



2011 Carbon Neutral Action Report

Plans and actions taken to reduce
greenhouse gas emissions at the
University of the Fraser Valley



Executive Summary

In 2011, the University of the Fraser Valley continued in its *Strategic Directions*, “to be a leader of social, cultural, economic and environmentally responsible development in the Fraser Valley.” The Carbon Neutral Action Report is prepared in compliance with the Greenhouse Gas Reduction Targets Act, detailing elements of our carbon footprint, and our progress in achieving reductions. The report details our progress in many areas, including campus and facility operations, campus planning and capital projects, and community engagement. In adopting its strategic directions, the University of the Fraser Valley has assumed a position of environmental stewardship, leadership, and vision, not just in meeting the legislative requirements of the Greenhouse Gas Reduction Targets Act, but in inspiring and enabling environmental awareness and change within our university and greater community.



Overview of emission reduction activities:

In 2011, UFV continued its energy management agreement with B.C. Hydro, and in the employment of an Energy Manager. Energy conservation is central to minimizing the carbon footprint of the university, and in this, the University is guided by its 5 year Strategic Energy Management Plan (SEMP) implemented in 2009. This year, the work of the energy manager was focused in both technology and behaviour. Many new



technologies are available for upgrading and retrofitting building mechanical systems and implementation depends both on available funds and on a positive calculation of net savings for the project. Two examples implemented at UFV in 2011 include the retrofit of a variable speed drive kitchen exhaust fan in the main Abbotsford campus cafeteria, and a ventilation control software upgrade in the main gym. Combined, these measures are estimated to yield a carbon footprint reduction of 58 tCO₂e annually. There are many examples of energy

efficient technologies adopted in other spheres of university operations aside from buildings. For example, at the Abbotsford campus data center, virtualization technology is now the first choice for new server deployments, again yielding significant energy saving.

UFV has also committed to significant investment in energy conservation in the built environment. Our largest single building project is now nearing completion at the Canada Education Park Campus. This facility, designed to achieve LEED gold status, will substantially replace current energy inefficient buildings located at the Chilliwack North (Airport Road) Campus.

Behavioural change is the other source of energy savings and carbon footprint reduction, and has been a major focus at UFV and in the work of the energy manager. In 2011, UFV implemented a two year pilot,

Workplace Conservation and Awareness Program with the support of BC Hydro. This behavioural change initiative has, in its first year of implementation, already drawn together a group of over 30 volunteers as a “green team”, initiating a number of energy conservation events and activities on campus and in the student residence. Part of our conservation awareness program includes real time metering of building electrical systems to understand energy use patterns and to identify conservation opportunities.



UFV recognizes the importance of fostering a student culture of energy conservation and sustainability and continues to support a Sustainability Coordinator Assistant internship position in Facilities Services. This position, now in its third year, enables a graduating student to pursue a thematic approach to sustainability initiatives with the support of Facilities Services, the Energy Manager, and other university personnel. The main focus this year was in energy conservation and awareness. Each year’s theme has a legacy that

endures. For example, there continues to be a growing adoption by students of public transit, and water fill stations, and experiments in campus waste composting continue, all sustainability initiatives of previous years. The energy awareness and conservation campaigns initiated this year provide another ongoing sustainability foundation.

2011 Greenhouse Gas Emissions

The carbon footprint for the University (Scope 1&2) registered at 3236 tonnes for 2011 in accordance with the SMARTTool recording and reporting protocols. This compares with the previous year’s recorded value of 3068 tonnes. This 5.5% increase over the previous year is somewhat discouraging, and is a reminder of the inherent variation in energy consumption, building operating hours and weather from year to year. The source of the increase in 2011 over 2010 was in both Scope 1 (combustion), 6.6% higher, and Scope 2 (electricity), 3.1% higher. Seasonal analysis shows UFV’s carbon footprint 15.9% higher in the first six months, and 6.1% lower in the remaining months, 2011 over 2010.

Offsets Applied to become Carbon Neutral in 2011

In 2011, the University purchased offsets for 3236 tCO₂e from the Pacific Carbon Trust valued at \$80,975 net of HST.



