



ENERGY STAR®

Purchasing Guide



Natural Resources
Canada

Ressources naturelles
Canada

Canada

About ENERGY STAR®

The international ENERGY STAR symbol is a simple way for consumers to identify products that are among the most energy efficient on the market. Only manufacturers and retailers whose products meet the ENERGY STAR criteria can label their products with this symbol. Requirements vary from one category to another, but typically the product must be from 10 to 50 percent more efficient than standard products to be allowed to carry the ENERGY STAR symbol. In Canada, Natural Resources Canada's Office of Energy Efficiency administers and promotes the international ENERGY STAR symbol for a wide range of energy-using products sold in Canada.

Look for the ENERGY STAR symbol on product packaging, in product literature and advertising and, of course, on the products themselves. Ask your local retailer/distributor to help you identify products that qualify for the ENERGY STAR mark so you can begin saving energy and money. For more information, and to get a listing of ENERGY STAR qualified products, visit the ENERGY STAR Web site at: energystar.gc.ca.

Rising energy costs and growing evidence of climate change and other environmental problems associated with the combustion of fossil fuels have many organizations and individuals thinking about their energy choices. Buying only energy-efficient products provides answers in terms of cost savings through reduced energy use, and is a key policy instrument for reaching the greenhouse gas emissions reduction targets set by the Kyoto Protocol. Purchasing of energy-efficient products also helps to alleviate urban smog and acid rain.

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How to use this guide

The guide is designed to help your organization purchase energy-efficient products, while working within your own framework and rules. The procurement process can only be effective when collaboration exists between **the product requester** (user, owner, etc.), **the product specifier** (designer, engineer, etc.), **the purchaser** and **the supplier** (manufacturer, distributor, etc.). This guide recognizes the importance of bringing these key players together to collectively improve the way we make, buy and use the most energy-efficient products available on the market.

■ This guide is intended to help procurement officials from the following sectors:

- Federal/provincial/territorial/municipal governments
- Institutions: hospitals/schools/colleges and universities
- Businesses: industrial and commercial
- Bulk purchasing organizations
- Sector and trade associations
- Housing authorities and building/property management groups
- Non-government organizations

■ What's inside

- Benefits of ENERGY STAR qualified products
- Listing of products eligible for the ENERGY STAR symbol
- Step-by-step implementation plan for energy-efficient purchasing
- Examples of procurement language
- Making the business case for ENERGY STAR qualified products
- Additional resources

■ Why should you buy ENERGY STAR qualified products?

Because ENERGY STAR qualified products are more energy efficient and save you money. The less energy and/or water the product uses, the more you save. These dollar and energy savings really add up over the lifetime of the product. By using ENERGY STAR qualified products, your organization may save between 30 and 50 percent of energy and maintenance costs, when compared to a comparable, non-qualified product.





How You Can Use ENERGY STAR® in Your Organization

- **Federal/provincial/territorial/municipal governments** can integrate the promotion of ENERGY STAR into their programs and inform their constituents about the benefits of buying energy-efficient products.
- **Procurement officials** in public and private organizations can promote ENERGY STAR within their organizations and include high energy-performance specifications in their purchasing plans or policies.
- **Sector and trade associations** can promote the benefits of ENERGY STAR to their members.
- **Educators, and environmental and energy efficiency groups** can engage consumers on the benefits of choosing ENERGY STAR qualified products and promote efficient use of energy.
- **Utilities** can promote responsible, efficient use of energy by promoting the purchase and use of ENERGY STAR qualified products.
- **Distributors and retailers** of products that bear the ENERGY STAR symbol can promote products that qualify, educate consumers at point of purchase, and advertise ENERGY STAR qualified products through their own advertising.
- **Manufacturers** of energy-using equipment can promote ENERGY STAR if one or more of their products meets the relevant ENERGY STAR specifications, and can display the symbol on products that have been verified to meet the ENERGY STAR specifications.
- **Housing authorities and building/property management groups** can purchase ENERGY STAR qualified products for use in their buildings and promote the benefits and efficient use of these products to their tenants.

Promote and Use the ENERGY STAR® Symbol

There are further opportunities to get your organization involved that reach beyond the act of purchasing ENERGY STAR qualified products.

ENERGY STAR is more than just a symbol awarded for energy efficiency. Now, manufacturers of energy-using equipment, retailers, distributors, bulk purchasing organizations, utilities, governments and environmental organizations can become active ENERGY STAR participants. Working together, these diverse stakeholders can help Canadian businesses and consumers save energy and contribute to Canada's climate change objectives, such as the One-Tonne Challenge, through increased energy efficiency.

By promoting and using the ENERGY STAR symbol, your organization will join a growing number of participants that help businesses, consumers and product specifiers/purchasers within their own organizations make product choices that reduce greenhouse gas emissions and improve air quality while saving money.



