

Energy Volunteer Program

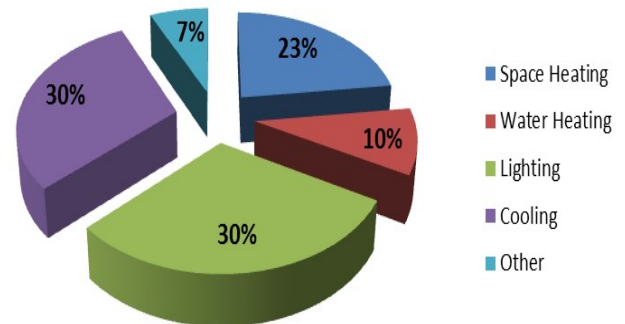
The school district is currently modeling a program designed to conserve energy and reduce the carbon footprint by training the end users to take an active role through behavior modification. Typically, school districts pay approximately \$1.25 per square foot annually for energy costs. In a typical school, energy distribution can be attributed to five main categories:

1. Lighting =30%
2. Cooling = 30%
3. Space heating= 23%
4. Water heating = 10%
5. All other systems =7%

BEHAVIOR MODIFICATION

Of those energy uses, lighting and cooling systems draw the most energy, with space heating following closely. Although the numbers vary by climate zone, the results from the analysis provided are generalized.

Typical School Energy Use Distribution
(varies by climate)



- Do not bring in personal appliances or equipment that consumes extra energy (e.g. coffee makers, vending machines, mini-fridges, space heaters etc...).
- Do not place books, boxes, or any other items on top of window sill vents.

WHY SCHOOLS BENEFIT FROM SAVING ENERGY...

- **Reduces energy waste.** Nearly 1/3 of energy consumed in schools is not used efficiently.
- **Saves money.** Annual energy costs on average are \$250 per student and energy is a major source of avoidable spending.
- **Shows responsibility to taxpayers.** Efficient operations use taxpayer money wisely and redirect money towards educational needs.
- **Preserves the environment.** 80% of greenhouse gas emissions are from the production, distribution, and disposal of energy. Saving energy reduces pollution and the use of nonrenewable resources.
- **Educates students.** Instilling wise energy habits in students creates lifelong conservationists and teaches them to care about the impact of their actions.
- **Improves the learning environment.** There is a positive correlation between the physical condition of the learning environment and student performance. Many energy efficient practices help create better lighting, temperature control, acoustics, and air quality. (www.seeprograms.com/overview.htm)

ENERGY VOLUNTEER PROGRAM

The program is designed to actively involve the end users including custodial staff, students, teachers, and administrators to best implement energy saving practices on a daily basis within their facility.

THE TRUTH ABOUT CONSERVATION!

Saving energy does not mean putting on a jacket and sitting in the dark. It DOES mean using energy when you need to and not wasting energy when you do not need it. Paying attention to the energy we use not only saves money but can improve the building environment in which we work and learn.

HERE ARE THE TOP 5 THINGS WE CAN DO TO HELP CONSERVE ENERGY:

Fact: Turning the heat down by 2 degrees will save 6% of the energy needed to warm up that space.

The BOE has lowered its heating set points this year to 70°. This is still higher than the standard recommended set point of 68°. Remember, for efficiency as well as safety, it is important to keep books and other materials away from heating vents and blowers.

Fact: Every hour a window is left open, \$0.70 in energy goes out of that space!

Keep all doors to the outside and windows closed during the heating season. An open door will make the heating system work much harder. Likewise, an open window will not only waste heat, but will often short circuit the heating system. The thermostat thinks it needs to heat the room, even though the heat is going out the window.

Fact: Turning off lights in unoccupied classrooms can often save up to 10% of lighting energy and can decrease cooling costs too!

Turn off lights if you are leaving a room vacant for more than 5 minutes. The statement, "It takes more energy to turn off a fluorescent light than it does to keep it on" is a common myth. The fact is that the energy it takes to start a fluorescent lamp is negligible compared to the energy used to power the lamp over time.

Fact: Leaving a computer on costs \$0.01 to \$0.03 per hour. Leaving a copier on all day costs up to \$150 per year. Operating each vending machine costs up to \$350 per year.

Turn monitors and computers off at night. Energy consumption from computers and peripherals is directly related to the length of time they are on, regardless of whether they are being used.

Fact: Daylight provides free lighting and free heating and has been shown to increase student test scores and productivity.



New Haven Public Schools Top 5 Energy Saving Tips



Turn off the lights

- Turning off the lights in unoccupied classrooms can save 10% of lighting energy and can decrease cooling costs too!
- Consider using natural daylight as a source of light on a bright day. Keeping shades open can maximize the amount of daylight entering a space

Close Windows & Doors

- Keep all doors and windows to the outside closed during the heating season.
- Every hour a window is open, \$0.70 in energy exits that space!

Use the computer power saver

- Use Energy Star power saver feature on your computer
- You can reduce electricity for each computer by as much as \$45 annually!

Reduce Plug Load

- Turn off and unplug chargers, printers and other electronics when not in use.
- Unplug major appliances during long vacations and summer break.

Report Malfunctions

- Report broken or malfunctioning equipment or systems through a proper work order system.

Building Awareness

Guide to Operating & Maintaining Energy Smart Schools

Top 10 O&M Tips:

The following O&M tasks are either low or no cost and can produce low to moderate energy efficiency gains. They were adopted from the United States Green Building Council (USGBC) Webinar Series, Energy Efficiency Strategies for Schools. Following are the top ten no-cost ways to lower your school utility bills:

Top 10 O&M Tips	
O&M Measure	Brief Description
Install programmable thermostats (HVAC)	Temperature controls can be programmed to shut down heating and cooling during periods when spaces are unoccupied
Perform energy surveys and audits (Information)	Walk-throughs and more intensive audits can quickly identify O&M problems and solutions
Keep doors and windows closed (Building Envelope)	Open windows waste heating and cooling energy
Provide training for key staff (Preventative Maintenance)	Knowledgeable personnel are imperative to sustaining energy efficiency from O&M
Conduct a plug load survey and develop a plan (Plug Loads)	Computers and vending machines can waste energy if settings are not properly set to shut down after inactivity.
Review cleaning and maintenance activities (Preventative Maintenance)	Consistent and scheduled cleaning and maintenance are key to extending equipment life and avoiding costly breakdowns
Control exhaust fans (HVAC)	Shut down exhaust fans when building ventilation is off to avoid unwanted outside air
Inspect outside air systems (HVAC)	Clean roof units and economizers for proper operation
Install outdoor lighting controls (Lighting)	Timers and photo-sensors decrease wasted lighting for outdoor use
Replace existing EXIT sign lights with LED's (Lighting)	LED's require much less maintenance and have longer lives than conventional lights making a great fit for EXIT signs.