



Natural Resources
Canada

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Canada

ENERGY STAR® in Canada Annual Report 2011–2012



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ENERGY STAR in Canada: a shining success!



In little more than a decade, the ENERGY STAR symbol has become a consumer icon in Canada. Its guiding star is well-known and trusted by Canadians as the mark of high energy efficiency performance.

The publication of this first *ENERGY STAR in Canada Annual Report* recognizes that achievement—and the hundreds of formal Participants in this industry-government partnership who made it happen, and continue to make it happen. This is a success story about transforming the way Canadians use energy.

Canada introduced ENERGY STAR in 2001 as an international partner in the voluntary program led by the United States Environmental Protection Agency (U.S. EPA). Today, Canadians buy millions of ENERGY STAR qualified products every year across a wide range of categories—from clothes washers, furnaces and televisions to light bulbs, computers and ceiling fans. Since 2005, Canadians can also choose ENERGY STAR qualified homes that are designed and built to achieve maximum energy efficiency.

Not only do these high-efficiency homes and products make the lives of individual Canadians more comfortable and cost-effective, on a national scale they add up to major energy savings and avoidance of greenhouse gas emissions for Canada.

This report provides snapshots of Canada's ENERGY STAR story through the lens of our activities and accomplishments in 2011–2012.



The **ENERGY STAR** commitment



To qualify for the ENERGY STAR symbol or label:

- ✓ The product or new home meets or exceeds the ENERGY STAR technical specifications.
- ✓ The energy performance is verified by third-party testing, a certification body or a home energy advisor approved by Natural Resources Canada (NRCAN).
- ✓ The product is manufactured or the new home is built by a Participant in the ENERGY STAR initiative in Canada.

The presence of the ENERGY STAR symbol tells Canadians that they are looking at a highly efficient product or new home. Typically, an ENERGY STAR qualified product is in the top 15 to 30 percent of its class for energy performance, and homes are more than 20 percent more energy-efficient than those built to provincial codes.

The ENERGY STAR symbol assures consumers that they are buying a model that will use less energy, thereby lowering their energy bills and paying for itself in a reasonable amount of time—all without compromising other aspects of product performance or home design. The ENERGY STAR brand is backed by a national network of ENERGY STAR businesses, builders, governments, utilities and organizations.



ENERGY STAR qualified homes built by Reid's Heritage Homes, Cambridge, Ontario.

Mission **ENERGY STAR**: moving the market forward



The ultimate goal of the ENERGY STAR initiative is to make high efficiency the new normal. This transformation of the market has already occurred with some products, for example, exit signs.

The illuminated exit sign was in the first group of products, and the only lighting product, covered by ENERGY STAR in Canada in 2001. To meet the technical criteria for ENERGY STAR qualification, exit signs typically needed to use new light-emitting diode (LED) technology.

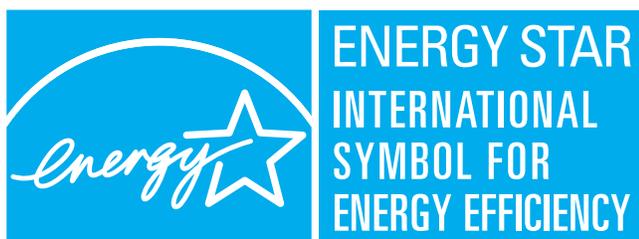
Over the next few years, most building owners made the switch to the high efficiency technology, persuaded by annual energy savings of \$20 to \$30 per fixture and a much longer lifespan. However, NRCan became concerned that almost a third of new exit signs being manufactured were still not meeting the ENERGY STAR level.

In 2004, NRCan set a minimum energy performance standard for exit signs that is equal to the efficiency level for ENERGY STAR qualification, completing the transformation of the market. ENERGY STAR qualification for exit signs was suspended: mission accomplished.

ENERGY STAR milestones

2001

Canada becomes an international partner in the United States ENERGY STAR program. Today partners also include Australia, the European Free Trade Association, the European Union, Japan, New Zealand, Switzerland and Taiwan.



2003

The first annual ENERGY STAR Recognition Awards are presented in eight categories at the first ENERGY STAR Participants' Meeting in Ottawa.

Windows and sliding glass doors are the first fenestration products to be eligible for ENERGY STAR qualification.

The compact fluorescent lamp or light bulb (CFL), a new lighting technology that uses up to 75 percent less energy, joins ENERGY STAR.



