



Reducing our Energy Use

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Every Kilowatt Counts Coupon

There are a few coupons for energy efficient items (light bulbs, thermostats, timers, ceiling fans) at the "Every Kilowatt Counts" Website. The coupons expire November 16th.

(www.everykilowattcounts.com)

Reducing energy usage is one of the easiest things that individuals can do to help the environment.

Reducing energy in an office building is a 'team activity'. The more participants the greater the effect on the outcome of the group. Here are

"the "My Picture Screensavers" uses more energy than just leaving your computer idle"

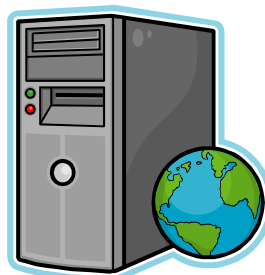
ten simple ways we can save energy, starting with your computer:

1. Choose a lap top computer over a standard desk top - this can save up to 80% of the energy costs related to your computer.
2. Switch from the old-style CRT (cathode ray tube) monitor to a LCD (liquid crystal display) – this can save up to \$65 per year.
3. Change your computer's energy settings can make changes to the computer's energy use. (see page 3 for instructions on how to do this)
4. Set your computer's monitor to turn off instead of running a screensaver. For example, the "My Picture Screensavers" uses more energy than just leaving your computer idle.
5. Cut the Power—turning off your computer, printer, and monitor at night can save \$150 per computer per year
6. Use Power Bars and Strips – flipping the switch on your power bar is a quick and easy way to turn off multiple pieces of electrical equipment at once. Power bars not
7. Turn off the lights when you leave the room - This is an oldie but a goodie. Our parents have been saying this for decades. Along with individual office lights, make sure that meeting room, kitchen and other common area lights are turned off when you leave the room.
8. Let the sun in - For those of us who are fortunate enough to have a window in our

office, natural light, especially in the winter, can offset both lighting and some heat in the office space.

9. Take the stairs – elevators consume tonnes of energy. Taking the stairs, at least to go down, can save a bundle, plus it's good for you and it's often faster!

10. Choose ENERGYSTAR equipment where-ever possible, they use up to 50% less energy



Please take our short [survey](#) about October's Issue of *greening*!

Did You Know?

The Dalla Lana School of Public Health has recently adopted a new purchasing policy which aims to ensure that all new equipment has the ENERGYSTAR © logo. This will help the school reduce its equipment-related energy costs by up to 30%. Please visit: www.phs.utoronto.ca/greening/Energy_Star_Policy.pdf to view our ENERGYSTAR policy.



Energy Feature

What is Solar Thermal Energy?

The sun is the oldest energy source. Scientists know that every square meter of the Earth receives one kilowatt of thermal energy when the sun is overhead. Gathering and converting this energy has been explored since 700 BC when burning mirrors were first used, in China, to light

"This ability to store heat makes this type of power valuable, because energy can be stored when it is sunny, and released when it is needed most."

firewood. Ausra Inc. (www.ausra.com) has developed a low-cost thermal energy storage system; their core technology is the Compact Linear Fresnel Reflector (CLFR), which was developed in the 1990's at Sydney University. In this solar thermal electric power system, electricity is generated by driving steam turbines with sunshine. Solar concentrators boil water with focused sunlight, generating high-pressure steam which drives conventional turbine generators. Thermal energy storage systems can allow solar electric power to be generated on demand, day and night. This system is different from photovoltaic power, where light interacts with special materials directly to create electricity. Photovoltaic systems have the advantage of unattended operations and

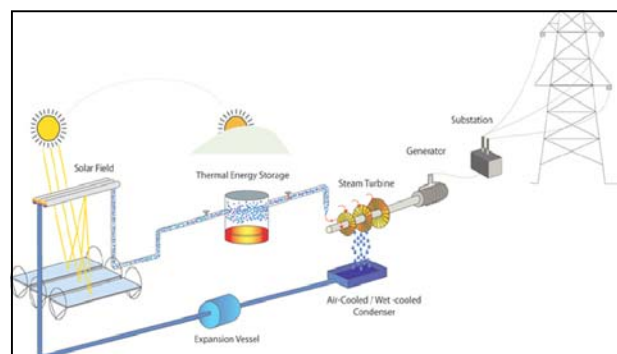
can work on a small-scale, but are more expensive as a large-scale power source than solar thermal systems.

