

# Thompson Rivers University

## 2009 Carbon Neutral Action Report

### Executive Summary

Environmental Sustainability is one of Thompson Rivers University's (TRU) seven founding values, and TRU actively seeks to transform the way we teach, research and operate in order to reach greenhouse gas emissions targets and to create a truly sustainable campus community.

TRU's Strategic Plan, completed in 2008, called for the creation of a sustainable campus, and a series of greenhouse gas emission reductions for the period from 2009-2011 will continue to be made within the structure of that plan.

To this end, the university created an Environmental Sustainability department, which works to ensure that sustainability is considered in all decision-making processes from purchasing to course development.

A Campus Sustainability Action Plan has been developed by a committee with representatives from the two faculty unions, the support staff union, the student union, the administrator's organization and the alumni association. This action plan identifies the ecological footprint of the campus and has three components: Built, Natural and Human.

As detailed in our spreadsheet and highlighted below, 2009's activities have focused upon establishing the foundational steps for reducing greenhouse gas emissions and creating and maintaining a sustainable campus through 2012 and well beyond.

Targeting energy and materials waste reduction across the sectors, in 2009 TRU instituted such ground-level behavioural change activities as training, education, public awareness, and new policy development aimed at reducing greenhouse gas emissions and encouraging sustainability generally.

The university hired an energy manager in the latter half of 2009 to facilitate the completion of a campus-wide energy study by mid-2010 and to implement physical and behavioural changes for actual energy reductions in 2011 and 2012.

Laying the groundwork to reach its target of a 50% reduction in paper use by 2011, TRU implemented a number of measures in 2009, including a new IT information system which provides for a paperless payroll and benefits information system, and completion of a tender process for new multi-use copiers to be in place by the end of the first quarter of 2010.

TRU's flagship area of activity in 2009, however, was the partnerships it forged and the infrastructural changes it implemented in order to be able to introduce reuse of cafeteria and dining room preparation waste, composting or chipping of all horticultural waste, and complete mixed recycling to match Kamloops' curbside program by spring, 2010.

From these firm first steps, TRU is poised to take the next strides into campus, community, and climate sustainability.

## Overviews

### Actions Taken to Reduce Greenhouse Gas Emissions in 2009

#### Built:

##### Buildings:

- Our new House of Learning, currently under construction, is being built to LEED Gold standard, as will all new standalone buildings developed in future.
- Minor lighting retro-fits in all campus buildings, with 30% of these encompassing lighting system upgrades were completed.
- A new Energy Manager was hired to oversee the completion of a comprehensive energy study by mid-2010, and to implement retrofits and other activities and initiatives aimed at reducing energy consumption in the 2010-2012 period and beyond.

##### Equipment:

- Our IT Department installed power management software which shuts down more than half of the campus computers outside of regular business hours. This will be extended to all computers in 2010.
- Auto-sleep settings have been applied to all computer monitors and CPUs.
- All campus computers were brought to Energy Star standard.
- The tender process for new multi-use copiers was completed, with the copiers to be in place by the end of the first quarter of 2010.

##### Materials:

- All paper purchased for campus use now contains 30% recycled content.
- A new IT information system which provides for a paperless payroll and benefits information system was implemented.
- A sustainable purchasing program for cleaning products, disposable paper products and trash bags was put into practice.
- The campus has used only Green Seal cleaning and paper products since summer 2009.

#### Natural:

- TRU endeavours to enhance and protect its natural setting while continuing to plant tree, shrub and other plant species suited to our region's biogeoclimatic parameters in order to reduce water consumption, and is working to reduce existing irrigation requirements.
- To create natural shading for the cooling of buildings in summer and natural protection from wind in winter, in 2009 TRU planted 50 replacement trees to make up for the loss of 15-20 large campus trees due to the mountain pine beetle infestation.

