Energy Saving Tips: Personal Computers

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Personal computers (PCs) consume significant amounts of energy when not in use. Though there is a small surge in energy when a computer starts up, this amount of energy is still less than the energy used when a computer is running for long periods of time. Most PCs reach the end of their "useful" life due to advances in technology long before the effects of being switched on and off multiple times have a negative impact on their service life. The less time a PC is on, the longer it will "last." PCs also produce heat, so turning them off reduces building cooling loads.

ENERGY STAR® Computers

A misconception is the belief that computers and monitors purchased with the Energy Star® logo are already energy efficient. In reality they have built-in energy conservation features but your computer cannot take full advantage of these built-in energy saving mechanisms until the power management features are enabled and configured. Operating Systems (OS), such as Microsoft Windows and the Macintosh OS, have built-in energy management features that can be accessed via the Control Panels that enable them to be configured to turn off the monitor, the hard disks and the system.

ENERGY STAR® computers power down to a sleep mode that consume 15 Watts or less power, which is around 70% less electricity than a computer without power management features. ENERGY STAR® monitors have the capability to power down into two successive "sleep" modes. In the first, the monitor energy consumption is less than or equal to 15 Watts. In the second, power consumption reduces to 8 Watts, which is less than 10% of its operating power consumption.

Configuring Personal Computers to Minimize Energy Consumption

Windows

- Select the Start Menu
- then Settings
- then Control Panel
- finally Power Options.
- This last option should bring up a Power Options Properties dialog box that allows you to set the time to elapse until separate components power down. This is the same dialog box that can be accessed through the Display Control Panel under the screen saver tab.

Macintosh

- Select the Apple Menu
- then Control Panels
- then Energy Saver.
- This last option will bring up a dialog box for setting sleep times for the entire system, the monitor, or the hard disk.

Suggestions for computer settings to minimize energy consumption after a period of inactivity:

- Monitor after 20 minutes
- Hard disks after 30 minutes
- System standby or hibernation after 90 minutes

Screensavers are not energy savers. Using a screen saver may in fact use more energy than not using one. The power-down feature may not work if you have a screen saver activated. In fact, LCD color monitors do not need screen savers at all.

Power strips/surge protectors. Make sure your monitors, printers, and other accessories are on a power strip/surge protector. When this equipment is not in use for extended periods, turn off the switch on the power strip to prevent them from drawing power even when the equipment is shut off. If you don't use a power strip, unplug extra equipment when it's not in use.

Does it harm the PC to turn it off?
Older computers suffered shorter lifetimes under repetitive power cycling. However, computer components manufactured in the last three years are designed to enter into a lower power state or turn off under the control of the operating system. Therefore, configuring personal computers to minimize energy consumption using the power management options as described earlier, or turning off newer computers does not appreciably shorten their lifetime. In fact, by using these features, the lifetime of newer computer components can even be extended.

In summary, configuring computer components to automatically save energy is the best thing that can be done to conserve energy and save money. These settings are a matter of personal preference. Select the settings that balance your computer usage with energy savings.

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