

ACTION PLAN #18

MIDDLE SCHOOL

ENERGY INVENTORY, STAFF SURVEY, RECYCLING, OCCUPANCY
SENSORS

Einstein Middle School

Appleton Area School District

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December 18, 2006

Action Plan Summary

The intention of this plan is to reinforce, on the building level, the continuing efforts of the Appleton Area School District's to promote energy efficiency and to reduce the monthly consumption of electricity. The plan will focus on lighting, small appliances, and computers. In addition the plan embraces a recycling component that will reduce the amount of materials that our building currently sends to the landfill.

Implementation will kick off with an awareness survey showing consumption and current practices. Staff will be sent out on an Energy Savings Hunt in different parts of the building to identify potential areas for savings. Their reports will be shared, suggestions recorded, and a personal plan formed. Staff will give input from their Energy Savings Hunt as to possible locations for motion light sensors, number of computers in use, and personal appliances in use. A monthly bulletin will include the previous month's bill for our school, an energy saving tip, and a reminder of our energy savings commitment.

Part of our action plan will include the installation of motion sensor lighting in infrequently used areas. The final planning piece is to re-introduce a recycling proposal.

Results will be a reduction in the number of kWhr used in the building. It will also include heightened student and staff awareness of recycling plastic, aluminum, and paper in classrooms and in the lunch room. Finally, it will result in the installation of motion light sensors at Einstein.

The budget includes CFL's for staff meeting prizes, lighting motion sensors, and recycling collection barrels. The total expense is likely not to exceed \$500.00 based on initial estimates provided.

Introduction to the Audience

For the past several years, the Appleton Area School District has been proactive in reducing energy usage in its 28 building sites. Energy saving motion light sensors, activating the chillers on off peak hours, use of natural lighting such as skylights, and replacing worn out parts with more energy saving equipment is a large part of the conservation plan. However, budget restrictions prevent the plan from being implemented as rapidly as our Facilities and Operations Director would like for maximum efficiency.

The Einstein Middle School community consists of 450 students and 66 teachers, administrators, educational assistants, secretaries, and support staff. The initiatives in

this project will include all E.M.S. students and staff members. Students will especially be targeted for the recycling program.

Statement of the Problem

Despite frequent e-mails from our Facilities and Operations staff, our Einstein staff currently has little or no ownership of the need to conserve energy in our building. As secondary users, staff does not see the energy bill at the end of the month. Since they don't see the impact of that expense in their personal budget, many also don't regard the need to reduce our energy bills on a personal level.

Sixteen years ago Einstein's Student Council collected aluminum cans to help support its activities. Classrooms had 5 gallon collection buckets in each classroom, which were emptied weekly and taken in for cash at the end of the month. Once aluminum prices dropped, Student Council terminated the collection of recyclables. Aluminum, plastic and paper were mixed in garbage on a regular basis. We intend to approach recycling, not as a self-supporting initiative, but as a commitment to teaching youth the importance of conserving our resources by keeping usable waste out of landfills.

Project Goals and Objectives

Following are the goals and objectives we will achieve through our energy action plan:

1. To alert the Einstein Staff to the vital role they play in energy conservation
2. To compare current energy use and costs from 2005 to energy use and costs in 2006 using district energy bills for Einstein
3. To engage the Einstein Staff in an Energy Savings Hunt to identify potential areas for savings
4. To process staff finding from the Energy Savings Hunt and to record recommendations for saving energy for future consideration
5. To give staff members practical energy savings strategies
6. To educate students and staff on the importance of recycling paper and plastic in our building.
7. To initiate an aluminum and plastics recycling program in our lunch room
8. To install motion light sensors in infrequently used areas in our building

Milestones in achieving our goals will be calling the Outagamie County Recycling Center to learn whether aluminum and plastic can be commingled, planning the December staff meeting and the introduction of the new energy initiatives, investigating the costs of

recycling barrels and motion light sensors, and planning the contest introducing the recycling program to students and staff.

