PROGRESS REPORT ON THE SUSTAINABILITY ACTION PLAN: CAMPUS OPERATIONS, 2009-2014

Sustainability Highlights 2009-2011

University of Victoria | Campus Planning & Sustainability

Sustainability in action.

ON THE RIGHT PATH

In 2008, the University of Victoria developed the *Sustainability Action Plan: Campus Operations, 2009-2014*. This five-year strategic plan to guide the university's path towards sustainability in its operations was developed through extensive consultation with students, staff and faculty, as well as community members. It contains a detailed series of goals in key operational areas and lists actions on how to achieve them.

This report is a summary of the highlights of the progress made towards achieving those goals over the last two-year period, from 2009 to 2011.

A copy of the Sustainability Action Plan and the full progress report are available at **www.uvic.ca/sustainability**.

FOUNDATIONS FOR SUCCESS

The following initiatives were deemed to be essential foundations of success for implementing the Sustainability Action Plan and Sustainability Policy at the University of Victoria:

2011 Sustainability Action Team members

DEVELOP A REVOLVING SUSTAINABILITY FUND

PROGRESS TO DATE: **Achieved**

Funding for the Revolving Sustainability Loan Fund was approved in 2010. The $250,000 fund provides financial assistance for energy, greenhouse gas and water use reduction projects that can demonstrate cost savings to the university. The cost savings are then used to pay back the fund within five years or less. The fund is managed by the Office of Campus Planning and Sustainability with an advisory committee that makes recommendations for project approvals to the Associate Vice-President, Financial Planning and Operations. Project ideas are solicited from the campus community and from within the university's operating units. The first loans from the fund were approved in November 2011.

CREATE A MULTI-STAKEHOLDER SUSTAINABILITY ADVISORY COMMITTEE ON CAMPUS OPERATIONS

PROGRESS TO DATE: **Achieved**

The first meeting of the Sustainability Advisory Committee (SAC) was held in November 2009. Chaired by the Director of Campus Planning and Sustainability, the committee is made up of students, faculty and staff from a range of university departments including Student Affairs, Facilities Management, University Systems, Purchasing Services, Food Services, Campus Security Services, and Occupational Health, Safety and Environment. The committee provides advice to the Office of Campus Planning and Sustainability by identifying priority actions, assisting with the implementation of the Sustainability Action Plan, and providing input and feedback on initiatives undertaken.

DEVELOP A PROGRAM TO FACILITATE SUSTAINABILITY ACTION TEAMS ACROSS CAMPUS

PROGRESS TO DATE: **Achieved**

A Sustainability Action Team (SAT) pilot program took place during the spring of 2011. Staff and other building users in six campus buildings were encouraged to team up with colleagues to work together to conserve energy, reduce waste and promote sustainable transportation choices as part of the Workplace Conservation Awareness Building Challenge. The teams competed over a three-month period. The winning teams for the categories of waste reduction and energy conservation were presented with an award at the Connect U staff conference in June 2011. The initiative was coordinated by the Office of Campus Planning and Sustainability and Facilities Management, with support from BC Hydro's PowerSmart program. The SAT program will be expanded in the future to include more buildings and user types, including student residences and labs.

CREATE AN ANNUAL AWARD OR RECOGNITION PROGRAM FOR CAMPUS COMMUNITY EFFORTS IN SUSTAINABILITY

PROGRESS TO DATE: **Achieved**

The first Sustainability Champion Award was presented at the Connect U staff conference in June 2011. This peer-nominated award was given to the staff member whose efforts to make his or her workplace more sustainable had the most "meaningful and enduring contribution towards the sustainability goals of the university." The award will be presented annually, and the program will be expanded in the future to include student and faculty categories.

PROGRESS ON KEY GOALS

ENERGY AND CLIMATE:
BECOME CARBON NEUTRAL BY 2010
PROGRESS TO DATE: **Achieved**

UVic became a carbon neutral institution at the end of 2010 in conjunction with the BC government's aggressive climate action legislation, the Greenhouse Gas Reduction Targets Act. The legislation requires that all provincial public sector organizations be carbon neutral in their operations, making BC the first carbon neutral jurisdiction in North America. Carbon neutrality is achieved by measuring greenhouse gas (GHG) emissions, reducing emissions wherever possible and purchasing carbon offsets for the remainder.

To fulfill carbon neutral commitments by the end of 2010, UVic purchased carbon offsets from the Pacific Carbon Trust, a Crown corporation tasked with delivering quality, BC-based carbon offsets from GHG reduction projects that meet high international standards. At the legislated rate of $25 per tonne, UVic's total carbon offset purchase for the 15,545.90 tCO2e was $435,285.20 in 2010. The cost per tonne to offset emissions is expected to rise at a rate of $5 per tonne per year.

