



# Natural Resources Canada

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## Articles

### Office of Energy Efficiency's Green Team: Practicing What We Preach

A group of employees at the Office of Energy Efficiency (OEE) has formed a "Green Team" and is already making a positive impact on colleagues and the workplace.

Approximately 120 OEE staff members are based at the Observatory Complex on Canada's Central Experimental Farm, where the newest building is over 50 years old and the main building is over 100. The facilities offer energy efficiency and comfort challenges of their own, resulting partially from simultaneous heating and cooling, as well as uncoordinated upgrades over the years.

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**ecoENERGY**  
an ecoACTION initiative

The team chose one of the Observatory buildings and initiated a pre-project energy audit, similar to one required for the [ecoENERGY Retrofit Incentive for Buildings](#). Engineers discovered the energy profile was better than the average office building in Ontario, but roof-top units were running 24/7 and water consumption was extremely high. The team is now offering suggestions to the building operations management (SNC-Lavalin ProFac) to facilitate the [recommissioning](#) of the heating, ventilating and air-conditioning system and to verify that faucets and toilets are no longer leaking.

The next step for the team involved inspiring building occupants to think about issues such as energy efficiency and waste reduction both at work and at home. For example, the team conducted a study to measure the carbon footprint of employees, including such factors as paper use at the office, fuel consumed during commutes and travel, and energy consumed in people's homes. During Environment Week in early June, the team also found some fun and easy ways to educate and motivate colleagues with a re-use exchange (freecycle) and an awareness picnic.

"This dedicated group of folks is fostering both teamwork and communication to make a better work environment for themselves and their colleagues," declares Philip B. Jago, Director of the OEE Buildings Division. "We are better equipped to promote energy efficiency to Canadians when we 'walk the talk' and lead by example."

For more information about what your employees can do, visit the [Getting Started: First Steps](#) section of the OEE Web site or download the publication [A Guide to Implementing an Energy Efficiency Awareness Program](#).



## Green Leases: A Win-Win Scenario

Incorporating environmental and energy efficiency clauses into a standard lease agreement can benefit both landlords and tenants. Sometimes referred to as a green lease, this type of agreement ensures that all parties assume certain responsibilities that minimize the environmental impact of a building's ongoing use and operation. For example, through this arrangement, tenants usually pay only for the energy they use, rather than a fixed cost to the landlord.

From a landlord's perspective, green leases help to maximize a building's long-term return on investment, attract environmentally-conscious tenants, reduce the risk of fluctuating energy costs and help ensure the building does not lose energy performance ratings from Leadership in Energy and Environmental Design ([LEED](#)) or the Building Owners and Managers Association ([BOMA BEST](#)). Tenants can manage and reduce their monthly costs by reducing their own energy use, improve the green habits of their employees and enjoy improved work places that boost employee well-being and productivity. For more information and links, visit the new [Green Leases](#) Web page from the Real Property Association of Canada.



## New Books Promote Green Buildings in North America

For some, building green may seem like a radical design concept that focuses solely on the environment. In reality, the main differences between green and conventional buildings are that green buildings are generally more energy efficient, offer healthier and more comfortable interior spaces, and include design, construction, operation and reuse or removal measures that reduce the negative impact of the building on the occupants and the environment. Some new publications explain why building green is a smart investment.

The Commission for Environmental Cooperation (CEC), an international organization created by Canada, Mexico and the United States, has published a free trilingual study, [Green Building in North America](#), which recommends that leaders make green building a

foundational driver for environmental, social and economic improvement. Jonathan Westeinde, managing partner of The Windmill Development Group in Ottawa and the CEC's advisory group chair, states, "As a developer, I rely on the fact that green building is a proven concept with construction costs and market benefits that are rapidly improving. This report shows what is needed to scale up and put green building at the heart of a healthy, energy-secure North America."