Benefits of Energy-Efficient Purchasing

Why buy energy-efficient products?

To save money

By using ENERGY STAR qualified products, your organization can save between 30 and 50 percent of energy and maintenance costs, compared to non-qualified products. For example:

- In some instances, investments in energy-efficient products can quickly pay for themselves and provide significant returns over the long run, making funds available for investment in your organization and/or community.
- The performance of energy-efficient products matches or exceeds that of less energy-efficient products.

To reduce energy demand

Cutting energy waste helps utilities offset their peak loads and avoid the need to construct new power plants or transmission facilities.

To help your organization reduce its impact on the environment

Clean the air we breathe and take action on climate change. Energy-efficient products improve air quality because fewer fossil fuels such as coal and oil are burned. When these fuels are burned, they release air pollution and particles that contribute to smog, acid rain and global climate change.





ENERGY STAR® • Purchasing Guide

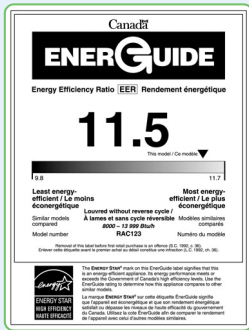
NATURAL RESOURCES CANADA: Office of Energy Efficiency

Natural Resources Canada's (NRCan's) Office of Energy Efficiency (OEE) is a leading organization in helping Canadians and organizations save energy and reduce greenhouse gases (GHGs). The OEE promotes the international ENERGY STAR symbol in Canada. In addition to enrolling participants in the program, the OEE monitors the use of the ENERGY STAR symbol across Canada.

DID YOU KNOW THAT...

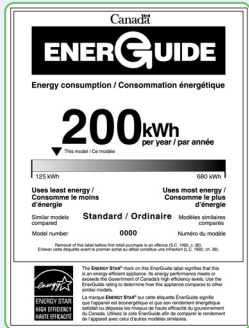
ENERGY STAR® is a symbol used internationally to designate energy-efficient equipment. It was created by the U.S. Environmental Protection Agency in 1992, and through international cooperation has now been adopted by several countries around the world, including Canada, Japan, Taiwan, Australia, New Zealand, and the European Union.

ENERGY STAR and EnerGuide



ENERGY STAR is an important element of Canada's response to the climate change challenge. It also complements Canada's other energy efficiency labelling initiative – the EnerGuide for Equipment program.

For over 25 years, Canadian shoppers have relied on the EnerGuide label to compare the energy consumption of major electrical household appliances and heating and cooling equipment. EnerGuide provides buyers with the means to compare energy performance ratings for a certain class of residential products such as refrigerators, freezers, dishwashers, clothes washers and air conditioners. ENERGY STAR goes one step further and identifies products that meet or exceed premium levels of energy efficiency. When the ENERGY STAR symbol appears with the EnerGuide label or in product literature, it means you will save money on your energy bills.



■ EnerGuide for Industry

The **EnerGuide for Industry** program from Natural Resources Canada's Office of Energy Efficiency encourages the purchase of more energy-efficient, off-the-shelf equipment such as motors, pumps, transformers, compressors, boilers and lighting products. Building on the trusted EnerGuide name,

EnerGuide for Industry offers comprehensive Web-based information about the purchase, operation and maintenance of equipment to help equipment buyers select the most energy-efficient model that meets their needs.

EnerGuide for Industry features **CanMOST – the Canadian Motor Selection Tool** – a free software tool that allows users to quickly and easily determine the energy and cost savings associated with any motor purchase, repair or replace decision. Over a motor's lifetime, energy costs add up to many times the purchase cost. CanMOST helps buyers get the best deal for the long term. For more information, visit: oee.nrcan.gc.ca/egi.



■ Public Works and Government Services Canada (PWGSC)

The Government of Canada is the largest single buyer in the country and is committed to greening all its operations, including procurement. Decisions about what to buy are the responsibility of individual departments, which makes the decision process extremely decentralized. This creates a need to increase awareness among a large number of federal employees about environmentally responsible purchasing, or **green procurement**.

PWGSC has committed to do its part with their **Green Procurement Network (GPN)**. The GPN provides product-related information on energy efficiency, indicates where ENERGY STAR qualifying products are available, and provides links to ENERGY STAR and the applicable EnerGuide directory. In addition, some of the PWGSC's National Master Standing Offers reference ENERGY STAR in their technical specifications.