UVic's entire *Carbon Neutral Action Report*, which includes details on actions to reduce GHG's and other sustainability initiatives, is available at **www.uvic.ca/sustainability.**

ENERGY AND CLIMATE:
REDUCE CAMPUS ELECTRICITY CONSUMPTION BY 20% BY 2015
PROGRESS TO DATE: **In progress**

Gross electrical usage and electricity energy intensity (power used per square meter) are measures that show how the campus is achieving its reduction goals. Charts 1 and 2 show campus electricity usage and electricity intensity including and excluding the new Enterprise Data Centre (EDC) building, because it greatly increases the total draw of electricity on campus. The results of energy reduction efforts in other buildings are clearly visible when the power used in the EDC is excluded.

Despite the high electrical draw of the EDC, the new facility encourages efficiencies such as the consolidation of servers, a shift from physical to virtual servers, the replacement of older servers with more efficient models, and advanced power consumption tracking to identify inefficient hardware and target it for virtualization or replacement.

UNIVERSITY OF VICTORIA CAMPUS ELECTRICITY USAGE

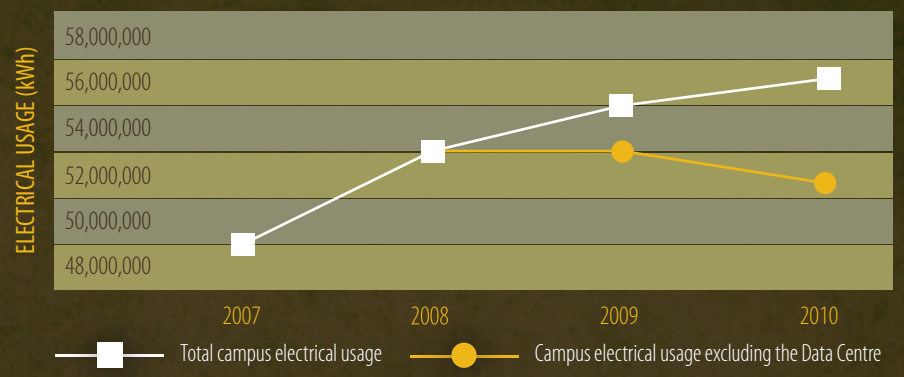

Chart 1. Electricity use on the University of Victoria's main campus. The graph illustrates an overall increase in electrical energy usage each year. Excluding the data centre electricity use allows a visualization of the progress being made in other buildings. *Source: BC Hydro utility bills*

UNIVERSITY OF VICTORIA CAMPUS ELECTRICITY INTENSITY

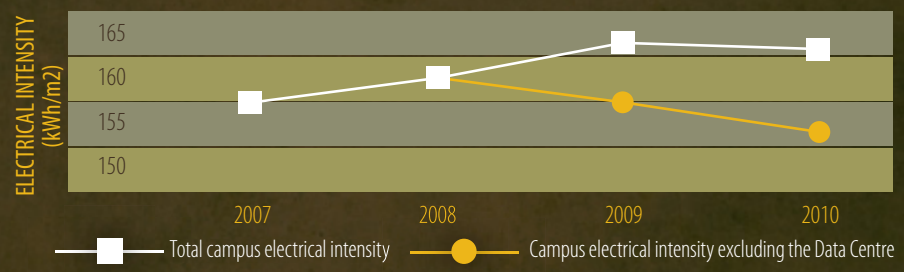

Chart 2. Energy intensity is the electricity use per meter of building space on the University of Victoria's main campus. It is important to calculate the energy usage per area to eliminate campus building growth from skewing energy efficiency data. The campus electricity intensity data without the data centre illustrates the impact of efficiency projects on campus buildings. *Source: BC Hydro utility bills*

UVic has been active in efforts to reduce electricity use in buildings across campus. Some of the major initiatives are listed below:

- **Energy monitoring hardware and software** – New sub-metering systems were installed in 2010 in 30 buildings on campus that allow for individual building energy usage to be monitored in real time (see http://my.pulseenergy.com/uvic/dashboard). Being able to collect, analyze and monitor energy information from each building is critical to increasing building operating efficiency.
- **Campus Integrated Energy Master Plan** – In 2011, UVic retained a consulting firm to develop a long-term energy master plan for campus. This plan will create a framework for how the university can meet and exceed its GHG and energy reduction targets.
- **Continuous Optimization Program** – This program helps maintain and continually improve the level of efficiency in buildings on campus. Combining re-commissioning of control systems with high value, low-cost energy improvements, this program is being implemented in three phases over three years. The investigation (first) phase is complete and implementation will begin in late 2011.

