



## 2011 CARBON NEUTRAL ACTION REPORT







THOMPSON RIVERS  
UNIVERSITY

# OVERVIEW

## The University of Choice for Environmental Sustainability

Sustainability is no longer a choice, it is a necessity. In recognition of this fact Thompson Rivers University embedded environmental sustainability into our seven founding values and included it as one of four major themes in our new Academic Plan. The result is a profound influence that sustainability has in institutional operations, teaching, and research.

The Office of Environment & Sustainability takes a multifaceted approach to sustainability. It is more than simply emissions monitoring—sustainability at TRU includes campus operations, teaching, staff engagement, student empowerment, and community involvement. These together make our institution the University of Choice for Environmental Sustainability.

2011 was a banner year for TRU, with remarkable achievements in a variety of focus areas:

### Operations

Our Energy Manager led all major campus buildings through the completion of a \$1.5 million energy retrofit as well as the implementation of the Pulse Energy Management software. A partnership with BC Hydro and their Continuous Optimization Program promises further energy efficiency advancements for eight campus buildings in the years to come.





## Expansion

Our commitment to existing buildings is the same as our commitment to our new buildings. A nationally-recognized capital project was completed in 2011—The Brown Family House of Learning was open for students this academic year, boasting a striking 4-storey living wall, vegetated roof, and natural light radiating through an all-glass front façade.

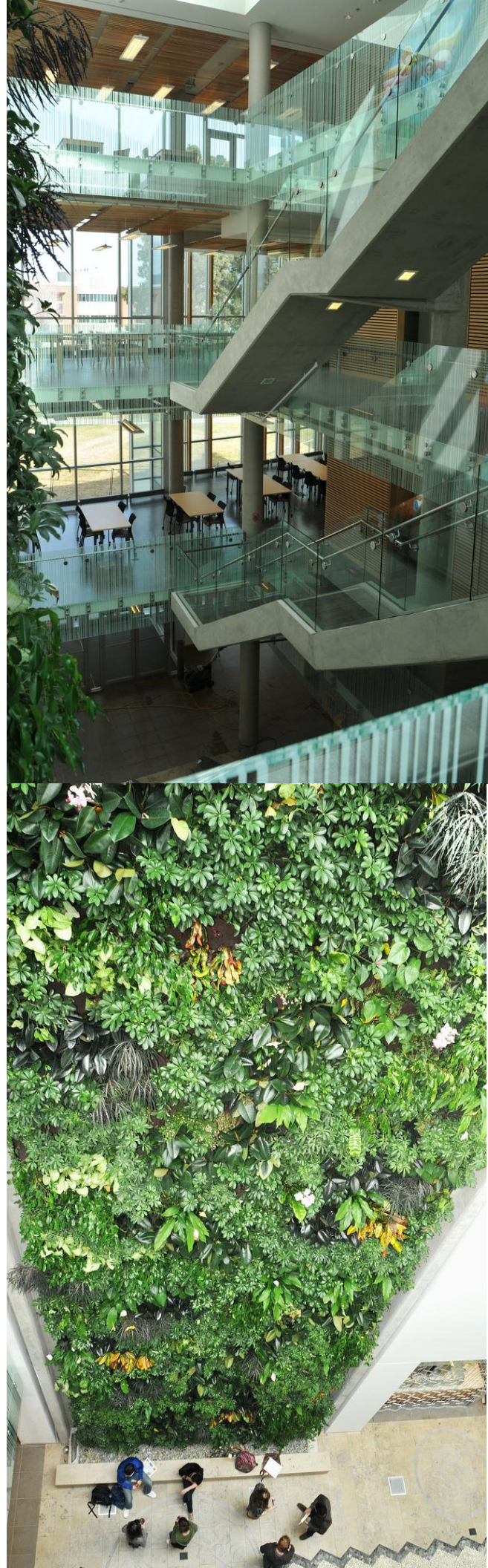
Despite our continued campus expansion, TRU is committed to a strategy that ensures our campus growth will not come at the expense of sustainability. The most recent capital projects for the Old Main building and the Campus Activity Centre will add to existing structures, increasing the densification of the campus. Our University Village concept introduced in 2011, in combination with the additional residence development previously identified in the Campus Master Plan, will ensure that density is increased on campus, transportation is continually improved, and space is efficiently utilized.