In solar thermal power a field of 1,000 foot long mirrors reflects the light to the top of a tower, where a boiler is located. The boiler absorbs the light and generates steam. A large pressure tank stores energy as pressurized hot water and allows the plant to continue generation in cloudy conditions for up to an hour. This ability to store heat makes this type of power valuable, because energy can be stored when it is sunny, and released when it is needed most. One of the other interesting construction innovations is the low-to-ground build of these panels resulting in less steel materials and lower material costs. The mirror panels can also be turned to face down, to expose the steel back, therefore protecting the mirrors from damaging weather conditions, such as hail and wind.

Recently Ausra Inc. completed construction of California's first solar thermal plant in nearly 20 years. It is located in Bakersfield, California, and it will generate 5 MW of electricity, enough to power 3,500 homes in central California. California's Governor, Arnold Schwarzenegger was present to fire up the plant on October 23, 2008. He said, "This next generation solar power plan is further



evidence that reliable, renewable and pollution-free technology is here to stay, and will lead to more California homes and businesses powered by sunshine." Governor Schwarzenegger also mentioned that this new solar plant will, in addition to helping California meet their renewable energy goals, create new jobs in California.



Key Links & Resources

David Suzuki Foundation:

www.davidsuzuki.org/default.asp

Ausra Inc www.ausra.com

Ministry of Energy and Infrastructure

www.energy.gov.on.ca

Canadian Wind Energy Association

www.canwea.ca

National Resources Canada

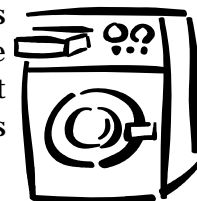
www.rescerc.gc.ca/tech_appl/index.asp?CaId=6&PgId=232

B.C. Hydro www.bchydro.com/

One Simple Energy Thing

Wash in Cold, Hang to Dry!

clothes in cold water, you will eliminate the majority of the environmental impacts, since 90% of the energy involved in washing clothes by machine goes to heating the water, not to running the machine. If you wash four loads of clothes per week and switch from hot to cold water, you could save as much as \$82 or more per year (according to B.C. Hydro). Switching from hot to cold water will save the energy used to heat the water, and can also reduce fading, shrinkage and wear of clothes. Heat used to wash clothes in hot water can generate as much as five times more greenhouse gases than clothes washed in cold water.



If you wash your clothes in cold water, you will find that they still end up clean. Hot water is generally only necessary for heavily stained clothes. By washing your

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Winterize your Home

Whether we like it or not, winter is a part of living in Canada. Why not do a few simple things to prepare your home for an energy efficient winter? This simple list was adopted from a longer list on www.thedailygreen.com, and the simple changes are listed first.

1. **Install a “draft snake”** to help plug leaky doors and windows. A “draft snake” can be purchased from department stores, or be simply a rolled up towel. Drafts can waste 5-30% of your homes energy.
2. **Change your furnace filter regularly.** Filters should be changed once a month during the heating season; dirty filters restrict air flow and increase energy use.
3. **Run ceiling fans in reverse.** Switch your ceiling fan to a clockwise rotation, this makes it seem warmer by creating an updraft. This can cut heating costs by up to 10%.
4. **Turn down your water heater.** Most water heaters heat water to 140° F. – quite a bit warmer than most households require.. Turning the hot water to 120°F can reduce your water heating costs by 6-10%.
5. **Install storm doors.** Properly installed storm doors can increase your

energy efficiency by 45%.

6. **Install a programmable thermostat and put on a sweater.** Most households shell out 50-70% of energy budgets on heating and cooling an empty house. For every degree you lower the thermostat you will save 2% on your annual bill. A light long-sleeved sweater is worth about 2°F in added warmth.
7. **Purchase a window insulation kit.** Properly installing the plastic adds a buffer space in window areas that can boost a home’s ability to hold heat .
8. **Use an energy monitor.** An energy monitor such as T.E.D. (page 2), indicates the real-time energy use of appliances in your home, and can help you save 15-20% on your energy bill.
9. **Caulking and weather stripping.** Sealing up gaps can increase energy efficiency by 5-30%. Use an incense stick held near joins in windows and door, where the smoke wavers, there is a leak.
10. **Boost insulation.** Increase insulation in attics and basement floors as well as around pipes that are warm to the touch.
11. **Seal air ducts.** 10-30% of conditioned air is lost from ducts that are not properly sealed. In an average home this could save \$140 annually.

