

# Capilano University - 2011 Carbon Neutral Action Report



*Cindy Turner*

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## Executive Summary

At Capilano University our mission is ... to enable student success.

Capilano University is committed to environmental integrity and sustainable development. Sustainability on campus initiatives are directly linked to the mission, values and strategic directions (<http://www.capilanou.ca/about/mission-values.html>) of the institution.

### 2011 Greenhouse Gas Emissions

- Total 2011 GHG Emissions from all sources 2,417.92 Tonnes

### Offsets Applied to Become Carbon Neutral in 2011

2,416.52 Tonnes

- Carbon Neutral or Offset Exempt 2011 Biomass Emissions 1.40 Tonnes

*As required by section 5 of the Carbon Neutral Government Regulation, 1.40 tonnes CO<sub>2</sub>e of emissions resulting from the operation of facilities fleet vehicles were reported as part of our greenhouse gas emissions profile in 2011. However, they were not offset as they are out- of-scope under section 4(2)(c) of the Carbon Neutral Government Regulation.*

*In SMARTTool, the 1.40 tonnes of biomass emissions for Capilano University is related to the renewable fuel content of the gasoline and diesel that was consumed in our facilities fleet vehicles. BC's Low Carbon and Renewable Fuel Requirement Regulation (LCRFRR) came into effect in January of 2011. This regulation sets out the renewable content that is blended into gasoline and diesel fuel that was purchased in 2011. What this means is that, at a provincial level, gasoline bought at the pump includes 5% ethanol blended with 95% petroleum-based (traditional) gasoline. Similarly, diesel bought at the pump includes 3% biodiesel blended with 97% petroleum-based diesel.*

*For our 2011 data, SMARTTool has calculated the "Bio CO<sub>2</sub>" that comes from the ethanol and biodiesel portions of the fuel purchased and has separated this out as "Biomass emissions".*

### Changes to Greenhouse Gas Emissions and Offsets Reporting from 2010

*Following the public release of Capilano University's 2010 Carbon Neutral Action Report, it was determined that the total emissions for the 2010 calendar year were over reported by 8 tonnes CO<sub>2</sub>e and offsets required to become carbon neutral in 2010 were over reported by 8 tonnes CO<sub>2</sub>e.*

*The surplus of offsets purchased in 2010 will be applied against our 2012 emissions.*

Capilano University continues to consistently reduce our annual GHG emissions, especially via natural gas consumption decreases. While there was a 14.4% increase in heating degree days during the 2011 winter heating season compared with 2010, simultaneously, our North Vancouver campus footprint grew by 12% with 6,700 m<sup>2</sup> BOSA Centre coming online. Most importantly however, natural gas consumption increased by only 12.8%, so in effect, when data is weather normalized, CU achieved a further nearly 2% reduction in natural gas consumption during 2011.

In 2011, CU also realized significant decreases in Office Paper consumption of 11% and Fleet Fuel usage of 5%; these positive outcomes can be tied to FleetSmart Driver Training, and Lighten Our Load programs implementation during 2011, building on the foundation of the PaperSmart campaign begun in 2008.

Capilano University has achieved cumulative 23% GHG emissions reductions since 2007.

## Emissions Reductions Activities

**Actions and activities in 2011 that contributed to Capilano University becoming carbon neutral include:**

### **Our leadership:**

Our Executive Management team champions carbon neutral initiatives on campus and is actively engaged in the support and adoption of sustainable behaviours within their areas of responsibility and throughout the university. President Kris Bulcroft continues to lead our community through tangible actions & commitment to environmental stewardship for our institution, including enthusiastic participation in 2011 events including: weed 'n feed, sustainability lunch & learn, energy management assessment workshop, community garden planning committee, BC Hydro's Curriculum Challenge Awards presentations, to name just a few.

### **Our energy consumption reduction:**

Specific targets have been identified for each of the campuses and overall reductions in natural gas and electricity have been achieved in 2011. Natural gas reductions are directly related to equipment and operational changes. Electricity reductions can be attributed to PSECA high efficiency lighting upgrades, along with DDC controls and scheduling updates. Continued workplace conservation awareness engagement programs, along with activities which supported increased awareness of energy consumption and associated behaviour changes at North Vancouver and Sunshine Coast, have allowed persistence of energy consumption reductions. The Squamish reductions continue to be related to lighting upgrades as well as continued behavioural change initiatives.

#### Natural Gas: (reduction over 2007 baseline)

- North Vancouver 6,766 GJ = 14% reduction
- Sunshine Coast 275 GJ = 36% reduction
- Squamish 684 GJ = 58% reduction

#### Electricity: (reduction over 2007 baseline)

- North Vancouver 235,231 kWh = 3% reduction
- Sunshine Coast 26,853 kWh = 17% reduction
- Squamish 52,364 kWh = 31% reduction

### **Our people:**

At Capilano University the students and employees continue to adopt more sustainable behaviours, with 273 employees and students signing the Capilano University Sustainability Pledge in 2011 for a grand total of 1,369 Pledges.

### **Milestones for education and community engagement in 2011 include:**

- SEAP (Sustainability in Education Across the Province) conference hosted in May with outcomes including identifying five key CU sustainability visions and projects each refined through a collective group process covering areas of transportation – car pooling, culture change - campus Jobs and roles, food – community garden, curriculum – every student to have deep understanding of social & ecological systems, and purchasing – contracts & green procurement
- Curriculum Challenge, sponsored by BC Hydro, was a contest for faculty to develop course materials which embeds conservation & environmental stewardship into all programming; this has been key to additional faculties also aligning their areas similarly; especially successful has been English 100, Geography, & Psychology, and continued leadership by Tourism Management and School of Business.
- Project Change 2011- CU expanded beyond our campus and involved 10 additional post-secondary institutions with more than 561 participants; go to [www.projectchange.ca](http://www.projectchange.ca) for complete details.
- Ned and Flora Bosa Centre for Film and Animation completed substantially to LEED GOLD standard

- GET UR FLEECE ON campaign encouraged dressing appropriately for the weather, and using a fleece blanket to keep warm instead of space heaters or turning up the thermostat; staff & faculty embraced this program with an overwhelming positive response, as did the Vancouver Sun, North Shore News and other local media!

#### **Our students' and staff transportation:**

- During 2011, third year of Translink U-Pass availability, a total 29,594 passes were issued.
- 2<sup>nd</sup> year of Translink Employee Bus Pass Program increased by 1,100 % with a total of 329 passes issued!

#### **Our 'Print Smarter' campaign:**

- As part of the institutional paper reduction goals, IT services continued to work with internal users to achieve printer removal and as of December 31<sup>st</sup> more than 50% of stand-a-lone and networked printers identified have been removed from service. All multifunctional devices are defaulted to double-sided printing.
- Lighten Our Load – a new paper consumption reduction campaign to engage all Capilano U users, including students, faculty & staff; full development & implementation limited by lack of human resources but great ideas and opportunities identified in diverse areas of the community including faculty, library staff with students.

## **Overviews**

### **Actions Taken to Reduce Greenhouse Gas Emissions in 2011**

#### Resources

Year 4 Energy Manager - funding from BC Hydro

Year 2 Energy Specialist- funding from FortisBC Energy

#### North Vancouver Campus

- Utilization of Pulse Energy Software to monitor the electricity consumption on campus, to identify areas of opportunity and to assist us in using energy wisely.
- Workplace Conservation Awareness Program agreement with BC Hydro entered Year 2 to develop and support social based marketing behaviour change strategies; these initiatives will drive continued sustainability gains.
- Strategic energy management plan (SEMP) originally developed as part of the BC Hydro Power Smart Energy Manager program, was revised and streamlined to be a 'living' document and is updated regularly.
- PSECA Energy Project which included lighting retrofits and upgrades to the energy controls and schedules which included retrofit of Library lighting fixtures to induction technology

#### Squamish Regional Centre

- Natural gas savings continue to increase to 58% after completing first full winter season; these positive outcomes persist from HVAC system controls retrofit in summer of 2010. In addition, a LED lighting upgrade was completed which continues reduced electrical consumption by 52,364 kWh or 31%.
- Constant efforts to embed conservation behaviour into the campus culture have also contributed towards persistence of energy savings.

#### Sunshine Coast Regional Centre

- Continued participation in Golden Lawns program to conserve water
- Bike share Program continued to facilitate alternate transportation option for employees to bike instead of drive to downtown
- Constant efforts to embed conservation behaviour into the campus culture have also contributed towards these savings.