WASTE REDUCTION:
ACHIEVE A WASTE DIVERSION RATE OF 75% BY 2012
PROGRESS TO DATE: **In progress (64.23%)**

UVic's average waste diversion rate for the period from Sept. 2010 to Sept. 2011 was 64.23%. This figure includes recyclable materials such as mixed paper, cardboard, bottles, cans and hard plastics, as well as food waste, garden waste, batteries and electronics. While more work needs to be done to increase the overall diversion rate to 75%, the campus already diverts significant amounts of food waste and recyclable materials from the landfill.

UVic has a host of initiatives underway to help achieve the 75% waste diversion goal. These include:

- making significant changes to classroom building recycling systems by removing bins from classrooms and lecture theatres and replacing them with expanded waste stations in hallways
- closing garbage chutes in some student residences
- hosting waste reduction events such as "Love-A-Mug" week and E-Waste recycling days
- retrofitting over 50 water fountains across campus for easy refilling of water bottles
- replacing paper towel dispensers with electric hand dryers in selected washrooms, and
- promoting zero-waste campus events

WASTE REDUCTION:
ENSURE 100% OF ALL UNIVERSITY ELECTRONIC WASTE IS RECYCLED DOMESTICALLY
PROGRESS TO DATE: **Achieved**

All of UVic's electronic waste (computers, monitors, printers, fax machines) is recycled through the provincial Return-It Electronics program. All recyclers processing material through this program are audited according to Electronic Product Stewardship Canada's (EPSC) Environmental Recycling Standard. This standard prohibits the export of any equipment or part to developing nations and the improper handling and disposal of hazardous material, as well as the transport of any unwanted items to the landfill.

RECYCLED MATERIAL	% DIVERTED
FOOD WASTE	72 %
MIXED PAPER	87 %
CARDBOARD	95 %
GLASS, METAL AND HARD PLASTICS	65 %

Chart 3. Average amounts of recyclable and compostable materials that are diverted. Source: *Waste to Resource Assessment Report* for the University of Victoria conducted by Waste Management, Feb. 2011. Available at: www.uvic.ca/sustainability.

PERCENTAGE OF MATERIAL IN WASTE STREAM

The total waste generated annually on campus is approximately 681,780 kg, not including construction waste, electronics, batteries and yard waste.

- FOOD WASTE (21.4%)
- PAPER TOWELS & PAPER CUPS (17%)
- PLASTICS (12.4%)
- PAPER & CARDBOARD (7%)
- GLASS (3.6%)
- METAL (2.8%)
- WOOD (1.5%)
- TEXTILES (0.5%)

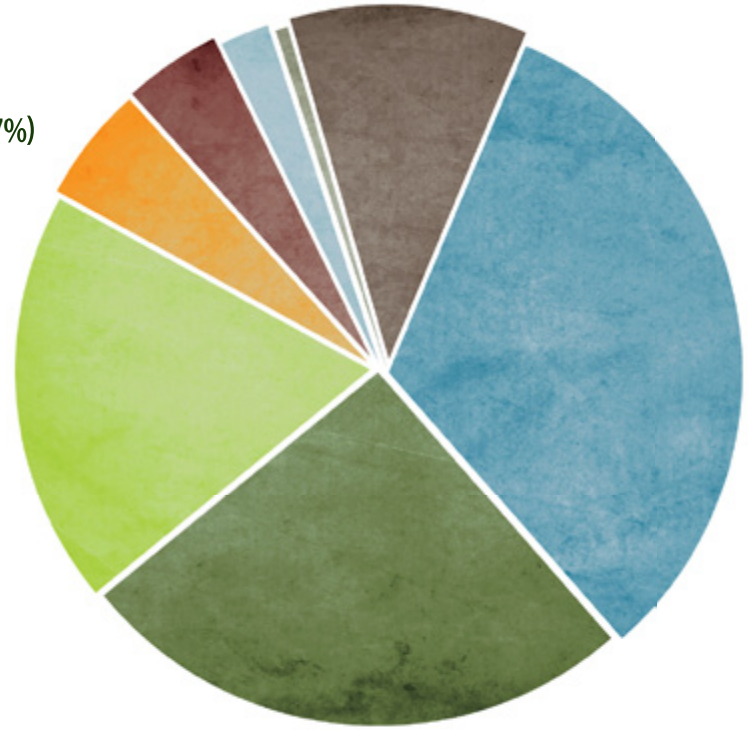

Chart 4. Percentages of material found in the waste stream. Source: *Waste to Resource Assessment Report* for the University of Victoria conducted by Waste Management, Feb. 2011. Available at: www.uvic.ca/sustainability.

