

2011

Carbon Neutral Action Report

Okanagan College





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Executive Summary

Okanagan College continues to develop and enhance its focus on sustainability, from the perspective of an organization with a responsibility for education, training and community development, and from the perspective of an organization that is focused on achieving carbon neutrality.

In 2011, as it revisited its Strategic Plan, Okanagan College's many constituents agreed that sustainability needed to be among our five key directions. The objectives associated with that direction are clear:



- Embed sustainability in the full range of educational programming.
- Increase sustainable practices in all operations.
- Educate students and employees to act sustainably.
- Promote leadership and collaboration with communities in developing sustainable practices.
- Ensure financial sustainability.

The College also followed through on a commitment to participate in the **Sustainability Tracking and Assessment Rating System**, administered by the Association for the Advancement of Sustainability in Higher Education. The process involves a rigorous examination of practices, policies, and achievements that contribute to sustainability. Okanagan College is the first College in B.C. to receive a silver ranking from STARS, and is among 22 institutions in Canada and slightly more than 172 continent-wide to participate in the process.





The quest for improvement is ongoing. The institution has established goals for itself for carbon emissions and energy use/production:

- Okanagan College is seeking to be energy net zero by 2025, producing as much energy as it consumes, and
- Reduce our net carbon emissions by 80 tons per year.



Part of Okanagan College's commitment to sustainability has involved giving greater voice and

visibility to the topic. It starts with new staff orientation – sustainability is a featured topic in those sessions that introduce employees to the values and vision, policies and practices of the institution. A sustainability blog – okanagan.bc.ca/sustainabilityblog – builds the conversation and information-sharing channels.

Green teams comprised of students and staff have been formed at each of the College's four campuses, and the institution continues to support several student-led initiatives that involve the larger Okanagan community in sustainability efforts. In early March 2012, the Okanagan College Students in Free Enterprise (SIFE) team won gold in the Regional Scotiabank Go Green challenge, emerging victorious over the University of Calgary, Simon Fraser University, University of British Columbia, Brandon University, SAIT Polytechnic and Kwantlen Polytechnic University. Kacie Sawri from Penticton and Kelowna students Danielle Hofer, Evan Dizak, Dominique Tipton and Alejandro Valcarcel presented on the *Green Business Awards* (a project in partnership with the Kelowna Chamber of Commerce) and *Farmbag* (a new Penticton project) as well as *Instill Life*.

A significant achievement in 2011 was completion and opening of **The Jim Pattison Centre of Excellence in Sustainable Building Technologies and Renewable Energy Conservation**.

One of the world's greenest buildings of its size, the Jim Pattison Centre of Excellence is intended to be a net-zero energy consumer, with one of Canada's largest solar arrays producing power for the structure. It is, to date, the largest building of its size pursuing the Living Building Challenge, the strictest set of building construction and operation guidelines



that emphasize sustainability. The building incorporates a host of innovative construction materials and techniques and is as much a teaching tool as a place to learn. New programs focused on sustainability – from learning to build with earth to Sustainable Construction Management Technology – are being offered or are planned for the facility.



An example of community outreach and extending involvement in the sustainability agenda is the first-ever TEDx conference held in British Columbia outside the Lower Mainland, which was hosted by Okanagan College at The Jim Pattison Centre of Excellence in June 2011. The theme of the conference was **Beyond Sustainability**.

The College will continue to leverage the technology, passion and creativity inherent in the building to be an agent of change for the larger community, drawing on the interests and expertise of staff and students to advance the efforts to be sustainable and to reduce our collective carbon footprint.



Jim Hamilton

President, Okanagan College

2011 Greenhouse Gas Emissions

- Total Greenhouse Gas Emissions for 2011 = 1599.78 tonnes of CO₂e
- Total Greenhouse Gas Emissions for 2007 = 1977.4 tonnes of CO₂e

From 2007 to 2011, we have grown:

- Square footage by 24%
- Enrollment Increase 22%

Offsets Applied to Become Carbon Neutral in 2011

1,599.78 tonnes of CO₂e will be applied to Pacific Carbon Trust to become carbon neutral.

2.37 tonnes of CO₂e do not require offsets due to the ethanol content in fuel for vehicles.