## Plans to Continue Reducing Greenhouse Gas Emissions 2012 – 2014

Our focus on reaching independent carbon neutrality has continued to impact the collective perspective of the entire Capilano University community and how energy consumption is regarded. Utilities bills and Pulse Energy (real time utility dashboard) are viewed as tools to identify opportunities for savings, while wasted energy is viewed as an opportunity to show leadership, reduce waste and associated green house gases, and realize monetary savings as well, to invest in our students' education.

As Capilano U considers the impact of its consumption on the environment and sustain our shift from energy use to energy management, we will obtain:

- energy consumption reduction per square meter of building usage
- reduction in cost of Pacific Carbon Trust carbon offsets
- a reduction in the quantity of greenhouse gases produced
- demonstration of community leadership by our institution
- students adopting more sustainable behaviours
- faculty incorporating conservation and sustainability into curriculum across disciplines and areas of study
- students' (projects and) learning outcomes built on foundational themes of sustainability and this becomes the 'norm' (versus the exception)
- further opportunities to partner with our community neighbours, utilities and local business to achieve positive environmental impacts utilizing "outside the box" design & development solutions;

### Key initiatives we will be focusing on for 2012 and beyond include:

#### North Vancouver Campus

- Optimization of the Direct Digital Controls (DDC) and equipment controls
- Add energy equipment parameters into room booking software to schedule activity with conservation considerations; develop space use optimization to minimize amount of conditioning to unused spaces
- Continue to report internally (using Frontlines – intranet) to our community and providing green tips
- Report externally at [www.capilanou.ca/services/sustainability-on-campus.html](http://www.capilanou.ca/services/sustainability-on-campus.html) & develop & maintain new Ektron website to coordinate with improved Institutional IT and Communications projects
- New Student and Staff Orientations – focus on encouraging sustainable behaviour and opportunities
- Incorporate conservation & sustainability into Facilities positions' job descriptions & duties
- Presentations to showcase our sustainability accomplishments and development by our entire Capilano University community
- Leadership in Innovation – working with FORTIS BC and District of North Vancouver, we continue to participate in a feasibility study on a district energy system using waste heat recovery from local industrial neighbour
- Installing water and natural gas sub-metering on our buildings
- Commission new LEED Gold BOSA Center to ensure anticipated energy savings and environmental benchmarks achieved as anticipated
- High efficiency lighting upgrades to exterior lighting, including parking lots and pathways
- Detailed review of buildings' office spaces for optimization opportunities and eliminate waste
- Waste Audit in Fall 2012
- Development & implementation of community garden
- Composting deposit bins increased

### Squamish Regional Centre

- Complete updated energy audit & review, continue to monitor and report energy consumption, and implement energy savings measures with low simple payback periods
- Continue engagement with staff, students and local community partners for ongoing Campus Sustainability Network activities & awareness including increase site visits by energy management team.

### Sunshine Coast Regional Centre

- Complete updated energy audit & review, continue to monitor and report energy consumption, and implement energy savings measures with low simple payback periods
- Continue work with the Environmental committee to actively participate in the Regional District Golden Lawns campaign/program to increase campus water conservation; increase site visits by energy management team.
- implement water conservation for landscaping and building use (toilets & taps)

### **In Summary:**

During the process of gathering our 2011 Carbon Neutral Action Report information and background documentation, it became apparent how many people here are passionate and committed to making a positive difference, and in how many areas Capilano University is demonstrating tangible, outstanding leadership in environmental stewardship. It also became evident that most of these conscientious activities and processes, although entrenched in operations and day-to-day procedures, as well as curriculum, for the most part, are not formally documented nor mandated in any written Standard Operating Procedures, job descriptions, roles or task outcomes.

The sustainable activities and efforts continually demonstrated here at Capilano University clearly lead us towards carbon neutrality and will persist because we are committed to reaching the goal. Embedding these positive behaviours and responsibilities in a formal manner will ensure continued accountability into the future as we further strive for excellence in education and environmental stewardship.

# Capilano University - 2011 Carbon Neutral Action Report

## 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 *Greenhouse Gas Reduction Targets Act*.

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
<b>Mobile Fuel Combustion (Fleet and other mobile equipment)</b>						
<b>Vehicle fuel efficiency</b>						
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	20 % of vehicles are fuel- efficient models	Include fuel efficiency one of key criteria for procurement analysis and assessment of vehicle purchases Electric Vehicle purchase is on hold - maintained continued communication with District of North Vancouver (DNV) regarding by-law adoption that allows operation of low speed electric vehicles on DNV streets; funds remain allocated for this purchase	2012 - Purchase electric dump truck for landscaping use, contingent on DNV by-law adoption which allows low speed electric vehicles 2012 - Further investigation of plug In electric and hybrid options with additional manufacturers	2008	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	20 % of vehicles down-sized since start year indicated	Spend budget funds to replace 2 fleet vehicles Continued EV research and review of vehicle replacement options	2012 and beyond - Evaluate and develop comprehensive fleet strategy for Facilities department that incorporates energy conservation and alternative fuels	2010	No End Date (Continuous)
Perform regular fleet maintenance specifically to improve fuel-efficiency	Ongoing/In Progress	100 % of vehicles are subject to regular maintenance for fuel efficiency	Implement standardized and formal procedure for vehicle inspection; logs for care & maintenance through facilities staff/users required once per week/vehicle and rolled into monthly summaries Ongoing evaluation of existing vehicle maintenance practices and procedures Review best practices fleet maintenance models for possible adoption	2012 and beyond - Evaluate and develop comprehensive fleet strategy for Facilities department that incorporates energy conservation and alternative fuels	2010	No End Date (Continuous)
<b>Behaviour change program</b>						
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	43 % of current drivers are trained	Fleet Manager assigned NRCAN Fleet Smart Driver Training Program implemented across all Departments with Drivers of our Fleet including Security, Parking, Film and Facilities; all effected Departments have minimum of one FleetSmart Driver who has successfully completed training and passed test	2012 and beyond - Complete Smart Driver testing of all fleet drivers 2012 and beyond - Continued Smart Driver training and testing for new fleet drivers	2010	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Ongoing/In Progress		1 Bicycle made available for staff transportation use on and off campus for University related tasks, errands in place of a fleet vehicle	2012 and beyond - Continue messaging on the available Bike Share Program at Sunshine Coast campus 2012 and beyond - Review opportunities to introduce Bike Share Program at Squamish and North Vancouver campuses as viable option for on site campus transportation 2012 and beyond - Include Bike Share Program opportunity in new staff orientation at Sunshine Coast 2012 - Finalize Plans and specifications for Bike Shelter & fully develop Project scope 2012 - Complete installation and implementation of new Bike Shelter, with associated messaging to ensure availability is broadcast widely across the University community	2007	No End Date (Continuous)
<b>Other Mobile Fuel Combustion Actions</b>						

