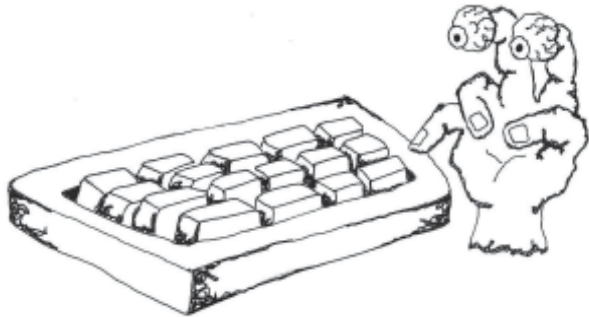


# COMPUTER POLICY

**G**o count all the computers in your school. Go ahead, I'll wait. I'll just sit here and wait (*singing quietly*—"who put the bomp in the bomp-she-bomp-she-bomp?") I don't have any appointments. No rush. Just go count them and ..... what, are you back already? Or am I giving you a headache — are there dozens or even hundreds of computers just about everywhere all over your school — way too many to count right now? That's normal.



Everyone is getting

more computers all the time and will continue to get even more now in the 21<sup>st</sup> century. We are living in the information age, after all. And, of course, each and every computer uses energy to operate. How much energy your school uses for computers is a bit of information you might be able to pass on to decision makers and it might help them to formulate an energy policy for computer use and make the right decisions when buying new computers and setting up computers to use less energy. You could save your district some money.

There are lots of myths and confusion about how to best utilize computers. Some people think it is better to leave computers on constantly than to turn them off when you're not using them. Some people think screen savers save energy. Some people think laser printers don't use much energy when they're not printing. Some people are wrong. These are examples of myths about computer energy use. Maybe you would be willing to help your school sort them out.

OK, so you can't count all the computers right now but you can make a plan to do a survey of computers in your school. You can go room to room with a clipboard and write down each computer you find. Use the table reprinted here to quickly calculate how much energy the computers in your school are using. But remember, the cost of a kiloWatt hour of electricity is assumed to be 8 cents — if the rate is different for your school you will need to adjust. Also, note that the table is for 9.5 hours per

day based on a year round office building schedule. If computers at your school are left on overnight and on weekends you will need to re-calculate. Be sure to accurately represent the number of days in your school year (or number of days that computers are used). The best approach is to carefully calculate the energy usage based on the specific conditions at your school.

## Myths About Computer Energy Use

*Myth 1: It's better to leave computers on constantly than to turn them off when you're not using them.*

This was true back in the days of the mainframe, but it's not true anymore. The lifetime of your hard disk is typically limited by head-disk mechanical interactions and wear, rather than by electrical surges and thermal cycling during start-up. It's a good practice to turn off your computer and monitor (as well as your printer and copier) if you don't plan to use them again within the next half hour.

Of course, many people now use a fax-modem on home computers and may need to leave the central processing unit (CPU) on to receive faxes. If this is the case, at least turn off the monitor when it's not in use. Monitors, especially full-color units, can use as much energy as the CPU, this alone can capture 90% of your savings. Some CPUs can also be put

*"In 1999, if everyone were to purchase only office equipment with the ENERGY STAR® label, our nation would save almost \$1.5 billion a year in energy bills and cut pollution equal to the amount produced by more than 3 million cars." Fast Fact from EPA ENERGY STAR®.*

to sleep when awaiting faxes, rather than left on at full power.

*Myth 2: Screen savers save energy.*

Most screen savers do not save energy, unless they actually turn off the screen or, in the case of laptops, turn off the backlight. Flying toast-ers or fireworks use about as much energy as word processing. If you want to save energy and save the screen, turn the monitor off by its switch (or its power strip) when you're not using it.

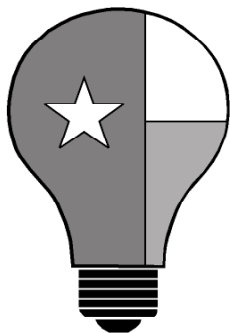
*Myth 3: Laser printers don't use much energy when they're not printing.*

Laser printers draw about one third of their printing power when they are on standby. For a laser printer capable of putting out eight pages per minute, this means 100 watts. Turn off your laser printer when you're not printing.

*Myth 4: An ENERGY STAR® computer will automatically power down ("put itself to sleep") when it isn't used for a certain period of time.*

ENERGY STAR® computers come with sleep capability—but the sleep feature has to be turned on before the computer will automatically power down when not in use. Many computers come with this feature turned off, and it's not always obvious how to activate it. Make sure your new ENERGY STAR® computer comes with the sleep feature turned on, or clear instructions on how to turn it on. Finally, use the sleep feature only as a backup. You should still turn the computer off when you're not using it.

*(Excerpted from LBL website.)*



## Resources:

*User Guide to Power Management for PCs and Monitors* by Nordman, Piette, Kinney, & Webber of the Environmental Energy Technologies Division, Lawrence Berkeley National Laboratory, January 1997. Available at: <http://eande.lbl.gov/bea/lblreports/39466>

**Table 1: Power, Annual Energy Use and Dollar Costs of PCs and Monitors**

Computers	PM* Status	Power (Watts)		Annual Use	
		Active	Idle	kWh	\$
386	without PM	65	65	217	17
	with PM	65	20	117	9
	Savings		40	100	8
Pentium	without PM	45	45	150	12
	with PM	45	25	100	8
	Savings		20	50	4
Laptop	without PM	15	15	50	4
	with PM	15	3	20	2
	Savings		12	30	2
Monitors 15 inch	without PM	75	75	250	20
	with PM	75	5	75	6
	Savings		70	175	14
20 inch	without PM	120	120	401	32
	with PM	120	5	112	9
	Savings		115	289	23

Notes: These reflect standard operation as defined in Nordman, et al. of 9.5 hours/day of operation including 5.5 hours/day of idle time and one weekday each week of non-use. Electricity rate is national average of 8 cents/kWh. \*PM= Power Management  
 Excerpted from - *User Guide to Power Management for PCs and Monitors*, see resources.

*Guide to Energy Efficient Office Equipment*, Revision 1 by American Council for an Energy Efficient Economy (ISBN 0-918249-22-8), February 1996. \$12 [www.aceee.org](http://www.aceee.org) or 202-429-0063

EPA-DOE ENERGY STAR® products at <http://www.epa.gov/energystar/> Click on Products and then Office Equipment. Here you will find a huge array of information on energy efficient products including models of computers and monitors that meet the ENERGY STAR guidelines.

Energy Wizard  
 Visit the Watt Watchers web site listed below to download the Energy Wizard program that implements power management on your computer in a few simple steps. All you have to do is download the program and let it run itself.  
<http://wattwatchers.utep.edu>

## Watt Watchers

The Energy Center - University of Texas at El Paso

P.O.Box 68660, El Paso, Texas 79968 1-888-US-WATTS (879-2887) Fax: 915-747-5317 <http://wattwatchers.utep.edu> e-mail: [watts@utep.edu](mailto:watts@utep.edu)