## Engagement

Greenhouse Gas emissions and operational performance are an integral component of campus sustainability. Just as integral, however, are the connections and stimulation we create on campus with our students, staff, and faculty. Sustainability is a joint effort; at Thompson Rivers University our community is firmly committed with Green Teams, an Environmental Advisory Committee, our student's union, and a student environmental club.

## Teaching

Our teaching benefits from a brand new Environmental Leadership Certificate which will be offered in 2012 to our many dedicated students who spearhead programs and engage our community in a constant dialogue surrounding environmental, social, and economic equity.







## Policies & Reporting

Our policies are also steadfastly advancing. The Thompson Rivers University Environmental Policy was drafted and sent for approval to Senate, marking a defining moment where sustainability will no longer be merely an ideal or value, but an institutional policy. The policy includes direction in key areas such as water conservation and purchasing which will lead to continuous improvements in these and other areas.

TRU joined an elite group of Canadian and American universities recognized with a Silver designation through the Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking and Reporting System (STARS). TRU is also only one of two Canadian universities to serve as a founding member of the Billion Dollar Green Challenge for post-secondary institutions with energy revolving funds.

Thompson Rivers University does not just strive to reach greenhouse gas emissions targets. TRU aims to go beyond. As you will see in the following report, our institution has plans that will leverage our current momentum to do just that.



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Tom Owen, PhD  
Director, Environment and Sustainability

# ACTIONS

## Taken to become carbon neutral in 2011

### Built Environment

Construction of the Brown Family House of Learning— the second building on campus built to LEED Gold standards— was completed in 2011. The building utilizes reclaimed pine beetle wood and showcases a 4-storey wall entirely covered in plants. The plants help purify the air while helping regulate the building's temperature. The design for the House of Learning was inspired by the traditions of the Interior Salish people.

As part of a \$1.5 million energy retrofit, TRU installed Pulse Energy Management software in all buildings larger than 1000m<sup>2</sup>. This accounts for a total of 14 buildings covering about 75% of the built space on campus.

Eight campus buildings have been placed into the BC Hydro Continuous Optimization Program. The program continually refines and reviews the buildings involved using software and monitoring to investigate potential efficiency opportunities.

Renovations to the Old Main building and Campus Activity Centre will add useable space in existing buildings and increase campus densification.

BC Centre for Open Learning has undergone a waste energy capture retrofit, schedule adjustment, and airflow balance retrofit providing an annual return of \$12,500, more than covering total project costs in the first year.







## Equipment

About one thousand smart power bars were handed out to staff with multiple electrical or electronic devices in their offices. These smart power bars have separate outlet jacks which disconnect power when non-essential computer equipment goes into sleep mode, without affecting essential equipment.

This saves roughly 60% of the electrical use in each of these work locations.

Our IT Department continued the implementation of the power management software that was initiated in 2010. At present, about 85% of campus computers shut down on a timer outside of regular business hours.

## Materials

Virtually all paper purchased for campus use contained at least 30% recycled content.

Electronic T4's were available for all staff. This opportunity was promoted through an incentive program run by the Finance Department. Online tuition tax statements were also introduced for students.

In addition to using only Green Seal cleaning and paper products since 2009, TRU began investigating the potential purchase of an ozone cleaning system which would eliminate the need for any chemical cleaners on campus.





## Natural Environment

A recently updated Arboretum and Garden Guide will provide guidance for all new vegetation placed on campus.

None of TRU's campus lawns were sprayed with pesticides during 2011 and herbicide use decreased substantially with the paving of two campus parking lots.

## Human Environment

Our Green Team program continued in 2011, with our School of Business & Economics Green Team holding popular events such as a Sustainable Speaker Series.