2004

NRCan coordinates a national "Switch and Save" campaign with more than 30 manufacturers, retailers, utilities, governments and service organizations to promote the benefits of CFLs.

Switch
and
Save



2005

The ENERGY STAR for New Homes initiative is introduced. It uses a technical specification that is more energy-efficient than the minimum building codes in the region.

Entry doors and skylights become eligible for ENERGY STAR, rounding out the fenestration category.



2007

Decorative light strings is the first LED product to join the ENERGY STAR family, a new technology that uses about 70 percent less energy.

With computers evolving so quickly in terms of technology and uptake, a more stringent technical specification comes into effect to raise the ENERGY STAR bar.

The ENERGY STAR debut of commercial kitchen equipment, for example, fryers, steam cookers and hot-food cabinets, greatly expands the product categories for commercial and institutional equipment.



Exit and traffic signs and distribution transformers are the first ENERGY STAR qualified products delisted because the entire market for these products becomes high efficiency.

2009

Dalhousie University in Halifax is the first university in Canada to become an ENERGY STAR Participant.

2010

ENERGY STAR qualification for LED lighting expands to include all residential uses. Integrated LED lamps, used mostly outdoors, also come on board.



2011

ENERGY STAR in Canada celebrates 10 years and introduces a pilot project for a new ENERGY STAR Most Efficient designation in collaboration with the U.S. EPA.

2012

The first ENERGY STAR Market Transformation Award for a builder of new homes is awarded.



ENERGY STAR in Canada: activities 2011–2012

Pilot for the new ENERGY STAR Most Efficient mark



NRCan conducted a pilot for the ENERGY STAR Most Efficient mark in 2011–2012 as part of Canada's commitment to harmonizing with the U.S. ENERGY STAR program. The Most Efficient designation helps consumers find the newest and best energy performers easily, thereby promoting quicker uptake of these premium products in the market. Each year, ENERGY STAR sets or reviews Most Efficient criteria for specific product categories. The 2012 categories were clothes washers, refrigerator-freezers, televisions, central air conditioners, air source heat pumps, boilers and geothermal heat pumps. The initiative will become a standard ENERGY STAR offering in Canada in 2013.

ENERGY STAR for New Homes

The new ENERGY STAR for New Homes Standard became effective in Canada on December 1, 2012, after consultation with industry stakeholders. It requires new ENERGY STAR homes to be 20 percent more energy-efficient than new homes that are built to provincial codes.

To standardize and streamline the qualification process, NRCan introduced an online system to verify that each new home complies with the new standard. The standard's *Tables for Calculating Effective Thermal Resistance of Opaque Assemblies* will be referenced in the 2012 interim update of the 2010 *National Building Code*, to give builders more options.

In 2012, the ENERGY STAR for New Homes initiative continued to attract builder participants who recognize the marketing edge that the ENERGY STAR symbol brings to their business, with more than 30 000 new homes earning the ENERGY STAR label. More than 1000 builders participate in the initiative, and in 2012, to recognize the shift in the market, a new ENERGY STAR Market Transformation Award was added to acknowledge excellence among new home builders.



ENERGY STAR qualified home built by Reid's Heritage Homes, Guelph, Ontario.

Participant pairings deliver powerful results

Collaboration is a key feature and strength of the ENERGY STAR initiative. Participants regularly team up to carry out co-operative campaigns and projects that get results. The following are 2011–2012 success stories.



- **Hydro Québec** and 11 retail partners in Quebec, representing 80 percent of the market, promoted ENERGY STAR qualified televisions in more than 450 retail outlets. Nearly 60 percent of television buyers who saw the campaign said the promotion influenced their purchase decision.
- In a “Double Up” promotion, **Samsung Electronics Canada** matched **BC Hydro** rebates for ENERGY STAR qualified appliances. The aggressive campaign increased Samsung sales five-fold for the month and saved BC Hydro customers 750 000 kWh a year.
- **The Home Depot** joined **Philips Lighting** and several utilities in a highly successful campaign to promote LED light bulbs. The big box chain introduced the first ENERGY STAR LED light bulb to the Canadian market in March 2011 and offers the widest selection of LED light bulbs.
- **C3** (formerly Climate Change Central) in Alberta has partnered with AIR MILES® for Social Change so that it can now offer AIR MILES as an incentive in its projects and programs, which promote ENERGY STAR as one of the simplest ways to improve energy efficiency.