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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
Promote use of electric/hybrid vehicles	Ongoing/In Progress			Communicating with Climate Change and Air Quality, Fraser Basin Council to investigate opportunities to participate and support initiatives Joined PEV Community Group (CAS) and Plug In BC Submit application for consideration to participate in Nissan Leaf (electric vehicle) program Continue to look for opportunities to expand the number of electric/hybrid vehicles in our fleet, including acquisition of electric golf carts for use across campus for specific tasks Attended multiple EV seminars and community group demonstrations to further research & analyze opportunities	2012 and beyond - Continue communicating with Climate Change and Air Quality, Fraser Basin Council to investigate opportunities to participate and support initiatives 2012 - Support initiatives to encourage provincial incentives towards purchase of EV 2012 and beyond - Continue to look for opportunities to expand the number of electric/hybrid vehicles in our fleet 2012 - Continue to explore EV charging station(s) pilot for install in demo parking lot using pervious pavers & to respond proactively to CU community requests for EV infrastructure	2008	No End Date (Continuous)
New Construction includes additional bike storage and shower facilities for cyclists	Ongoing/In Progress			As part of LEED Gold criteria, the inclusion in the design of the Nat and Flora BOSA Centre for Film & Animation to ensure facilities and storage for cyclists to encourage/promote use of alternate modes of transportation which are non-emitting	2012 - Complete commissioning and monitor use of space; review for further opportunities	2010	2012
<b>Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)</b>							
<b>Planning/management</b>							
Reduce office space (square meters) per employee	Ongoing/In Progress			Adopted Guiding Principles for Space Allocation incorporated into Policy  Continued review and analysis of space use across campuses for optimization & reallocation opportunities	2012 and beyond - Development and Implementation of strategic, sustainable infrastructure development and building maintenance practices 2012 and beyond - Continued review and analysis of space use across campuses for optimization & reallocation opportunities	2010	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	88	% of buildings have a real time metering system installed	Included Pulse Energy as Innovation Credit for new LEED Building (Bosa Centre) on North Vancouver campus; there are 1 nat gas, 1 water and 3 electrical submeters  Analyzed and develop scope for installation of real time metering of Squamish & Sunshine Coast campuses  Completed scope for addition of real time metering for natural gas on the 5 largest consuming bldgs at the North Vancouver campus  Began development of plan to identify consumption of water, natural gas and electricity within the Food Services Department  Developed Lighting Retrofit Scope for parking lot lighting  Utilized Pulse Energy during 2 Building Challenges to demonstrate occupant behaviour impact on reduction of energy consumption  Utilized Pulse Energy to identify, resolve/repair and then confirm in buildings with extraordinary energy usage/exception reporting feature	2012 - Build baseline energy consumption data for newest building (BOSA Centre) on North Vancouver campus 2012 - Complete scope & install real time metering of Squamish & Sunshine Coast campuses 2012 - Add real time metering for natural gas on the 4/5 largest consuming bldgs at the North Vancouver campus 2012 - Install submetering to identify consumption of water, natural gas and electricity within the Food Services Department 2012 - 2014 - Continued real time metering particularly of "problem" (heavy) consumers of energy to allow for strategic planning in order address/resolve 2012 and beyond - Continued use of Pulse Energy and real-time metering to engage occupants and capture energy consumption information in a timely manner for follow up and communication/dialogue	2008	No End Date (Continuous)
<b>Owned buildings</b>							



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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
Establish energy performance baseline for owned buildings	Ongoing/In Progress	82	% of owned buildings have an established energy performance baseline	New BOSA LEED Gold Building begins building systems commissioning in Dec 2011 Continuous Optimization Phase 1 - Birch Bldg baselines undertaken, Phase 2 - Cedar - Baselines delayed due to PSECA project stalls and setbacks; During 2011, reached greater than 1 year of Pulse Energy data monitoring which enabled year over year real time comparisons and analysis	2012 - BOSA Centre energy performance baselines to be built upon completion of building systems commissioning 2012 - Implement Phase 2 of the BC Hydro C-Op Program 2012 - Installation of natural gas submeters for 4/5 major energy consuming buildings 2013 - Implement Phase 3 of BC Hydro C-Op Program 2014 - Apply for BOSA to be added to C-Op Portfolio Program	2008	No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Completed in 2011	100	% of owned buildings are certified LEED NC Gold or LEED NC Platinum	Nat and Flora Bosa Centre for Film and Animation (BOSA FC) substantial completion of construction Dec 2011, designed to LEED GOLD, Whole Building Design (Integrated) process used throughout design, planning and implementation in collaboration with BC Hydro New Construction Program	2012 - Continued review and completion of LEED Gold criteria during commissioning phase of BOSA FC 2012 - LEED certification completion 2012 - Commissioning of building key to ensuring Operations meet design benchmarks; educate students, staff, faculty and facilities in sustainable operations practices & procedures	1995	No End Date (Continuous)
Incorporate integrated design process into new construction or during renovations of owned buildings	Completed in 2011	100	% of buildings built or renovated since start year indicated used the integrated design process	Nat and Flora Bosa Centre for Film and Animation (BOSA FC) substantial completion of construction Dec 2011, designed to LEED GOLD, Whole Building Design (Integrated) process used throughout design, planning and implementation in collaboration with BC Hydro New Construction Program	2012 - Continued review and completion of LEED Gold criteria during commissioning phase of BOSA FC 2012 - LEED certification completion 2012 - Commissioning of building key to ensuring Operations meet design benchmarks; educate students, staff, faculty and facilities in sustainable operations practices & procedures	2009	No End Date (Continuous)
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	77	% of owned buildings have undergone energy retrofits since start year indicated	PSECA HVAC upgrades for Birch, Library, Studio Arts, Cedar, Fir and Arbutus substantially completed PSECA Lighting and controls upgrades for Birch, Library, Studio Arts, Cedar, Fir and Arbutus completed Demand Hot Water Retrofit Installed in Fitness Center Multiple Lighting Retrofit Projects across NV campus switchout to LED's under BHydro's PowerSmart Partner Express Program	2012 - PSECA HVAC scheduling on DDC to be completed 2012 - PSECA Lighting and controls upgrades for Birch, Library, Studio Arts, Cedar, Fir and Arbutus will be reviewed in detail and improved where practical, building by building 2012 and beyond - Continue to identify energy conservation opportunities at each of the 3 campuses 2012 - Energy savings measures identified through the BC Hydro Continuous Optimization (C-op) (Phase 1) program will be implemented 2012 - Implement Phase 2 of the BC Hydro Continuous Optimization Program to attain perpetual, persistent energy savings 2013 - Implement Phase 3 of the BC Hydro Continuous Optimization Program to attain perpetual, persistent energy savings 2013 - Energy savings measures identified through the BC Hydro Continuous Optimization (C-op) (Phase 2) program will be implemented 2014 - Energy savings measures identified through the BC Hydro Continuous Optimization (C-op) (Phase 3) program will be implemented	2007	No End Date (Continuous)
<b>Retrofitting owned buildings</b>							

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Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress			Substantial completed North Vancouver campus PSECA funded HVAC retrofits Installed Demand Hot Water in Fitness Center as EE option during boiler retrofit of existing non-efficient equipment Completed renovations in Arbutus building for executive offices which included upgraded energy efficient heating and cooling systems	2012 - Complete North Vancouver campus PSECA funded HVAC DDC scheduling and programming aspects 2012 - Comprehensive NV Campus Mechanical Audit by FortisBC (Environ) with Energy Conservation measures and recommendations 2012 and beyond - Continue to review and audit for additional opportunities; develop strategic plans and business cases to support	2007	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	100	% of retrofits since start year indicated had lighting systems upgrades	Completed North Vancouver campus PSECA funded lighting systems upgrades and retrofits Completed numerous lighting retrofits across all 3 campuses using BCHydro PSPX incentive program for commercial PowerSmart partners Completed renovations in Arbutus building for executive offices which included high-efficiency lighting options Completed Sportsplex Gymnasium relamp to high efficiency 44W T5HO which will result in 26,784 kWh savings annually Continue to review and audit for additional opportunities; develop strategic plans and business cases to support	2012 - Install 2 LED exterior pathway luminaires for demo/performance test; outcomes will drive decision to move forward with replacement of remaining 51 fixtures across North Van campus for savings = 65,197 kWh annually 2012 and beyond - Continue to review and audit for additional opportunities; develop strategic plans and business cases to support	2007	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	100	% of retrofits since start year indicated had control system upgrades or adjustments	Completed North Vancouver campus PSECA funded lighting systems controls upgrades and installations Completed North Vancouver campus PSECA funded DDC and mechanical systems controls' upgrades Completed lighting installations of lighting controls/occupancy sensors using BCHydro PSPX incentive program for commercial PowerSmart partners Completed renovations in Arbutus building for executive offices which included lighting controls and occupancy sensors Continue to review and audit for additional opportunities for controls; develop strategic plans and business cases to support	2012 - Complete North Vancouver campus PSECA funded HVAC DDC scheduling and programming aspects 2012 - Comprehensive NV Campus Mechanical Audit by FortisBC (Environ) with Energy Conservation measures and recommendations 2012 and beyond - Continue to review and audit for additional opportunities; develop strategic plans and business cases to support	2007	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	In Development			Completed comprehensive North Vancouver campus audit review and scope development for weather stripping upgrades to all exterior doors on all buildings Continued review and audit of buildings' envelopes; develop a strategic plan for energy savings initiatives using VFA Canada Inc. audit results as primary preliminary resource Continued review and audit of buildings' envelopes; implementation of energy savings initiatives identified in VFA Canada Inc. audit as funding allows primary preliminary	2012 and beyond - Utilizing weather stripping project scope and data, develop project plan for installation and upgrades to all exterior doors on North Vancouver campus buildings 2012 and beyond - Continued review and audit of buildings' envelopes; develop a strategic plan for energy savings initiatives using VFA Canada Inc. audit results as primary preliminary resource 2012 and beyond - Continued review and audit of buildings' envelopes; implementation of energy savings initiatives identified in VFA Canada Inc. audit as funding allows primary preliminary	2007	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	Investigation and research for solar powered lighting solutions for parking lot #8 Review of feasibility study for Solar thermal technology application for Domestic Hot Water at North Vancouver campus Sportsplex building Review of options for solar powered signage for illumination of North Vancouver campus parking lot instructions Investigation for solar powered parking lot lighting for Lot#8	2012 and beyond - continued review and research of new technologies and opportunities to utilize renewable energy sources and systems where practical	2010	No End Date (Continuous)