## **Human:**

- In order to promote behavioural changes benefiting greenhouse gas emissions reductions, representatives from the two faculty unions, the support staff union, the student union, the administrator's organization and the alumni association developed a Campus Sustainability Action Plan, a consensus document examining TRU's ecological footprint and recommending actions consistent with the Strategic Plan of the University.
- The public was invited to a thematic series founded in 2009 featuring world-class speakers on such topics as climate change, sustainable tourism, ocean plastics and sustainable non-governmental organizations.
- TRU created an environmental achievement award programme in 2009, with the inaugural award to be bestowed in April, 2010.

## **Plans to Continue Reducing Greenhouse Gas Emissions 2010 - 2012**

In the period 2010-2012, the university will focus upon the following five areas, incorporating 'built,' 'natural,' and 'human' components as determined by the Campus Sustainability Action Plan.

TRU is dedicated to completing the bulleted objectives below, and, will, according to available resources, also engage in and implement as many other activities and initiatives as possible. As the university's ability to make structural/infrastructural changes will be limited by the province's two-thirds reduction in the annual capital allowance normally used for this purpose, TRU will mainly concentrate on behavioural change initiatives aimed at demand-side management of campus resources and energy requirements.

## **Energy:**

A major focus in 2010-2012 will be the completion of and actions arising from a campus-wide energy audit.

- A complete, campus-wide energy study will be concluded by mid-2010, with implementation to begin by the end of 2010, and actual energy reductions from these initiatives coming on stream in 2011 and 2012.
- Behavioural changes required for energy reduction will be encouraged by education and awareness programmes, often focused on special events such as Earth Week.

## **Transportation:**

- Car pooling will begin January, 2010
- A vehicle survey will be conducted in 2010

## **Waste:**

2010 will also see a number of waste reduction initiatives completed, including:

- Kitchen preparation waste reuse by February 15, 2010
- Complete mixed recycling to match Kamloops' curbside program implemented on campus by early 2010
- New multifunctional copiers to be in place by June, 2010, with a target of a 50% reduction in paper use by 2011

- A series of awareness initiatives to accompany the introduction of the new copiers, including paper use audits.
- Other behavioural change activities related to reducing, reusing and recycling materials and energy needs, from beverage containers to computer equipment, including awareness campaigns, recycling opportunities, and other initiatives and alternatives to encourage students, employees and visitors to have the will and the way to help TRU to reach its greenhouse gas reduction and other campus sustainability goals.

### **Awareness:**

The university will also work to reach awareness and education goals outlined in the Campus Sustainability Action Plan, including:

- Green professional development, already in progress
- Education for staff and the public about the science of climate change, the conservation of water, energy, and raw materials
- Green tips on the university's website and in its newsletters
- A series of awareness initiatives including paper use audits to accompany the introduction of the new multifunctional copiers in 2010.

### **Curriculum:**

Thompson Rivers University's mandate has long included the development of an educated and skilled workforce current and nimble enough to respond to the immediate needs of business and society. Thus, Thompson Rivers University has a long been history of environmental sustainability in regard to education, from the development of the Bachelor of Natural Resource Science degree in 1992, to the 2007 launch of its first Master's cohort in this discipline.

- In 2009, TRU launched a Minor in Environmental Economics and Sustainable Development available to students in the Arts, Sciences, Business and Tourism Degree programs, with the first students slated to graduate in 2011.
- For the first time, the 2010 Y Dream Home, built by TRU trades students, will be a truly "zero-energy" home, one of only 15 in Canada.
- September 2010 will see the launch of the Water and Wastewater Utilities Certificate program.



A handwritten signature in black ink, appearing to be "Thomas H. Owen".

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Thomas H. Owen PhD  
 Director, Environment and Sustainability  
 March 30, 2010

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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 *Greenhouse Gas Reduction Targets Act*.

Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)	Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
<b>Mobile Fuel Combustion (Fleet and other mobile equipment)</b>						
<b>Vehicle fuel efficiency</b>						
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	100 % of vehicles are subject to regular maintenance for fuel efficiency	continue the maintenance programme for all vehicles	continue the maintenance programme for all vehicles	2002	No End Date (Continuous)
<b>Behaviour change program</b>						
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Ongoing/In Progress		Policy developed and circulated for comment	recommended to Board for adoption	2008	No End Date (Continuous)
<b>Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)</b>						
<b>Planning/management</b>						
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	In Development			System to be chosen following results of energy study in the fall of 2010	2010	2010
<b>Owned buildings</b>						
Establish energy performance baseline for owned buildings	In Development		Study Scheduled for spring/summer 09	Comprehensive inventory to be completed by fall 2010	2010	2010
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Complete		House of Learning (under construction) is LEED Gold	complete construction of HOL	2009	2011
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress		minor Lighting retro-fits completed in 2009- majority of retro-fits will be completed after energy study 2010-2012	Energy Study recommendation implementation	2010	2012
<b>Retrofitting owned buildings</b>						
Upgrade lighting systems during retrofits	Ongoing/In Progress	30 % of retrofits (captured above) had lighting systems upgrades	energy manager hired/energy study terms of reference developed and tendered	Energy Study recommendation implementation	2010	2012
<b>IT power management</b>						
Install power management software which shuts down computers outside of regular business hours	Complete	100 % of computers shut down automatically outside of regular business hours	software updates installed	continuation of software update installations	2009	No End Date (Continuous)
Implement server virtualization	Ongoing/In Progress	66 % of servers have been virtualized since start year indicated	20% of servers virtualized	Continuation of server virtualization project	2007	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress	100 % of computers have auto-sleep settings applied	auto sleep applied on all new computers	auto sleep applied on all new computers	2007	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress		Tender developed and bids evaluated for multifunctional devices	Multifunctional devices installed across campus in 2010	2010	2010

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)		Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	Ongoing/In Progress	100	% of devices have auto-sleep settings applied	auto sleep applied on all new multifunctional and other devices	auto sleep applied on all new multifunctional and other devices	2007	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Complete	100	% of computers are ENERGY STAR rated	all new computers will be Energy Star Models	all new computers will be energy star models	2006	No End Date (Continuous)
<b>Behaviour change program</b>							
Ask staff to unplug electrical equipment or switch off power bars when not in use	In Development				pilot project on smart bars to be undertaken in 2010 and implementation will depend upon the results of the pilot project	2010	2011
Provide tips to staff on saving energy in the office while working outside of regular business hours	Ongoing/In Progress			tips provided on website and on bookmarks etc at special events	continuing tips on website and special events handout. Carbon Reduction Challenge in the Faculty of Tourism in February as a pilot project	2010	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			BC Hydro Power smart stickers on some of light switches around campus	expand to all light switches	2008	No End Date (Continuous)
<b>Other Stationary Fuel Combustion and Electricity Actions</b>							
participation in events such as earth hour	Complete			organised campus lights out campaign		2008	No End Date (Continuous)
taking advantage of all hydro rebate programmes for energy conservation	Ongoing/In Progress			Energy Manager Subsidy	Energy Study Subsidy/ Retrofit subsidies	2009	No End Date (Continuous)
cooperating with TRUECO club and the student union on special events and awareness campaigns	Ongoing/In Progress			Tree planting/ Reusable bottle give away and public education	Recycling	2009	No End Date (Continuous)
<b>Supplies (Paper)</b>							
<b>Paper Type</b>							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	100	% of total paper purchased contains 30% recycled content	continue to purchase 30% post consumer paper	continue to purchase 30% post consumer paper	2006	No End Date (Continuous)
<b>Printer/document settings</b>							
Switch networked printers and photocopiers to automatic double-sided	Complete	30	% of network printers or photocopiers are set to automatic double-sided	tender for new multifunctional copiers which will have double sided as default setting	install the copiers	2010	No End Date (Continuous)
<b>Electronic media in place of paper</b>							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Complete			available to all faculty staff	continue to make available to all faculty staff	2006	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress			all admin documentation on line	student documentation going on line	2009	No End Date (Continuous)
<b>Behaviour change program</b>							
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress			all Board and most senior admin and faculty meetings are now paperless or have a paperless option	all Board and most senior admin and faculty meetings will be paperless or have a paperless option	2007	No End Date (Continuous)
<b>Other Paper Supplies Actions</b>							

