

# An Energy Management Plan

## Overview

In this activity, students analyze the information and data they have collected during their school building and energy consumption surveys, and develop an energy management plan to present to the administration to conserve energy in the school.

## LEVEL

Grades 7–12

## SUBJECT

**ENERGY CONSUMPTION:**  
Developing a plan to save energy in the school.

## CONCEPTS

- Schools can significantly reduce energy costs with wise energy management.
- Students can develop and implement programs to save energy in school.

## SKILLS

- Research
- Writing
- Data Analysis
- Critical Thinking
- Presentation/Teaching

## OBJECTIVE

To develop an energy management plan for the school.

## MATERIALS

- Building Survey Results
- Consumption Survey Results

## TIME

Three class periods plus implementation and school outreach.

## Background

A comprehensive energy management plan for a school should have several components:

- Renovations to the building and energy systems to make them operate more efficiently.
- Control and management of the energy systems so that they are used only when necessary and at prescribed settings.
- Modification of behaviors of all the consumers in the school—students, administrators, teachers, and janitors, as well as community members who use the facility.

**Building Renovations** There will be few building renovations that the students can accomplish themselves, except for perhaps minor repairs such as replacing broken windows, caulking, weatherstripping, and planting shade trees. Depending on how comprehensive the teacher chooses to make the plan, students can research major renovations and new systems with their costs and payback periods, or simply prioritize the school's needs and make recommendations.

**System Control/Management** Students can have a significant impact on this aspect of energy conservation by determining optimum settings, maintenance schedules, and policies for control of the systems. Installing inexpensive timers and programmable thermostats to control systems and reducing the number of people with access to controls can make a major difference.

**Behavior Modification** Students can make a big difference in school energy consumption by developing a campaign to educate consumers about and reinforce conservation behaviors. Find out if your state allows energy savings to be returned to the school—or have students research the issue.

## Getting Ready

Have the results of the building and energy consumption surveys available for reference.

## Doing the Activity

### Step One

**GO TO PAGE 23 OF THE STUDENT GUIDE.**  
Introduce the activity to the class.

Divide the class into three groups, assigning one of the major areas to each group. Have each group develop a draft plan for their area to be turned in at the end of the class period.

If you choose to proceed with more comprehensive plans, give the students several days to research and develop their plans. Arrange for the cooperation of district energy managers.

### Step Two

Have each group present their plan to the class. Discuss each plan and make revisions and modifications as a class.

Have each group prepare a final plan, incorporating the suggestions of the class, as well as an implementation schedule or workplan.

### Step Three

Have each student write a paper in support of the plan. Choose the best paper (or papers) and have the writer(s) present the final plan to the administration.

### Step Four

Evaluate student performance using participation in the development and implementation of the plan and individual support papers.

### Step Five

Conduct on-going monitoring of the plan, system control, and energy savings. Publicize the results to all school consumers.

## Extension Activity

Have the students contact the U.S. Environmental Protection Agency (EPA) to participate in the Green Lights and Energy Star Building programs at 1-888-782-7937. The program is free.