

## **Health Care Proves it is Environmentally Responsible**

By Kent Waddington

The evidence continues to accumulate. Canadian health care providers at all levels are implementing successful energy efficiency and energy awareness initiatives that are *“helping to turn millions of energy dollars into health care dollars ... for a healthier planet.”*

Latest numbers from Natural Resource Canada’s (NRCan) Office of Energy Efficiency (OEE) indicate that over three hundred health facilities in Canada have registered with the Energy Innovators Initiative and have pledged to lower their operating expenses and help the environment by reducing greenhouse gas (GHG) emissions that contribute to climate change. The Canadian health care sector, which in 1998 was estimated to have a cumulative energy bill of \$1Billion, can take pride in knowing it has helped to save over 2.8M Gigajoules of energy annually and reduced by over 2.3M tonnes the amount of CO<sub>2</sub> emissions going into the atmosphere each year.

The scope of energy retrofit projects vary greatly from simple incandescent/compact fluorescent bulb lighting retrofits, T12 to T8 retrofits with occupancy sensors to such initiatives as the installation of absorption cooling, boiler stack economizers and control system upgrades, power factor correction and VFDs & DDC devices, etc.

Many of these retrofit projects have been funded in part through financial grants available to Energy Innovators under NRCan’s Energy Retrofit Assistance Program and dozens more are currently being reviewed for funding approval. To date 72 health care organizations have received more than \$5.48M in energy efficiency grants helping to bring about the investment of over \$175M in energy retrofit projects. It is believed the annual energy savings that will accrue from these projects will approach \$40M. In short, \$40M is being diverted away from utility suppliers and back into health care for patient care and client services.

In 2002, for example, the Cambridge Memorial Hospital, a 227-bed community hospital providing health care services to the residents of Cambridge, Ontario, did an extensive energy retrofit project to an area of 35,500 square meters. The overall project investment was \$1.3M and as a registered Energy Innovator, they received an incentive of \$146,925 from NRCan. Energy savings are estimated at \$204,000 with a savings of 19,590 Gigajoules.

The Walter C. Mackenzie Health Sciences Centre in Edmonton (a.k.a. University of Alberta Hospital) has undergone a number of energy saving projects over the last few years and has realized annual energy savings of approximately \$1.6M. While pointing out their desire to be responsible resource stewards, Chief Operating Officer Michele Lahey says, *“our continued focus on energy efficiency means we’re making the best use of our resources, both financial and natural...In addition to providing an efficient facility, financial savings are redirected into patient care rather than utility rate increases”*.

Some local utility companies also are providing assistance and incentives to help facilities reduce their energy consumption. A recent lighting retrofit at Health Sciences Centre in Winnipeg took advantage of a financial incentive available under Manitoba Hydro’s Power

Smart programme for the installation of over 9,100 T8 fluorescent ballasts resulting in an estimated annual savings of approximately 1.3 million kilowatt hours. Energy bill savings over the next twenty years are estimated to be \$1.8M.

During the summer and fall of 2001, the Regina Health District and the provincial utilities, SaskPower and SaskEnergy, entered into a partnership agreement for the development of a “co-generation” pilot project. While representing only a small part of future potential savings, captured heat from the turbines is being used to heat the hospital’s domestic hot water, a move expected to save between \$15-\$20K annually.

## **Sharing Successes**

Not only are health care Energy Innovators making a significant impact on GHG emissions reduction and redirecting those operational savings back into patient care through capital/retrofit projects, but EII members are also taking the time to share their project successes, and lessons learned, with colleagues across Canada. Energy champions are coming together and sharing information with each other in a growing number of workshops, symposiums and conferences sponsored by NRCan and such professional associations as the Canadian Healthcare Engineering Society (CHES), the Hospital Engineer’s Association of Alberta (HEAA), the Health Facility Resource Council of Saskatchewan, the Ontario Hospital Association (OHA), and the Canadian College of Health Service Executives (CCHSE).

Under the orderly orchestration of the Ontario Hospital Association’s (OHA) energy efficiency coordinator Brian Shields, dozens of Ontario health care engineering and facility staff recently came together in London and Toronto to participate in a customized awareness workshop sponsored by NRCan called “Realize Energy Savings Through Awareness and Training”. Workshop guest speakers included Cambridge Memorial Hospital’s environmental specialist Mary Jane Hanley and Tom Meevis, Environmental Affairs Coordinator from the Hospital for Sick Children. Both of the speakers have extensive experience in the areas of energy efficiency and in the implementation of awareness campaigns in a health care setting.