This GPN provides:

- **Product and service profiles**, with such information as potential green criteria and existing standing offers
- **Information** on green procurement Web sites for government buyers, as well as links for easy access
- **Tips** on buying green – in the form of questions and answers
- **Experts** who share their experience and advice, and contact information for those who require more assistance
- **Success stories** to educate and motivate

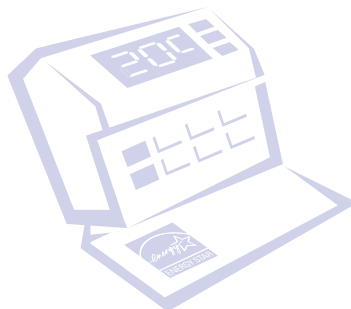
Please note that the GPN Web site can only be accessed by federal government employees. For more information, visit: publiservice.gc.ca/partners/green.

■ The Environmental Choice[™] Program



If you're looking for products that feature superior environmental performance in addition to energy efficiency, then the Environmental Choice[™] Program (ECP) with its EcoLogo[™] is your perfect resource. Environment Canada's Environmental Choice Program has certified over 3000 products and services as environmentally responsible.

While ENERGY STAR helps buyers identify the most energy-efficient products, the Environmental Choice Program (ECP) is more extensive. All relevant environmental factors are addressed by the ECP requirements, including energy efficiency. The ECP looks at harmful emissions, recycled content, water use and other factors. And finally, the program considers all relevant stages of the product's life cycle (production, disposal and recycling). For more information visit: environmentalchoice.ca.





Products Eligible for the ENERGY STAR® Symbol

Office equipment	Computers, monitors, photocopiers, multi-functional devices, printers, fax machines, combination printer/fax machines, scanners, bottled-water coolers, mailing machines
Residential appliances	Clothes washers, refrigerators, freezers, refrigerator-freezers, dishwashers, bottled-water coolers
Heating, ventilating and air conditioning equipment	Room and central air conditioners, residential gas furnaces, residential boilers, air-to-air and ground-source heat pumps, dehumidifiers, ventilating fans and ceiling fans, programmable thermostats
Consumer electronics	TVs, VCRs, DVD players, combination units, home audio products, cordless telephones/answering machines
Lighting and signage	Compact fluorescent lights, exit signs, traffic signals
Fenestration products	Windows, doors and skylights
Commercial and industrial products	Commercial clothes washers, solid-door refrigerators and freezers, vending machines

How do products qualify for the ENERGY STAR symbol?

ENERGY STAR qualified products must meet or exceed technical specifications endorsed by the Government of Canada. Requirements vary from one category to another, but typically the product must be from 10 to 50 percent more efficient than standard products to be allowed to carry the ENERGY STAR symbol. For example, an ENERGY STAR qualified refrigerator must be at least 15 percent more efficient than the standard/base model.

New ENERGY STAR qualified products are added on a continual basis. Please consult the ENERGY STAR Web site for the most up-to-date listing of products and categories and qualifying specifications. Visit: energystar.gc.ca.

THE POWER OF THE ENERGY STAR® SYMBOL is in its simplicity. No special knowledge is needed to select an energy-efficient product since the technical evaluation has been done for you – all you have to do is look for the symbol.

What's in it for your organization?

- Save money
- Help your organization meet its energy efficiency performance goals
- Help fight climate change
- Improve our air quality
- Protect our environment for our children and future generations



Implementing Energy-Efficient Purchasing

Step 1: Give clear direction

To succeed, any strategy needs clear direction in the form of either policy, standards, directives, etc. Successful energy management programs provide clear direction regarding the purchase of energy-efficient products as a key element of their overall strategy. Instituting an effective direction to reduce energy use can be as easy as requiring or recommending that purchasing officials specify ENERGY STAR qualified products, such as office equipment, in their contracts or purchase orders. The selection of more energy-efficient equipment can have a significant impact on the overall energy consumption of an organization.

ENERGY STAR's
Purchasing Guide
available on the Web at:
energystar.gc.ca.



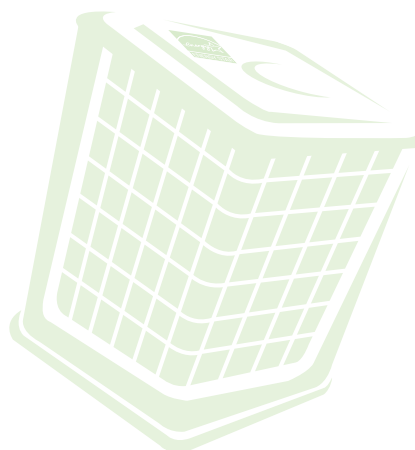
Step 2: Make it possible

Staff must be provided with adequate instructions and tools to implement the agenda at the working levels. The ENERGY STAR Purchasing Guide lists product specifications and provides examples of purchasing language that organizations can incorporate directly into their purchasing policies and procurement/contracting documents.