BUILDINGS AND RENOVATIONS:
100% OF ALL NEW BUILDINGS WILL BE CONSTRUCTED AND CERTIFIED AS LEED GOLD FACILITIES

PROGRESS TO DATE: **Achieved**

The South Tower Residence is the only building on campus to have been planned and built since 2009, and is awaiting final Gold certification from the Canada Green Building Council Leadership in Energy and Environmental Design (LEED) program. When successful, it will be the sixth building on campus registered as LEED Gold. The other buildings are Social Sciences and Mathematics, Administrative Services, Engineering/Computer Science, Medical Sciences and First Peoples House.

First Peoples House, a LEED Gold building

WATER MANAGEMENT:
REDUCE WATER CONSUMPTION BY 25% THROUGH CONSERVATION AND INNOVATION BY 2015

PROGRESS TO DATE: **In progress (3.4%)**

The following chart shows that the university has achieved a 12.6% reduction in campus water consumption since 2007. Since the baseline year of 2009, water use is approximately 23,000 cubic meters, or 3.4% lower.

WATER CONSUMPTION (m3)

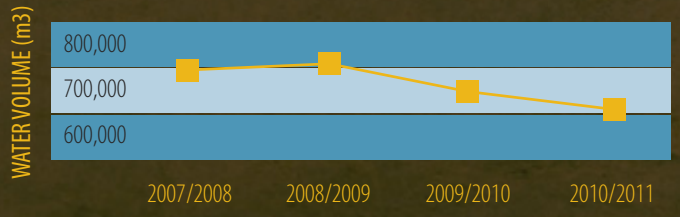

Chart 5. Reduction of consumption of potable water on campus. Source: Water utility bills

In late 2010, UVic conducted a comprehensive water audit of the campus in partnership with the Capital Regional District. This audit covered every plumbing feature (toilets, sinks, showers, etc.) in all 132 campus buildings and highlighted ways the university could reduce its water consumption by an estimated 20%. The university has agreed to implement all recommendations that have a payback of three years or less.

WATER MANAGEMENT:
EXPAND THE SYSTEM AND THE USE OF TREATED WASTE WATER ON CAMPUS

PROGRESS TO DATE: **In progress**

UVic uses treated waste water from the Outdoor Aquatic Facility and recycles it through toilets and urinals. This innovative system serves six buildings on campus and saves in excess of 4,500,000 litres of potable water each year. The buildings connected to the system are the Bob Wright Centre, Engineering/Computer Science, Medical Sciences, Social Sciences and Mathematics, Administrative Services and First Peoples House.

The treated waste water also provides energy in the form of heat. The Engineering/Computer Science building uses an innovative water-to-water heat pump to supplement the building's energy requirements by approximately 350,000 kWh per year. This is equivalent to the energy needed to supply 35 homes on Vancouver Island for a whole year.

TRANSPORTATION:
INCREASE BUS USE, CYCLING AND CARPOOLING TO 70% OF CAMPUS MODAL SPLIT BY 2014

PROGRESS TO DATE: **In progress (61.2%)**

UVic has conducted traffic audits at two-year intervals since 1996. Over the past 14 years there has been a steady decrease in the number of people travelling to campus in single occupancy vehicles, and consistent increases in the numbers choosing more sustainable options such as transit, cycling, walking and carpooling.

The UVic Traffic Audit conducted over three days in October 2010 revealed that 61.2% of people travelling to and from campus used sustainable transportation methods.

UVic continues to promote a Transportation Demand Management program designed to encourage students, staff, faculty and visitors to use sustainable transportation when travelling to and from campus. The program includes:

- A student Universal Bus Pass (U-Pass) system: Every student taking at least one course unit on campus automatically has unlimited access to Victoria regional public transit for a fee of only $69.25 per semester.
- A staff Employee Bus Pass (E-Pass) system: Full-time continuing employees can purchase a monthly bus pass for 55% off the regular price.
- Numerous cycling amenities including over 2,000 racks (many covered), 96 individual bike lockers available for rent, shower facilities available in eleven campus buildings including the MacKinnon Gym (free and open to everyone), a self-service bike repair kiosk (the "Bike Kitchen"), and SPOKES, a low-cost bike rental and bursary program featuring refurbished bikes donated by the community.
- A partnership with the Victoria Car Share Co-op: Full-time continuing employees who do not have a parking permit may apply for a free membership in the co-op, which provides access to all of the vehicles in the co-op fleet, including three parked on campus. Students living in the Family Student Housing Complex and members of the Graduate Students' Society have access to similar programs.
- UVic is a member of the Jack Bell Rideshare Foundation, allowing campus users to register online to find find ridesharing partners.