The Environmental Achievement Award recognized a community member who made outstanding contributions to environmental sustainability. The award also provides a scholarship to an undergraduate student active in sustainability.

TRU received a Silver rating under the Sustainability Tracking and Rating System created by AASHE, the Association for the Advancement of Sustainability in Higher Education.







## Human Environment continued

Two speakers were invited to International Days, the largest and most popular yearly campus -wide event. Captain Charles Moore and Mr. Ivan Zavadsky provided lectures on the topics of ocean plastics and global water management. An environmental speaker series was also regularly held by the Faculty of Science, focusing on a variety of environmental issues.

TRU joined with 32 other leading institutions to launch the Billion Dollar Green Challenge. With 35 registered participants, TRU is one of only two Canadian institutions participating in the challenge. The challenge aims to invest a cumulative total of one billion dollars in self-managed green revolving funds that finance energy efficiency upgrades on campuses.

The staff and student carpool programs were expanded in 2011 due to overwhelming demand and will continue to be expanded as demand increases.

The Department of Environment & Sustainability presented at all new staff orientations, ensuring that a strong culture of sustainability is maintained and all new staff are adequately informed of all department operations and services.





# PLANNING

## Continued reductions for 2012 onward

### Energy

The continuous optimization program will be implemented and potential energy savings will be identified and addressed as opportunities arise.

Staff behavioural change will be a key component of the department goals. A strong presence at staff orientations will continue.

With the help of a student Research Assistant, the department is running a Home/Work Energy Challenge. This program encourages staff to join the BC Hydro Home Challenge to reduce home electricity use by 10% over a full year. We expect the behaviour changes learned through the Home Challenge could also be transferred to the office.

### Transportation

With the recent completion of the Transportation Demand Management Study, TRU will now focus on reviewing, consulting with stakeholders, and implementing recommendations.

Parking costs are set to increase on campus in the next two years with some of the proceeds returning to Environment and Sustainability for new projects.



## Awareness

Provide education for staff and the public regarding the science of climate change and the conservation of water, energy, and raw materials using the Environmental Speaker Series, web page, and social media marketing tools.

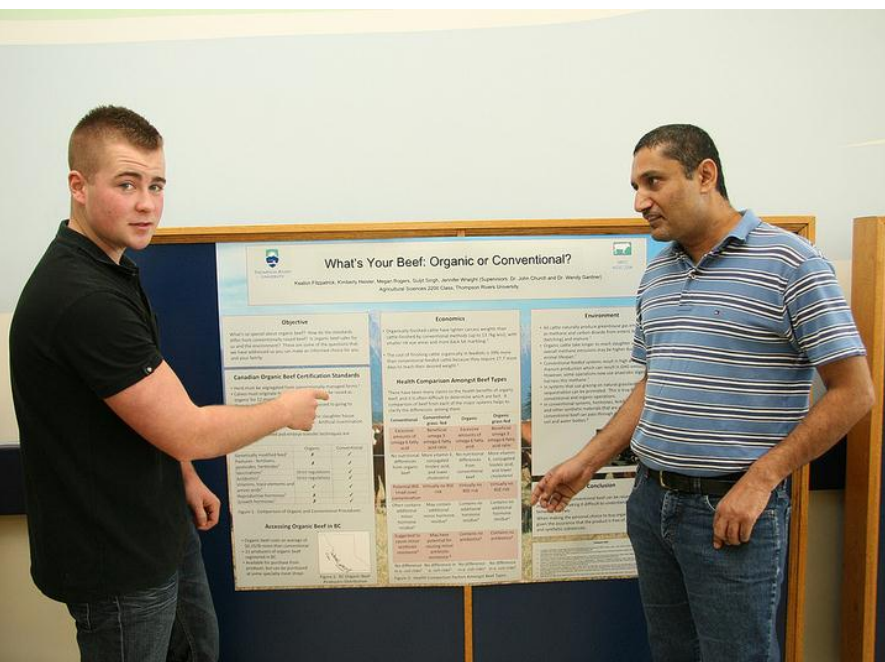
Create a formal volunteer program with the Department of Environment & Sustainability in cooperation with TRU's Student Union (TRUSU).