Jackie Hogan
Chief Financial Officer
University of the Fraser Valley

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Actions Towards Carbon Neutrality							
The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the <i>Greenhouse Gas Reduction Targets Act</i> .							
Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Mobile Fuel Combustion (Fleet and other mobile equipment)							
Vehicle fuel efficiency							
Perform regular fleet maintenance specifically to improve fuel-efficiency	Ongoing/In Progress	100	% of vehicles are subject to regular maintenance for fuel efficiency	Vehicles are scheduled for regular 5,000 km interval maintenance services through applicable automtive dealership.	Fleet vehicle maintenance will be addressed by the institution with the departments having access to fleet vehicles. Preventative maintenance schedules will be created to ensure vehicles receive the regular servicing as per the manufacturer's suggested guidelines.	2011	No End Date (Continuous)
Behaviour change program							
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	100	% of current drivers are trained	All new drivers received training.	All new drivers will receive training.	2005	No End Date (Continuous)
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Ongoing/In Progress	100	Facilities Services and Courier Services vehicles.	It is standard practice that vehicles are not left idling or unattended with keys in the ignition.	Fleet operations will be addressed by the institution with the departments having access to fleet vehicles. Anti-idling signage has been installed at main campuses. An awareness program will be developed to deter idling practices.	2011	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							
Planning/management							
Enrol in a building energy benchmarking program (e.g., GREEN UP)	Ongoing/In Progress	342	ekWh/m2/yr (Elec + Gas performance - Abbotsford Campus) for 10/11 fiscal	As part of our Energy Manager program, we are now internally benchmarking our buildings using PUMA online software.	Continue to monitor internal benchmarking values. Investigate public benchmarking programs such as GreenUp.	2010	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	10	% of buildings have a real time metering system installed	As part of our Energy Manager program, we are working towards approval through BC Hydro for additional Continuous Optimization projects at UFV Abbotsford Campus. These studies cannot commence until the Workplace Conservation and Awareness (WCA) program is complete however. The WCA program ends in 2013. BC Hydro sponsered Continuous Optimization study at Trades and Technology Centre (TTC) included was the installation of real-time metering and Pulse software. This is now used by Facilities staff as a tool.	Work towards approval of additional Continuous Optimization projects at UFV (and subsequent real-time metering). Utilize real-time data from upcoming BC Hydro smart meters to feed into monitoring software and online dashboards (eg. PUMA by Prismm or Pulse).	2010	No End Date (Continuous)
Owned buildings							
Establish energy performance baseline for owned buildings	Ongoing/In Progress	80	% of owned buildings have an established energy performance baseline	As part of our Energy Manager program, we have established a performance baseline for all Abbotsford campus buildings, Hangar-4, and Trades and Technology Centre (TTC).	Continue to use this baseline to track energy performance against. Extend this exercise to the new Canada Education Park campus (CEP) after the move from the Chilliwack North campus in Spring of 2012.	2010	2014