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<b>IT power management</b>							
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	60	% of computers shut down automatically outside of regular business hours	Further to 2010 installation of Faronics Power Save software onto student lab machines; during a regular update to the newest version of Faronics software, our IT department discovered dysfunction and negative impacts to our computing environment; repeated attempts during 2011 to repair and reinstall Faronics onto our student lab computing environment were unsuccessful	2012 - Troubleshoot interface issues with Faronics Power Save software updates; 2012 - Reinstall working version of Faronics software update onto student lab computers to re-attain 100% of computers with power management software controls 2012 and beyond - Continue to increase behaviour awareness & social marketing campaigns to maintain computer equipment shut down gains already obtained through controls implementation 2012 and beyond - Install power management software on all future computer purchases Complete Phase 2 installation on employee workstations Integrate Faronics software into annual computer roll-down program	2008	No End Date (Continuous)
Implement server virtualization	Ongoing/In Progress	59	% of servers have been virtualized since start year indicated	As at Dec 31 2010, 150 virtual servers out of 253 total servers, utilizing VMWare and Solaris Containers for the virtualization platforms	2012 and beyond - Continue to move additional servers to the virtual environment as appropriate	2006	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress	50	% reduction in printers, copiers, and/or fax machines since start year indicated	Continued re-evaluation of Print Smarter campaign and refresh strategies for printer removal Print Smart campaign gains continue Began review and evaluation and comprehensive inventory of all stand alone devices; development of Standard guidelines for office equipment collaboratively by IT & Purchasing departments Evaluation and review of energy efficient MFDs options for upgrade/renewal of existing fleet lease	2012 - Replace/remove 52 MFDs with updated technology, which includes energy and carbon tracking 2012 - Enter into new MFD lease contract with energy efficiency, energy consumption and ability to track GHG/carbon impacts as significant criteria for selection of vendor - RICOH leads for green qualities 2012 and beyond - Refresh messaging and renew communications strategies for Print Smart campaign	2007	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	100	% of computers are ENERGY STAR rated	100% of computers purchased in 2010 were Energy Star rated: laptops - 27 units; Apple - 70 units; PC's - 333 units Since the 2010 donation of 100 units PC's by Vancouver Olympic Committee that were placed in storage for future reuse, 15 have been awarded to students during orientation	2012 - Purchasing department team to attend ENERGY STAR workshop 2012 and beyond - Continue evaluation of process to simplify tracking of acquisition of energy star rated computers 2012 and beyond - Review strategies to ensure Energy Efficient Purchasing Standards are being adhered to by all parties 2012 and beyond - Purchasing and Energy Management department to undertake regular educational and programming reviews of ENERGY STAR program and updates to available products, services, and support	2008	No End Date (Continuous)
<b>Appliances and electronic devices</b>							

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Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	100	% of fridges are ENERGY STAR rated	Continued adherence to standard procurement practice of selecting only ENERGY STAR rated refrigerators Zero refrigerators replaced Post on-line link & tips for all staff and students to participate in BC Hydro's Fridge Buy Back program to encourage removal of older, inefficient fridges and freezers from homes	2012 - Purchasing department team to attend ENERGY STAR workshop 2012 and ongoing - Plan and develop further strategic processes to ensure all refrigerator purchases meet or exceed the minimum ENERGY STAR rated standard 2012 - Post on-line link & tips for all staff and students to participate in BC Hydro's Fridge Buy Back program to encourage removal of older, inefficient fridges and freezers from homes. 2012 and beyond - Purchasing and Energy Management department to undertake regular educational and programming reviews of ENERGY STAR program and updates to available products, services, and support	2010	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			Continue to follow standard procurement practice of selecting only ENERGY STAR rated appliances New construction BOSA building will require 3 dishwashers, 2 dryers, and our specifications require these to be ENERGY STAR rated	2012 - Purchasing department team to attend ENERGY STAR workshop 2012 - Purchase of 3 dishwashers, 2 dryers for LEED Gold BOSA building to be ENERGY STAR rated 2012 and beyond - Review of microwaves and space heaters per new ENERGY STAR rating system 2012 and ongoing - Plan and develop further strategic processes to ensure all appliance purchases meet or exceed the minimum ENERGY STAR rated standard 2012 and beyond - Purchasing and Energy Management department to undertake regular educational and programming reviews of ENERGY STAR program and updates to available products, services, and support	2008	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			Tested and evaluated LED lamps for use in desk lamps Purchased several test/demo desk lamps for testing/trial in various office spaces on campus; light level readings and user feedback will be used to determine desk lamp standards moving forward As part of our Workplace Conservation Awareness Program sponsored by BC Hydro, funds have been allocated for the purchase of replacement energy efficient bulbs in work spaces	2012 - Establish standards for plug-in desk lamps and bulbs for office use 2012 - As part of the Workplace Conservation Awareness program, replace all incandescent lamps with cfl's or LED options; this campaign will be called 'The Great Light Switchout' 2012 and ongoing - Ongoing review and evaluation of available technologies to ensure our purchasing standards reflect best practices - the goal to ensure all future desk lamp purchases to be in alignment with goal of LED and option wherever possible	2010	No End Date (Continuous)
<b>Behaviour change program</b>							
Help staff reduce personal energy use through "workstation tune-ups"	Ongoing/In Progress			Posted online link to our internal website Frontlines to BChydro's "Green Your Office" for all employees	2012 and beyond - Repost BC Hydro web link <a href="http://www.ecirclelearning.net/hydro/for">www.ecirclelearning.net/hydro/for</a> workstation tune-up in Frontlines 2012 and beyond - Ongoing follow up with BC Hydro Workplace Conservation Awareness Program outcomes to develop strategies and prioritize 2012 and beyond - Continue to encourage staff to 'tune up' work stations; continue to provide IT and network efficiency upgrades and tune-ups "in the background"	2010	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
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress		<p>Post to Capilano U Frontlines (internal website) for all CapU staff and faculty, especially to inform prior to extended campus closures including Easter and Christmas breaks</p> <p>North Vancouver Campus - Continue to showcase real time electrical consumption information (PULSE Energy) in conjunction with "TURN IT OFF" Building challenges and conservation campaigns</p> <p>EarthMonth messaging encouraged all employees to unplug unnecessary items to reduce "phantom load"</p>	<p>2012 - Earth Hour messaging posted to internal website Frontlines for all staff and faculty to include specific instructions on office equipment shut down to increase electrical consumption reductions by eliminating phantom loads</p> <p>2012 and beyond - Messaging posted to internal website Frontlines for all staff and faculty to include specific instructions on office equipment shut down to increase electrical consumption reductions by eliminating phantom loads during Easter and Christmas breaks</p> <p>2012 and beyond - POWER DOWN CHALLENGE – Every Weekend: Turn off lights, unplug small appliances &amp; cell phone chargers, turn thermostats down, unplug computers &amp; peripherals; continued posting of tips, links to 'Turn it Off' humorous and thought provoking videos to motivate energy conservation conscientious behaviour</p> <p>2012 and beyond - new website development and ongoing updates to Sustainability pages including news and events, projects, and pledges with continuous refreshed messaging to encourage behaviour shift towards conservation and environmental stewardship</p>	2008	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress		<p>Tip of the Week</p> <p>Posted to Capilano U Frontlines (internal website) for all CapU staff and faculty</p>	<p>2012 and beyond - Continue to include as part of on-going awareness campaigns' messaging to encourage behaviour shift</p>	2008	No End Date (Continuous)
Encourage use of stairs instead of elevators	Ongoing/In Progress		<p>Capilano Stairway Summit Club (CSSC) tracks the number of stories (25 stairs = 1 storey) participants require/complete to reach top of various mountains; for example, Mount Everest = 1176 stories, Whistler = 286 stories; many members completed multiple mountain top treks!</p>	<p>2012 - CSSC to offer continued challenges with continued engagement and encouragement of health and safety initiatives and opportunities</p> <p>2012 and beyond - Continue to include stair use versus elevators as part of ongoing health and safety awareness campaigns</p> <p>2012 and beyond - Include stair use information and encouragement, and engagement opportunities during new employee orientation protocols</p>	Started before 1995	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress		<p>Year 1 completion of Workplace Conservation Awareness (WCA) program agreement with BC Hydro to plan and implement behavioural change initiatives to reduce electricity and energy consumption across Capilano University</p> <p>Year 2 WCA program workshop held to create projects and ideas list for upcoming year 2 initiatives; CAPtain Sustainability character created for use in messaging conservation awareness and sustainability engagement along with Lighten Our Load, a paper reduction campaign, and GET UR FLEECE ON, a program to encourage dressing appropriately, in layers for the weather</p> <p>BCHydro outreach team visited our North Vancouver campus on 4 occasions with high profile signage including tents, tables and PowerSmart van to message and engage entire community around energy conservation education</p> <p>'Thank you for turning out the Lights!' stickers refreshed &amp; posted on additional light switches at North Vancouver campus</p> <p>BC Hydro Turn out the lights posters mounted/updated in washroom advertising frames - North Vancouver campus</p> <p>Turn out the lights notices (including information on power consumption) were refreshed above light switches at the Squamish campus</p>	<p>2012 - Year 2 WCA program completion</p> <p>2012 - Year 3 WCA workshop to create projects and ideas list for upcoming year 3 initiatives; CAPtain Sustainability character used in messaging conservation awareness and sustainability engagement to be further developed including animation and a mascot costume designed and produced by CU Theatre Costume Design students</p> <p>2012 and beyond - BCHydro outreach team to visit our North Vancouver campus with high profile signage including tents, tables and Power Smart van to message and engage entire community around energy conservation education</p> <p>2012 and beyond - BC Hydro Turn out the lights posters mounted/updated in washroom advertising frames - North Vancouver campus</p> <p>2012 and beyond - Continue to update and refresh 'turn out the lights' prompts and informational literature</p>	2008	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
<b>Supplies (Paper)</b>						
<b>Electronic media in place of paper</b>						
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress		CurricNet software project was cancelled; IT ongoing development and review using holistic approach to electronic editing services provided including MS Cloud environment	2012 - Project planning including evaluation of solutions using a web based software and environment 2012 and beyond - Implementation of above solutions	2008	No End Date (Continuous)
Use electronic document library for filing common documents	Ongoing/In Progress		Use of common drives for public documents access and use; storage of staff form templates and documents accessible thru online Frontlines IT services expanded use within department and on CU website; majority of IT services forms	2012 and beyond -Continued development of full electronic library filing system as included on Capilano U's IT Department Project list; project scope and costing under development	2010	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress		Continued review and evaluation of Capilano U Yearly Student Calendar revised format to significantly reduce paper consumption and number of copies issued; 616, 000 avoided printed pages over 2012 paper consumption from revised formats and reduction of copies protocols established Continued reminded messaging and invitations to post materials online via internal website Frontlines	2012 and beyond - Continue to encourage and facilitate historically paper based materials and media presentations to switch to paperless format	2006	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Ongoing/In Progress		Paperless Payroll and T4's for Faculty implementation on hold	2012 and beyond - Re-initiate the plan to complete the final phase of implementation for online administration of paperless payroll and T4's for Faculty group	2008	2012
<b>Behaviour change program</b>						
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress		Use of central processing electronic tracking using MS service manager which provides benefits of: enhances knowledge base, reduces paper and improves customer service IT project migration to Outlook continued development and implementation in phases according to plan Wiki central knowledge base for sharing documents actively used	2012 - Implementation of MS Outlook, and completion of migration to MS Cloud computing environment for entire university	2010	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress		Continue to encourage and promote paperless meetings and presentations across all 3 Campuses IT department and executives consistently hold paperless meetings	2012 - add tips on how to hold paperless meeting to the 'Tip of the Week' 2012 and beyond - Analysis of paperless meetings to determine the barriers and benefits within each of the campuses; 2012 and beyond - Develop a strategy for a formal plan for paperless meetings	2008	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress		Squamish Campus continue the strive for zero waste classroom Continued use of recycled Capilano 'College' letterhead etc remade into small memo pads by the University printshop Continued, strategic use by Facilities department of Capilano College(expired) stationary items including all sizes of envelopes for day to day correspondence and operations	2012 & beyond - Continue to develop strategies to reduce paper consumption, thereby reducing the available 'scrap' paper 2012 and beyond - Continued, strategic use by Facilities department of Capilano College(expired) stationary items including all sizes of envelopes for day to day correspondence and operations	2008	No End Date (Continuous)
<b>Other Paper Supplies Actions</b>						