Step 3: Make it easy

The *simpler* the rules for the purchasing procedure are, the easier it will be for purchasers to implement them. The Purchasing Guide has easy-to-use purchasing guidelines and informative resources from each ENERGY STAR qualified product, including:

- Definitions
- ENERGY STAR qualifying criteria
- Sample purchasing language
- Information resources for products that meet energy efficiency guidelines, including Web site addresses and contact information for easy reference





Step 4: *Make it rewarding*

A key problem associated with purchasing that needs resolving is the lack of motivation and incentive among purchasing officers to change their purchasing practices in favour of energy-efficient products and technologies. Not only does any change from the “traditional” way of doing things involve a certain amount of risk, it also provides direct benefits to the organization rather than to the person making the purchasing decision. Consider having an internal staff challenge and offer rewards, such as green products, for the winners of the challenge.

Step 5: *Make it work*

In many cases, the purchase of an energy-efficient product is no guarantee that the potential energy savings will be achieved. Securing long-term savings requires expert installation, quality control and, for some products, continuous monitoring of functions and settings. It’s important that organizations commit to maximizing their benefits on an ongoing basis.

Step 6: *Make it count*

The objectives of an energy-efficient purchasing policy are to reduce energy consumption and energy costs associated with operating the products, and to reduce related greenhouse gas emissions. The most important aspect of energy-efficient procurement in the public sector, however, is its role as an instrument of broader market transformation. It’s therefore important for organizations to demonstrate the connection between energy-efficient products and public priorities such as clean air, clean water, sustainability, and cost savings, and to encourage similar actions among constituents, employees, ratepayers and the general public.





The Procurement Officer Is a Key Partner in Canada's ENERGY STAR® Initiative

The procurement process provides an important link, to bring key players together and to collectively improve the way our economy makes, uses, recycles and disposes of materials.

As a procurement officer, you can and should:

- Inform your materiel manager or client(s) of products that have the ENERGY STAR specification for energy efficiency
- Request and share a detailed product specification with your materiel manager or client(s)

Beyond looking for the ENERGY STAR symbol, a procurement officer should also:

- Be informed about and provide to your materiel manager or clients(s) life-cycle information about products, and know what types of questions to ask regarding the life cycle (i.e. energy and water consumption, how it is made, what the service life is, end-of-life options, and whether the organization really needs the product in the first place).

Looking for Sample Procurement Language?

Sample procurement language and specification information for ENERGY STAR qualified products are available on the ENERGY STAR Web site.

For example, the following procurement language can be used in contracts to ensure you receive ENERGY STAR qualified compact fluorescent lamps.

The vendor must:

- Provide compact fluorescent lamps and lamp systems that meet ENERGY STAR specifications for energy efficiency
- Verify that the compact fluorescent lamps and lamp systems have been qualified as ENERGY STAR

Track Your Purchases and Measure Your Progress!

Your organization's existing financial/procurement system may allow green purchases to be tracked. For instance, the system may have prompting questions such as "Is this going to be a green purchase?" The data collected from the responses to these questions can be used to identify which green products are being purchased and identify those green products that are perhaps being overlooked. Tracking what procurement officials identify as a green purchase will also provide baseline information on the level of awareness regarding what products qualify as green purchases.





Making the Business Case for ENERGY STAR®



The Calculator allows users to make a business case for the whole range of ENERGY STAR qualified products. Access the Calculator on the Web at: energystar.gc.ca.

Does your facility need help justifying the purchase of energy-efficient products? Look no further than ENERGY STAR’s Simple Savings Calculator! With the Simple Savings Calculator, a facility can quantify expected energy and cost savings and estimate greenhouse gas emission reductions.


The Calculator helps users make comparisons between ENERGY STAR qualified products and non-ENERGY STAR qualified products. The following example illustrates how the Calculator works.

Bottled-water coolers dispense cold water or both hot and cold water. They are a much-appreciated device for any office or facility setting. When the time comes to replace them, it would be helpful to know what the most cost-effective option is.

Below, a comparison is made between the purchase of 20 ENERGY STAR qualified bottled-water coolers versus 20 non-ENERGY STAR qualified bottled-water coolers using the Calculator. Here, key information is entered, such as power consumption, initial cost per unit and the product life expectancy. The Calculator also allows you to select the electricity rate by province through a drop-down box.

Bottled-Water Coolers				
<i>Electricity rate by province (national average)</i>				
Type of unit	ENERGY STAR	Non-ENERGY STAR	ENERGY STAR	Non-ENERGY STAR
	<i>Cold only bottled units</i>		<i>Hot and Cold bottled units</i>	
Number of units	20	20	20	20
Power consumption (kWh/day)	0.16	0.29	1.20	2.18
Initial cost per unit (estimated retail price)	\$300	\$300	\$300	\$300
Assumed product lifetime (years)	10	10	10	10

CALCULATE

Once this key information is entered, the user simply scrolls down to the “Operating Costs” and “Benefits” sections to view the annual and life-cycle comparisons. 