TRANSPORTATION MODAL SPLITS 1996 TO 2010

	1996	2000	2004	2006	2008	2010
	11.3%	17.8%	26.2%	27.4%	31.1%	26.0%
	6.9%	5.5%	6.0%	5.3%	7.1%	8.9%
	8.7%	11.3%	8.7%	11.2%	11.2%	15.9%
	0.0%	0.0%	0.2%	0.1%	0.3%	0.4%
	15.6%	11.0%	11.8%	11.9%	12.8%	10.0%
SUBTOTAL	**42.5%**	**45.6%**	**52.9%**	**55.9%**	**62.5%**	**61.2%**
	57.5%	54.4%	47.1%	44.1%	37.5%	38.8%

Chart 6. A comparison of the transportation modal split of campus users. Source: 2010 Traffic Survey


Bike to Work team members

GROUNDS, FOOD AND URBAN AGRICULTURE:
INCREASE ACCESSIBILITY TO HEALTHY AND DIVERSE FOOD OPTIONS
PROGRESS TO DATE: **Achieved**

The UVic Food Services group and UVic Students' Society work hard to ensure the campus community has access to healthy and diverse food options at all campus food outlets. UVic was recently named one of the most vegetarian-friendly campuses in Canada (www.peta2.com) for the wide variety of vegetarian options available across campus. Almost all the food served is prepared on site by UVic staff who strive to create healthy soups, stews, stir-fries, pastas, salads and sandwiches from fresh local ingredients. UVic stopped using trans fats in cooking over ten years ago, and purchases local and organic ingredients whenever possible.

UVic food outlets also feature a wide variety of ethnic foods reflective of our diverse campus population. We offer many varieties of sushi, noodles and Asian baked goods, plus curries and freshly made dahl.

PURCHASING:
UTILIZE A TRIPLE BOTTOM LINE FRAMEWORK FOR MAJOR PURCHASING DECISIONS BY 2010
PROGRESS TO DATE: **Achieved**

UVic's Purchasing Services uses a "quadruple bottom line framework" (people, planet, place and socio-cultural) for all applicable purchasing decisions and builds these criteria into requests for proposals (RFPs) and supplier contracts. Purchasing solicitations are evaluated on an organization's quadruple bottom line that includes the environmental and social impacts of its products and services, as well as financial considerations to determine overall best value. See Purchasing Services' Supply Management Objectives: www.uvic.ca/purc.

PURCHASING:
SERVE FAIR TRADE CERTIFIED PRODUCTS THAT ARE READILY AVAILABLE (COFFEE, TEA, CHOCOLATE, SUGAR, ETC.) IN 100% OF FOOD OUTLETS ON CAMPUS
PROGRESS TO DATE: **Achieved**

All of UVic's food outlets including cafes, dining halls and restaurants feature certified fair trade products. All of the coffee sold is organic, as well as fair trade. A wide variety of teas and chocolate products and a small amount of sugar are also organic and fair trade. UVic is also the first Canadian university to serve "beyond fair trade" coffee from Thailand, where growers are paid a fair price for their product and own part of the company.

NEW DIRECTIONS FOR SUSTAINABILITY REPORTING

The University of Victoria holds an important leadership position as one of the most sustainable campuses in Canada. Reporting plays a key role in operational planning that addresses and responds to established sustainability goals.

The *2009-2011 Progress Report on the Sustainability Action Plan* describes the efforts made to implement the plan over the last two years, and the changes and outcomes achieved relative to the plan's 46 goals.

New directions for reporting will expand upon the current focus of the Action Plan on operational sustainability. Beginning in 2012, UVic will use a standardized sustainability reporting and benchmarking tool developed by the Association for the Advancement of Sustainability in Higher Education (ASSHE). The Sustainability Tracking, Assessment and Rating System (STARS) provides a common standard of measurement for institutional sustainability and a framework for measuring success and continual improvement. STARS is widely used by universities in Canada, the United States and elsewhere. The STARS categories include Education and Research, Operations, Planning, Administration and Engagement and Innovation. Reports include information reflecting the social, economic and environmental dimensions of sustainability.

The primary tools for monitoring, evaluating and communicating the university's performance in sustainability for the period 2012 – 2015 will include STARS reports, annual Carbon Neutral Action Reports and Sustainability Action Plan progress updates.

For more information contact the Office of Campus Planning and Sustainability:
action@uvic.ca or www.uvic.ca/sustainability.