

ENERGY MANAGEMENT PLAN

Georgetown Independent School District



PURPOSE

The purpose of this document is to outline a district-wide energy management plan with defined strategies for achieving energy efficiency. It specifically supports Board Policy Code CL (Legal) for Buildings, Grounds, and Equipment Management, as well as Strategy 3 of the GISD 2014 Strategic Plan through the responsible stewardship of resources parameter.

OBJECTIVES

- Improve the energy efficiency of GISD facilities
- Provide a safe, comfortable, and healthy environment for facility users while minimizing operating costs
- Raise the level of energy conservation awareness among students, staff, and community

STRATEGIES

To achieve the objectives identified above, the following strategies will be utilized:

Strategy 1: Guidelines for Facility and Equipment Operation

Strategy 1 establishes general operating guidelines for facility use and primary energy consuming equipment.

- **Short term** and **long term costs** will relate to any increased purchasing costs for the selection of higher-quality equipment, costs for energy efficiency projects to upgrade existing equipment or facilities, and costs related to the installation of control systems.
- **Savings** from this strategy will come from the increased efficiency of facility and equipment use.

Assignments

Energy Manager

The Energy Manager will aid in establishing appropriate operating settings for equipment and control systems and work with District staff to advance conservation efforts.

Facilities Maintenance Department

The Facilities Maintenance Department will be responsible for programming appropriate set points for equipment and control systems, assuring equipment is properly maintained, recommending and installing energy efficient upgrades, and keeping facilities in proper condition to support an energy efficient environment.

Custodial Services Department

The Custodial Services Department will directly support energy conservation at the facility level, particularly during non-business hours. Upon completion of work, custodial staff will bring buildings to an “unoccupied” mode by turning off lights, adjusting temperature controls, and other related activities that minimize energy consumption during down time.

Facility Guidelines

Activity Scheduling

When suitable:

- Activities should be scheduled for the most appropriately sized building areas.
- The number of days per week for after-hour activities should be consolidated.
- Indoor campus activities should be scheduled to begin immediately after school ends.
- Energy efficient facilities should be utilized for special or seasonal programs/activities (summer school, etc.).

General Facility Use

- Air supply and return grills should not be obstructed/blocked.
- Thermostats and temperature sensing wall plates should not be covered/blocked.
- Exterior doors and windows should be kept closed, with consideration to weather.
- Blinds or drapes on windows should be kept closed when rooms are unoccupied.
- Ceiling fans should be utilized to increase air circulation and comfort in occupied spaces.
- Attire should be based upon season, climate, room conditions, and personal comfort (within District guidelines).
- Recycling and composting should be utilized, when available.
- Unnecessary water consumption should be reduced or eliminated.

Equipment Guidelines

HVAC Systems

- Systems will hold occupancy temperatures per facility schedules and will be set back to conserve energy when facilities are not in use.
- Systems will have set point temperature ranges programmed at levels recommended by the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE).
- As systems are in need of replacement, high-efficiency equipment and control systems shall be installed.

Lighting

- Lights should be turned off when a space is unoccupied.
- Inefficient lighting should be upgraded.
- Athletic field lighting should be brought on only when natural lighting levels dictate and turned off as soon as possible after activities are complete.
- Parking lot and exterior lighting should provide the minimum light level necessary to maintain security.
- Natural lighting options (windows, tubular daylighting units, etc.) should be utilized, where suitable.
- Occupancy sensors and control systems should be utilized, where suitable.

Office Equipment

- Computers should be placed into sleep mode at the end of the day during the work week (to allow for system upgrades), and shut down prior to weekends and holidays.
- In addition to default control panel settings, users should manually turn off monitors and/or place computers into sleep mode when equipment is temporarily not in use.

Appliances

- All GISD and personal appliances should be clean and in acceptable working condition.
- Small, personal appliances should be unplugged prior to extended holiday periods.

- Inefficient appliances should be upgraded.
- Unnecessary appliances should be removed to increase energy savings.

Plumbing

- Leaks should be promptly reported and repaired.

Strategy 2: Utility Tracking and Reporting

Strategy 2 includes the tracking and reporting of utility information for all applicable GISD facilities. Tracking utility information provides insight regarding the District's energy usage, highlights improvement opportunities, and reveals errors in billing by utility providers. It also aids in establishing appropriate facility rental fees to properly compensate for costs related to non-GISD events. Reporting utility information communicates usage and aids in establishing goals and raising awareness.

