BUILDING A CAMPUS IS LIKE BUILDING A COMMUNITY

To responsibly steward the rapid growth and development of our community, UBC's Okanagan campus has placed sustainability at the core of all its planning processes and strategic directions. To date, the campus has grown by 54 percent since 2007 and will triple its size from 0.5 million square feet to 1.5 million square feet by the end of the campus build-out in 2012.

While such rapid growth has increased absolute building carbon emissions from 2,185.63 tonnes to 2,725.76 tonnes, greater efficiencies are being achieved. With a 54 percent increase in square metres from 2007-2010, the total carbon emissions per square metre has been reduced by 19.1 percent over 2007 values. Increased efficiency is largely due to the energy efficient design and operation of all new academic buildings and residences on campus, and reductions in natural gas consumption as a result of geothermal heating and cooling which commenced in 2006. The campus has also received a number of awards as a testament to its smart, integrated sustainable building design, including first place for Most Sustainable Development in the City of Kelowna's Mayor's Environmental Awards for 2010.

From geothermal heating and cooling systems to green roofs, UBC's Okanagan campus is leading the way in sustainable development. For example, all new academic buildings are built to LEED Gold Standards (Leadership in Energy and Environmental Design), a set of internationally recognized criteria for green building construction.

Student residences are also being built to new award-winning standards. The Residential Environmental Assessment Program (REAP) is UBC's own solution to building green. The objective of REAP is to encourage construction of family housing projects that are of a higher quality than those built using standard industry practices. It is similar to the LEED building rating system, but better reflects UBC's hands-on commitment to sustainability.

On the horizon, both the Engineering, Management and Education and Health Sciences Centre, due to open in 2011, are shining examples of building to LEED Gold standard. These two projects will boast the first green roofs on campus, helping to keep the buildings cool in the summer and warm in the winter, as well as absorbing rain water and improving air quality.

GREEN GLOBES ECO-RATING PROGRAM

The Program's graduated rating system, from one to five Green Globes, recognizes buildings that improve energy and environmental performance for management, site, energy, water, resources, emissions and indoor environment. UBC's Okanagan campus Arts and Sciences expansion is rated at five Globes, the highest eco-rating level, serving as a national or world leader in energy and environmental performance, and using design practices that can be implemented by others.

2010 MAJOR "GREENSTRUCTION" PROJECT HIGHLIGHTS

ARTS AND SCIENCES II ACADEMIC BUILDING: OPENED IN SEPTEMBER 2010

- Awarded five Green Globes - the highest achievement for environmental and energy performance
- Energy savings 40 percent better than Model National Energy Code of Canada for Buildings (MNECB), based on FortisBC Incentive Program calculations
- Anticipated 47 percent savings in water use through low-flow fixtures, water efficient landscaping and the use of bio-swales along the west side of the building

CASSIAR STUDENT RESIDENCE: OPENED IN SEPTEMBER 2010

- Occupancy sensors turn down heat and lights automatically when rooms are unoccupied
- High performance envelope including insulation, window placement and solar tint glass
- High efficiency furnaces, water and lighting fixtures
- Stormwater drained to a retention pond, reducing discharge to sewer system
- Majority of construction materials locally sourced and waste is recycled

PURCELL STUDENT RESIDENCE: COMPLETION IN 2011

- Includes similar energy-saving features to Cassiar, plus a number of newer features
- Received FortisBC PowerSense award of $58,000 for energy efficiency measures in design and construction
- Connected to its own closed loop geo-exchange heating and cooling system which is anticipated to result in an annual energy savings of about 49 percent, as compared to a similar standard building
- Going for Gold level in UBC's REAP green building program