The Green Team program will be expanded.

Promote other behavioural change activities related to reducing, reusing and recycling materials and energy needs, from beverage containers to computer equipment. This will include awareness campaigns, recycling opportunities, and other initiatives and alternatives to encourage students, employees, and visitors to help TRU reach our targets.

## Curriculum

The Environmental Leadership Certificate, a 1-credit certificate recognizing students who are environmental leaders on campus and in our community, will be made available to students.





## Other Projects

A Revolving Green fund will be initiated as part of the Billion Dollar Green Challenge.

A coffee grind compost program will be implemented for all staff coffee machines on campus.

TRU's Horticulture Department will plant 30 new trees on campus this growing season.

The department is working to coordinate a local farmer's market on campus during the winter months in partnership with local farms. The pilot market will take place this June.

A can/bottle recycling audit will help identify inefficiencies in the current recycling model and pinpoint opportunities for improvement.

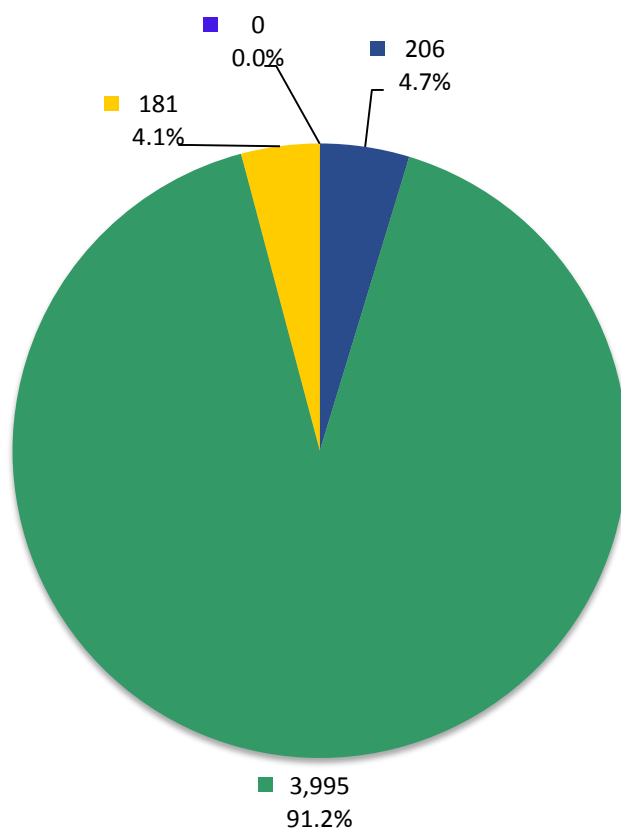
In partnership with the student residences, TRU will run beginning and end of school year donation and re-use programs. Students in residences will be able to donate/re-use items, thereby diverting a large amount of furniture and appliances currently being discarded.

A new water conservation initiative will be introduced with the initial step being the analysis of existing patterns of usage.

A sustainability analysis tool will be developed for use by TRU's Purchasing Department.



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



**Total Emissions: 4,382**

- 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 07, 2012 11:39 AM)

Total offsets required: **4,375**. Total offset investment: **\$109,375**. Emissions which do not require offsets: **7** \*\*

\*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.