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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
Paper based campus phone books review	Ongoing/In Progress			Achieved target reduction of 75% of paper based phone books Continued to work to reduce the number of paper-based phone books	2012 and beyond - Continue to message and engage staff via behaviour change campaigns to reduce ordering requests of paper-based phone books	2007	No End Date (Continuous)
Internal Mail Outs Review	Ongoing/In Progress			Continued to seek alternatives to paper based communications  Staff continuing to contribute and drive reductions of paper based communications including increased utilization of departmental bulletin boards to post single copy of internal correspondence  Continued promotion & messaging to encourage staff use of electronic memos/web posting options vs. creating paper copies for each Staff member	2012 and beyond - Continually seek alternatives to paper based communications	2008	No End Date (Continuous)
Print Smarter' campaign to reduce paper consumption	Ongoing/In Progress			Continued to seek alternatives to paper based communications Staff continuing to drive reductions of paper based communications Further reduction of 616,500 sheets less than 2010 Light Our Load - a new paper consumption reduction campaign under development as one of the Workplace Conservation Awareness initiatives	2012 and beyond - Develop further strategies for behaviour change and refresh the messaging surrounding Print Smarter campaign, with sustainability and cost savings benefits quantified 2012 - Continue to measure and report paper consumption using SMARTtools 2012 and beyond - Link sustainable behaviour change to tangible cost savings opportunities	2007	No End Date (Continuous)
Capilano University Newsletter switch to paperless format	Ongoing/In Progress			Continued paperless distribution of the monthly newsletter, The Informer, solely via online blog format	2012 and beyond - Continue to encourage and facilitate historically paper based media presentations to switch to paperless format	2008	No End Date (Continuous)
Capilano University Presidential Newsletters switch to paperless format	Ongoing/In Progress			Presidential Newsletters to appear solely online on internal websites - Frontlines and CapU	2012 and beyond - Continue to encourage and facilitate historically paper based media presentations to switch to paperless format	2010	No End Date (Continuous)
Office Supplies Vendor implements Boomerang Boxes for Deliveries	Ongoing/In Progress	100	% of office supplies deliveries made using reusable cardboard boxes	Discussions with Grand & Toy began early in 2011, culminating in implementation of a new system for delivery to all customers; visit <a href="http://www.grandandtoy.com/sites/Core/boomerangBox.aspx">http://www.grandandtoy.com/sites/Core/boomerangBox.aspx</a> for complete details	2012 and beyond - Continued review and search for opportunities to reuse paper products and eliminate from landfill/recycling stream 2012 and beyond - Continued support & selection of vendors whose business practices and operations reflect environmentally conscientious actions & processes	2011	No End Date (Continuous)
Waste Stream Audit	Ongoing/In Progress			Planned and completed 2 comprehensive Waste Stream audits on North Vancouver campus Review and search for opportunities to reuse paper products and eliminate from landfill/recycling stream	2012 and beyond - Continued review and search for opportunities to reuse paper products and eliminate from landfill/recycling stream	2011	No End Date (Continuous)
Paper Towels vs. Dyson Air Blowers in Public Restrooms	In Development			Capilano Environmental Student group request option of hand blowers vs. paper towels to reduce paper consumption on campus  Installation of 2 hand blowers at North Vancouver are being monitored for review of impacts compared to paper towel usage	2012 - Student project groups to review paper towel consumption vs. hand blowers and develop business case	2011	2013
Papercut Software	Ongoing/In Progress			Software which tracks and charges student users on campus printers for each page printed	2012 and beyond - Continue messaging and tracking of student paper consumption	2011	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 *Greenhouse Gas Reduction Targets Act*. 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
<b>Business Travel</b>						
<b>Virtual meeting technology</b>						
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Ongoing/In Progress	30 % of computers have web-conferencing software installed	Continued installation of Live Meeting software and 3 point video conferencing set up for North Vancouver, Squamish and Sunshine Coast campuses including 6 'cameras on a stick', mobility equipped	2012 - Review for customer satisfaction and potentially upgrade the equipment to allow for larger meetings 2012 and beyond - Increase levels of knowledge base and technical support 2012 and beyond - Continue to utilize and review protocols and technology; work to establish a dynamic support link with IT in order to develop day-to-day confidence for all potential users	2009	2014
Make desktop web-cameras available to staff	In Development	30 % of staff have access to a desktop web-camera	Continue assessment and review of need for individual cameras	2012 - Continue assessment and review of need for individual cameras	2009	2014
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Ongoing/In Progress	100 % of meeting rooms have access to video-conferencing equipment	Regular use of 3 point video conferencing or North Vancouver, Squamish and Sunshine Coast campuses including 6 'cameras on a stick', mobility equipped 360 degree base unit that was installed in North Vancouver Birch Building, Room 471 used regularly	2012 - Review for customer satisfaction and potentially upgrade the equipment to allow for larger meetings 2012 and beyond - Continue to review for potential requirement for expansion	2010	2012
<b>Behaviour change program</b>						
Train staff in web-conferencing	Ongoing/In Progress	10 % of staff are trained web-conferencing	Continued design and implement of informal employee training program	2012 and beyond - Formalize training protocols and update as required	2010	No End Date (Continuous)
Train staff in video-conferencing or provide technical support for video-conferencing set-up	Ongoing/In Progress		Continued design and implement informal employee training and technical support program	2012 and beyond - Formalize training protocols and update as required	2010	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress	100 % of staff attending virtual presentations/events whenever practical	Further development of plan to incorporate into Capilano U community engagement and training initiatives Consistent messaging to all staff in all departments to make use of virtual attendance option whenever possible	2012 and beyond - Review and refine messaging strategies to encourage virtual attendance and presentation by staff 2012 and beyond - Review strategies to incorporate into Capilano U community engagement and training initiatives	2010	No End Date (Continuous)
Encourage carpooling to meetings	In Development		Continued use, review and development of electronic Car Pool Calendar to facilitate Capilano University staff organizing opportunities to ride share when attending face-to-face meetings at Squamish campus	2012 and beyond - Continue to message and encourage car pooling 2012 and beyond - Review staff usage of car pooling calendar and update/upgrade process as required 2012 and beyond- Review design of a mechanism to track avoided car trips	2010	No End Date (Continuous)
<b>Other Business Travel Actions</b>						
Employee Transit Passes Program at Reduced Fares	Ongoing/In Progress		Continued Year 2 offering the reduced fare Employee Bus Pass program available for all staff and administration	2012 and beyond - Continue to advertise and include messaging on the available Employee Transit Pass program to encourage sustainable choices by increasing use of public transit options 2012 and beyond - Include Employee Bus Pass opportunity in new staff orientation	2010	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	
Bike Share Program	Ongoing/In Progress		Continued Year 2 Bike Share Program at Sunshine Coast campus	2012 and beyond - Continue messaging on the available Bike Share Program at Sunshine Coast campus 2012 and beyond - Review opportunities to introduce Bike Share Program at Squamish and North Vancouver campuses as viable option for on site campus transportation 2012 and beyond - Include Bike Share Program opportunity in new staff orientation at Sunshine Coast 2012 and beyond - Began development of Bike Share Program for North Vancouver and Squamish campuses	2010	No End Date (Continuous)	
<b>Education, Awareness, and Engagement</b>							
<b>Team-building</b>							
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	Ongoing/In Progress	5	Capilano Sustainability Network (CSN) Energy Management Team Composting/Community Garden Team Environment Committee (Student-led) Project Change 2011	Informal affiliation of staff, faculty, administrator & student volunteers who gather regularly to organize and implement special events, dialogue and network with interested and motivated members of the community Events and initiatives included Workplace Conservation Awareness workshop, Earthworks series, Community Garden, Weed & Feed	2012 - Further review of CSN organizational format to determine if more formalized structure, training and leadership to ensure that meaningful outcomes remain attainable 2012 and beyond - Further Green Teams training and structure	2008	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress	3	BC Hydro sponsored Energy Manager employed - Year 4  GoBEYOND Campus Coordinator employed - Year 3  FortisBC - Full-time Energy Specialist employed - Year 2	Capilano U employed a Campus Coordinator, a student from the goBEYOND project to work with the Energy Manager to increase sustainability awareness on campus (Nic Alder Sep 2010 - April 2011, followed by Tiare Jung Aug 2011 - April 2012)  Capilano U retained our Energy Specialist, Colin Dalziel, 100% funded by FortisBC (neeTerasen Gas), through their Energy Efficiency and Conservation Program; this Energy Specialist position is confirmed until May 31 2012	2012 and beyond - Contingent on funding, a student Campus Coordinator will be rehired 2012 and beyond - Contingent on external funding, an Energy Specialist will be hired to contribute to the Sustainability & Energy Management Team at Capilano U 2012/13 BChydro funding of Energy Manager position will decrease to 50% (up to 75% possible dependent on conservation targets met); Contingent on internal budget approvals 2012 - Anticipation of funding renewals 2013 - Anticipation of funding renewals	2009	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress		GoBEYOND hosted lunch and learns x 2 New Student Orientation Day booth Sep 2011 Harvest Moon Booth Sep 2011 Earthworks with Passport Program developed CAPtain Sustainability character development led by Faculty of Business, created by Graphic Arts student Rachael ____ SEAP - Sustainability in Education Across the Province - Hosted May event and new Day 3 integrate Day 1/2 training into Critical Sustainable Actions/Projects based on input from entire CU community	2012 and beyond - Continued review and development of community social based marketing and training for entire Capilano University community	2010	No End Date (Continuous)	
<b>Awards/Recognition</b>							