Emissions Reductions Activities

Actions Taken to Reduce Greenhouse Gas Emissions in 2011

- Okanagan College is constantly updating its long term energy plan. Using renewable energy technology is a primary consideration in our entire decision making process.
 - Penticton – Jim Pattison Centre of Excellence now on-line - has both PV and solar thermal, as well as geothermal energy.
 - Kelowna – Changes to the Mechanical System and DDC allow for expanded use of our Heat Recovery Heat Pump System (as opposed to Gas Fired Boilers).
- We executed a number of building automation upgrades, including occupancy and CO₂ control, designed to reduce energy usage. Penticton, Vernon & Salmon Arm Trades.



- Lighting upgrades are continuous on all campuses. This includes both lamp replacement and control strategies ie; occupancy sensors and daylight sensors.
 - Kelowna Carpentry Shop & Autobody were the largest projects in 2011
- Other initiatives completed this year included development of an overall Sustainability Committee Structure including Regional Sustainability Action Committees at all 4 centers – reporting back to an Executive Level Sustainability Committee.
- Added Electrical Sub Meters to the Vernon, Penticton and Salmon Arm Campus.
- Student Residents participated in a BC Wide Post Secondary Residence Energy Reduction contest – securing 1st place by reducing their energy consumption by almost 30%

Plans to Continue Reducing Greenhouse Gas Emissions 2012-2014

- The new Jim Pattison Centre of Excellence Building in Penticton is now complete and is going through the operational optimization process. Lessons learned here will hopefully be transferred to some of our less efficient buildings.
- Bio Mass boilers are being considered as a supplement to our KLO Heating system – reducing our Gas Fired boiler needs.
- Kelowna campus is undergoing a technical and economic feasibility study on our district heating system. This should further reduce our natural gas dependency and greenhouse gas emissions.
- In a partnership with FortisBC and Pulse Energy, we are participating in a continuous optimization program which will help reduce our energy usage and by extension, greenhouse gas emissions. Part of this program includes further developing our sub metering capabilities.
- Our Recycling and Composting programs continue to develop further allowing for both waste reduction and educational opportunities.
- Community Garden on the Kelowna campus was a big success in 2011. It is continuing and also, expanding to the Vernon campus.

Operational Changes in 2011

- Facilities Management has extended the employment of the Interim Energy Manager.
 - Identify policies and strategies for reducing GHG emissions
 - Promote energy conservation among student/faculty/staff
- Construction of the new 6,622 Sq. Metre Jim Pattison Centre of Excellence building is now complete. This building is designed to be Net Zero Energy. It consumes only 25% as much energy as the college average. It is fitted with solar PV and thermal panels, the building is naturally ventilated and cooled and includes heat recovery systems as some of the features. We hope to learn from this new innovative building and continue to improve our building construction standards.

