

INFOSHEET 5

School office and IT hardware

Computers, printers, fax machines and photocopiers all contribute to a school's electricity consumption. New office equipment has become more energy efficient and includes facilities to automatically reduce power when not in use. This is known as 'stand-by' or 'sleep' mode. For most office equipment the power consumption in sleep mode is between 5% and 50% of its operating power.

In most schools, equipment is often switched on but left idle for many hours. For example, photocopiers can be switched on 24 hours a day but may only be used for 10% of this time. The prime strategy in reducing the electricity consumption of office equipment and computers is to switch off everything that is not being used, or to use equipment which has a low stand-by power consumption. The latter approach is usually the most convenient.

It is a myth that office equipment and appliances will be damaged by being switched off, or that they require large amounts of energy to start up again.

For example, re-booting computers does not damage hard drives or software programs and the computer's life will probably be extended.

ENERGY EFFICIENT OFFICE EQUIPMENT STRATEGIES

Turn off equipment if it isn't needed.

This is the easiest way to reduce energy costs. A check at the end of the day (especially on Fridays) should be done to ensure all equipment is off.

Install plug-in timers

Use plug-in timers to automatically switch off some equipment after hours. These are especially useful for photocopiers, printers and appliances which do not have automatic switch-off functions.

TIP—It's a good idea to post clear instructions on how to override timers for people who may require equipment out of hours. Otherwise you may find them disconnected by a frustrated staff member!

Computers

Make sure all computers are turned off when not in use, especially overnight and at lunchtime.

A notice reminding people to switch off computers when not in use will keep students and staff aware of energy saving initiatives.

Each desktop computer left on a lunchtime and recess costs about \$5/year if not set to low power or sleep mode. Increasing numbers of computers can be responsible for the increase in school energy consumption.

Switch off monitors

The monitor of a computer uses more than half of the energy consumed by the machine. Newer computers have functions that automatically switch off the monitor after a set period of inactivity. For older computers turn off the monitor, even if the computer itself is left running. Note—most computers allow a screen saver to appear when they become idle for a certain period of time. Screen savers do not save energy, they are merely a protection device to maximise your screen's useful life. They do not replace the sleep mode or switching the monitor off.

Use laptop computers

Laptop computers use about one tenth the energy of a desktop computer. Connected to a monitor a laptop still uses about half the energy of a desktop machine.

Switch off laptop chargers at the power point— do not just unplug these from the laptop computer. This is particularly significant if many laptop computers are used in the school.

Printers

Turn printers off at night, on weekends and during periods of inactivity. Switching the printers off at the end of each lesson will save electricity with little inconvenience, as their 'warm-up' time is only a few seconds.

You can purchase a low-cost plug-in timer to automatically shut off printers at night and on weekends. These timers can be easily overridden by staff needing to print at night or on weekends.

Fewer printers on-line will lower a school's energy use. Despite longer periods of printing, networked printers use substantially less energy than the sum of several individual printers. Implement paper-reducing strategies. Dedicate one tray for printing on paper that has already been used on one side. An average of 15–20 Wh is required to produce a single sheet of paper. Thus, reusing paper can save energy overall and can also directly reduce paper supply costs, solid waste production, and pollution when making paper.

Photocopiers

Turn off copiers at night and on weekends (check your manual or with the manufacturer). For a mid-size copier, turning off the copier at night could save over \$100 per year. Installing a timer is one way to ensure that the copier will be automatically turned off.

Most photocopiers have an 'energy saver' or 'stand-by' mode. Ensure staff know how to use this function and place a reminder notice near the button. Most copiers take only 10–20 seconds to become fully functional after coming out of stand-by mode.

Use a medium size machine for most photocopying and only switch on the large machine for the occasional heavy print run.

Encourage users to make double-sided copies whenever possible. Recycling paper is an important environmental action, and can make money— but not as much as cutting paper use!

Copy runs should be grouped together in batches if possible.

Use the photo-reduction feature as much as possible.

Ensure staff are trained to use energy saving and double-sided copying features. Moreover, set an example by specifying that all school council and executive management documents are to be double-sided.

Faxes

Fax machines typically operate 24 hours per day, so the vast majority of a machine's energy consumption occurs during periods of inactivity. Therefore, it is important to buy a fax machine with a low stand-by energy rating.

The way in which a fax is operated can also indirectly save energy by reducing paper consumption.

In plain paper faxes you can reuse paper that has been printed on one side only.

Do not use cover sheets with fax transmissions. Stick-on fax labels (available from office supply stores) can be used on the front page of the fax message.

ENERGY STAR EQUIPMENT

When buying new office equipment, look for models that carry the Energy Star logo. This logo is your guarantee that the equipment meets minimum energy efficiency requirements.

Activating 'Energy star' cannot damage computers or networks. While most well known brands of computer monitors are manufactured Energy Star compliant, not all of them have the power-saving feature activated, so they aren't actually saving energy. When installing the

product, you may need to 'enable' (activate) the 'sleep' feature. It is possible to enable Energy Star features on most common types of computers and monitors.

The Energy Star website provides step-by-step instructions on how to enable Energy Star features on most common types of computers and monitors. As an example, here are the instructions for PCs running Windows 95.

Energy Star monitors need the PC to initiate the first stage of power management, but the monitor can power down to successive stages on its own. These stages are known as 'doze', 'stand-by/sleep', and 'suspend'.

The timing of these successive stages may be fixed, or may be configured through switches or buttons on the monitor itself, or even through on-screen menus on some newer monitors. You will also need to enable the monitor's power saving features using Windows 95's Display properties.

1. Open the display properties by double-clicking the 'Display' icon in the Control Panel.
2. Click the 'Screensaver' tab at the top of the Display Properties box.
3. The Energy Star logo should be visible next to a section marked 'Energy Saving features of monitor' at the bottom of the Screensaver tab. If the phrase is greyed, go to step 8.
4. Click on 'Low power standby' so that it's clicked and set the time at 10 minutes.
5. Then tick 'Shut off monitor' and enter a time of 15 minutes. (You can change both these times if you want).
6. Press 'Enter' or click on the 'OK' button to accept the changes.
7. If you really want a screen saver, set the delay time to be less than the 'Low power standby' time. (Note that screen savers, despite their names, do not save energy).
8. If the 'Energy Saving features of monitor' tab is greyed out, but you're sure that the monitor is Energy Star compliant, go to the 'Advanced properties' or 'Display type' button and then the 'Monitor' tab.
9. Tick the check box marked 'Monitor is Energy Star compliant'—the 'Energy saving features of monitor' will now be available. Return to Step 4.
10. Always teach students about Energy Star and 'sleep mode'. Place a sign on the monitor reminding people to move the mouse to wake the computer.

Don't forget

Even if your computer has no energy saving features, you can still save power by switching off when it's not in use. At the very least, switch off the monitor when you don't expect to use it for, say, half an hour or more.

Further reading

www.energystar.gov.au