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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							
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Ongoing/In Progress			100% available on request to staff	Continue to make available to staff	2005	No End Date (Continuous)
Make desktop web-cameras available to staff	Ongoing/In Progress	100	% of staff have access to a desktop web-camera	100% available on request to staff.	Continue to make available to staff	2007	No End Date (Continuous)
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	All new meeting rooms created in House of Learning have video-conferencing capability.	Continue to ensure video conferencing is available in all new meeting rooms and evaluate the need to increase availability in existng meeting room.	2010	No End Date (Continuous)
Behaviour change program							
Train staff in web-conferencing	Ongoing/In Progress			New staff educated about web conferenceing in staff orientation	Continue to include training in new staff orientation.	2009	No End Date (Continuous)
Train staff in video-conferencing or provide technical support for video-conferencing set-up	Ongoing/In Progress	100	% of staff are trained in video-conferencing or have access to technical support	New staff educated about video conferenceing in staff orientation. IT Services provides technical support on demand to staff and students.	New staff educated about video conferencing in staff orientation. Continue IT support.	2009	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress			TRU SIFE students ran an online international business competition, staff are encouraged at employee orientations to make use of virtual presentation tools.	Continue to encourage staff through employee training, website info, and email mail outs.	2009	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress			Carpooling is encouraged on campus.	Promote carpooling at employee orientation.	2009	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress			Purchased electric bicycles for staff use to provide alternative to car travel. More sidewalks built on campus. TDM study commissioned to improve transportation on campus.	Implement Transportation Demand Management Study Recommendations.	2010	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			Green Team program promoted through Environmental Advisory Committee meetings. School of Business and Economics has a fully functional Green Team which will be used as a pilot for other faculties and schools.	Expand and further develop the Green Team program. Create a formal Student Volunteer program.	2009	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress			Resources were provided to staff and students on request.	Full time coordinator hired to support all green teams and volunteer program.	2009	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress			Training was provided to teams on request and through the department web page.	A more formal training package for teams will be created and provided to all green teams.	2009	No End Date (Continuous)
Awards/Recognition							