T.E.D: The Electricity Detective

T.E.D., The Electricity Detective, is a simple home energy monitor that allows you to accurately tell how much energy you are using in your home, in real-time. T.E.D. displays current energy use on it’s LCD screen. It will save you money by telling you how much energy you have used, what your energy bill will be and help you look for ways to conserve energy. The company that makes T.E.D. also offers “T.E.D. Footprints”, which is software that allows you to log home energy use on your computer for creating reports and charting energy use. According to the company’s website, monitoring your electricity use in real time can help you save 10 to 20% on your monthly energy bill.

For more information about T.E.D. point your web browser to: www.theenergydetective.com/index.html



Did you know?

Wind energy is the fastest growing energy source in the world, and according to David Suzuki in some parts of the world it is economically competitive with electricity generated by burning fossil fuels.

Currently 86 wind turbines are being installed on Wolfe Island near Kingston. These turbines were made in Denmark and shipped on 40 barges.

In good high areas, the costs of generating electricity range between \$0.05 and \$0.10 cents per kilowatt hour. In remote areas, generating electricity with diesel generators can range from \$0.25 to \$1.00 per kilowatt hour. Therefore wind energy could be more economical in remote areas of the country.

Be sure to look for
January’s issue on Waste!




Both wind turbine pictures, on this page taken by Karen Burns, located near Cedar Springs, ON



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How to tip of the month: *Energy Settings*

Changing your computer's energy settings is simple, follow the step-by-step instructions:


1. Click on 
2. Select "Control Panel"
3. Select "Appearance and themes"
4. Choose "Screensaver"
5. In the "Screensaver" drop down menu, select "none"

Change the Power Settings:

1. Just below the screensaver settings there is Monitor Power, click "Change"
2. Select the power scheme to change (you probably only need one for your desktop PC)

3. Change the times for all four components: monitor, hard disks, go into standby, go into hibernation.

4. Click apply

5. Click 

What does "standby" mean? Standby reduces the energy consumption of your computer, clicking the mouse or a key will "waken" the computer.

What does "hibernation" mean? Hibernation turns everything off after saving everything to memory. When you press the power button on your computer, it will resume everything as you left it.

News and Events

Farmer's Market



The University of Toronto is hosting a weekly local farmers' market at the St. George Campus. Choose from a variety of local and seasonal produce and baked goods from St. John's Bakery and Riverside Bakery!

Date: Every Friday
Time: 11:00am – 2:00pm
Location: University College, 15 King's College Circle (Inside the rotunda)

Do you have a "green" themed event that you would like to share? Email it to greening@sph.utoronto.ca and we'll put it in the newsletter!

Watts up? - experiment!

By *Stephanie do Rego*

Over the last few weeks I have used a "Watts up? PRO" in my work space. This device is plugged into an electrical outlet, and my power bar is plugged into the device. My computer is a standard desk top computer with a 15" LCD monitor and a printer. I found out some interesting things by checking my usage regularly.

When I left my computer on, with the "My Pictures" screensaver running, the computer used 178 watts of energy, if left on all day, everyday this single computer would cost \$150.37 per year to run. When I compared my computers' energy use to an idle computer without a screensaver (regular use), the idle computer used 30% less then the CPU processing the screensaver. If you do only one thing for your computer, turn off the screensaver, especially "My Pictures" screensaver.

Of course turning off your CPU, monitor and printer when you leave each day will definitely save energy. My computer with everything off, and the power bar left on, only used 2.75 watts or \$1.80 per year. When I turned off the power bar completely the display went to zero.

Estimated Yearly cost for One Computer in the Health Sciences Building		
	Power ON (watts)	Yearly Cost (\$0.10/kwhr)
Power bar ON (computer off)	2.75	\$1.80
CPU processing ("My Pictures" Screensaver ON)	178	\$150.37
LCD Monitor (on 24/7)	2.9	\$2.45
CRT Monitor (on 24/7)	76.6	\$64.71
Printer	12.2	\$10.31
CPU—idle (no screensaver)	123	\$103.91



For questions, information or to participate in our group please contact the work group at: greening@sph.utoronto.ca



The greening Work Group at the Dalla Lana School of Public Health established in May 2008. The mandate of the Work Group is to implement the Dalla Lana School of Public Health environmental plan.



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