McGraw-Hill Construction, an online news source for the design and construction industry, recently published the 50-page report [Global Green Building Trends](#) (\$149), which details the market trends and activities that drive green building growth worldwide and explores how these trends are shaping the increasingly interconnected global construction marketplace. According to the report, green buildings have become a global phenomenon, with 53 percent of respondents expecting to be dedicated to green on over 60 percent of their projects in the next five years. Green has become very visible world-wide, with 32 percent of construction industry professionals estimating that green already makes up over 10 percent of domestic construction output.

According to architect and author Jerry Yudelson, a founding member of the U.S. Green Building Council (USGBC), North America still needs to take it a step further by following Europe's lead. In his new book [Green Building Trends: Europe](#) (\$30) and related article "[Sustainable Design: What Do Europeans Know That We Don't Know \(But Should\)?](#)," he advises building teams to begin using technologies that are already in place in Europe, such as passive design techniques, integration of solar power into building design and production of low-energy buildings. You can also view Yudelson's YouTube video "[Green Building in the Face of the Economic Downturn](#)."

As market activity increases, green building practices will continue to evolve, resulting in more sustainable practices down the road, including "net zero" buildings (explained [later in this Heads Up](#)). For more information about greening your building, visit the National Research Council's [Green Buildings](#) Web site.



## Recession-Proofing Through Green Real Estate

Despite tough economic times, green real estate is booming in North America. Low interest rates, fluctuation in energy prices, the growing demand by firms and tenants for green facilities, and the link between building green and growing sales/profits have prompted widespread adoption of sustainable building design and certification.

In the United States, for example, the number of Leadership in Energy and Environmental Design (LEED®) certified projects through the USGBC have doubled since 2008. The Canada Green Building Council (CaGBC) has certified over 100 buildings as LEED since 2002, and an additional 1000 buildings are now in the queue.

To capture this growing trend towards green, the CaGBC continues to expand its certification programs. As highlighted in the [July Heads Up](#), CaGBC has recently launched LEED Canada for Existing Buildings: Operation & Maintenance (EB:O&M), which complements other CaGBC programs, and is expecting to launch LEED Canada for Neighbourhood Development later in 2009. For more information about LEED, visit the [CaGBC](#) Web site or read its 2005 report [A Business Case for Green Buildings in Canada](#).



## Turning Brownfields Green

The Federation of Canadian Municipalities' (FCM) Green Municipal Fund™ (GMF) has recently published a new guide to help municipal governments and their partners make the most of brownfields in their communities and gain valuable land that can be used for a wide variety of activities, including the development of energy-efficient green buildings. GMF's [Brownfields](#), the first of a series of Sustainability Snapshots, includes an overview

of the brownfields sector, some short examples of Canadian brownfield redevelopment communities and some best practices and sustainable options for remediation and redevelopment. A [GMF brownfields brochure](#) also offers detailed information on GMF's below-market loans for municipal brownfield remediation projects.

Although developed primarily for municipal governments, these publications offer important information on remediating or cleaning up contaminants in abandoned, undervalued and underused buildings and land. A prime example is the Dockside Green project in Victoria, British Columbia, which was featured in the [April Heads Up](#). For more information about remediating contaminated property or GMF's available funding for brownfields, visit the [FCM's Green Municipal Fund](#) Web site.



## Annual Report on Energy Efficiency Programs

Natural Resources Canada's (NRCan's) fifteenth annual report, [Improving Energy Performance – Report to Parliament Under the Energy Efficiency Act for the Fiscal Year 2007-2008](#), focuses on efficiency and alternative energy (EAE) initiatives that address secondary energy use. The report provides an overview of the trends in energy use and greenhouse gas (GHG) emissions in Canada for the residential, commercial, industrial, transportation and renewable energy sectors. It also highlights NRCan's EAE programs and lists their key achievements for the 2007-2008 fiscal year. Program entries for market transformation programs also include quantitative performance indicators in graph or table format. A list of NRCan's EAE initiatives and expenditures appears in Appendix 1.

