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Standby Power – When "Off" Means "On"

Canada

You've just turned your television off. Or did you?

A growing number of household electrical devices are designed to draw power 24 hours a day, seven days a week. Even when turned "off," these appliances and home electronics continue to use electricity – referred to as **standby power** – to operate features, such as clocks, timers and touch pads, or to receive signals from remote controls. Battery chargers (used by products such as cordless phones) or external power supplies (used by products such as laptops) also draw power when they are plugged in – even if the device they power is fully charged or disconnected. Some electronics (such as television set-top boxes) are always awake, waiting to receive information.

In fact, the only way to guarantee that an electronic device is not drawing power is to unplug it from the outlet.

So what's the problem?

Although the standby power consumption of most devices is relatively small, generally ranging from 0.5 to 10 watts (W) of electricity, the number of devices drawing standby power is large and growing. Also, though many of the features enabled by standby power are useful, electricity consumption in standby mode is often far greater than necessary.

Also known as "leaking electricity," "vampire power" and "phantom loads," standby power accounts for an average of 5 to 10 percent of all electricity used in the typical Canadian home. At a national level, standby power consumption is estimated to account for between 5.09 and 5.80 terawatt hours (TWh) – that is 5 090 000 000 to 5 800 000 000 kilowatt hours. Excessive standby power consumption not only wastes money, it also has an environmental impact. Reducing the standby power consumption of all devices to 1 W would save 1.36 TWh – resulting in savings of approximately $341 million to $392 million per year in electricity bills and 1.73 to 1.99 megatonnes of carbon dioxide emissions.

Reducing standby power consumption

Around the house

- ✓ Purchase, rent or borrow a watt meter (available at some public libraries), which will help you determine which products consume the most standby power – those that should be addressed as a priority. Choose your battles – you probably don't need to unplug a device that consumes only 0.5 W of standby power.
- ✓ Unplug the charger as soon as the device is fully charged or when the charger is not being used. A charger continues to draw power even when the device it is charging has been removed. This electricity is wasted as heat (which you can feel by simply touching the charger when it is plugged in).
- ✓ If you regularly use a number of chargers (e.g. for power tools, cell phones or personal digital assistants [PDAs]), consider creating a "charging station" where all of the chargers are plugged into a single power bar. This will allow you to easily monitor their use and turn them all off at once.
- ✓ When buying a new appliance, ask yourself if all the extra options are necessary. Will you really use the timer on your new coffee maker, for example, or a remote control for a fan?

In the entertainment room

- ✓ When shopping for new home entertainment equipment, look for ENERGY STAR® qualified products. These products use up to 50 percent less electricity in standby mode while providing the same performance at the same price as less energy-efficient models.
- ✓ When you are finished watching a movie or playing a video game, remember to turn off the DVD player or game console as well as the television itself. These television peripherals consume a significant amount of electricity: left "on," DVD players consume 5 to 25 W, set-top boxes (for cable or satellite reception) 6 to 41 W, and game consoles up to 185 W).
- ✓ If you have home electronics that are used infrequently, such as a second TV, DVD player or audio system, plug them into a power bar that can easily be turned off to avoid standby power consumption. Forty percent of all electricity used to power consumer electronics is used when the products have been turned off and are in standby mode.
- ✓ Check the owner's manuals to ensure you are taking full advantage of energy-saving features that may be built into your electronics.

In the home office

- ✓ Look for ENERGY STAR qualified products when purchasing a new computer, printer or other office equipment. Competitively priced, ENERGY STAR qualified products are widely available.
- ✓ For example, an ENERGY STAR qualified computer (July 2009 specifications) will use between 30 and 60 percent less energy, depending on how it is used, than a model that has no energy-saving features. Computers that operate in low-power mode much of the time not only save electricity but also run cooler and last longer. And because they consume significantly less electricity, ENERGY STAR qualified computers can reduce air-conditioning loads, noise from fans and transformers, and electromagnetic emissions from monitors.
- ✓ Make sure to activate the power management features of your ENERGY STAR qualified computer and monitor (see the user's guide for instructions). Letting the equipment "sleep" will do wonders for your electricity bills, and it only takes a few seconds for a computer to "wake up" when you return.
- ✓ Turn off your computer when it's not being used. Most electricity waste occurs when it's left on overnight, on weekends or for extended periods of inactivity during the day.

DID YOU KNOW?

In developed countries, the average household uses between 5 and 10 percent of it's electricity to power appliances and home electronics while these devices are in standby mode.

- ✓ Avoid using "screen savers" – they will cause a monitor to consume the same amount of power as when it is running normally. The best way to protect the screen (and to save electricity at the same time) is to enable your computer's power management feature to turn off the monitor after a certain period of inactivity.
- ✓ Plug your home office equipment into a power bar that can easily be turned off when the equipment is not in use. In addition to saving electricity and money, this may also extend the life of your equipment. Choosing a power bar with surge protection will protect your equipment from surges, spikes and other fluctuations in electrical current.

Availability of ENERGY STAR labelled consumer electronics and office equipment

Many consumer electronics and office equipment sold in Canada now show the ENERGY STAR symbol on the product, on its packaging or in its literature.

The Office of Energy Efficiency of Natural Resources Canada, promotes the international ENERGY STAR symbol in Canada and monitors its use. Major manufacturers and retailers of energy-efficient products, utilities and energy retailers, all levels of government, and interest groups recognize the benefits of ENERGY STAR to consumers.

For more information on ENERGY STAR in Canada, visit the Web site at energystar.nrcan.gc.ca, or to order ENERGY STAR publications, call the publications line at 1-800-387-2000 (toll-free).

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