Users have the ability to customize this tool. For example, the default prices for the various products are based on the estimated retail price for one unit. However, these prices, as well as maintenance costs and other assumptions, may vary regionally or locally. Users can change the discount rate and/or electricity price according to their situation, and have the option of using actual costs or net present value.



Bottled-Water Coolers				
Type of unit	Cold only bottled units		Hot and Cold bottled units	
	ENERGY STAR	Non-ENERGY STAR	ENERGY STAR	Non-ENERGY STAR
Annual operating costs*				
Energy cost	\$141	\$256	\$1,056	\$1,919
Energy consumption, kWh (annual)	1 168	2 124	8 760	15 927
Maintenance cost	\$0	\$0	\$0	\$0
Total annual operating costs	\$141	\$256	\$1,056	\$1,919
Life-cycle costs*				
Lifetime operating cost (energy and maintenance)	\$865	\$1,572	\$6,486	\$11,793
Energy costs (lifetime)	\$865	\$1,572	\$6,486	\$11,793
Energy consumption, kWh (lifetime)	11 680	21 236	87 600	159 273
Maintenance costs (lifetime)	\$0	\$0	\$0	\$0
Purchase price for 20 unit(s)	\$6,000	\$6,000	\$6,000	\$6,000
Total life-cycle costs	\$6,865	\$7,572	\$12,486	\$17,793

As simple as 1-2-3, the Calculator computes **annual cost, life-cycle cost and payback period** based on the initial cost of the product, and utility-bill savings coming directly from lower energy use.

* Please note that all costs, except initial cost, are discounted over the product's life expectancy. Annual costs exclude the initial purchase price.

Benefits of ENERGY STAR		
Qualified Bottled-Water Coolers		
Type of unit	Cold only bottled units	Hot and Cold bottled units
Number of units	20	20
Additional investment	\$0	\$0
Approximate savings (over product lifetime)	\$708	\$5,307
Net savings	\$708	\$5,307
Payback of the initial investment (includes annual maintenance and energy savings)	0.0	0.0
Equivalent in CO₂ emissions to:		
• Eliminating approximately	0.1 automobiles	0.6 automobiles
• Planting approximately	56 trees	423 trees
Detailed Summary		
ENERGY STAR price premium	\$0	\$0
Total cost savings (annual)	\$115	\$864
Total cost savings (lifetime)	\$708	\$5,307
Total energy savings, kWh (annual)	956	7 167
Total energy savings, kWh (lifetime)	9 556	71 673
Total energy bill savings (annual)	\$115	\$864
Total energy bill savings (lifetime)	\$708	\$5,307
Total CO ₂ equivalent savings, kg (annual)	518	3 885
Total CO ₂ equivalent savings, kg (lifetime)	5 180	38 847

The Calculator also presents the reduction in carbon dioxide (CO₂) emissions.

In summary, the ENERGY STAR Simple Savings Calculator is a Microsoft Excel-based cost and energy savings calculator that uses both life-cycle and environmental costing to:

- Make comparisons between ENERGY STAR qualified and non-qualified counterparts
- Estimate CO₂ reductions associated with selecting ENERGY STAR qualified products and using them for the life-cycle period, compared to non-qualified equivalents



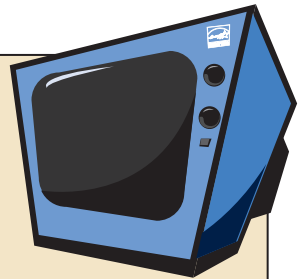
Spot the ENERGY STAR® Purchasing Opportunities

Fortunately, all levels of government, business and other organizations across the country can save money and help the environment simply by adopting strategies for purchasing energy-efficient products.

Attention Hotel Operators...

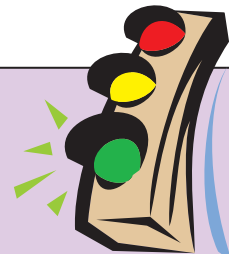
Did you know that the simple act of buying ENERGY STAR qualified televisions can result in significant savings, given the cost of electricity to operate them from year to year? Even turned off, they continue to use energy. ENERGY STAR qualified televisions require 1 watt or less of power in standby mode. Older standard televisions use an average of 12 watts.

While these numbers seem minimal on a per unit basis, consider the total energy and cost savings you will achieve, the next time you replace the hotel's television sets, by choosing ENERGY STAR qualified televisions.



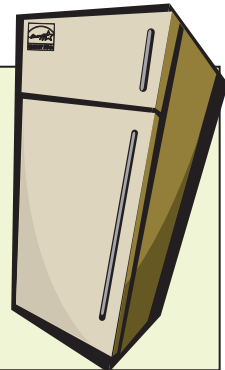
Attention Municipalities...