Paving the way for the phasing out of inefficient light bulbs

The strong promotion of ENERGY STAR qualified CFL and LED technologies continued with a variety of aggressive Participant activities in the past year. Sears Canada stopped restocking incandescent and halogen light bulbs in its stores and no longer uses them in its operations. Hydro-Québec offered rebates of up to \$25 for qualified CFLs and \$15 for qualified luminaires. FortisBC Inc. offered rebates of 30 percent of the cost of LEDs and 50 percent of the cost of CFLs. Toronto Community Housing installed close to 44 000 qualified CFLs in its portfolio of buildings.

The positive power of the ENERGY STAR symbol—along with industry promotions and utility rebates—has played a key role in attracting consumers to and educating them about newer bulb technologies, and paved the way for regulations that will phase out standard, medium screw-base, A-shape incandescent bulbs, starting in 2014.



Certification for fenestration installers in the works

Installation can be a weak link in energy-efficient fenestration. Proper installation of windows, doors and skylights is the only way to guarantee the energy savings promised by ENERGY STAR qualified products.

NRCan is working with the Canadian Standards Association (CSA) to develop a certification program for installers of ENERGY STAR qualified fenestration products. CSA already administers a general Fenestration Installation Technician (FIT-1) Personnel Certification program. The program keeps a registry of qualified technicians and performs periodic re-assessments to ensure that technicians remain up-to-date on technical developments and changes in the industry. NRCan is contributing to developing training materials to help installers prepare for the exam.

Technology showcases

This year NRCan built upon an earlier technology showcase for LED traffic lights in Winnipeg. NRCan is supporting a street lighting evaluation tool developed and hosted by the international Super-efficient Equipment and Appliance Deployment (SEAD) Initiative. The free calculator can help purchasers make choices that can save up to 50 percent in energy costs associated with the operation of road or pathway lighting. Canada's contributions included helping make sure the tool is useful for Canadian municipalities and bilingual for the use of all Canadians.

NRCan also leads by example. As part of its internal Low-carbon Initiative, the department has set up an LED Task Lighting Showcase. The project will establish a baseline of task lighting products currently used by employees and test various new LED task lighting technologies such as ENERGY STAR qualified desk lamps and under-cabinet task lights. The resulting energy and cost savings analyses will inform recommendations on government purchasing practices.



Raising awareness and building knowledge

Many ENERGY STAR Participants are very active in providing training to retailers, contractors and sales staff. For example, in 2012, All Weather Windows had more than 200 dealers and contractors attend its "All Weather Windows University" to learn about ENERGY STAR.

Advertising flyers that reach 11 million households weekly and making more than 3 billion impressions in a year also keep the ENERGY STAR symbol familiar to Canadians. Participants also keep consumers informed through Web sites, blogs and other social media. This year Whirlpool used Facebook in its Great Green Challenge, enabling Canadians to talk directly about ways to save energy.



The ENERGY STAR group at the Office of Energy Efficiency fosters communications and knowledge sharing with Participants and the public in a variety of ways, including an electronic newsletter, communiqués, the ENERGY STAR Web site and related publications. In 2011–2012, we published nine core publications, including a guide to commercial kitchens and a booklet on energy savings for home entertainment systems.

Maintaining the integrity of the ENERGY STAR brand

The ENERGY STAR brand is a valuable asset. NRCan protects the symbol's integrity through a range of efforts. Participants enter into formal partnership agreements; they commit to applying the ENERGY STAR name and trademarks properly and consistently in the marketplace, according to the latest guidelines; and they have access to approved ENERGY STAR training and marketing materials in the Participants-only section of the ENERGY STAR Web site. NRCan responds to any labelling, certification or compliance concerns that arise in the Canadian market.

ENERGY STAR technical specifications: up-to-date

As the market evolves, so do the technical specifications for ENERGY STAR qualification. Contributing to new or revised specifications set by the U.S. EPA is a substantial activity for the ENERGY STAR initiative and its Participants.

