

**ENERGY MANAGEMENT PLAN**

Davenport Community Schools  
Davenport, IA

June 22, 2017

**MISSION STATEMENT:**

In an attempt to reduce overall operating costs for the Davenport Community School district facilities, and to be better stewards of the world's natural resources, an energy management plan has been developed and implemented directing the implementation of measures to increase our organization's energy efficiency without significantly negatively impacting the normal operations of our facilities.

**MANAGEMENT SUPPORT:**

Under the direction of the Superintendent of the Davenport Community School District, the Director of Operations is ultimately responsible for the administration of, and the success of, the Energy Management Plan. The DCSD Energy Manager is responsible to ensure the Energy Management Plan is disseminated to all staff and is successfully implemented into daily operations.

**PLAN OBJECTIVES:**

***General:***

Promote energy efficiency throughout the facilities via cost effective programs and initiatives.

Promote and encourage energy awareness and energy-related training of all employees.

Integrate the District Energy Plan directly into curriculum wherever appropriate.

Monitor, trend, and review facility energy usage and develop corrective actions if energy use falls outside the bounds of performance goals.

Review KPI's (Key Performance Indicators) and assign accountabilities.

Develop, implement, and meet energy usage/cost reduction targets.

Maintain a close working relationship with the local utility companies.

Provide regular data reporting to District Management, building principals and the Sustainability Council on a regular basis.

Introduce the use of renewable energy sources on all campus as quickly as economically feasible.

**Utilities Included in the Plan:**

- Natural Gas
- Electricity
- Renewable Energy
- Solid Waste
- Water
- Waste Water
- Recyclables

**UTILITY STRATEGY:**

**Procurement:**

DCSD will utilize Energy Star’s energy procurement strategy to minimize the cost of the utility products purchased.

DCSD will develop RFP’s as needed to solicit competitive pricing from a variety of natural gas suppliers.

DCSD will work with the local utility representative to confirm the company is on the most cost-effective rate structure and to take advantage of any other applicable cost reduction opportunities available.

**Demand Side Management:**

DCSD will develop and implement plans to reduce the consumption of energy and the cost of that consumption.

DCSD progressively takes advantage of all energy efficiency incentive programs for which the District qualifies.

**FACILITY ENERGY TEAM:**

**General:**

A facility “Energy Team” will be selected, consisting of at least five (5) but no more than seven (7) employees.

The Energy Team shall consist of the Director of Operations, the Associate Director of Operations, the Energy Manager, the Utility Billing and Data Analysis Secretary and others as may be appropriate.

The team will meet and review reports monthly.

The Energy Team will provide on-going leadership and innovation to improve the District’s management of energy use and reduction of energy costs.

The team “leader” will be the Energy Manager.

The team will report directly to the Director of Operations.

The District Sustainability Council is part of the Facility Energy Team.

***Tasks/Responsibilities:***

Review monthly utility bills.

Develop annual utility budgets.

Review the details of new projects and equipment to determine the impact on energy use.

Perform periodic energy audits.

Develop and implement policies and procedures for the specific purpose of controlling and managing energy usage and costs.

Publicizing status of the energy/utility usage program with all employees on a regular basis (at least monthly).

**UTILITY CONSUMPTION:**

***Monthly Utility Bills:***

Monthly utility bills for the utilities itemized above will be reviewed by the Energy Team.

The billing information will be recorded monthly by Utility Billing and Data Analysis Secretary.

***Recorded Information***

Electrical Usage

Total KWH Usage (differentiate between on-peak and off-peak)

Total Energy Usage (\$'s)

Peak KW Demand (differentiate between on-peak and off-peak)

Total Peak Demand Charge (\$'s)

Average cost per KWH

Power Factor

Confirm Day and Time of the Billed Peak

Natural Gas Usage:

Total Therms Consumed  
Total Cost per Therm  
Penalties  
Cost by site and by meter  
Cost for regulated and for transport gas

Water Usage:

Total gallons (or cubic feet) consumed  
Average cost per gallon (cubic foot)  
Average gallon per square foot of building

Waste Water Charges:

Total gallons (or cubic feet) discharged  
Average cost per gallon (cubic foot)

**Analysis:**

Compare actual usage to budgeted usage and reconcile the difference.

“Normalize” energy usage by confirming “energy used per square foot”.

“Normalize” energy usage by confirming “energy used per heating (or cooling) degree day.”

**CAPITAL IMPROVEMENT PROGRAM:**

DCSD’s capital improvement plan will be reviewed annually to confirm the impact that any particular project may have on the total utility use.

An Energy Impact Statement will be provided to the Board of Directors as a part of any Board Approved Capital Project authorization.

Any project that is implemented that may have an energy (utility) efficiency improvement impact will be analyzed within six (6) months of implementation to confirm that the anticipated energy efficiency improvement was realized. Corrective actions will be taken if necessary.

Staff will ensure that all eligible capital projects are enrolled in every available incentive or rebate program.

**TRAINING:**

***Energy Awareness Training:***

Energy awareness training sessions will be provided to all employees annually and integrated into school curriculum.

The effectiveness of the energy awareness training will be reviewed annually.

***Energy Efficient Equipment Operation:***

DCSD will confirm that all equipment and systems are operating in the most energy efficient manner.

**POTENTIAL UTILITY USAGE REDUCTION OPPORTUNITIES:**

***Compressed Air System:***

Compressed air leak detection and elimination

Elimination of “improper” uses of compressed air

***Boiler/Steam System:***

Elimination of steam leaks

Annual steam trap survey and repair

Installation of heat recovery devices (e.g. feed water economizer)

***Chilled Water System:***

Installation of new energy efficient equipment

Pumping/distribution system improvements

***Lighting:***

Replace inefficient lighting systems with energy efficient systems

Install lighting controls (e.g. occupancy sensors) where appropriate