In the report, the Hon. Lisa Raitt, Minister of Natural Resources, writes: "Energy efficiency is the easiest, most affordable and most effective way for families and businesses to control their energy costs and reduce greenhouse gas emissions. During fiscal year 2007/08, our Government strengthened energy efficiency regulations under the *Energy Efficiency Act* (EEA) by giving Canadians new opportunities to control their energy costs and contribute to a healthier environment. We introduced energy performance standards for seven additional products, including light bulbs, and set higher standards for four other products already covered by EEA regulations."



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## Regular Features

### Did You Know?

The commercial and institutional sectors represent nearly one trillion dollars (\$1,000,000,000,000) in real estate assets. Each year, new capital and building investments inject an additional \$40 billion into the Canadian economy, and building repairs and retrofits represent \$11 billion annually.



### Web Site Pick: Green Agents and Brokers

The [National Association of Green Agents and Brokers \(NAGAB\)](#) is a Canadian non-profit association with more than 27 000 affiliated members that promotes ways and means of reducing GHG emissions, increasing building energy efficiency, conservation, overall sustainability and environmental awareness. The association offers an affordable Greenrealestate™ program for real estate representatives leading to the commercial and

residential Accredited Greenagent™ and Accredited Greenbroker™ (AGA™ & AGB™) designations.



## OEE Collaborations: Association québécoise pour la maîtrise de l'énergie

The Association québécoise pour la maîtrise de l'énergie (AQME) in Montréal, Quebec, with financial support from the OEE, is offering a series of training sessions and specialized energy certifications through its Centre de formation en maîtrise de l'énergie (CFME). It provides five one-day training sessions to help building professionals acquire knowledge and practical skills that improve their ability to understand, manage and evaluate energy efficiency projects. The CFME also offers preparatory courses for the mandatory exams to qualify as a Certified Energy Manager (CEM) or Certified Measurement and Verification Professional (CMVP), as well as training in designing geothermal systems for commercial buildings. The Centre de formation will also offer other workshops, training sessions and services to promote the development of a labour force that is strong, qualified and aware of present and future energy issues.

"Quebec is currently a great innovator in the area of sustainable development and green buildings," explains Jean Lacroix, President and CEO of AQME. "By creating the CFME, which will specifically contribute to mapping skills and to structuring the energy sector, AQME is proud to participate in these efforts."

This is one of the projects that the OEE Buildings Division selected (following a call for proposals process in 2008, originally highlighted in the Summer 2008 *Heads Up*) to be highlighted each month in *Heads Up Energy Efficiency*. The total funding from OEE through the ecoENERGY for Buildings and Houses program will amount to \$80,000.



## Q&A: What is a Net Zero Energy Building?

A net zero energy building (ZEB) refers to a building that uses no more energy than it produces, which dramatically lessens its contribution to global warming. These facilities are known by a number of names including net-zero buildings, net zero energy buildings, zero carbon buildings and zero emissions buildings. Most produce their own renewable energy on-site (considered off-grid) or can interchange renewable energy from the utility grid. If a building produces more energy than it consumes, it is called an energy-plus building. You can consult an American paper from the National Renewable Energy Laboratory for a more [detailed definition](#). In Canada, the emphasis to date has been on residential homes, including NRCan's [CanmetENERGY Net Zero Energy \(NZE\) Housing](#) projects and the [Equilibrium™ Communities Initiative](#).



## Calendar of Events

The [Calendar of Events for Buildings](#) is updated monthly.



## Let Us Know What You Think

More than 18 000 subscribers receive *Heads Up Energy Efficiency* each month. You can also help spread the message about energy efficiency in commercial, institutional and government buildings by forwarding the e-mail or Web link to others in your organization from maintenance staff to senior management. Use the [subscribe page](#) to change your

contact information, to unsubscribe, or to subscribe to our sister publication for industrial facilities, [Heads Up CIPEC](#). You can also contact the [OEE Buildings Division](#) any time with story ideas or comments.



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