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)	Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
conducted pilot projects on paper use reductions in selected departments in anticipation of the new multifunctional devices	Complete		pilot project lessons learned will be applied to support new MFD's		2009	2009
Made assistance in paper use reduction initiatives an explicit component of the multifunctional devices tender process	Complete		Made assistance in paper use reduction initiatives an explicit component of the multifunctional devices tender process		2009	2009

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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 12/31/09)	Performance to Date (as of 12/31/09)	Steps Taken in 2009	Steps Planned for 2010 -2012	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	1 % of computers have web-conferencing software installed	100% available to staff upon request	continue to make available	2005	No End Date (Continuous)
Make desktop web-cameras available to staff	Complete	100 % of staff have access to a desktop web-camera	available to staff upon request		2005	No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Complete	100 % of meeting rooms have access to video-conferencing equipment	there are both dedicated rooms and portable equipment which can be used across campus	continue to make available	2005	No End Date (Continuous)
<b>Behaviour change program</b>						
Train staff in video-conferencing or provide technical support for video-conferencing set-up	Complete		technical support is available upon request	continue to make available	2007	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	In Development		Draft Terms of Reference for Green Teams created	create Green Teams	2010	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	In Development		Terms of Reference developed for Green Teams	Green Teams to be established and competitions initiated	2010	No End Date (Continuous)
<b>Awards/Recognition</b>						
Establish a sustainability/green awards or recognition program	Ongoing/In Progress		Nominations and Applications open	Award will be given annually	2010	No End Date (Continuous)
<b>Staff Professional Development</b>						
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress		Faculty travel to conferences subsidized by Environment and Sustainability Department	More departmental direct support	2010	No End Date (Continuous)
<b>Staff awareness/education</b>						
Provide education to staff about the science of climate change	Ongoing/In Progress		series Implemented	continue to invite speakers	2010	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress		web based tips	web based tips and special events/challenges	2008	No End Date (Continuous)
<b>Client/public awareness/education</b>						
Provide education to clients/public about the science of climate change	Ongoing/In Progress		guest speakers /participation in public forums and special events	continue the programme	2009	No End Date (Continuous)



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Provide education to clients/public about the conservation of water, energy, and raw materials	Ongoing/In Progress			web based tips publicly available/special events	continue the programme	2009	No End Date (Continuous)
<b>Other Sustainability Actions</b>							
<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			pilot project for the diversion of kitchen waste	diversion of all kitchen preparation non meat waste	2010	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress			reduction in pesticide use/ clean janitorial products	continue the programme	2008	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			included in tendering process for computers, janitorial services, multifunctional devices on an ad hoc basis	develop and implement a purchasing policy with this requirement	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.)	In Development				develop and implement a purchasing policy with this requirement	2010	No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress			implemented for janitorial products	extend to other products	2010	No End Date (Continuous)
Require a minimum purchase of sustainable, and organic food and beverages supplied by contracted food suppliers or caterers	Ongoing/In Progress			discussions initiated with food services/ lunch and learn for the community on sustainable seafood. Grass fed local beef sold in Meat Store	continue these initiatives	2009	No End Date (Continuous)
<b>Building construction, renovation, and leasing</b>							
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	Ongoing/In Progress			New HOL Building to Gold LEED standards requires reused materials/New student centre renovation incorporated reused materials	continue these initiatives	2007	No End Date (Continuous)
<b>Indoor air quality</b>							
Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.)	Complete	100	scent free campus	continuing scent free		2006	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			completed for paint	examine options for other products	2011	No End Date (Continuous)
<b>Commuting to and from home</b>							
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress			car pool programme prepared	car pooling implemented	2010	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Ongoing/In Progress			new showers and bike lockers planned	new showers in HOL/ New bike lockers	2010	2010
Provide secure bicycle storage	Ongoing/In Progress			one location in place	other places to be added	2010	2010

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)	Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Modify parking fees or parking availability for staff/students	Ongoing/In Progress		HOV parking fees in place	Transportation Demand Study	2010	2010