



INCLUDE ENERGY STAR® IN YOUR PURCHASING DECISIONS

SECTOR: UNIVERSITIES/COLLEGES

Has your university or college campus made these commitments?

- To implement a sustainable development strategy, environmental policy or green procurement policy
- To reduce energy consumption as a means of reducing overall operating costs
- To reduce emissions that contribute to climate change, acid rain and smog
- To lead by example and encourage students to use energy wisely

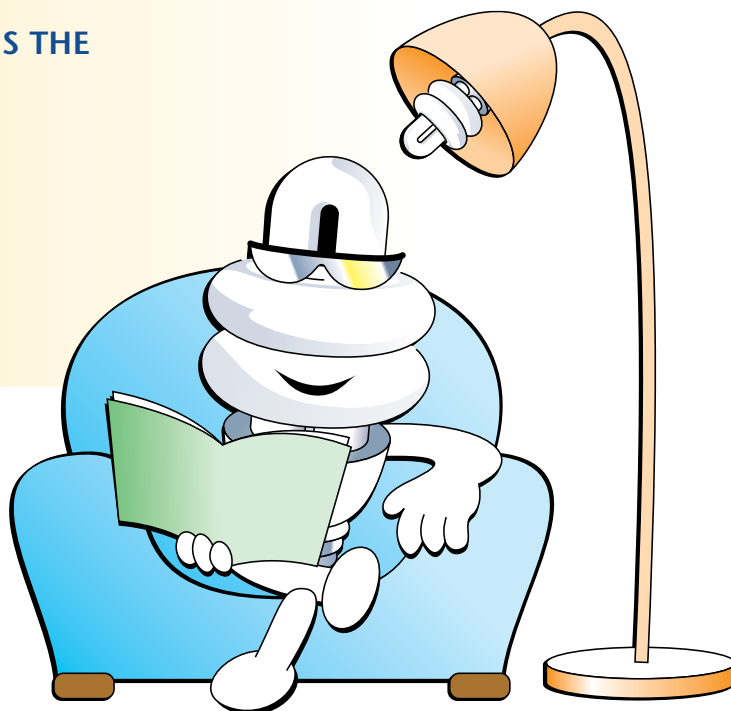
As a purchasing manager, are you looking for simple ways to accomplish these goals and commitments?

Natural Resources Canada's (NRCan's) ENERGY STAR initiative is a great starting point. The ENERGY STAR symbol identifies energy-consuming products that are "top of their class" in energy efficiency, typically using from 10 percent to 65 percent less energy than comparable non-qualified products. When you specify, tender or purchase ENERGY STAR qualified products, you are assured that they are among the most energy efficient on the market. These products can generate significant savings for the campus in terms of annual and life-cycle energy, cost and emissions.

The scenarios in this fact sheet demonstrate the potential of ENERGY STAR and encourage you to use NRCan's ENERGY STAR tools, such as the *ENERGY STAR Purchasing Guide* or the savings calculators, to develop real-life energy savings scenarios specific to your campus.

THE ENERGY STAR PURCHASING GUIDE CONTAINS THE FOLLOWING GENERAL INFORMATION:


- the benefits of energy-efficient purchasing
- ENERGY STAR qualified product categories
- the use of ENERGY STAR in your organization, including
 - understanding the role of the purchasing officer
 - recognizing opportunities and making business cases
 - implementing a purchasing plan



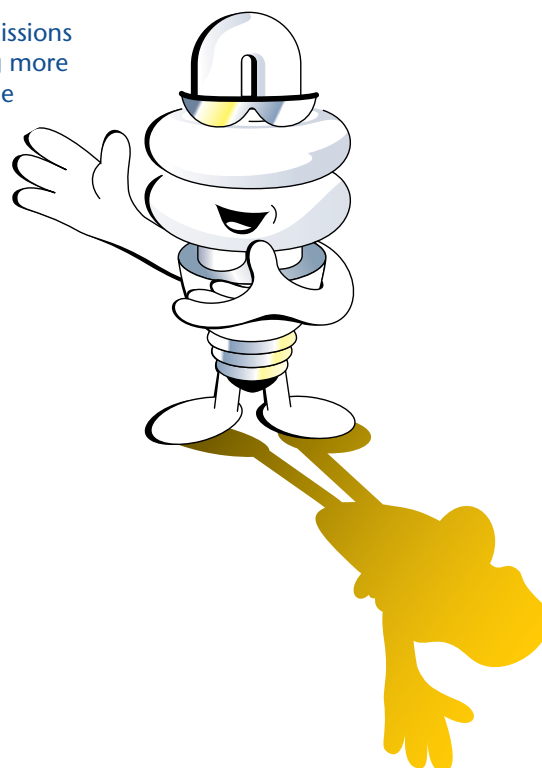
The following scenarios are typical of a campus setting and demonstrate the savings potential that ENERGY STAR qualified products offer.