- **Short term costs** are negligible, as current systems can be utilized.
- **Long term costs** could be several thousand dollars annually, depending on software upgrades.
- **Savings** from this strategy will come from identifying and correcting billing errors, proper compensation for facility rental, and the continuous improvement of energy management through monitoring usage and utilizing reports to communicate and plan effectively.

Assignments

Energy Manager

The Energy Manager will track and analyze utility information for the District, identify areas for investigation, make recommendations, and work with District staff to set goals, address issues, and implement improvements.

Strategy 3: Incentive Program

Strategy 3 includes the implementation of an incentive program for GISD campuses. The program aims to minimize overall electric consumption, rewarding campuses a percentage of the savings when they reduce consumption compared to prior years. This strategy utilizes reporting from Strategy 2 and creates a reward system for successfully pursuing conservation goals.

- **Short term and long term costs** are negligible, as this strategy can be implemented and maintained without additional investments.
- **Savings** from this strategy will come from the reduction in electrical consumption at campuses motivated to receive an incentive for their diligence and energy-saving efforts.

Incentive Program Guidelines

The incentive program will reward campuses for a reduction in monthly electrical consumption compared to campus baseline values.

- At the beginning of each fiscal year, monthly baseline values will be calculated for each campus. These baseline values represent a campus's average consumption for each month based on historical data from the previous three years.
- Throughout the fiscal year, each campus's current monthly consumption will be compared to the pre-determined baseline. Campuses with a current consumption value less than their baseline will qualify for an incentive reward that month.

- Based on a campus's KWH reduction and the overall cost/KWH, a total savings (or cost avoidance) will be determined. The campus will then be rewarded 25% of the calculated savings.
- Campuses will have the opportunity to earn rewards every month throughout the fiscal year, up to the specified annual caps:
 - Elementary Schools, GAP, & Richarte \$4,000
 - Middle Schools \$7,000
 - High Schools \$25,000
- Incentive rewards will be deposited into Campus Activity Funds twice a year. Rewards for the first half of the fiscal year (July-Dec) will be deposited in February. Rewards for the second half of the fiscal year (Jan-June) will be deposited in August.

Strategy 4: Culture of Conservation and Energy Consciousness

Strategy 4 aims to develop a culture of resource conservation and energy consciousness. The development of standard, energy-saving practices related to facility and equipment use promotes good habits and reduces unnecessary energy consumption. Analyzing current energy consumption and communicating ideas for improvement raises awareness for staff and students and create a dialog for collaborative problem solving. Through effective communication and education, a culture of energy consciousness can be developed in which individuals at all levels, staff and students, contribute to the reduction in energy costs and responsible stewardship of resources.

- **Short term costs** are negligible, as this strategy can initially be implemented without cost.
- **Long term costs** could be up to several thousand dollars annually depending on reporting and educational tool upgrades.
- **Savings** from this strategy will come from increased efficiency of facility and equipment use due to the conscious efforts of staff and students. The potential benefits from implementing this strategy successfully are significant, long term, and far reaching.

Assignments

Energy Manager

The Energy Manager will support cultural development by utilizing Strategies 1, 2, and 3 to increase energy awareness, promote energy-saving habits, and encourage campus participation in energy reduction.

Principals and Energy Coordinators

Campus principals and designated energy coordinators will support cultural development by emphasizing the importance of energy conservation and encouraging staff and students to utilize guidelines within the *Energy Management Plan*. Principals and energy coordinators should review utility reports provided by the Energy Manager and be actively involved in identifying areas for improvement and implementing needed changes. Both should work to cultivate a campus environment in which students and staff are not only aware of energy management practices but inspired to responsibly care for the environment and its resources.

Teachers and Staff

Teachers and staff will support cultural development by contributing to the efficient use of energy. Staff should be familiar with recommended guidelines within the *Energy Management Plan* and work together to utilize guidelines. Teachers should discuss good energy management practices with their students, encourage them to make observations and suggestions, and have students actively participate in applying good energy management practices (such as helping to turn out lights, close doors, close blinds or curtains at the end of the day, turn off water faucets and report leaks, etc.).