In 2011–2012, eight new or updated versions of specifications went into effect for:

- residential gas furnaces
- dehumidifiers
- dishwashers (Tier 1*)
- commercial dishwashers
- commercial icemakers
- vending machines
- washer-dryers
- uninterruptible power supplies

Meanwhile, new specifications and/or updates were in the drafting stage for 17 other products:

- light bulbs
- dishwashers (Tier 2*)
- refrigerators and freezers
- commercial clothes washers
- commercial ovens
- set-top boxes (cable boxes)
- audio-video products
- televisions
- computers
- enterprise servers
- data centre storage
- battery charging systems
- residential water heaters
- office equipment displays
- imaging equipment
- small network equipment
- large network equipment



An ENERGY STAR for New Homes Standard was also developed in the effort to streamline and standardize requirements that participating builders need to follow across Canada. Effective in December 2012, the standard includes the following energy efficiency measures:

- a target of 20 percent more energy efficiency than a house built to the local code
- minimum insulation and air tightness requirements
- heat recovery ventilators or energy recovery ventilators in every home
- duct sealing requirements
- mandatory annual electricity savings of 400 kWh

** Tier 1 and Tier 2 refer to performance levels at the super-efficient end of the ENERGY STAR spectrum as promoted by the Super Efficient Home Appliances Initiative (SEHA) of the Consortium for Energy Efficiency, a North American non-profit corporation to which several Canadian utilities and government agencies belong.*

ENERGY STAR results

Canada introduced ENERGY STAR in 2001. The initiative has delivered impressive results for Canadians in a relatively short time, making a lasting and continuing impact on our choices about energy-efficient products.

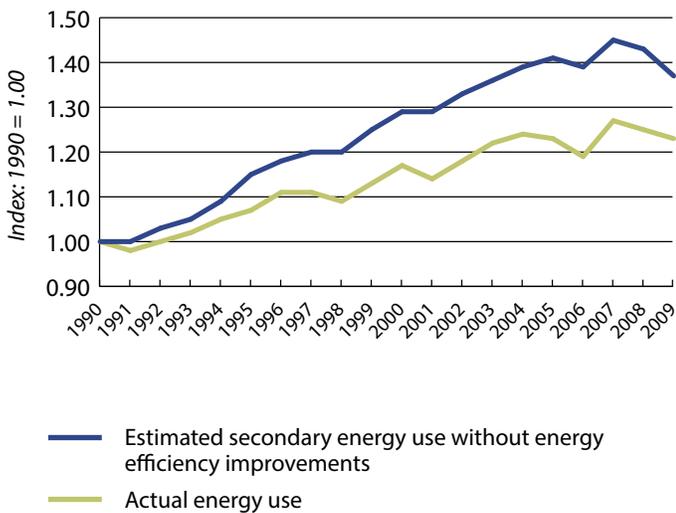
- In 2010, 71 percent of Canadians were aware of the ENERGY STAR symbol, up from 13 percent in 2001.
- In 2012, ENERGY STAR covered more than 50 product types, up from 23 when the initiative started in Canada.
- Market penetration for ENERGY STAR qualified products went from almost nothing in 1999 to 53 percent for refrigerators, 69 percent for clothes washers and 90 percent for dishwashers in 2009.
- ENERGY STAR qualified products have made major gains in energy efficiency since 2001. For example, among home appliances, the average 2010 ENERGY STAR qualified model had improved 16 percent for refrigerators; 42 percent for dishwashers; and 51 percent for clothes washers.
- In 2011 alone, ENERGY STAR qualified products delivered 3.4 PJ in energy savings—the equivalent of taking 66 000 cars off the road for the year.
- Thirty thousand ENERGY STAR qualified homes have been built in Canada since the inception of the initiative in 2005.
- As of September 30, 2012, 1000 manufacturers, retailers, utilities and advocacy organizations had signed on as ENERGY STAR Participants in Canada. At the same time, there are an additional 1140 Participants in the ENERGY STAR for New Homes initiative.



Transforming the way Canadians use energy.



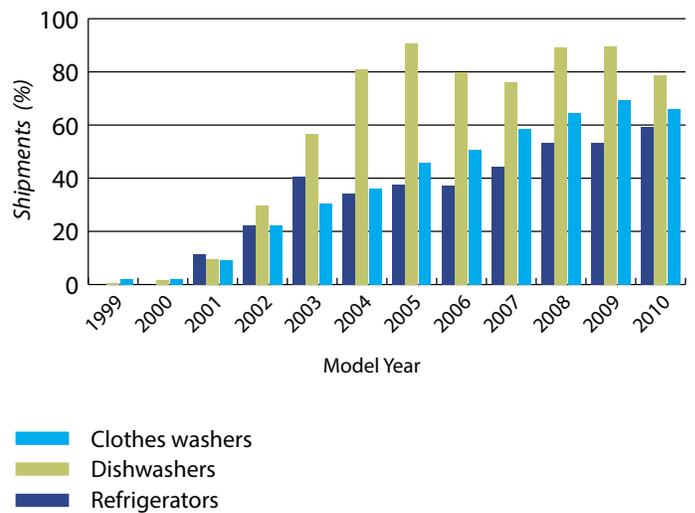
Secondary energy use in Canada with and without energy efficiency improvements, 1990 to 2009



Source: oe.nrcan.gc.ca/corporate/statistics/neud/dpa/analysis_ca.cfm?attr=0

Improvements in energy efficiency in Canada resulted in energy savings of 1560.4 PJ in 2009.