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Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress	6	% of owned buildings are certified LEED NC Gold or LEED NC Platinum	Our current capital project in Chilliwack involves reusing 5,300 square metres of an existing facility to build a new 14,000 square metre academic building on the Canada Education Park campus and will achieve LEED Gold certification.	Construction, monitoring, LEED Certification.	2009	2012
Incorporate integrated design process into new construction or during renovations of owned buildings	Ongoing/In Progress	40	% of buildings built or renovated since start year indicated used the integrated design process	<p>The integrated design process has been adopted for the last 4 capital projects.</p> <p>It is being implemented in the current campus development project in Chilliwack scheduled for completion on 2012, and the Student Centre building project in Abbotsford planned for completion in 2014.</p>	Monitor project, manage changes, commission building, campus relocation.	2009	2014
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	30	% of owned buildings have undergone energy retrofits since start year indicated	<p>Energy efficient chiller replacement and cooling tower optimization in Abbotsford B-building.</p> <p>Kitchen hood demand controlled ventilation upgrade for Abbotsford campus (expected GHG reduction of 18 tons CO2/yr).</p> <p>Main gymnasium fan system optimization (DDC controls adjustment) to reduce ventilation heating consumption (expected GHG reduction of 40 tons/yr).</p> <p>DDC scheduling adjustments made (expected GHG reduction of 5 tons CO2/yr)</p>	Continue to retrofit buildings/equipment on a case-by-case basis. Planned upgrade of boiler plants in Abbotsford B & A-West building in spring of 2012 - GHG emission reductions will result.	1998	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	25	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	Upgrade to B-building kitchen exhaust fan and VSD optimization of HVAC. Kitchen hood demand controlled ventilation upgrade for Abbotsford campus (expected GHG reduction of 18 tons CO2/yr).	Consideration of energy upgrades as part of the planning process for any future building retrofits at UFV.	2008	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	75	% of retrofits since start year indicated had lighting systems upgrades	No major retrofits at Abbotsford campus in 2011.	Consideration of energy upgrades as part of the planning process for any future building retrofits at UFV.	2008	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	75	% of retrofits since start year indicated had control system upgrades or adjustments	No major retrofits at Abbotsford campus in 2011.	Include controls upgrades as necessary as part of future retrofit projects. As older HVAC equipment is replaced, pick this up on the newer ESC controls system.	2005	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	25	% of retrofits since start year indicated had insulation improvements	No major retrofits at Abbotsford campus in 2011.	Implement building envelope and window upgrades on a case-by-case basis during future retrofits	2008	No End Date (Continuous)
Install an on-site renewable energy demonstration project	In Development	0	% of retrofits since start year indicated had on-site renewable energy components	Designing of new Student Centre Building (SCB) at Abbotsford campus to include a sustainable ground source heat pump system (Thermenex).	Construction of new SCB building to include sustainable ground source heat pump system.	2008	2014
IT power management							
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	5	% of computers shut down automatically outside of regular business hours	Evaluation stage in student computer labs in Building D 2nd floor (total of 6 labs will shut down when not in use).	Not yet determined. Solution will not be implemented until Microsoft Active Directory is rolled out in 2012.	2012	No End Date (Continuous)

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Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Implement server virtualization	Ongoing/In Progress	10	% of servers have been virtualized since start year indicated	Updated hardware, increasing virtual hosting capacity by approximately 4x. Virtualization is now the first choice for new server deployments in Abbotsford Data Center, except where performance requirements call for a dedicated server. Some software vendors still do not support virtualization, therefore must have dedicated servers to qualify for support.	Migrate several file/print services to virtual machines. Expand virtualization to new data center at Chilliwack, Canada Education Park campus.	2009	No End Date (Continuous)
Appliances and electronic devices							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	75	% of fridges are ENERGY STAR rated	Replacements are Energy Star rated wherever possible.	Replacements will be made with Energy Star rated appliances.	2009	No End Date (Continuous)
Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	50	% of other appliances are ENERGY STAR rated	Replacements are Energy Star rated wherever possible.	Replacements will be made with Energy Star rated appliances.	2009	No End Date (Continuous)
Replace desk lamp incandescent bulbs with compact fluorescent (CFL) bulbs or source more efficient desk lamps for future purchases	Ongoing/In Progress	15	% of incandescent bulbs have been replaced with CFL's for desk lamps	Replacements are CFL where possible.	Replacements are CFL.	2009	No End Date (Continuous)
Behaviour change program							
Help staff reduce personal energy use through "workstation tune-ups"	Ongoing/In Progress	5	% of current staff have completed a workstation tune-up	UFV has hired an Energy Manager and Sustainability Coordinator to develop and deploy Behavioural Change Programs. All items to the left have been considered under this program, and additional items have been implemented as shown in 'Other...' Education, Awareness, Engagement.	Further development of behavioural change programs to drive energy reduction, including the items listed to the left, as part of the Workplace Conservation and Awareness (WCA) program.	2010	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress	5	% of current staff will unplug electrical equipment or switch off power bars when not in use	This behavioral change has been addressed as part of the Workplace Conservation and Awareness (WCA) program which is explained in Tab B.5.	Further development of behavioural change programs to drive energy reduction, including the items listed to the left, as part of the Workplace Conservation and Awareness (WCA) program.	2010	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress	1	% of current staff will close blinds at end of work day	UFV has hired an Energy Manager and Sustainability Coordinator to develop and deploy Behavioural Change Programs. All items to the left have been considered under this program, and additional items have been implemented as shown in 'Other...' Education, Awareness, Engagement.	Further development of behavioural change programs to drive energy reduction, including the items listed to the left, as part of the Workplace Conservation and Awareness (WCA) program.	2010	No End Date (Continuous)
Encourage use of stairs instead of elevators	Ongoing/In Progress	5	% of current staff have been encourage to use stairs instead of elevators for energy conservation	This behavioral change has been addressed as part of the Workplace Conservation and Awareness (WCA) program which is explained in Tab B.5.	Further development of behavioural change programs to drive energy reduction, including the items listed to the left, as part of the Workplace Conservation and Awareness (WCA) program.	2010	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress	20	% of current staff have been educated on turning off lights	This behavioral change has been addressed as part of the Workplace Conservation and Awareness (WCA) program which is explained in Tab B.5.	Further development of behavioural change programs to drive energy reduction, including the items listed to the left, as part of the Workplace Conservation and Awareness (WCA) program.	2010	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress	5	% of current staff have been educated on hot water conservation	Aerators have been installed in existing tap fixtures to reduce hot water consumption.	Evaluation of additional opportunities.	2010	No End Date (Continuous)
Supplies (Paper)							
Printer/document settings							

