

## Wayne McLellan Award of Excellence in Healthcare Facilities Management

# Kingston General Hospital

By Matthew Bradford

**Kingston General Hospital** (KGH) launched a large-scale energy project in 2010 with the goal of upgrading its existing infrastructure and making the hospital one of the most energy-efficient healthcare facilities in Canada. In 2013, it kicked off the second phase of its energy saving project, and in 2014 its efforts were honoured with CHES's Wayne McLellan Award of Excellence in Healthcare Facility Management.

"We're honoured to receive this very prestigious award as well as the national recognition that comes along with it," says Allan McLuskie, director of facilities management with KGH, who attended the 2014 CHES National Conference in Saint John to accept the award on behalf of the hospital.

McLuskie took lead on the energy project after joining KGH in 2012 and picking up on the project, which was first started by his predecessor, Chris Mackay, two years prior. That initial phase included a \$10.5 million energy and infrastructure retrofit, while the second phase was comprised of an additional \$819,000 energy saving initiative. The team was also aided by Chris Rousseau, who guided both projects as the project coordinator.

"With these projects, we addressed the need to update some of our infrastructure as well as better control our energy and water usage," he recalls. "We knew there was an opportunity to become more efficient, and at the same time upgrade some of our existing infrastructure which, on average, dated back to the 1960s."

All combined, the project produced a 14 per cent reduction in the hospital's energy footprint and a 25 per cent reduction in its water usage, saving KGH nearly \$800,000 annually.

"The people who most benefit from this project are the patients, because now we can direct the money we save back into patient care," says McLuskie.

KGH success is owed in part to its partnership with Honeywell, an Energy Services Company (ESCO) who collaborated with KGH's maintenance team to assess, review, and improve upon many of the facility's systems.

"The maintenance team participated in the development of the scope of work, presented the project to senior management, reviewed designs and specifications, and worked closely with the ESCO during the implementation phase," says McLuskie.

Together the team implemented a number of waste and energy reduction programs. Their success resulted in the diversion of 25 per cent of its waste from the landfill and a 14 per cent reduction in energy use (the equivalent of 6,354,000 kg of CO<sub>2</sub> per year-to-year); and the conservation of nearly 76,000 cubic metres of water annually (a 25.5 per cent reduction).

Furthermore, KGH further increased its waste reduction through the introduction of a composting program to its Nutrition Services Department, biomedical and general audits, its partnership with the Canadian Coalition for Green Healthcare; as well as its environmentally aware procurement process.



From left to right: Peter Whiteman (CHES President), Allan McLuskie (Director of Facilities Management, KGH), Eleanor Rivoire (Executive VP & Chief Nurse Executive, KGH), and Luis Rodrigues, VP of Energy Solutions Canada, Honeywell).

Enhancements to KGH's building equipment and processes were a key focus of the energy project. These included upgrades and retrofits including, but not limited to:

- Upgrades to lighting system with energy efficient alternatives;
- an expansion of the building automation system;
- upgrades to the chiller plant;
- the installation of weather-sealing on all buildings;
- the replacement of more than 250 windows in its historic, 175-year-old Watkins Wing;
- upgrades to KGH's mechanical systems;
- the replacement of air handling systems;
- the installation of hot water condensing boilers;
- the replacement of 10, oil-fired boilers with new high-efficiency gas-fired models;
- thermal piping insulation; and
- the installation of computer "sleep mode software" on 1250 computers.



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Naturally, a project of this scope presented the KGH team with logistical challenges; the most pressing of which was balancing 24/7 hospital services with a wide-scale expansion and renovation.

"The challenge in an acute care hospital is that you can't stop operating the facility. We needed to look after our patients, some of whom were on life support. They're lives depended on the systems we changed, so we had to maintain the operational side of the hospital while implementing improvements. That was one of the biggest challenges," says McLuskie.

Fortunately, McLuskie notes KGH and Honeywell's team were more than up to the task, recalling, "Our success came down to a really close relationship between Honeywell and our staff across the board, working out schedules and working together to make changes where necessary. It was a genuine team effort."

#### ONGOING STEWARDSHIP

Since its energy project's completion, KGH has kept energy conservation front and centre through both internal and external programs. The creation of its "Energy Matters" promotional campaign, for instance, helps raise awareness and interest for environmentally-friendly practices throughout all of its departments; while its participation in a Save On Energy video has helped Ontario Power Authority and Kingston Utilities extoll the virtues of similar projects to other healthcare stakeholders.

What's more, KGH reps have shared their successes with numerous associations and forums. This includes the Toronto & Region Conservation Authority (Green Healthcare Group), who awarded KGH with the 5% Club designation in 2010 for its ability to lower its energy use by 5 per cent over a period beginning in 2006.

Overall, McLuskie is confident the project has delivered results across the board, for staff, patients, and community members alike. As for the award, he adds that too has a special significance: "I was a friend and colleague of Wayne McLellan. We worked together back in the 1990s at Saint Joseph's Health Care in London and he was a personal friend. Even back then he was a strong supporter of CHES. It was a tragedy when we lost him, but to win this award with his name on it was special for me."

Looking down the road, McLuskie says KGH will remain diligent in its pursuit of energy saving initiatives in all it does, insisting, "At KGH we believe it is incumbent upon health care providers to take a leadership role in reducing our carbon footprint and thereby contribute to the overall health of the planet and the health of our community, including current and future patients." ■