For the past three years the Manitoba Provincial Health Conference has sponsored an energy booth as part of its yearly event to showcase the energy efficiency accomplishments of provincial health care facilities. Each year energy champions from facilities such as Fred Douglas Lodge, Brandon Regional Health Authority, Winnipeg Health Sciences and Seven Oaks General Hospital attend the booth to discuss their energy savings initiatives with attendees from throughout the province.

*"This was a tremendous opportunity for Seven Oaks General to not only lend support to CCHSE's green health care initiative, but to share some of our accomplishments and challenges with our colleagues in other Manitoba health care facilities." Louis Leroeye*

These exchanges of knowledge and interplay of ideas with engineering and facility management colleagues around the country must now be taken a step further to achieve even more success both financially and environmentally. Your task, should you choose to accept, is to take the energy efficiency message the next step by sharing it with staff, patients, physicians, vendors, contractors, and volunteers within your facility.

### **The Next Step – Energy Efficiency Awareness Campaigns**

Raising awareness of the issues surrounding excess energy use is often a difficult task given the many competing priorities faced by facility operators and managers. However, there is solid and unwavering support among many of the sector's staunchest energy champions that awareness campaigns work and can effectively bring about behavioural change that will further reduce operating costs and harmful GHG emissions. Moreover, all successful campaigns appear to have one common denominator - the energy efficiency message must be delivered loud and clear with the support of the CEO and other members of the executive.

*We believe as health care providers and leaders in our community we need to play a leadership role in conservation, reusing, recycling and reducing. To this end, we are in the process of integrating all of our strategies into a "green" process and philosophy whereby all activities related to stewardship will be addressed.* Mark Neskar, CEO, Seven Oaks General

Brandon Regional Health Authority's Manager of Engineering Services, Gordon Neal, stresses that, "*support from executive management is crucial*" to the success of an energy efficiency awareness initiative. For Gordon this support came in the form of financial, time management, planning and communications support.

Cambridge's Mary Jane Hanley knows full well how important awareness campaigns are and how crucial it is to get all disciplines with the hospital involved in awareness campaign design and implementation if success is to be achieved. Cambridge has been tremendously successful in mobilizing their staff in combating a number of environmental issues including energy efficiency, recycling and hazardous materials. According to Hanley, "*We are health care organizations - how can we pollute? How can we have hazardous materials on site? If we do our part those around us will do theirs*". For their efforts Cambridge became the first hospital in North America to achieve ISO 14001 designation.

*"When it comes from the top, everyone else falls into line"*  
Michael J. Bonnah, West Park Health

In Toronto, Rouge Valley Health is well into their own energy awareness campaign and Gloria Zive (VP Support Services) is quick to affirm that the awareness message is not a one-time thing but "*must be delivered on a continuing basis*". Likewise, according to Sick Kid's Tom Meevis, "*our energy campaign is an ongoing project that has been built into our Plant*

*Operations and Patient Support Portfolio. We are constantly adding elements to our energy awareness project as we move ahead to keep the message fresh and interesting”.*

*“When I used to think about an awareness campaign, it used to be somewhat daunting”* claims Seven Oaks Hospital’s Chief Operating Engineer Louis Leroeye. *“It had not occurred to me just how simply it could be approached. It took only a few days after we spoke in Winnipeg before it really came together.”* In cooperation with Educational Services, a written energy management presentation was developed and is now included with the general orientation package provided to all new hospital employees. A series of twelve short energy management articles based upon information contained in the Seven Oaks Energy Management Action Plan were also developed and will be published over the next year in the hospital’s monthly newsletter.

An energy efficiency awareness campaign can be as simple or elaborate as you and your team care to make it. From posters, bulletin boards and newsletters to public events, contests, formal receptions, mascots and icons, there is a level of participation compatible with every facility’s circumstances.

### **Assistance is a Phone Call Away**

The message is clear. Energy efficiency pays big dividends, both financial and environmental. Energy efficiency awareness pays even more. Keep in mind that help is readily available from both NRCAN and CCHSE to help Canadian health care facilities initiate their own awareness campaigns. Of primary importance is the recently released publication titled *“Turning Energy Dollars into Health Care Dollars - A Guide to Implementing an Energy Efficiency Awareness Program in a Health Care Facility.”* The guide provides a step-by-step approach to designing and implementing an effective energy efficiency awareness program. The information presented will help you plan and implement an awareness program designed to meet the specific needs of your facility, be it large or small, long-term care or acute.

This is only one of the many tools available to you as a member of the Energy Innovators Initiative (EII), a voluntary federal program designed to help commercial businesses and public institutions explore energy efficiency options and strategies. Member organizations can save money and help the environment through the reduction of greenhouse gas emissions related to energy consumption. EII offers access to tools, services and energy retrofit incentives of up to \$250,000 delivered through Energy Innovators Officers who work with members as they pursue energy management planning and retrofits ([www.oee.nrcan.gc.ca/eii](http://www.oee.nrcan.gc.ca/eii)).

