



A measurable difference.

LANGARA'S 5-YEAR STRATEGY FOR SAVING ENERGY EXCEEDS TARGETS

SUPPORT FOR SAVING ENERGY

Langara College is committed to saving energy and has been working in partnership with BC Hydro to achieve its goals. In 2009, with sponsorship through BC Hydro, an Energy Manager was brought on board to help Langara develop and implement an energy management plan, engage the campus community in energy conservation, and track success in energy reduction goals. In addition, Langara participated in an Energy Management Assessment (EMA) workshop to assess current energy-related practices and identify opportunities for improvement. That same year, Langara joined the BC Hydro Continuous Optimization (COp) program, which helps identify and implement building system controls that improve energy efficiency.

THE STRATEGIC ENERGY MANAGEMENT PLAN

In 2009, Langara created a Strategic Energy Management Plan (SEMP) to take our commitment to saving energy above and beyond benchmark standards and BC government regulations. The SEMP, prepared by the Energy Manager in association with the Facilities Department, supports Langara's commitment to reducing its energy use and environmental impact.

As part of this plan, Langara set the goal of reducing campus energy use of existing buildings by 15% (from 2009/10 levels), as well as greenhouse gas emissions (GHGs), over a 5-year period. The SEMP is updated on an annual basis by Langara's Energy Manager as a way to track progress toward this goal.

SAVING ENERGY TAKES COMMUNICATION

Langara engages with the entire college community to influence attitudes and change behaviour. Over the past five years, Langara has organized a variety of campus engagement activities to encourage students, staff, faculty, and the community to participate in energy conservation actions.

Additional resources include:

- Interactive monitoring of Langara's energy use with the Pulse Dashboard
- Belkin Energy Monitor devices available at the Library for individuals to track personal energy use

Learn more.

www.langara.bc.ca/sustainability

ENERGY SAVING CHALLENGES

Langara is growing.

Since 1999, the campus building area has increased by 17%, equivalent to over 72,000 ft².

Langara is a diverse hub of activity.

While the majority of the academic activities on campus take place in a classroom environment, there are also various science and computer labs and theatre spaces. In addition to being used by students, staff and faculty, the College facilities also host numerous community events.

It takes money to save energy.

The total College budget is approximately 39 million dollars annually; utilities cost the College just less than 1 million dollars per year. The challenge is to identify energy saving opportunities that make financial sense.

Over the last five years, we have implemented numerous energy saving projects. All of these actions have helped us become more resilient to rising energy costs, reduce our environmental impact, and contribute to fostering a sustainable campus community. In 2014, we met and exceeded our energy savings target.

Langara.

THE COLLEGE OF HIGHER LEARNING.

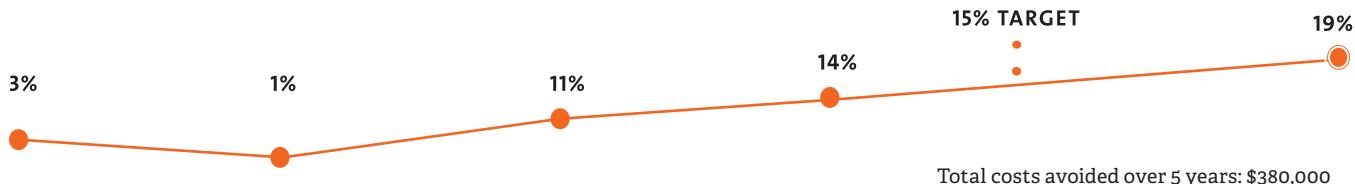
2009 - 2014 SAVINGS OF 1100 TONS OF CO₂

Equivalent to taking 240 cars off the road for one year.



*Average of 4.75 metric tons of CO₂ emissions per passenger vehicle per year.

% ENERGY SAVINGS OVER ESTIMATED BASELINE



YEAR 1

2009/2010:

- Energy Manager hired
- SEMP created

YEAR 2

2010/2011:

- Campus electrical and gas submeters installed for improved energy monitoring
- COp investigation phase begins in Building L

YEAR 3

2011/2012:

- Building L COp implementation
- Green IT study
- Boiler condition testing & review
- Building A & B COp investigation phase
- Operations manual for energy efficiency

YEAR 4

2012/2013:

- COp implementation in the gym, daycare and Building A
- Building B COp implementation, including new VAV controls
- LED lighting upgrades
- Electric vehicle charging stations

YEAR 5

2013/2014:

- Creative Arts LED installations
- Building B & C DDC control and piping upgrades
- Green IT infrastructure upgrades

OUR COMMITMENT TO SUSTAINABILITY

We know that our choices, both big and small, impact our world and future generations. As an educational institution, we have a responsibility to lead initiatives that positively contribute to our community. Our goal is to foster and provide leadership to create more environmentally sound, socially just, and economically vibrant communities. More specifically, our energy goals are:

- To optimize the campus energy usage with the existing technology and controls;
- To reduce Langara's greenhouse gas (GHG) emissions;
- To reduce and control energy costs and minimize exposure to energy price volatility;
- To upgrade building systems with the most efficient alternative through capital improvements and maintenance where feasible, considering the life cycle cost of the equipment;
- To raise awareness of the need to use energy efficiently among the college community;
- To minimize the load on BC's electrical infrastructure and as a result, minimize the environmental impact of new generation capacity.

ANNUAL SAVINGS ACHIEVED

- 27% of fuel usage
- 11% of electricity usage
- 26% of GHG emissions
- \$165,000 in avoided costs

Over the past five years, all energy saving measures combined had a payback period of less than two years. Energy savings will also pay for almost 1.3 million dollars in building renewal capital over the next 7 years, and this equipment will last much longer than that. The overall net savings for the College should reach close to one million dollars.