen.lenihan@boone.kyschools.us.