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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							
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	11	% of vehicles are fuel- efficient models	No additional fuel efficient vehicles were added to the fleet in 2011	Lobby for additional funding for fleet replacement	2011	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	0	% of vehicles down-sized since start year indicated	No additional fuel efficient vehicles were added to the fleet in 2011	Lobby for additional funding for fleet replacement	2011	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	All fleet vehicles are regularly serviced and meet requirements	Adherence to regularly scheduled vehicle maintenance	2011	No End Date (Continuous)
Replace small maintenance vehicles with more fuel-efficient models	Ongoing/In Progress	14	% of small maintenance vehicles are fuel-efficient	Electric golf carts are utilized more often on-campus to replace gas powered delivery vehicles (where applicable)	On-Going	2011	No End Date (Continuous)
Behaviour change program							
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Ongoing/In Progress	4	Anti Idling Signs on all Campuses - but no complementing educational program in place.	Transportation Committee is being formed and will report at next period	Investigate and provide training where applicable	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	10	Percent Energy Consumption Reduction in 2011	The executive at Okanagan College have endorsed the “Stars” program which includes a bench mark and reduction goals.	Continued Development of long term strategic Energy Management Plan	2010	No End Date (Continuous)
Reduce office space (square meters) per employee	Ongoing/In Progress	50	is the current average rentable square meters per employee	The Centre of Excellence building at our Penticton campus was built utilizing only open plan group offices, no private offices were constructed.	During renovation or new construction projects Okanagan College promotes the use of open plan office spaces and/or redesign of existing office spaces to reduce their size to reflect the current office space standards. (Ongoing)	2007	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	80	% of buildings have a real time metering system installed	We have added sub meters to our Penticton and Salmon Arm Campuses	Any new buildings will have sub-metering included as part of our construction standard. We have also requested funding to add all significant buildings not already sub-metered.	2009	2014
Owned buildings							
Register for performance labelling/certification for operations and maintenance of owned buildings (e.g., LEED EB:O&M)	In Development	0	% of owned buildings have operations and maintenance labelling/certification	STARS Program also requires this certification. Review of LEED EBOM Requirements is underway.	LEED EBOM Planning is in early stages. LEED Baseline Assessments will be performed for all buildings in 2012. Budget and Manpower requirements remain the biggest challenge.	2011	No End Date (Continuous)
Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI)	In Development			No Further Action taken in 2011 due to budgetary constraints.	LEED EBOM Planning in early stages	2010	No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress	19	% of owned buildings are certified LEED NC Gold or LEED NC Platinum	We added one building to our portfolio and it is expected to meet LEED NC - Platinum. It is also designed to meet the more stringent "Living Building" Status. See link: http://ilbi.org/	Our goal is to have all new building or major renovations achieve a minimum of LEED-NC Gold.	2007	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
Incorporate integrated design process into new construction or during renovations of owned buildings	Ongoing/In Progress			No additional major capital projects undertaken in 2011 only minor renovations.	When ever major capital funding is received an integrated design process will be incorporated for all major renovations or new construction projects.	2007	No End Date (Continuous)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Ongoing/In Progress	100		Refrigeration contractors by law are required to follow ODS regulations. Our contactors use the "Safeguard Refrigerant Tracking system". Policy is not to recharge any refrigeration system prior to following through with a complete leak check sequence as per regulation. All refrigerant lost at Okanagan College is available upon request.	Ensure present standards are maintained. All refrigeration units are checked routinely on our scheduled preventive maintenance program. Certified contractors are used to do all refrigeration work.	2007	No End Date (Continuous)
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	10	% of owned buildings have undergone energy retrofits since start year indicated	Comprehensive Energy Upgrade Performed on Salmon Arm Trades Building	We have a large number of older buildings with dated mechanical systems - built in an era where energy efficiency was not a major consideration. As such, many of our buildings would benefit from major energy-based retrofits. With a current need for fiscal restraint, many of these must wait until the business case changes (increased utility prices, system failures, major retrofits, more capital funding etc.)	2009	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	100	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	We performed a renovation in our LAB Building to accommodate a new Bachelor of Nursing Program (BSN) - this included HVAC Flow Control to our existing VAV system.	There are a number of mechanical system changes we would like to make but they don't make financial sense unless they are implemented as part of a larger retrofit project. As our Facilities Management and Campus Planning groups are all part of the same Department, all of our retrofits undergo a mechanical system review as part of the planning process.	2007	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	100	% of retrofits since start year indicated had lighting systems upgrades	BSN Reno: Included Lighting Upgrade (Luminaires, controls and ballasts).	A lighting Review is part of our planning process for all retrofit projects.	2009	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	BSN Reno: Included Controls Upgrade: Lighting and HVAC .	A Controls System Review is part of our planning process for all retrofit projects.	2009	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	0	% of retrofits since start year indicated had insulation improvements	Building Envelope was beyond the scope of the BSN Upgrade.	A Building Envelope and Insulation Review is part of our planning process for all retrofit projects.	2008	No End Date (Continuous)
Install an on-site renewable energy demonstration project	Ongoing/In Progress	0	% of retrofits since start year indicated had on-site renewable energy components	BSN Project did not include any energy system changes.	A Review of Utility and HVAC systems is part of our planning process for all retrofit projects. We are always looking for ways to take advantage of Renewable Energy sources. As an education facility, the logical connection to academic programs is always considered.	2008	No End Date (Continuous)
Leased buildings							
Establish energy performance baseline for leased buildings	Completed in 2011	100	% of leased buildings have an established energy performance baseline	All Leased Buildings Now Have Established Baselines.		2011	2011
Lease space with operations and maintenance performance labelling/certification (e.g., LEED EB:O&M)	In Development	0	% of leased buildings have operations and maintenance labelling/certification	STARS Program also requires this certification. Review of LEED EBOM Requirements underway.	LEED EBOM Planning is in early stages. Budget and Manpower requirements are biggest hurdle.	2011	No End Date (Continuous)