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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			Handed out Environmental Achievement Award for the second year.	Continue the Environmental Acheivement Award and look into other recognition programs.	2009	No End Date (Continuous)
Staff Professional Development							
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress			Department offered funding for students or staff wishing to take Green Team training or attend conferences.	Continue to offer funding to interested staff/students.	2009	No End Date (Continuous)
Staff awareness/education							
Provide education to staff about the science of climate change	Ongoing/In Progress			Environmental Speaker series held through the Department of Sustainability as well as the Faculty of Science. Environmentally themed speakers brought in for campus International Days events.	Continue with speaker series and have information regarding the science of climate change readily available on department web page.	2009	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress			Conservation tips available to staff on department website and included as marketing messages for various department events.	Continue to provide tips and advice to staff.	2009	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress			Green tips are on department web page.	Create email newsletter with tips	2009	No End Date (Continuous)
Provide sustainability education during new staff orientation	Ongoing/In Progress			Provided education on department at all new staff and student orientations.	Continue to provide training at orientations.	2009	No End Date (Continuous)
Client/public awareness/education							
Provide education to clients/public about the science of climate change	Ongoing/In Progress			Environmental Speaker series held through the Department of Sustainability as well as the Faculty of Science. Environmentally themed speakers brought in for campus International Days events. Dppartment of Environment and Sustainability cooperates closely with the local chapter of the BCSEA on speakers and other activities.	Continue with speaker series and have information regarding the science of climate change readily available on department web page.	2009	No End Date (Continuous)
Provide education to clients/public about the conservation of water, energy, and raw materials	Ongoing/In Progress			Conservation tips available to staff on department website and included as marketing messages for various department events.	Continue to provide tips and advice to staff.	2009	No End Date (Continuous)
Provide green tips on client/public website or in newsletters	Ongoing/In Progress			Green tips are on department web page.	Create email newsletter with tips	2009	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			Irrigation system continued to be reviewed.	Refine software and increase efficiency in irrigation system.	2010	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			All new toilets in House of Learning have low/high flush feature. Waterless urinals in House of Learning. Continuous improvement of computerized irrigation system.	All new bathrooms will have double flush options in toilets. Continue to refine irrigation system and xeriscape whenever possible.	2007	No End Date (Continuous)
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	In Development				There is a vegetated roof on the House of Learning. Some planning has been done through the campus plans but more development is needed.	2010	No End Date (Continuous)
Waste reduction/diversion							
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	Ongoing/In Progress			Full mixed recycling program on campus.	Review can and bottle recycling and look into food waste composting. Roll out new coffee grinds compost program in all buildings on campus.	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
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress			Hazardous waste disposal program already implemented through Occupational Health & Safety.	Investigate hazardous waste reduction strategies.	2007	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.)	In Development				Revise current purchasing policy and obtain approval.	2011	2014
Establish green standards for goods that are replaced infrequently and/or may require capital funds to purchase (e.g., office furniture, carpeting, etc.)	In Development				Revise current purchasing policy and obtain approval.	2011	2014
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress			Green cleaning clause is written into current janitorial contract.	Look into implementing an ozonated-water cleaning system.	2008	No End Date (Continuous)
Require a minimum purchase of sustainable, and organic food and beverages supplied by contracted food suppliers or caterers	Ongoing/In Progress			Culinary Arts holds sustainable seafood and beef luncheons. Meat program purchases organic beef and chicken and makes its own honey on top of the Culinary Arts buildings. Culinary Arts uses only Pacific Salmon.	Revise food services contract as it comes up for re-bid in 2013 to include minimum purchase requirements for sustainable and organic food. Include Environmental Advisory Committee in new contract negotiations.	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	Ongoing/In Progress			Re-used and recycled old workstation furniture for metal and materials.	Continue to divert materials and furniture.	2007	No End Date (Continuous)