Did you know that ENERGY STAR qualified traffic and pedestrian signals consume only 8 to 17 watts depending on the colour and size of the signal? Making the switch from conventional signals to ENERGY STAR qualified traffic and pedestrian signals will result in an 80 to 90 percent reduction in energy usage. Not only will these signals help put a stop to inefficient energy use, they last up to 10 years compared to only 2 years for conventional lights.



Attention Rental Property Owners...

As an owner of one or many rental properties, you may be responsible for providing refrigerators and dishwashers in each unit as well as perhaps supplying access to commercial clothes washers for your tenants. You may also be responsible for mounting lighting and exit signs. These are all opportunities to save energy and money over the equipment's lifetime should you invest in products that meet ENERGY STAR specifications. Choosing ENERGY STAR constitutes an important contribution to Canada's climate change efforts and helps protect local air quality.

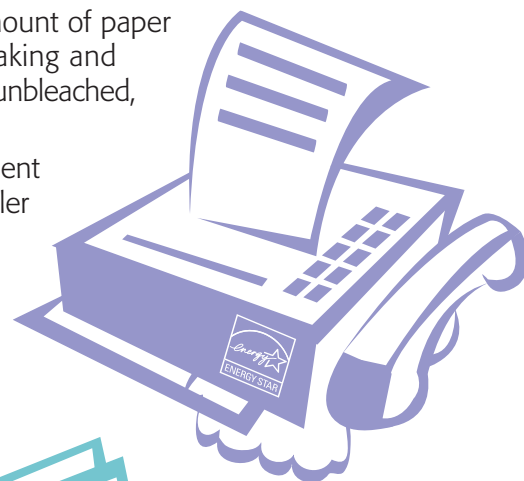




Using Office Equipment Wisely

Buying ENERGY STAR qualified equipment is a sure way to reduce your office's energy consumption and greenhouse gas emissions. But it doesn't begin and end there – how office equipment is used is also important. Here are some tips on how to get the most out of your equipment:

- **Plan:** Start by reviewing options for reducing the number of hours during the night that office machines must run. If servers or computers must be left on, turn off monitors overnight or activate ENERGY STAR energy management features.
- **Educate Staff:** Make staff aware of the issues and opportunities, and the actions needed to achieve energy savings. Remind staff that frequently switching equipment on and off will not damage components.
- **Use the Equipment Properly:** Ensure equipment is properly installed, maintained and used consistently and effectively.
- **Minimize Printing Requirements and Use Paper Wisely:** Store information electronically whenever possible. When printing, minimize the amount of paper used by printing double-sided pages. Reuse paper when notetaking and recycle paper when completely used. When purchasing paper, buy unbleached, recycled paper.
- **Recycle Computers and Peripherals:** Avoid sending old equipment to the landfill by arranging a trade-in with the manufacturer or dealer from whom you are purchasing new equipment. Alternatively, used equipment may be donated to local schools or community groups. Another option is to find a broker who will buy used equipment or to identify recycling facilities in your area.





The Importance of Office Equipment With Sleeping Capabilities

We've all done it – risen from our computers to take a break from work or perform another task. Despite not being used during this period of inactivity, the computer continues to use energy.

By purchasing office equipment that has the low-power “sleep” mode, you're saving energy when office equipment is inactive. Sleep mode is the reduced power state that certain office equipment enters after a period of inactivity. When buying this equipment, ensure it is ENERGY STAR qualified, and activate the low-power sleep mode feature after its delivery and/or reconfiguration.

The following pieces of ENERGY STAR qualified office equipment have low-power sleep mode:

- **Computers:** consume no more than 30 watts after a preset period of inactivity
- **Monitors:** have low-power sleep mode that consumes no more than 15 watts and “deep sleep” mode that consumes 8 watts or less
- **Printers and fax machines:** enter a low-power mode of 15 to 45 watts or less after inactivity
- **Photocopiers:** enter a low-power mode of 5 to 20 watts after inactivity
- **Scanners:** enter a low-power mode of 12 watts or less when not in use
- **Multi-function devices:** this equipment offers copying, printing, faxing, scanning and/or other capabilities; these devices power down to no more than 30 to 200 watts after a period of inactivity

DID YOU KNOW THAT...

Although all ENERGY STAR qualified computer systems are required to have power management capabilities, in many cases, these energy saving programs are deactivated. In one particular facility that was sampled, less than two percent of 500 systems had their power management features enabled. Once discovered, and enabled, savings neared 50 000 kWh annually, or upwards of \$1,000 per year.