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IT power management							
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	85	% of computers shut down automatically outside of regular business hours	152 thin clients have been deployed, retiring less efficient desktop computers.	Plans to deploy additional 195 for 2012-2013	2006	No End Date (Continuous)
Implement server virtualization	Ongoing/In Progress	74	% of servers have been virtualized since start year indicated	Additional servers were virtualized	A small number of additional servers will be virtualized (most servers that can be virtualized have been already)	2006	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress	20	% reduction in printers, copiers, and/or fax machines since start year indicated	Printing review started	Current MFD RFP will propose significant reduction in personal convenience printers	2008	No End Date (Continuous)
Appliances and electronic devices							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Completed in 2011	100	% of fridges are ENERGY STAR rated	All new purchases must meet Energy Star requirement	Adherence to procurement policy when purchasing new equipment	2010	No End Date (Continuous)
Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases	In Development			Appliances to be replaced as they become obsolete	Lobby for funding to replace aging equipment	2011	No End Date (Continuous)
Behaviour change program							
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress			Energy Manager sits on Sustainability Committees on all campuses to promote energy reduction activities	Further Develop Campus Wide Sustainability Outreach Campaign through newly formed Sustainability Committee.	2007	No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	Ongoing/In Progress			Educational Campaign is underway. Sustainability Committee recently formed on all campuses. Sustainability "tips" are currently published on web-site.	Post 'Notice" of energy reduction benefits on all dishwashers on campus.	2010	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Ongoing/In Progress			Educational Campaign is underway. Sustainability Committee recently formed on all campuses. Sustainability "tips" are currently published on web-site.	Further Develop Campus Wide Sustainability Outreach Campaign through newly formed Sustainability Committee	2010	No End Date (Continuous)
Encourage use of stairs instead of elevators	Ongoing/In Progress			Sustainability "tips" are currently published on web-site.	Install Signage in all elevators encouraging use of stairs and other carbon reducing tips.	2010	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			We continue with "pay-it-forward" motivation campaign where staff and students distribute laminated "turn off your lights" cards to people who have left their lights on, encouraging them to turn off their lights and pass the card on to another offender.	Continue Expanding Pay-it-forward Awareness Program as well as strategic placement of "Turn out the Lights" signs.	2007	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress			We participated in (and won) the BC wide College/University energy reduction challenge. This will included student engagement and educational activities designed to reduce our hot water usage.	Ongoing Education Campaign planned as part of resident orientation and regular activities	2010	No End Date (Continuous)
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Completed in 2011	100	% of total paper purchased contains 30% recycled content	Compliance to regulatory requirements	Continued compliance	2009	No End Date (Continuous)

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Purchase 100% post-consumer recycled paper	Ongoing/In Progress	10	% of total paper purchased contains 100% recycled content	Compliance to regulatory requirements	Continued compliance	2009	No End Date (Continuous)
Printer/document settings							
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	20	% of network printers or photocopiers are set to automatic double-sided	Set new/replacement printers to default to duplex	Purchase only duplex capable printer Make duplexing the default on duplex capable printers	2009	No End Date (Continuous)
Apply "print and hold" settings to networked printers to eliminate unclaimed print jobs	In Development	0	% of network printers have 'print and hold' settings applied	Printing review started	MFD RFP will provide this capability	2011	No End Date (Continuous)
Electronic media in place of paper							
Use electronic document library for filing common documents	Ongoing/In Progress	60	% of documents are in electronic format	Extended to Student Services	To Be Investigated	2003	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress	60	% of materials are online that were previously printed.	New online services added (College Matters bulletin board)	To Be Investigated	1995	No End Date (Continuous)
Behaviour change program							
Encourage re-use of scrap paper	Ongoing/In Progress			Web-Site and College newsletters to include Energy Savings "Tips of the day".	Continue Paper Waste Reduction Program - See STARS	2010	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							
Virtual meeting technology							
Make desktop web-cameras available to staff	In Development	5	% of staff have access to a desktop web-camera	Webcams available at 4 core campus AV drops, webcam enabled laptops available at all sites.	No further plans	2011	No End Date (Continuous)
Behaviour change program							
Train staff in web-conferencing	Ongoing/In Progress			No progress	Investigate web-conferencing alternatives	2009	No End Date (Continuous)
Train staff in video-conferencing or provide technical support for video-conferencing set-up	Ongoing/In Progress			No progress	Investigate web-conferencing alternatives	2009	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	In Development			Transportation Committee is being formed and will report at next period	Committees will be preparing education campaign	2011	No End Date (Continuous)
Encourage carpooling to meetings	In Development			Transportation Committee is being formed and will report at next period	Committee will be preparing education campaign	2011	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	In Development			Transportation Committee is being formed and will report at next period	Committee will be preparing education campaign	2011	No End Date (Continuous)
Education, Awareness, and Engagement							
Team-building							
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	Ongoing/In Progress			Sustainability Committees formed on all 4 campuses - reporting back to an executive level Sustainability Oversight Group	Continue Developing a long term Sustainability Plan.	2011	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress			Energy Manager provided Energy Data and recommendations to Sustainability teams	Resources and Dedicated staff are subject to budget constraints which may result in limited support of future initiatives	2011	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress			Green Team Training Provided through Livesmart was attended by representatives of sustainability committees	More Formal Training sought for future (budget willing)	2011	No End Date (Continuous)
Awards/Recognition							
Establish a sustainability/green awards or recognition program	Ongoing/In Progress			Achieved Initial rating of Silver in STARS program	Continued development of STARS program with goal of GOLD in future	2010	No End Date (Continuous)
Staff Professional Development							
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress			PD Funding Criteria currently includes any staff involved in any aspect of the STARS program.	Expand PD Funding to allow for Sustainability Related Opportunities - even if not directly related to line of work. (budget willing)	2011	No End Date (Continuous)
Staff awareness/education							
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress			Facilities Dept provides sustainability education opportunity to all staff during annual "Connections" training Program.	Develop Staff teaching Outreach Program promoting Energy and Sustainability Progress in the form of annual Sustainability "Exposition"	2011	No End Date (Continuous)