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Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	50	% of network printers or photocopiers are set to automatic double-sided	This percentage represents the Employee side of printing. All labs are still single-sided.	Evaluate and research whether or not double-sided printing in the labs is viable.	2011	No End Date (Continuous)
Electronic media in place of paper							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development	5	% of staff workstations with software installed	Preliminary evaluation of Microsoft Sharepoint.	Deployment of Microsoft Sharepoint in a test environment with potential production deployment in 2012.	2011	2012
Use electronic document library for filing common documents	Ongoing/In Progress	5	% of staff filing digitally on network drive	Reduction of paper copies of documentation and conversion to digital scanning / PDF archiving.	Deployment of Archibus & Microsoft software to warehouse archive project documentation digitally and reduce paper waste.	2011	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress	15	% of content found online	Developing web pages and FTP sites for digital downloads.	Continued production of digital files made available on institutional web site for instant access and availability.	2010	No End Date (Continuous)
Behaviour change program							
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development	5	% of staff currently have received collaborative software training	Testing SharePoint within ITS department.	Act on recommendations from testing.	2011	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	In Development	132	# of employees who have purchased Ipads (80) & laptops (52) in 2011	The Registrar is evaluating the move to Ipads and laptops in lieu of paper agendas and minutes.	Testing of Ipad by Registrar.	2010	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress	15	% of staff currently are reusing scrap paper	Print Services creates note pads from scrap paper. Various departments are re-using stationary with old logos for clerical odds and ends.	Evaluating possibilities for reuse of scrap paper.	2002	No End Date (Continuous)

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Actions to Reduce Provincial Emissions and Improve Sustainability							
The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the <i>Greenhouse Gas Reduction Targets Act</i> . Public sector organizations can optionally use this section to report on actions that will help British Columbia meet its provincial greenhouse gas reduction targets, engage the public, and improve environmental sustainability across all aspects of their organization.							
Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Business Travel							
Policy and budgeting							
Create a low-carbon travel policy or travel reduction goal	In Development			Committee formed to develop policy for travel.	Review and evaluate travel policy.	2011	2013
Virtual meeting technology							
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Ongoing/In Progress	25	% of meeting rooms have access to video-conferencing equipment	New construction of meeting rooms now include widescreen LCD monitors with audio & video conferencing capabilities.	Implementation of video conferencing capabilities in all future meeting room construction. Retro-fitting existing meeting space to install video conferencing equipment. Changes in new construction design guidelines to ensure installation of hardware.	2010	No End Date (Continuous)
Behaviour change program							
Train staff in video-conferencing or provide technical support for video-conferencing set-up	In Development	50	% of staff are trained in video-conferencing or have access to technical support	Educational Technology Services provides training and technical support for video-conferencing. ETS responsible for set-up and broadcasting of all UFV virtual presentations on campus.	Continue to provide services and implement new technologies that support and champion seamless video-conferencing.	2010	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress			ETS provides opportunities to virtually broadcast special events across campuses to reduce travel for employees & students.	Continue to provide services and implement new technologies that support and champion seamless virtual-broadcasting.	2010	No End Date (Continuous)
Education, Awareness, and Engagement							
Team-building							
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	In Development	10	% of employees & students have joined teams/committees	Strategic Energy Management Plan finalized in conjunction with BC Hyrdro. SEMP, in addition to Green Team activities, are endorsed by executive support (CFO). See website below for more info: www.ufv.ca/energy_management.html	Expansion of the UFV Green Team and greater representation from the student population. Goal of SEMP is to have a 10% reduction in energy intensity (kWh/m2) for the Abbotsford campus by 2014/15 fiscal.	2010	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress	2	dedicated staff members are tasked with supporting teams (Energy Coordinator and Sustainability Coordinator).	Energy Coordinator and Sustainability Coordinator now act as a supporting role for Green Team.	Further promotion of energy awareness using media as an avenue; increase "Green Team" enrolment through activities on all campuses.	2010	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	In Development	150	Students/staff/faculty have signed the Pledge.	Promotion of "My Green Pledge" at Welcome Back BBQ and other events. Pledge also available online. Summer of 2011, joined the Workplace Conservation and Awareness (WCA) program in partnership with BC Hydro with \$5,000.00 funding to promote and implement the "Turn It Off" project. 1st quarter concentrated on lighting, 2nd quarter concentrated on plug loads with continued reinforcement on lighting, ending with the 3rd quarter concentrating on office kitchens with reinforcement on lighting & plug loads introduced in the earlier quarters. 2nd year of the WCA program will reinforce all messages from 1st year.	Continue to encourage others to sign the pledge and follow through with actions for reducing energy as outlined in the WCA program developed and implemented in partnership with BC Hyrdro.	2010	No End Date (Continuous)
Staff Professional Development							