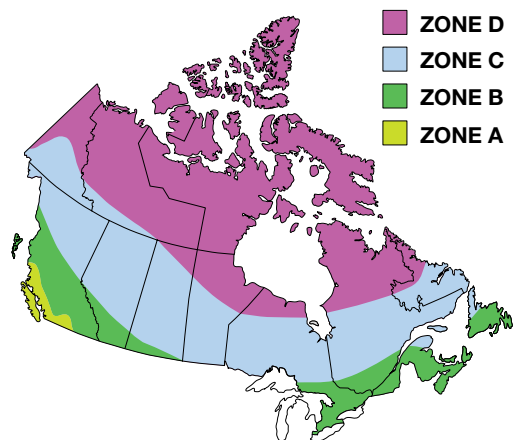


Looking for a Great View? Try ENERGY STAR® Qualified Windows, Doors and Skylights!

Fenestration products (windows, doors and skylights) can be significant sources of heat loss. Properly installed ENERGY STAR qualified fenestration products will save money on your heating and cooling costs and will give you a great view of the outdoors.

To buy an ENERGY STAR qualified fenestration product, determine the zone where your building is located and select a product that is ENERGY STAR qualified for that zone. Qualifying levels have been set for each zone, primarily for buildings that fall under the National Building Code Part 9 (housing and small buildings).

Canada has been divided into **four climate zones**. The climate zones for which a window, door or skylight is ENERGY STAR qualified will be shown on a label such as the one below, or in its sales literature. Many products will qualify for more than one zone in Canada. Zone "A" is the mildest region in Canada and Zone "D" is the coldest region. If your building is in a location that is significantly higher in elevation than the surrounding area, then it is recommended that a product be purchased that is qualified to at least one zone colder than what is indicated on the zone map. Also, it is important to keep in mind that if you buy a product that is qualified for one or more zones that are colder than where your building is located, you can save even more on your energy costs.



ENERGY STAR Requirements for Windows and Doors

Products may comply based on either their U-value or their Energy Rating (ER). Windows and sliding glass doors must also have an air leakage rate of ≤ 1.65 (m³/h)/m.

Zone	Maximum U-value (W/m ² ·K)	Maximum U-value (Btu/h·ft ² ·F)	Minimum R-value (ft ² ·h·F/Btu)		Minimum Energy Rating (ER) (Most Windows and All Doors)		Minimum Energy Rating (ER) (Picture Windows Only)	
					(Maximum U-value 2.00 W/m ² ·K)		(Maximum U-value 2.00 W/m ² ·K)	
					1998 Standard (W/m ² ·K)	2004 Standard* (Dimensionless)	1998 Standard (W/m ² ·K)	2004 Standard* (Dimensionless)
A	2.00	0.35	2.9	or	-16	17	-6	27
B	1.80	0.32	3.2	or	-12	21	-2	31
C	1.60	0.28	3.6	or	-8	25	+2	35
D	1.40	0.25	4.0	or	-5	29	+5	39

* The methodology used to calculate Energy Ratings, as defined by the Canadian Standards Association, was recently changed. Under the new 2004 standard, all windows and doors have positive ER numbers.



To the left is an example of a label that indicates that the fenestration product is ENERGY STAR qualified for Zones A, B and C.



See the Light with ENERGY STAR® Qualified Lighting Products

Lighting entails a major operating cost for commercial building owners, but there are ways to control these costs and spare the air further pollutants at the same time. Replacing conventional lighting with ENERGY STAR qualified compact fluorescent light bulbs (CFLs) and exit signs should be at the top of your list.

CFLs last longer and consume 70 percent less electrical energy than standard bulbs. Compact fluorescent bulbs that meet ENERGY STAR specifications have an extended life – they are rated to last up to 10 times longer than comparable incandescent lights bulbs. ENERGY STAR qualified compact fluorescent light bulbs also produce the same light output as comparable incandescent light bulbs.

■ Lighting the Way Beyond ENERGY STAR

Many commercial and institutional buildings use fluorescent lamps to light their hallways, workspaces and storage areas. Fluorescent lamps are an efficient option, but keep in mind that there are different types:

T8 LAMP SYSTEMS: Most people know that replacing traditional T12 lamp systems with T8 lamp systems with electronic ballasts yields greater energy savings and better lighting. But did you know that there are more efficient T8 premium or super lamp systems available that can show 27 to 36 percent energy savings relative to older T12s, and 15 to 20 percent energy savings relative to standard T8s? Ballasts are available in 120V and 277V, and will soon be available in 347V for the Canadian market.

T5 LAMP SYSTEMS: These smaller systems are ideal retrofits for some high-bay lighting areas, providing excellent lighting at lower operational cost than other types of high-bay lights.

■ What's Lighting the Future?

There have been great advances in efficient lighting technologies over the past decade, and the next technology on the horizon is the light-emitting diode (known as LED). Yet LEDs have been around for many years and are becoming the standard for traffic signals, vehicle brake lights and exit signs.