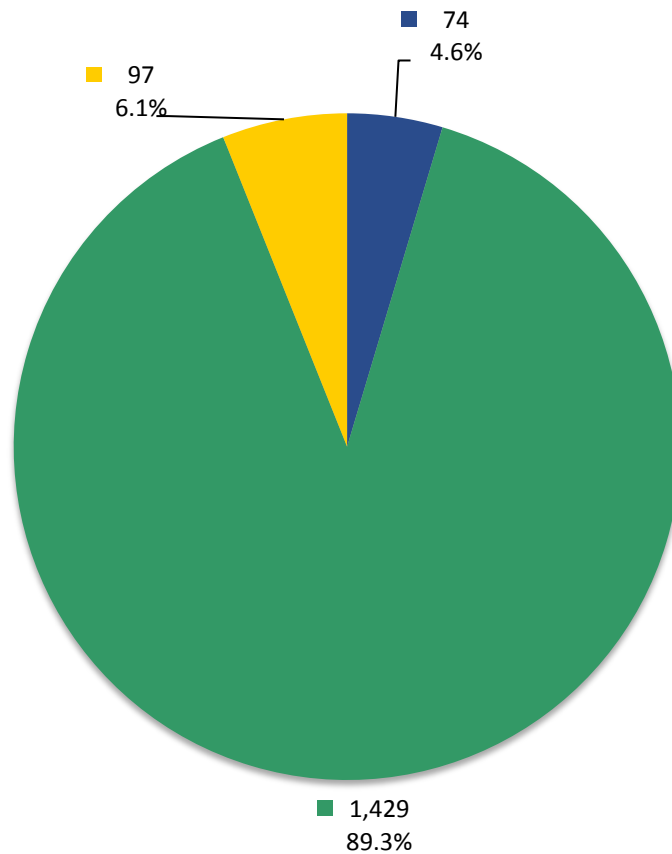
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Provide green tips on staff website or in newsletters	Completed in 2011			Green Tips are Included on Web-Site		2011	No End Date (Continuous)
Provide sustainability education during new staff orientation	Completed in 2011			Facilities Dept provides sustainability orientation to all new employees.	Continue to develop Sustainability Orientation Program	2011	No End Date (Continuous)
Client/public awareness/education							
Provide education to clients/public about the conservation of water, energy, and raw materials	Ongoing/In Progress			With the Center of Excellence now operating, OC is attracting a great deal of Public Attention - we are providing tours and educational sessions on regular basis.	Develop Public Outreach Component as part of Sustainability "Expo"	2011	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			Washroom faucets, upon failure, are replaced with hands-free units. Also replacement urinals and water closets upon failure are replaced with low-flow units only.	Continue to replace washroom fixture failures with updated hands-free and/or low-flow units. (ie; Urinals, Water-Closets and Faucets)	2002	No End Date (Continuous)
Put in place a potable water management strategy to reduce potable water demand of building-level uses such as cooling tower equipment, toilet fixtures, etc. and landscape features	Ongoing/In Progress			Installation of wireless irrigation management system at the Kelowna campus. Allows for smart watering taking advantage of sensors that detect when irrigation is required rather than running on a timelock only.	Planning to replace landscaping with more xeriscaping (as budget allows)	2003	No End Date (Continuous)
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	In Development			Parking lot 6 KLO Campus: Bioswale constructed to improve drainage and retain stormwater. COE Bldg Penticton. Green roof and lot P1 bioswales completed.	Kelowna; Parking lot 14 . Construction of Rain garden and bioswale to improve area drainage. Campus road west @ KLO road construction of bioswale to improve drainage. Vernon. Research gardens to include rain water harvesting/storm water irrigation.	2009	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	Ongoing/In Progress			Multi stream recycling and composting is now operational at all campuses. In-house closed vessel composter was installed and integrated into the composting program.	To expand the waste diversion to include post-consumer foods	1999	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress			Another successful "Waste Round Up Day". Our "green" movement has influenced many OC departments who have made the choice to improve their level of environmental responsibility.	In 2012 OC will eliminate all nuclear radioactive isotopes from all campuses. Using computer simulations and models, these materials will no longer be used within any of our laboratories.	2003	No End Date (Continuous)
Procurement (non-paper supplies)							
Incorporate minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.)	Completed in 2011			Education Campaign, reinforcing the awareness of procurement standards and compliance where applicable.	Continued awareness and compliance to procurement standards.	2010	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			For all soft flooring replacements carpet tile has been made standard (Interface Floors) product is completely recyclable and allows flexibility with renovation reducing overall waste.	Further evaluation of products such resilient flooring, ceiling tiles, whiteboards and paint to ensure products are in-line with College's values around sustainability (S.T.A.R.S.)	2011	No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress	100	% Cleaning products are third party certified as environmentally friendly.	New dispensing system installed resulting in the elimination of bulk inventory requirement. Also eliminating material handling and internal shipping.	Continual reduction of cleaning products. Paper dispensing systems upgrades to reduce course paper usage.	2005	No End Date (Continuous)