Incorporate lifecycle costing into new construction or renovations	In Development				Procurement policy and checklist with lifecycle costing to be developed.	2010	No End Date (Continuous)
Indoor air quality							
Incorporate low volatile organic compounds (VOCs) standards into procurement policy for products such as paints, carpets, and furniture	In Development				Procurement policy and checklist to be implementted in 2011.	2010	No End Date (Continuous)
Commuting to and from home							
Introduce telework/work from home policy	In Development				Research possible options for telecommuting at TRU.	2010	No End Date (Continuous)
Offer staff a compressed work week	Ongoing/In Progress			Staff have option to work Compressed Time Off schedule.	See that all staff who request CTO time are able to get it.	2008	No End Date (Continuous)
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress			Carpool program availability increased for staff and students.	Implement TDM recommendations.	2008	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Ongoing/In Progress			New HoL building has bike storage and showers.	New lockable bike facility to be built spring 2012 .	2007	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In Progress			New HoL building has bike storage and showers.	Install new covered bike storage and a bike maintenance centre.	2008	No End Date (Continuous)
Modify parking fees or parking availability for staff/students	Ongoing/In Progress			TDM study undertaken	A proposal has been made to increase parking rates significantly in 2012/13 and again in 2013/14.	2009	No End Date (Continuous)

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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	0	% of vehicles are fuel- efficient models	Fuel efficiency was considered, along with capital costs, maintenance, and reliability in the purchase or lease of new vehicles.	As existing vehicles are retired they will be replaced with fuel-efficient and/or hybrid models wherever possible.	2005	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	2	% of vehicles down-sized since start year indicated	One large pickup truck was downsized to a smaller vehicle.	As existing vehicles are retired they will be evaluated with "right-sizing" principles and replaced as appropriate.	2007	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 vehicles regularly maintained.	Continue regular maintenance of entire fleet.	2002	No End Date (Continuous)
Replace small maintenance vehicles with more fuel-efficient models	Ongoing/In Progress	0	% of small maintenance vehicles are fuel-efficient	No small maintenance vehicles replaced.	Look into purchasing policy and ensure electronic/hybrid vehicles apply to purchasing conditions and evaluable availability of local suppliers. Replace as needed with electric/other technologies. Replace one vehicle with three wheeled bicycle on a seasonal basis.	2007	No End Date (Continuous)
Behaviour change program							
Provide fleet driver training to reduce fuel use	In Development				Ensure 100% of all new driving employees are trained.	2011	No End Date (Continuous)
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Ongoing/In Progress			No steps taken in 2011, however draft idling policy was reviewed in 2010	Revise and adopt idling policy and create anti-idling awareness campaign.	2010	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress			Carpooling encouraged for all staff.	Continue to encourage carpooling through email, presentations, and general awareness. Minimize trips off campus.	2006	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Ongoing/In Progress			Additional sidewalks were built as part of the House of Learning renovation. TDM Study commissioned.	2 electric bikes and a utility trailer purchased for campus student and staff use. A new bike storage and maintenance facility will be constructed.	2008	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			Created benchmarks through SMARTTool. Enrolled in BC Hyrdo continuous optimization program.	Continue with continuous optimization program to refine and investigate savings in 8 on-campus buildings.	2010	No End Date (Continuous)
Reduce office space (square meters) per employee	In Development			Institutional Planning & Analysis undertook a space utlization analysis	Work with IPA to review current space per employee.	2011	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	58	% of buildings have a real time metering system installed	Pulse Energy metering system installed in 75% of campus space.	Use data from Pulse monitoring software to improve efficiency and pinpoint issues.	2010	No End Date (Continuous)
Owned buildings							