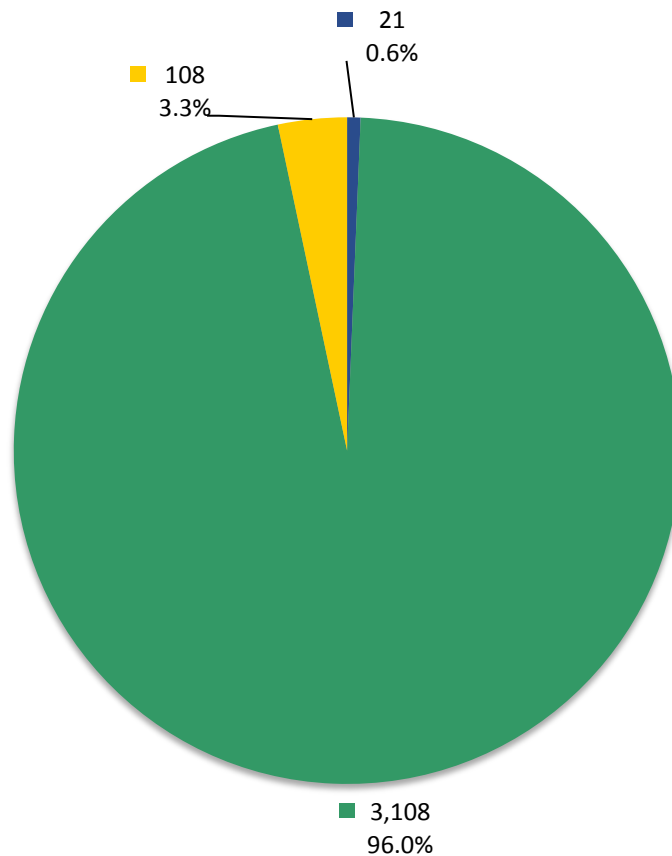
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Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress	2	Professional development seminars including sustainability seminars.	Energy Coordinator presented a training session to Facilities staff and Library staff during 2011 calendar year to educate and encourage green behavior.	Energy Coordinator to host additional training seminars where applicable.	2011	No End Date (Continuous)
Staff awareness/education							
Provide green tips on staff website or in newsletters	In Development	50	% of employees & students informed on green initiatives through digital & print media	E-newsletter sent to staff. Newspaper article in campus paper. "Green tips" emails started to those who have signed pledge. Energy management website developed, including energy tips and forum for soliciting ideas for energy reduction. Constantly expanding.	Promotion of website across organization and additional marketing.	2010	No End Date (Continuous)
Client/public awareness/education							
Provide green tips on client/public website or in newsletters	In Development	15	% of pubic & community informed of UFV green initiatives through digital & print media	E-newsletter sent to staff. Newspaper article in campus paper. "Green tips" emails started to those who have signed pledge. Energy management website developed, including energy tips and forum for soliciting ideas for energy reduction. Constantly expanding.	Promotion of website across organization and additional marketing.	2010	No End Date (Continuous)
Other Sustainability Actions							
Water conservation							
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Ongoing/In Progress	20	% of buildings outfitted with water conserving fixtures	Existing buildings have been upgraded with low flow toilets, touchless faucets, and auto flush fixtures. All taps outfitted with water conserving aerators.	New construction design guidelines to follow LEEDS recommendation on water conservation fixtures and plumbing.	2010	No End Date (Continuous)
Waste reduction/diversion							
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	In Development	50	% of bins on campus are dedicated for recycling	All buildings have been supplied with minimum 4 cubic waste, cardboard, and paper recycling bins. Departments operate with confidential shredding and paper recycling bins. Central locations with high traffic have been outfitted with battery recycling depots. Operations performs monthly recycling of all CFL bulbs & ballasts.	Minimization in scheduled waste pick-ups; decreasing waste bin sizes or increasing the size and number of recycling bins. Implementation of composting bins in food services area for organic food waste.	2011	No End Date (Continuous)
Procurement (non-paper supplies)							
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	In Development	90	% of products used by janitorial are green products	Janitorial cleaning supplies purchased for the institution are "green products". Implementation of new cleaning practices and supplies to promote sustainability on campus. Installation of hand dryers to reduce paper towel consumption.	Identifying more locations for the installation of hand dryers. Continued use and research into sustainable and environmentally friendly cleaning products.	2010	No End Date (Continuous)
Require a minimum purchase of sustainable, and organic food and beverages supplied by contracted food suppliers or caterers	Ongoing/In Progress	25	% of the combined total food and beverage purchase (in cost) meets these requirements	48% of fish/seafood is now sourced from sustainable fisheries and certified by the marine council. Cafeteria offers a smoothie alternative with no added sugar and 100% fruit and fruit juice.	The goal is to be at 100% for fish/seafood sourced from sustainable fisheries by 2015. Cafeteria is sourcing and presently offering reduced fat, sodium, and sugar added foods and snacks as part of the "Better Tomorrow Plan". Sodexo has introduced a "Your Health Your Way" nutrition station with defined paramenters and nutrition information.	2010	No End Date (Continuous)
Building construction, renovation, and leasing							
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	Ongoing/In Progress	2	% of owned buildings constructed from re-used materials	Materials from the demolition of Canada Education Park building 1090 were used for the renovation and construction of building 1017.	Continued practices of retaining re-useable construction materials for future build projects.	2011	2012