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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
Establish a sustainability/green awards or recognition program	Ongoing/In Progress			Sunshine Coast Awards Program Workplace Conservation Awareness (BC Hydro sponsored Program) recognition prizes for participants & appreciation luncheon hosted to honour challenge winners and all supporters in the CU community Completed Year 1 Design & Develop Workplace Conservation Awareness program, began Year 2 WCA with Workshop open to all CU community members to brainstorm for Year 2 Initiatives - included recognition strategies	2012 and beyond - Implement a comprehensive 'green' recognition program as well as strengthen communication across multiple groups/teams to ensure efforts, events & opportunities are shared	2009	No End Date (Continuous)
<b>Staff Professional Development</b>							
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress			24 Cap U Faculty attended the Sustainability Education Across the Province (SEAP) seminar hosted by CapU; on Day 3, 40+ participants brainstormed and outcomes included 5 top sustainability projects/initiatives most important to diverse community attendees Development and implementation of new additional Day 3 (new format) for SEAP; integrate lessons learned during Days 1 and 2 into tangible practices and processes during Day 3 ZeroWaste Workshop held in Sechelt was attended by Sunshine Coast Campus faculty Caroline Depatie NRCAN smart driver training offered to all facilities, staff and fleet drivers	2012 - Capilano U Faculty and GoBEYOND Coordinator will attend the SEAP conference in Prince George 2012 - April 14 & 15 Built Green Builder Training hosted at CU, Sunshine Coast Campus 2012 and beyond - Continued smart driver training program and online testing offered	2010	No End Date (Continuous)
<b>Staff awareness/education</b>							
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress	10	# of Presentations to Staff	Fall 2011 - Energy Manager Conservation Presentation to All Management meeting Regular engagement across campuses with all staff via departmental meetings; frequent dialogues focused on conservation and sustainability	2012 and beyond - continued regular presentations at frequent, ongoing staff events and workshops	2009	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress	12	Real-time Pulse Energy Dashboard link posted on Cap U website <a href="http://my.pulseenergy.com/CapilanoUniversity/dashboard/#/overview">http://my.pulseenergy.com/CapilanoUniversity/dashboard/#/overview</a>	Online 'Green Tips' regularly posted on internal staff Frontlines Website Cap U online sustainability newsletter published semi-annually Regular timely postings to align with Regional and National initiatives including: Earth Hour, Bike to Work Week etc	2012 and beyond - Continue to post Green Tips, comments and sustainability activities and events to 'Frontlines' employee intranet 2012 and beyond - Continue to publish and showcase both Capilano University sustainability commitment and success using online media and associated social networking venues	2007	No End Date (Continuous)
Provide sustainability education during new staff orientation	Ongoing/In Progress	35		HR Manager included sustainability and conservation messaging during new staff orientation and provided website locations for associated policies	2012 and beyond - Continue to develop and update as appropriate conservation information for new staff orientation to ensure community members are engaged	2010	No End Date (Continuous)
<b>Client/public awareness/education</b>							