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Require a minimum purchase of sustainable, and organic food and beverages supplied by contracted food suppliers or caterers	Ongoing/In Progress			All fish is oceanwise, all our coffee is fair trade including organic options. Where possible, based on price and availability , we purchase locally or BC or Canada first. Our take out containers are compostable plus we have a reusable take out container program.	Continue developing our food services sustainability plan	2009	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	In Development			Okanagan College, Campus Planning has started to develop a "Construction & Demolition Debris Recycling Policy" for implementation on all capital construction and renovation projects.	Complete and implement guidelines for "Construction & Demolition Debris Recycling" for implementation on all major capital construction and renovation projects.	2010	No End Date (Continuous)
Indoor air quality							
Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.)	Ongoing/In Progress			We continued to educate our OC community in scent-awareness in 2011.	We are transitioning from scent awareness to scent intolerance with an implementation plan for scent management in 2012. The plan involves the integration of the internal responsibility system (IRS) to ensure that everyone has the right to breathe freely, clearly, and easily.	2010	No End Date (Continuous)
Incorporate low volatile organic compounds (VOCs) standards into procurement policy for products such as paints, carpets, and furniture	Ongoing/In Progress			Okanagan College only installs zero VOC flooring products and has also expanded to include the adhesives (water based only). Painting specifications indicate only low VOC products be utilized.	Evaluate new available paint products with ultra-low or no VOC's to test durability and cost.	2000	No End Date (Continuous)
Commuting to and from home							
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress			Transportation Committee formed to develop long term transportation plan	Develop the Transportation plan (forthcoming - to be presented by transportation committee).	2012	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In Progress			Bike lockers were installed at all of our campus locations in 2010, no additional lockers have been added as existing are not fully utilized.	Continue to monitor the usage of existing bike lockers to determine if additional units will be required to meet user demand at all campus locations.	2010	No End Date (Continuous)
Modify parking fees or parking availability for staff/students	Ongoing/In Progress			Carpool parking stalls were added at the Penticton and KLO campus. A Parking committee was formed with representation from all internal groups.	Transit routes are being re-aligned to expand services to the Kelowna campus. Carpool incentives continue to be expanded. Parking fee modification is pending.	2007	No End Date (Continuous)

**Okanagan College
Greenhouse Gas Emissions by Source
for the 2011 Calendar Year (tCO₂e*)**



Total Emissions: 1,600

- 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 11:21 AM)

Total offsets required: **1,597**. Total offset investment: **\$39,925**. Emissions which do not require offsets: **2** **

*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.