Some benefits of LED lighting:

- Offer 90 percent efficiency compared to 5 percent for traditional lighting sources
- Long life and reduced maintenance costs
- Low heat dissipation and improved visibility

Imagine if you retrofitted an entire building with CFLs; assuming 2000 lights, your estimated net savings would be more than \$80,000 over the lifetime of the CFLs. These savings would be due to electrical and maintenance savings because of the longer life of the CFL. Maximize these savings and payback by using CFLs in heavy use or hard-to-reach areas.



Does your organization decorate with lighting over the holiday season?
Did you know that...

The seasonal light strings that use light-emitting diode technology are light on energy and the pocketbook?

They last up to seven times longer and use up to 90 percent less electrical energy than traditional energy-intensive incandescent seasonal lights?





Additional Information Resources on Green Procurement

Public Works and Government Services Canada's Green Procurement Network

The purpose of the Green Procurement Network (GPN) is to provide federal government employees with a single Web site where they can go to get information and guidance on how to green their purchases of goods and services. The Web site includes links to ENERGY STAR qualified products as well as other categories of environmentally responsible products. To view the guide, visit: publiservice.gc.ca/partners/green.

City of Richmond's Green Purchasing Guide

In November 2000, the City of Richmond adopted the *Environmental Purchasing Policy and Guide*, which is designed to increase awareness and market development opportunities for environmentally preferred products and services. The guide advises that the environmental characteristics of goods and services be considered when making purchasing decisions. To view the guide, visit: richmond.ca/services/environment/policies/purchasing.htm.

Governments Incorporating Procurement Policies to Eliminate Refuse (GIPPER)

GIPPER's Guide to Environmental Purchasing is a tool to assist purchasers to incorporate environmental considerations in the procurement process. The document describes a number of methods for doing this, one of which is the application of environmental criteria to target product categories. To view the guide, visit: environmentalchoice.com.

Environmental Choice[™]

The Environmental Choice[™] Program (ECP) is an eco-labelling program that helps individuals, corporations and governments make informed purchasing decisions to reduce their environmental impacts. Over 3000 brand name products in approximately 140 product categories now bear ECP's EcoLogo[™], including products such as tires, cleaners, office equipment, electricity and paints as well as services such as printing and car washes. For more information, visit the Environmental Choice Web site: environmentalchoice.com.

Recognition Programs

Canada's ENERGY STAR Market Transformation Awards

These awards recognize companies and organizations that have surpassed the competition in offering Canadian consumers the most energy-efficient product, technology or service available on the market. Awards are available in three broad categories for ENERGY STAR manufacturers, retailers, utility companies and environmental advocates, and recognize achievement in energy efficiency by businesses, institutions, governments, communities and individuals. For more information, visit: energystar.gc.ca.



ENERGY STAR® • Purchasing Guide

Canada's Energy Efficiency Awards

These awards celebrate and publicize Canada's successes in energy efficiency. The awards are available in the following categories: equipment and technology, housing, buildings, industry, transportation (on-road) and outreach. The awards are administered on a regular annual cycle. A call for submissions is issued each March, the evaluation process takes place over several months, and winners are presented with their awards at a presentation event the following March. For more information, visit: oe.nrcan.gc.ca/awards.

LEED™

Leadership in Energy and Environmental Design (LEED) Green Building Rating System recognizes buildings incorporating design, construction and operational practices that combine healthy, high-quality and high-performance advantages with reduced environmental impacts. LEED consists of a set of criteria on what constitutes a green building in the Canadian context. This is done by certifying building performance with ratings – Silver, Gold or Platinum – based on the total number of points earned. LEED is managed by the Canada Green Building Council. For more information, visit: cagbc.org.

CCME Pollution Prevention Awards

The Canadian Council of Ministers of the Environment (CCME) supports pollution prevention, since it is more effective to minimize or avoid creating pollutants and waste at the source than to clean them up or treat them after they have been produced. Pollution prevention addresses some of the most challenging environmental issues, particularly climate change, smog and toxic substances. The CCME gives national recognition to organizations showing accomplishment or leadership in pollution prevention. One of six CCME awards given out annually, the Greenhouse Gases Reduction award recognizes companies and organizations that use pollution prevention approaches to reduce their greenhouse gas emissions. For more information, visit: ccme.ca.

For More Information

Natural Resources Canada's (NRCan's) Office of Energy Efficiency (OEE) has many free publications that will help you understand how to save energy at home, at work and on the road. At the same time, you will be saving money and helping the environment.

For more information on the ENERGY STAR international symbol or tips on energy-efficient products, visit OEE Web sites at oe.nrcan.gc.ca and energystar.gc.ca.

For free publications, please write or call:

Energy Publications

Office of Energy Efficiency
Natural Resources Canada
c/o S.J.D.S.

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(613) 995-2943 (in the National Capital Region)

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Natural Resources Canada's Office of Energy Efficiency
*Leading Canadians to Energy efficiency at Home,
at Work and on the Road*