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Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress	0	% of owned buildings are certified LEED NC Gold or LEED NC Platinum	House of Learning meets LEED Gold standards, not yet certified.	Ensure all new construction or major renovations meets LEED Gold.	2010	No End Date (Continuous)
Incorporate integrated design process into new construction or during renovations of owned buildings	Ongoing/In Progress	100	% of buildings built or renovated since start year indicated used the integrated design process	House of Learning construction was based on traditions of the Interior Salish and used local pine beetle kill wood. Space planning for HoL considered all project users.	Expansion of Old Main and the Campus Activity Centre integrated environment and sustainability in the design process and selection.	2010	No End Date (Continuous)
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	38	% of owned buildings have undergone energy retrofits since start year indicated	Retrofits of Campus Activity Centre & Culinary Arts.	Enroll 8 campus buildings in continuous optimization program with BC Hyrdo to investigate more potential retrofits.	2010	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Completed in 2011	100	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	Included in Campus Activity Centre retrofit.		2010	2011
Upgrade lighting systems during retrofits	Completed in 2011	100	% of retrofits since start year indicated had lighting systems upgrades	Included in Campus Activity Centre retrofit.		2010	2011
Upgrade/adjust control systems during retrofits	Completed in 2011			Included in Campus Activity Centre retrofit.		2010	2011
Improve building insulation (including windows) during retrofits	Completed in 2011			Included in Campus Activity Centre retrofit.		2010	2011
Install an on-site renewable energy demonstration project	Ongoing/In Progress			None	Consider as opportunities arise.	2010	No End Date (Continuous)
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	Completed installation of power management software.	New computers will have software included.	2009	No End Date (Continuous)
Implement server virtualization	Ongoing/In Progress	50	% of servers have been virtualized since start year indicated	Continued to virtualize servers as opportunities arise.	Practically all new servers virtualized.	2007	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	No new printers, copiers, or fax machines purchased.	Evaluate program and remove stand alone printers, copiers, and fax machines where multi function devices are available.	2009	No End Date (Continuous)
Appliances and electronic devices							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	In Development	20	% of fridges are ENERGY STAR rated		All future purchases will be ENERGY STAR models.	2009	No End Date (Continuous)
Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress			ENERGY STAR was a factor in purchase decisions of new appliances or electronic devices.	Continue to replace with ENERGY STAR models. Revise Purchasing policy to require eneergy efficient models be purchased.	2009	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
Replace desk lamp incandescent bulbs with compact fluorescent (CFL) bulbs or source more efficient desk lamps for future purchases	Ongoing/In Progress			All new desk lamp bulbs that needed replacement were outfitted with CFL bulcbs unless otherwise requested.	Continue to replace bulbs with CFL bulbs and look into sourcing more efficient lamps through a revised purchasing policy.	2010	No End Date (Continuous)
Behaviour change program							
Help staff reduce personal energy use through "workstation tune-ups"	Ongoing/In Progress			One thousand smart power bars were provided to staff that turn off nonessential electronics automatically. Advice was provided at new staff orientations.	Continue to provide smart power bars to staff and implement a workstation tune-up program.	2010	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress			Staff are informed during new employee orientation.	Continue to inform staff during orientation and create awareness using website, newsletters, and workstation tune ups.	2010	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	In Development				Include this tip as part of work station tune up program.	2012	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Ongoing/In Progress			Provided staff with Pulse Energy site which allows them to view real time gas/electricity use for their building.	Continue to train staff on after-hours energy saving opportuntiees and include fact sheets beside thermometers outlining how to heat buildings outside of office hours. Train staff in Campus Activity Centre on optimizing heating for special events during the weekend.	2009	No End Date (Continuous)
Encourage use of stairs instead of elevators	In Development				Encourage walking and use of stairs as part of Green Team program, new staff orientation, and campus wellnes program.	2012	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			Stickers ordered and placed above light switches as needed.	Two Digital Media students will create new stickers to place above light switches on campus.	2010	No End Date (Continuous)
Promote hot water conservation	In Development				Promote hot water conservation as part of green team program. Post signage to conserve.	2012	No End Date (Continuous)
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	94	% of total paper purchased contains 30% recycled content	Recycled content was considered in all paper purchases.	Revise and review current purchasing policy to emphasize the purchase of the most recycled content possible.	2008	No End Date (Continuous)
Purchase 40% post-consumer recycled paper	Ongoing/In Progress	0	% of total paper purchased contains 40% recycled content	Recycled content was considered in all paper purchases.	Revise and review current purchasing policy to emphasize the purchase of the most recycled content possible.	2008	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Ongoing/In Progress	1	% of total paper purchased contains 100% recycled content	Recycled content was considered in all paper purchases.	Revise and review current purchasing policy to emphasize the purchase of the most recycled content possible.	2008	No End Date (Continuous)
Printer/document settings							
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	85	% of network printers or photocopiers are set to automatic double-sided	All multi-function devices were switched to default duplex settings.	Ensure all remaining printers are duplex default.	2009	2013
Apply "print and hold" settings to networked printers to eliminate unclaimed print jobs	Ongoing/In Progress	30	% of network printers have 'print and hold' settings applied	All computer lab printers on campus have "print and hold" settings applied.	Continue to have "print and hold" settings in computer labs and look into possibility of staff settings.	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
Reduce default margin size in standard document templates (e.g., letters, briefing notes, forms, etc.)	Ongoing/In Progress			Encourage staff through awareness to reduce paper use through margins. Margin decrease is included as a green tip suggestion on TRU Sustain web page.	Use recommendations from IPA paper audit and encourage departments to reduce margins.	2009	No End Date (Continuous)
Electronic media in place of paper							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress			All software available free on request.	Install on staff workstations as requested and promote service.	2008	No End Date (Continuous)
Use electronic document library for filing common documents	Ongoing/In Progress			Shared computer drive accessible to all staff and separate drives are accessible to individual departments. Administration and Finance forms available online.	Shared computer drive will continue to be accessible to staff within departments to share files.	2007	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress			Student Tuition Tax forms made available online. Incentives provided to staff who chose to receive T4's online.	Additional promotions and incentives offered to encourage online use.	2010	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Ongoing/In Progress			Most staff already using electronic payroll system.	Work with HR to have all staff and most student workers on electronic pay systems.	2010	No End Date (Continuous)
Behaviour change program							
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress			Training provided on the job and at new staff orientation.	Continue to provide training to staff as needed and requested.	2009	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress			All Executive meetings at the university are paperless.	Continue to encourage and provide resources for all meetings to go paperless.	2010	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress			Paper re-use bins located in all campus computer labs.	Expand program to buildings that do not have a paper re-use bin.	2009	No End Date (Continuous)