HOUSING SCENARIO: RESIDENCE FOR ABOUT 250 STUDENTS



Assume the campus supplies the following housing equipment	Estimated savings (@ 11¢/kWh) if all equipment is ENERGY STAR qualified			
	Annual		Lifetime	
	Energy and maintenance savings (\$)	Emissions savings (tonnes) (CO ₂)	Energy and maintenance savings (\$)	Emissions savings (tonnes) (CO ₂)
10 commercial clothes washers	360	0.7	3,055	10.3
15 refrigerators (no freezer; auto defrost)	106	0.2	1,004	4.0
10 bottled water coolers (cold only)	52	0.1	358	1.2
5 dishwashers (compact)	56	0.1	455	1.6
15 bathroom ventilating fans (75+ cubic feet/minute [cfm])	15	0.0	98	0.3
10 televisions	47	0.1	343	1.2
10 DVD players	34	0.0	183	0.5
800 15-watt (W) CFLs (instead of 60-W incandescents)	6,327	12.8	25,192	64.2
Total	\$6,997	14.3	\$30,688	83.3

Estimated lifetime savings total more than \$30,000 and 83 tonnes of CO₂ emissions avoided – equivalent to removing 3.5 cars from the road annually or planting more than 1500 trees to remove carbon dioxide from the atmosphere. For CFLs, the extra purchase cost for the more expensive bulbs would be paid back in 0.2 years. For commercial clothes washers, the payback would be 5.6 years on a product with an assumed product lifetime of 14 years. For the other six products listed above, there would be no payback period because ENERGY STAR qualified products cost the same as comparable non-qualified products.



PRODUCT SCENARIO: HIGH-SPEED PHOTOCOPIERS

You may have noticed the ENERGY STAR symbol on some or all of the imaging equipment on campus. Have you ever wondered how much energy you are saving?

Imagine a typical Canadian campus of 20 buildings with 10 high-speed photocopiers (more than 45 copies per minute) used throughout each building, plus 2 additional campus-wide copy/printing centres with 10 high-speed copiers at each centre. That totals 220 high-speed photocopiers consuming electricity 24/7 that the campus pays for! (And that is probably a huge underestimate of the size of Canadian campuses and the number of photocopiers found on each campus.)

If each of these 220 high-speed copiers were ENERGY STAR qualified, the campus would realize the following savings.



Annual savings	Lifetime (6-year) savings
• 22 500 kWh	• 135 000 kWh
• \$2,464 (@ 11¢/kWh)	• \$11,565 (@ 11¢/kWh)
• 5.5 tonnes of CO ₂ emissions avoided	• 33 tonnes of CO ₂ emissions avoided

Think of the additional savings if all other imaging equipment across the campus – including smaller photocopiers, printers, fax machines and multifunction devices – were ENERGY STAR qualified. But remember – to realize the energy, cost and emissions savings estimated above, all power management features must be fully enabled at all times.

OFFICE SCENARIO: CAMPUS OFFICE SPACE

What about all the energy-consuming equipment in administration and faculty offices across campus? Assuming that an average Canadian campus has 20 buildings and each building has 100 offices – that is 2000 offices occupied for up to 8 hours per day. However, with plenty of equipment plugged in, these offices consume energy 24 hours a day.