Distribution of ENERGY STAR qualified shipments of appliances, 1999 to 2010



Source: Energy Consumption of Major Household Appliances Shipped in Canada, Trends for 1990–2010

ENERGY STAR qualified appliances have come to make up more than half of the Canadian market in just 10 years.

ENERGY STAR Market Transformation Awards winners

All ENERGY STAR Participants deserve recognition for their strong belief in the principles of energy efficiency and their voluntary efforts to move the market forward. Each year we celebrate a select few for demonstrating excellence at the annual ENERGY STAR Market Transformation Awards. Here are the 2012 winners! For full profiles visit the ENERGY STAR Web site.



New Homes Participant of the Year (new)

Reid's Heritage Homes

Reid's has so far fixed the welcome ENERGY STAR symbol by the front door of more than 2000 ENERGY STAR qualified homes in southwestern Ontario.



Manufacturer of the Year

Whirlpool Canada LP

A seven-time winner in 10 years, Whirlpool makes and markets more than 470 ENERGY STAR qualified major appliances for U.S. and Canadian markets, more than any other appliance maker.



Manufacturer of the Year: Windows, doors and skylights

JELD-WEN of Canada Ltd.

In 2011, JELD-WEN sold more than 700 000 units of ENERGY STAR qualified products out of its Canadian operations, representing 90 percent of all products distributed from five plants in Canada.



**Manufacturer of the Year:
Commercial products**

HABCO Beverage Systems Inc.

Maker of innovative commercial refrigeration products—Cassette®, Free'n'Clear®, HybriCold™—HABCO counts 77 percent of its product line as ENERGY STAR qualified and is aiming for 100 percent.



Retailer of the Year

Sears Canada Inc.

Sears promotes ENERGY STAR inside and out: buying qualified LED lights and office equipment for its own operations and hitting consumers with 3 billion impressions of the symbol in sales flyers and 500 million impressions in catalogues.



Utility of the Year: Regional

FortisBC™

Its PowerSense programs offered consumers rebates on several ENERGY STAR qualified products—from clothes washers to patio doors—by teaming up with manufacturers and retailers. Partnership powers the ENERGY STAR brand.



**Utility of the Year: Provincial
Promotional Campaign of the Year**

Hydro-Québec

This double winner reached 80 percent of the market with its 2011 promotion for ENERGY STAR qualified televisions and influenced 60 percent of purchasers. It also innovatively promoted ENERGY STAR qualified CFLs for excellent light quality and specifically targeted women consumers through lifestyle magazines. Readers redeemed rebate coupons for 130 000 CFLs and 110 000 fixtures—65 percent more than last year.



Participant of the Year

All Weather Windows Ltd.

ENERGY STAR through and through, this company integrates energy efficiency into all aspects of its operations, from product design to product installation—and 95 percent of its product line is ENERGY STAR qualified.



Advocate of the Year: Multiple Products

Toronto Community Housing Corporation

Replacing 332 inefficient window air conditioners with ENERGY STAR qualified units saved low-income tenants almost \$14,000 in energy costs in 2011. Toronto Community Housing also installed 44 000 ENERGY STAR qualified CFLs in 35 buildings.

Toronto Community Housing



Advocate of the Year: Specific Product

Vinyl Window Designs Ltd.

Its dealer-centred marketing program expresses the firm's philosophy that the earlier potential customers are exposed to the ENERGY STAR concept, the more likely they are to absorb the information about its benefits.



Collaborative Initiative of the Year

Samsung Electronics Canada Inc.

In a unique and productive partnership with BC Hydro, rebates on Samsung appliances saved consumers money on the purchase and more than 175 000 kWh of annual energy use.



Sustained Excellence

The Home Depot Canada

In addition to traditional promotional materials such as signage, pamphlets, flyers and advertisements, in 2011, the do-it-yourself retailer embraced social media such as Facebook and Twitter to promote ENERGY STAR qualified products.