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Provide education to clients/public about the science of climate change	Ongoing/In Progress	35 Students' Sustainability education embedded in some curriculum; Project Change, led by Dr Joe Kelly	Dr. Joe Kelly, specialist in Climate Change and Tourism continued to develop one of the first specific tourism and climate change degree courses in Canada as part of Capilano's Bachelor of Tourism Management Environmental Stewardship has been integrated as core curriculum in all tourism management programs Spring 2011 - Capilano offers " Tourism and Climate Change" as part of its Bachelor's degree in Tourism An outcome of the Curriculum Challenge, English 100 classes in Fall semester incorporated sustainability & conservation as core concepts School of Business includes sustainability and environmental stewardship as learning outcome for all its courses and programs	2012 and beyond - Continued development and integration of sustainability and environmental stewardship into additional faculty curriculum and programs	2008	No End Date (Continuous)
Provide education to clients/public about the conservation of water, energy, and raw materials	Ongoing/In Progress	1360 Regular Energy Conservation Engagement Events and Initiatives Student Leadership Projects with Sustainability/Energy Conservation focus - Cap U Energy Management Team acts as resource to provide knowledge/information for students	September 2011 - Student Orientation Day - Energy Management booth awarded 2nd Place as participants answered questions or completed challenges based on water conservation, waste management (recycling and composting), transportation (vehicle emissions), and energy conservation (natural gas and electricity)  Regular engagement across campuses with all staff; frequent dialogues focused on conservation and sustainability	2012 and beyond - Continue to invite BC Hydro Community Outreach team to campus for continued engagement and education on conservation 2012 and beyond - Continue presentation of EarthWorks series 2012 and beyond - Continue Neil Brown speaker series 2012 and beyond - Continued regular engagement across campuses with frequent dialogues focused on conservation and sustainability to facilitate comprehensive community participation	2009	No End Date (Continuous)
Provide green tips on client/public website or in newsletters	Ongoing/In Progress	12 Real-time Pulse Energy Dashboard link posted on Cap U website <a href="http://my.pulseenergy.com/CapilanoUniversity/dashboard/#/overview">http://my.pulseenergy.com/CapilanoUniversity/dashboard/#/overview</a>	Campus wide TV monitors feature Sustainability messaging on a regular basis; also feature special events notifications - Published a full page advertisement for Sustainability Commitment in the 2010 - 2011 Capilano Student Union Student Handbook and DayPlanner  - Inaugural Cap U online sustainability newsletter published  - Regular timely postings to align with Regional and National initiatives including: Ugly Sweater Day, Earth Hour, Bike to Work Week etc	2012 and beyond - Continue to post Green Tips, comments and sustainability activities and events to Capilano U website for students 2012 and beyond - Continue to publish and showcase both Capilano University sustainability commitment and success using online media and associated social networking venues	2008	No End Date (Continuous)
<b>Other Education, Awareness, and Engagement Actions</b>						
Sustainability Pledge	Ongoing/In Progress		223 Sustainability Pledges signed and submitted;	2012 and beyond - continue to invite commitment to Sustainability from across the Capilano U community	2009	No End Date (Continuous)
Suggestion Box	Ongoing/In Progress		Email contact setup for Sustainability comments, questions and connections Installation of a wooden suggestion box to provide option for Capilano University community to communicate	2012 and beyond - Continue to post (online) messaging of contact information 2012 and beyond - Continue to request sustainability suggestions be sent to sustainability@capilano.ca	2010	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
Presentations	Ongoing/In Progress		<p>Energy Manager &amp; Energy Specialist led engagement at numerous, diverse events including: New Student Orientation Day in Sep 2011, Harvest Moon in Sep 2011, Workplace Conservation Awareness Appreciation Lunch in Aug 2011, Energy Management Assessment workshop in July with all levels of executive, staff &amp; faculty participation including the President, quarterly energy management presentations to staff, management and executive, ongoing energy management presentations and Q &amp; A's in various courses including psychology, geography, project change throughout the year</p> <p>- Continuing In class Student Presentations focused on sustainability and energy management</p> <p>Student led campus tour will focus on encouraging sustainable behaviour and opportunities and empowering students to take care of their Capilano U environment</p>	<p>2012 - Fall Semester New Student Orientation Booth</p> <p>2012 - Continued engagement &amp; presentation opportunities across campus and off site at external events</p> <p>2012 and beyond - Student led campus tour will focus on encouraging sustainable behaviour and opportunities and empowering students to take care of their Capilano U environment</p> <p>2012 and beyond - Continued engagement and development of presentation materials for use on and off campus</p>	2010	No End Date (Continuous)
Student Led Projects and Events	Ongoing/In Progress		<p>- Faculty members Ms Sharka Stuyat, Dr Joe Kelly, Jorge Ocegueda, Dr Rajiv Jhangiani, Roy Jantzen, Dr Aurelea Mahood include sustainability and energy conservation projects as part of course performance criteria</p> <p>- 2011 Student Projects included: weather-stripping, parking lot retrofit to LED's, eliminate plastic bottles from campus, community garden planning</p>	<p>2012 and beyond - Continue to invite commitment, action and student leadership which supports Sustainability and Energy Conservation in our Capilano U community</p>	2009	No End Date (Continuous)
<b>Other Sustainability Actions</b>						
<b>Water conservation</b>						
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Ongoing/In Progress		<p>Conversion of water fountains to include filling station spigot to encourage reduction of plastic bottled water and increase consumption of tap water and reusable containers</p> <p>Audit of Sunshine Coast campus water consumption, as part of the application for the Regional District's Golden Lawns initiative</p> <p>Entered the Sunshine Coast campus into Golden Lawns contest and received award</p> <p>Sunshine Coast campus awarded Platinum status by Sunshine Coast Regional District under their Industrial-Commercial-Institutional(ICI) for demonstrating innovative and responsible water use</p> <p>Installation of low flow shower heads at the North Vancouver campus</p> <p>Continued installation of touchless water faucets and auto flush toilets at North Vancouver campus</p> <p>Installation of low flow, auto flush toilets at Squamish campus, installation of touchless water faucets in the Squamish Campus</p> <p>Incorporate water management strategies for new building, Nat and Flora Bosa Centre for Film and Animation (BOSA FC)</p>	<p>2012 - Complete conversion of water fountains to water filling station model</p> <p>2012 - Develop formal water conservation policy</p> <p>2012 - Enter the Sunshine Coast campus into Golden Lawns contest</p> <p>2012 and beyond - Continued engagement with Sunshine Coast Regional District water conservation program and the ICI awards program</p> <p>2012 and beyond - Continued installation of touchless water faucets and auto flush toilets at North Vancouver campus</p> <p>2012 and beyond - Complete installation of touchless faucets and low flow shower heads at all 3 campuses</p>	2009	No End Date (Continuous)