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Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Incorporate lifecycle costing into new construction or renovations	In Development	2	% of business cases incorporating lifecycle costing since start year indicated	Design of Student Centre Building in Abbotsford is looking at a 10-year lifecycle cost benefit by incorporating the sustainable thermal energy exchange system.	Further evaluation of lifecycle costing with new construction or new capital equipment purchases.	2011	No End Date (Continuous)
Commuting to and from home							
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress	5	% of employees & students who utilize alternative modes of transportation	Dedicated notice board for interested carpoolers. Dedicated parking spaces for carpool parking only. Regular promotional advertisements on alternatives to transportation. U-pass availability.	Promotion of alternatives to transportation via multi-media avenues available to employees and students.	2008	No End Date (Continuous)

**University of The Fraser Valley
Greenhouse Gas Emissions by Source
for the 2011 Calendar Year (tCO₂e*)**



Total Emissions: 3,236

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion (Building Heating and Generators) and Electricity
- Supplies (Paper)

Offsets Applied to Become Carbon Neutral in 2011 (Generated May 18, 2012 11:27 AM)

Total offsets required: **3,236**. Total offset investment: **\$80,900**. Emissions which do not require offsets: **1** **

*Tonnes of carbon dioxide equivalent (tCO₂e) is a standard unit of measure in which all types of greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.

** Under the *Carbon Neutral Government Regulation of the Greenhouse Gas Reduction Targets Act*, all emissions from the sources listed above must be reported. As outlined in the regulation, some emissions do not require offsets.