ENERGY STAR testimonials



"Building our energy efficiency programs on the strength and credibility of ENERGY STAR® has added great value, leveraged program reach and objectives while successfully increasing penetration and awareness of ENERGY STAR and transforming the Saskatchewan market. By encouraging ENERGY STAR qualified equipment and ENERGY STAR new homes standards, we have helped Saskatchewan homeowners and businesses reduce their energy consumption, increase competitiveness and make more healthy and comfortable choices while contributing to a cleaner environment for all."

Jacquie Kerr, Executive Director, Business and Customer Solutions



"Providing innovative and efficient products is crucial to Whirlpool Corporation's business. Our collaboration with ENERGY STAR Canada is extremely valuable in helping us to deliver the superior products consumers demand, while communicating their benefits clearly and effectively."

Warrington Ellacott, Senior Manager, Government Relations, North American Region



"Conglom Inc. is a proud ENERGY STAR Participant; its highly recognized logo guarantees a quality-tested product. It has brought added value to our complete Luminus™ line of LED bulbs and compact fluorescents making them the best selling in Canada."

Tasso Kostelidis, President



"No other program has made as significant an impact on the home building industry in such a short period of time as ENERGY STAR for New Homes. ENERGY STAR for New Homes serves as a foundation for other market transformation housing initiatives in Ontario, such as ours, and moves us forward in our mission to transform Ontario's housing into the most energy-efficient and sustainable in the world."

Pauline Lip, Program Director



"Promoting the ENERGY STAR program helps us market our high efficiency products and allows us to bring value-added product to demanding consumers. ENERGY STAR is synonymous with quality and distinguishes us as leaders in the industry. Third-party certification adds credibility to our product for consumers, builders and dealers alike."

Lisa Bergeron, Government Relations Manager, JELD-WEN of Canada



"The Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI) has been a Participant of the ENERGY STAR program since 2002. HRAI has worked in partnership with NRCan to promote ENERGY STAR, which assists the consumer in making an environmentally responsible and energy-wise decision when purchasing heating and air conditioning for the home."

Warren Heeley, President, HRAI



"Over the past eight years, we have successfully collaborated with NRCan in pursuing energy efficiency in our large Toronto Community Housing portfolio. The ENERGY STAR symbol and ENERGY STAR qualified products have been an important guide for us in achieving our energy management and sustainability goals."

Philip Jeung, Director, Smart Buildings and Energy Management,
Toronto Community Housing Corporation

Toronto Community Housing



"Dalhousie is proud to be the first university in Canada to become an ENERGY STAR Participant. We have worked on many projects to promote ENERGY STAR purchasing and awareness to both students and staff. Thank you to ENERGY STAR Canada for leading the way!"

Rochelle Owen, Director—Office of Sustainability, Dalhousie University



For more information about the benefits of becoming an ENERGY STAR Participant, visit our Web site at energystar.nrcan.gc.ca

ENERGY STAR qualified products in Canada

Major appliances

clothes washers, dehumidifiers, dishwashers,
refrigerators, freezers, room air cleaners,
bottled-water coolers



Heating, cooling and ventilating equipment

room and central air conditioners, residential
furnaces (gas, propane and oil), residential
boilers (oil and gas), heat pumps (air-source and
ground-source), ventilating fans, ceiling fans, heat/
energy recovery ventilators (H/ERV), water heaters



Lighting

lighting fixtures, compact fluorescent lamps (CFLs),
decorative light strings, LEDs (light-emitting diodes)
luminaires, LED bulbs



Windows and doors

windows, sliding glass doors, entry doors, sidelights, transoms, skylights (installed in buildings of three or fewer storeys, used for residential or light commercial purposes)



Electronics

televisions, set-top boxes, home audio and DVD products, battery-charging systems, cable, satellite and telecom service providers (STB). (ENERGY STAR in Canada does not support external power supplies and adaptors.)



Office equipment

computers, computer servers, displays, imaging equipment (e.g. photocopiers, printers, fax machines, scanners)



Commercial products

clothes washers, dishwashers, cooking equipment (ovens, fryers, griddles, steam cookers, hot-food holding cabinets), ice makers, solid door refrigerators and freezers, rebuilt refrigerated beverage vending machines



The **ENERGY STAR**[®] symbol
can be displayed in various ways:



energystar.nrcan.gc.ca

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