# Capilano University - 2011 Carbon Neutral Action Report

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
Introduce a storm water management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	In Development		North Vancouver campus groundskeepers began creation and development of a formal campus landscaping plan including rainwater capture	2012 - Test permeable pavers in parking lot to mitigate rainwater run-off at North Vancouver campus during summer 2012 and beyond - Further development and implementation of strategic landscaping plan and rainwater capture system	2011	No End Date (Continuous)
<b>Waste reduction/diversion</b>						
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	Ongoing/In Progress		Installation of coordinated and systematic recycling retainers in key campus areas, particularly cafeteria including composting bin Completed 2 comprehensive waste audits in September and November to establish baselines for North Vancouver campus waste stream Squamish campus continues commitment to 'zero waste' classrooms strategy; increased their recycling program from only mixed paper to include: refundables, cardboard, glass and metal containers, plastics, and composting Continued to improve the waste diversion programs established at Capilano University	2012 and beyond - Consolidate waste collection system to reduce impact of transportation frequency and quantity 2012 and beyond - Continue to refine the waste diversion practices of the University looking for opportunities to decrease the amount of waste currently sent to landfill 2012 and beyond - Investigate and analyze composting on-site, and if feasible, develop a plan to incorporate on-site composting as part of campus waste management strategy	Started before 1995	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress		Chemistry Department continuing to integrate chemical neutralizations procedures and protocols to collect, minimize and reuse regulated materials; also incorporated strategies to use less environmentally harmful lab materials and implement less wasteful disposal methods Studio Arts joined with these above efforts striving for systematic approach and continue review and evaluation	2012 and beyond - Continue to search for improvements to process to produce no waste	2010	No End Date (Continuous)
<b>Procurement (non-paper supplies)</b>						
Incorporate minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.)	In Development		Re office supplies; RFP included online ordering to provide pop-ups flagging green/sustainable/energy-efficient options for purchase	2012 and beyond - Continual review and evaluation	2011	No End Date (Continuous)
Establish green standards for goods that are replaced infrequently and/or may require capital funds to purchase (e.g., office furniture, carpeting, etc.)	Ongoing/In Progress		Flooring specifications include green standards as key criteria for selection; NORA natural latex material selected for replacement option Office furniture systems include green standards as key criteria for selection	2012 and beyond - Continue to review and include green standards for goods such as office furniture and carpeting	2011	No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress		Continue to purchase green janitorial products and look for opportunities to expand to carpet cleaning Re-evaluation of existing products being used; develop and establish a formal 'green janitorial cleaning program to replace the existing informal program	2012 and beyond - Review of equipment and business processes for janitorial contract including auto floor scrubbers to use water with no chemicals 2013 - Full implementation of comprehensive sustainable janitorial program	2008	No End Date (Continuous)
Require a minimum purchase of sustainable, and organic food and beverages supplied by contracted food suppliers or caterers	In Development		Began dialog and review with diverse group surrounding food on campus: issues and concerns FOOD service's contract to renew which allows for timely consideration of food preferences and standards including: local, organic, vegan, nutritious vs. fast and processed food options currently available	2012 and beyond - Continue dialog and formalize sustainable and organic food options into campus community	2011	No End Date (Continuous)
<b>Indoor air quality</b>						

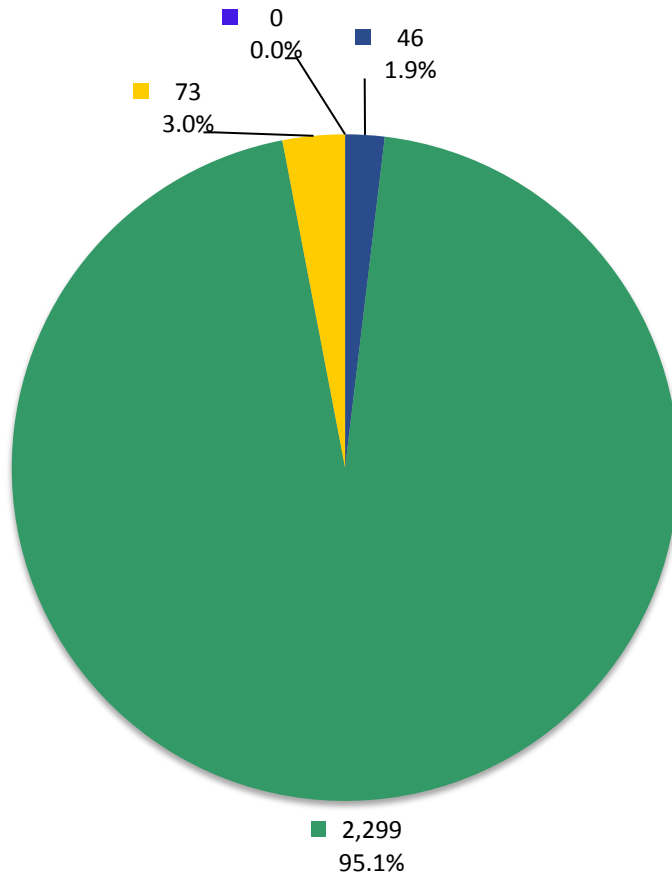
## Capilano University - 2011 Carbon Neutral Action Report

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 low volatile organic compounds (VOCs) standards into procurement policy for products such as paints, carpets, and furniture	In Development		Facilities department continued to research and review low VOC's options available as paint, carpet and furniture needs replacement/upgrading	2012 - Departments to develop standards for low VOC's for future acquisitions of paint, carpet and furniture and ensure these are used as key selection criteria	2010	No End Date (Continuous)
<b>Commuting to and from home</b>						
Offer staff a compressed work week	Ongoing/In Progress		Staff given option to formalize their weekly hours using a 'semi-modified work schedule'; typically, format is to work equivalent of 10 days hours over 9 days, which avoids 1 day per every 2 weeks in - office impacts	2011 and beyond - Continue to message the option for compressed work week schedule to staff	Started before 1995	No End Date (Continuous)
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress		\$10,000 for Bike Shelter upgrade remains earmarked Squamish campus issued request for Bike Shelter Continued support of Translink U-Pass program Continued and increased support of Translink Employee Bus Pass Program Further research and analysis to ensure optimization of location and type of shelter for North Vancouver and Squamish including review of racking systems	2012 and beyond - continue to support the Translink U-Pass program 2012 and beyond - continue to support the Translink Employee Bus Pass program 2012 and beyond - Continue to message and develop the Car Pool Program 2012 - Finalize Plans and specifications for Bike Shelter & fully develop Project scope 2013 - Complete installation and implementation of new Bike Shelter, with associated messaging to ensure availability is broadcast widely across the University community	2002	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Ongoing/In Progress		Completed analysis of water consumption for existing showers, new low flow shower heads installed Installation of low flow shower heads for North Vancouver campus Sportsplex and Fitness Center Facilities, Studio Arts, Sportsplex, Fitness Center buildings have shower facilities for foot and bicycle commuters	2012 - Research other areas on campus for lockers	2008	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In Progress		Continued research and review of shelter options Finalized plans and specifications for Bike Shelter & fully develop Project scope	2012 - Complete installation and implementation of new Bike Shelter, with associated messaging to ensure availability is broadcast widely across the University community	2010	2012
Modify parking fees or parking availability for staff/students	Ongoing/In Progress		Parking fees at the North Vancouver campus were increased in the Fall of 2011, as part of a strategy to encourage use of alternative forms of transportation Additional car pool spaces added to inventory Car pool spaces given optimal and high-profile location in parking lots	2012 and beyond - Continued review of appropriate parking fee levels to encourage sustainable transportation choices	2009	No End Date (Continuous)
<b>Other Sustainability Actions</b>						
Seymour River Greenway - Capilano U Trail Segment	Completed in 2011		As part of the regional greenway network, Seymour River Regional Greenway will long term, connect Lower Seymour Conservation Reserve to Burrard Inlet, near the mouth of the Seymour River; the newest trail segment passes by/through Capilano University. Metro Vancouver & District of North Vancouver worked in partnership for construction of a new trail segment which connects Monashee Drive to Mount Seymour Parkway via the BC Hydro corridor east of Capilano University		2009	2011

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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
Sustainability/Environmental Scholarships and Bursaries	Ongoing/In Progress		Kapoor Singh Siddoo Foundation Environmental/Ecological Studies Bursary Mike de Hullu Memorial Bursary - for leadership in outdoor recreation and initiative in problem solving for environmental issues Real Estate Foundation of BC Scholarship for Environmental Sustainability - for stewardship of natural resources	2012 and beyond - Continue to search for sustainability success stories to celebrate at Cap U	2010	No End Date (Continuous)
EV Charging Stations	In Development		Began research and review of options and opportunities to install Electric Vehicle charging station on North Vancouver campus Began research for funding of EV charging station project	2012 and beyond - Secure funding for EV project development and implementation	2011	No End Date (Continuous)
Organic Waste Management on campus	Ongoing/In Progress		Review of organic waste management on North Vancouver campus: options include plug-in composter and micro biodegradable which results in potable water	2012 - Request funding for purchase of organic waste management solution	2011	No End Date (Continuous)

**Capilano University  
Greenhouse Gas Emissions by Source  
for the 2011 Calendar Year (tCO<sub>2</sub>e\*)**



**Total Emissions: 2,418**

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

**Offsets Applied to Become Carbon Neutral in 2011 (Generated May 18, 2012 11:06 AM)**

Total offsets required: **2,417**. Total offset investment: **\$60,425**. Emissions which do not require offsets: **1** \*\*

\*Tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e) 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.