Assume the campus supplies the following office equipment					Estimated savings (@ 11¢/kWh) if all equipment is ENERGY STAR qualified			
					Annual		Lifetime	
					Energy and maintenance savings (\$)	Emissions savings (tonnes) (CO ₂)	Energy and maintenance savings (\$)	Emissions savings (tonnes) (CO ₂)
2000 computers and monitors (1 per office)					45,489	101.6	152,357	406.5
400 mid-speed multifunction devices (1 per 5 offices or 20 per building)					3,268	7.3	15,337	43.8
40 high-speed photocopiers (1 per 50 offices or 2 per building)					448	1.0	2,103	6.0
500 small window-mounted room air conditioners (assuming ¼ of all offices are in old buildings without central air conditioning)					2,335	5.2	18,978	67.8
4000 15-W CFLs instead of 60-W incandescents (2 desk or floor lamps per office)					31,636	64.2	127,054	320.8
Total					\$83,176	179.3	\$314,735	845.0

ENERGY STAR qualified office equipment offers the campus the opportunity to reduce annual energy costs by more than \$80,000, with lifetime savings of almost \$315,000 (based on individual product lifetimes ranging from 4 years for computers and monitors to 13 years for small window-mounted room air conditioners). The emissions savings are equivalent to removing almost 45 cars from the road annually or planting about 19 500 trees to remove carbon dioxide from the atmosphere. For the office equipment, ENERGY STAR qualified products cost the same as non-qualified products. Therefore, the equipment starts generating savings as soon as it is plugged in – assuming all energy management features are fully enabled. For CFLs, the payback period is estimated at 0.2 years; for small window-mounted room air conditioners, the payback is 8.6 years. After, the additional upfront costs required to purchase qualified products are paid by accrued energy savings, and the products begin to generate ongoing savings for the campus.

MORE ENERGY EFFICIENCY OPPORTUNITIES AND INFORMATION SOURCES

The scenarios described demonstrate the energy, cost and emissions savings potential that can be realized from installing energy-efficient plug-load equipment. Imagine the additional, significant savings from installing energy-efficient commercial heating, ventilating and air-conditioning (HVAC) equipment, windows and doors, laboratory equipment, lighting control systems, computer labs, etc. – all major powerhouses and real energy consumers on any campus.

THEN, think about the additional advantages of ensuring that new buildings, or retrofits to existing buildings, are as energy efficient as possible, by incorporating R-2000* technology, enhanced insulation, heat recovery systems, green roofs and other similar features encouraged by Canada's Leadership in Energy and Environmental Design (LEED Canada) and NRCan.

Did you know? Electric and natural gas utility Web sites offer demand management programs, incentives and rebates, tools and calculators, energy-efficient product listings, information about energy audits, energy performance contracting and green energy, success stories, links, and other valuable information. Check your local, provincial or territorial Web sites regularly to see what is available in your area.

GOING ABOVE AND BEYOND

- Estimate, track and report your energy, cost and greenhouse gas (GHG) emissions savings that result from purchasing ENERGY STAR qualified products – use NRCan's ENERGY STAR Simple Savings Calculator and ENERGY STAR Simple Savings Summary Tool.
- Implement a green procurement policy that favours energy-efficient products generally and ENERGY STAR qualified products specifically.
- Report energy, cost and GHG savings as part of the campus's corporate Annual Report.
- Promote your energy, cost and GHG savings to the campus community and encourage students, faculty and staff to reduce their personal energy consumption footprint with ENERGY STAR.

YOUR TIME IN THE LIMELIGHT

As a purchasing manager, Canada's ENERGY STAR initiative offers you the opportunity to generate significant savings for your campus – money that could be spent more wisely and invested in the future of the campus, rather than wasted on inefficient energy-consuming equipment.

Use the ENERGY STAR tools – available on the ENERGY STAR Web site – to make a business case for the whole range of ENERGY STAR qualified products.

Can you imagine the additional savings to the campus if the ENERGY STAR message were promoted to the thousands of students on campus – if they were encouraged to purchase ENERGY STAR qualified equipment while at university or college and as part of a lifelong commitment to energy efficiency?

Need a little help updating your existing contracts and tenders with ENERGY STAR procurement language?

The ENERGY STAR Purchasing Toolkit provides sample procurement language for all qualified product types. Go to the ENERGY STAR Web site at www.energystar.gc.ca and click Procurement. At the top of the page that appears, click the Purchasing Toolkit folder.

* R-2000 is an official mark of Natural Resources Canada.