*Energy Innovators has helped our facility shape it's energy management program in many ways. Through the 'Dollars to Sense' workshop, networking of ideas for further energy savings, to support for, and review of, our Energy Management Action Plan, the Energy Innovators program has done it all. J.J. Knott, Norfolk General Hospital*

Health care facilities are recognized community leaders and powerful symbols of health. It is compatible with the mission of facilities devoted to healing to take a leadership role on environmental issues that affect the communities they serve. According to Chris Wolnik, Executive Director of the Canadian Centre for Pollution Prevention, *“an excellent first step towards reduced GHG emissions is to join the Energy Innovators initiative. It clearly demonstrates your commitment to a healthier environmental we all share”*.

*“From the standpoint of environmental stewardship, there is no program that surpasses the Energy Innovators in taking the lead on energy and environmental issues. Any facility could gain from their knowledge.”* J.J. Knott, Norfolk General Hospital

*The fact that funding is available from Energy Innovators to assist hospitals with costly retrofits and to provide support for their initiatives is a bonus to the sector. Hospitals are big polluters. Any program that helps us to mitigate our impact on the Environment should be utilized to its full potential. It's about being responsible and recognizing that what we do in health care does have a huge impact on the environment and ultimately our health.* Valerie O'Grady, Director, Support Operations, The Hospital For Sick Children

*“We have found the Energy Innovators Program to be a powerful motivator. With the commitment of the organization to reduce energy consumption we have been able to focus resources on developing an action plan that will ensure success at meeting all of the targets.”* Kerry Beauchamp, Manager, Facility and Biomedical Services, Stanton Territorial Health Authority

## **Changes to Financial Incentives**

The good news for many Energy Innovators is that NRCAN has just announced changes to their incentive program making energy retrofit dollars more accessible to more facilities including many smaller long term care homes and hospitals that could not previously meet minimum energy requirements. The 5,000 Gigajoules minimum energy savings criteria has been eliminated as has the minimum yearly energy bill of \$100,000 for Energy Retrofit Assistance Planning and the ERA 3 incentives.

Funding for ‘complex projects’ has also been introduced providing funds for projects involving more than one sector such as when a hospital and university work together on a retrofit initiative. Some energy efficiency projects in rural/Aboriginal/Northern remote communities are also eligible to be funded at \$15/Gj of energy saved.

If you are preparing to implement an energy efficiency retrofit project or need financial assistance with your feasibility study and/or energy audit, you are encouraged to contact either NRCAN or CCHSE to help you secure funding of up to \$250,000.

## Resources

Dollars to Sense Energy Management Workshops: customized health care energy management and energy awareness workshops are available for delivery in your area. Call 1-800-363-9056 ext. 36 for more details.

Both NRCan ([www.oeec.nrcan.gc.ca/eii](http://www.oeec.nrcan.gc.ca/eii)) and CCHSE (<http://www.cchse.org/oeec/index.htm>) have a number of resources available to assist you in the planning and execution of your energy retrofit projects and energy awareness campaigns.

Case studies covering energy retrofits performed at Kingston General Hospital, the Royal Ottawa Hospital, Pembroke General, the Kenneth E. Spencer Memorial home and the Walter C. Mackenzie Health Sciences Centre are available in .PDF or .DTF (dead tree format – paper). Likewise, NRCan also has prepared a number of Technical Fact Sheets on such topics as chiller systems, closed-loop compressor cooling systems, DDC control strategies, high-efficiency boilers and variable frequency drives. See also:

*Benchmarks and Best Practices for Acute and Extended Health Care Facilities: A Guide for Energy Managers and Finance Officers.*

*Turning Energy Dollars into Health Care Dollars: A Guide to Implementing an Energy Efficiency Awareness Program in a Health Care Facility.*

Many other energy-related documents are available on the web at <http://oeec.nrcan.gc.ca/publications/infosource/splash/index.cfm>.

VCR Registry: Find out what your colleagues have done to reduce greenhouse gas emissions and reduce their operating costs by checking out their Energy Management Actions Plans at **Canada's Climate Change Voluntary Challenge & Registry Inc.** ([www.vcr-mvr.ca](http://www.vcr-mvr.ca)). You can also use this link to register your own facility's Action Plan.

## International Resources

1. For “impartial, authoritative information on energy efficiency techniques and technologies” and the biggest online library of independent advice on energy efficiency in the United Kingdom visit [www.energy-efficiency.gov.uk](http://www.energy-efficiency.gov.uk). Search for publications by topic or by sector. Most are available for downloading in .PDF format.

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