Methods and Timelines

December 13th- Staff Meeting
Energy Awareness Survey
Energy Savings Hunt with staff

January 8th-12th-Recycling Program Kick-off
P.A. Contest in Homerooms with recycling questions
Recycling begins in the lunch room this week

January-May 2007 Monthly e-mail updates on energy consumption comparisons

May 2007-Staff Meeting
Revisit the past five months kWhr usage
Follow up staff questionnaire

2007-2008 school year unless implemented earlier
Motion light sensors in place

Evaluation Criteria and Process

Results will include the evidence on Einstein's monthly bill of lower kWhr usage and in the measurable aluminum and plastic sent to the recycling centers each month. It will also be seen in the number of motion light sensors installed in our building.

We will keep a record of the electric bills from the 2005-06 school year and a record from the 2006-07 school year for the purpose of comparison which we will send out monthly to staff. At the end of the school year, we will revisit the results of the past five months' comparisons to evaluate how successfully our staff implemented the energy savings initiatives that we introduced. A follow up staff questionnaire will determine changes in staff attitudes and practices.

Budget

Funding for our plan will include the purchase of twelve CFL's for survey prizes to kick off our energy savings presentation at our staff meeting. We intend to purchase different types of CFL bulbs so staff is aware of the choices. Two recycle barrels will be purchased for our lunch room to accommodate aluminum and plastic. Motion light sensors for the infrequently used rooms in our buildings yet to be determined by our staff when they go on their Energy Saving Hunt will be a major budget item for which we intend to use site based funds.

Einstein's Energy Savings Hunt
December 2006

Team # _____ **Assignment:** _____

- A. # of computers _____ # of computers left on _____

- B. # of small/personal appliances _____
(i.e. coffee pot, mini fridge, microwave, etc.)

- C. Were lights left on in any areas visited? YES / NO
Could they have been turned off? (i.e. students/staff absent) YES / NO

- D. Areas identified as potential "motion sensor light" locations, other than classroom:

- E. Other items noted as areas of potential energy savings:

**Einstein Middle School's
K.E.E.P. Staff Survey
December 2006**

1. To the nearest \$500,000.00, how much money was spent for A.A.S.D. Utilities (gas & electric) for the fiscal year July 2005-June 2006?
 - A. \$500,000.00
 - B. \$1,500,000.00
 - C. \$2,500,000.00
 - D. \$3,500,000.00

2. To the nearest \$10,000.00, how much money was spent for Einstein M.S. Utilities (gas & electric) for the fiscal year July 2005-June 2006?
 - A. \$10,000.00
 - B. \$50,000.00
 - C. \$100,000.00
 - D. \$200,000.00

3. To the nearest \$1,000.00, what was the total utility bill for Einstein M.S during the period Sept 02 – Oct 02, 2005, which was our highest monthly billing cycle for the last fiscal year?
 - A. \$1,000.00
 - B. \$5,000.00
 - C. \$8,000.00
 - D. \$11,000.00

4. The greatest cost saving possibility for the District is
 - A. turning off personal appliances over breaks.
 - B. using 2 hours less lighting per month per classroom.
 - C. turning down each classroom's heat by 1 degree.
 - D. using light diffusers for large open areas.

5. To the nearest \$100.00, approximately how much money is spent per student in AASD on utilities (gas & electric)?
- A. \$100.00
 - B. \$200.00
 - C. \$500.00
 - D. \$1000.00
6. Your remote controlled television set is using electricity even though you just turned it "off" with the remote.
- A. True
 - B. False
7. A 17-watt CFL (compact fluorescent light) bulb with a life of nearly 10,000 hours costs approximately \$3.00. It provides nearly the same amount of light as a 60-watt incandescent bulb which costs approximately \$.42 and has a life expectancy of about 1,000 hours. It's not worth spending the additional costs to purchase CFL bulbs.
- A. True
 - B. False
8. By properly shutting down all 4200+ AASD computers each day (allowing each one to "hibernate" with the CPU "off") versus leaving the CPU left on, AASD can save nearly \$100,000.00 in one school year.
- A. True
 - B. False
9. Total electrical energy usage in AASD has decreased since the 2000-2001 fiscal year.
- A. True
 - B. False
10. Nearly 60% of our District's total electrical energy usage is related to lighting.
- A. True
 - B. False