



2010 Carbon Neutral
Action Report

 **ROYAL ROADS UNIVERSITY**

ROYAL ROADS UNIVERSITY – 2010 CARBON NEUTRAL ACTION REPORT OVERVIEW

Executive Summary

Sustainability has been one of the founding pillars of Royal Roads University since it began in 1995. The university's approach to sustainability is comprehensive – it is embedded in our policies, our academic programming and our operations. In 2007, the Board of Governors set targets to reduce greenhouse gas emissions by 50% by 2020 and to be off the grid by 2018, in addition to being carbon neutral by 2010. The University undertook energy audits of the campus buildings and Hatley Castle in 2009 and 2010, and was successful in 2010 in securing grants from the Public Sector Energy Conservation Agreement, Solar BC, EcoEnergy (NRCAN), BC Hydro and Terasen Gas (now FortisBC) of over \$1.1 million dollars.

In 2010, Royal Roads University became the first Canadian university to be ranked in the Sustainability Tracking Assessment & Rating System (STARS). This comprehensive ranking system awarded RRU a “Silver” ranking, with high marks for its academic programming, but improvements needed in its operations. With the infusion of new dollars for retrofitting the buildings on campus, the operations will greatly improve with respect to energy efficiency and greenhouse gas emissions. The STARS ranking occurs every three years, and it is expected that the university will achieve a Gold ranking at that time, as the energy retrofits reduce our carbon footprint.

With respect to sustainable academic programming, there were a number of new graduate certificates developed or approved:

- A new Graduate Certificate in Sustainable Community Development
- A new Certificate in Carbon and Energy Leadership, being offered through RRU Continuing Studies, and therefore open to the public.
- A continuing Graduate Certificate in Sustainable Tourism, the only one of its kind in Canada.
- Approval for a new Graduate Certificate in Sustainability, with a specialization in Ecology and Management, to be offered in 2012.

A highlight of 2010 was the launch of a new Sustainability Website on campus, which is also open to the public. The website, which can be found at: www.sustainability.royalroads.ca, provides a one stop source for sustainability plans, reports, research and news for staff, faculty, students and the community. There is also a “partners” page, which showcases the many

partnerships that RRU has formed with organizations such as the City of Colwood, the Nature Conservancy of Canada, the Wetland Stewardship Partnership of BC, the Esquimalt Lagoon Stewardship Society, Climate Action Westshore, the Westshore HIVE, and QUEST BC.

RRU was successful in 2010 in receiving \$19,000 from the Vancouver Foundation and \$11,000 from the Pacific Salmon Foundation, to begin assessment work on the Wetland Ecosystem Restoration Project on campus in 2011. Discussions will be held with the Pacific Carbon Trust and other carbon offsetters, to examine the potential of the wetland to offset the university's emissions - a potential research area for Environmental Science Students.

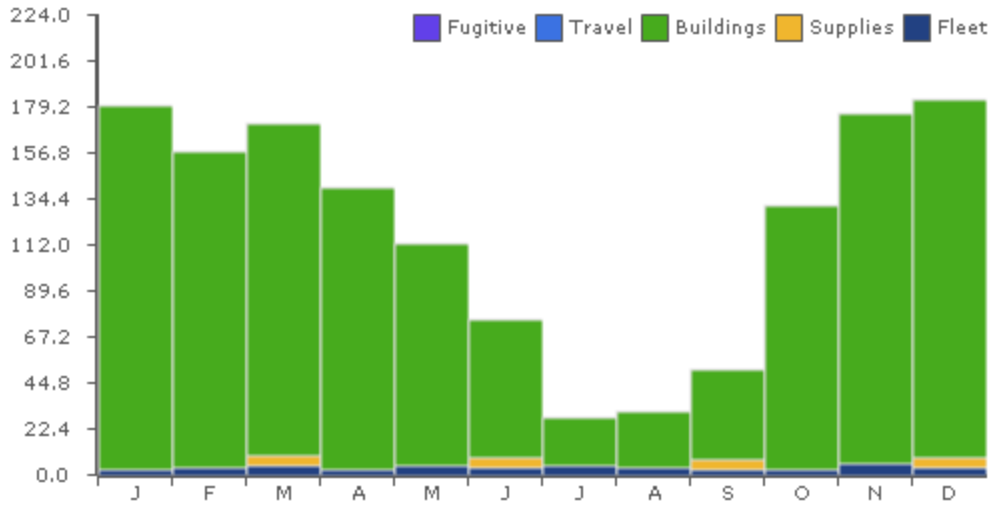
Working under a Memorandum of Understanding with the City of Colwood (signed in 2009), Royal Roads became a partner in the city's Solar Colwood project – a 3 year, \$3.9 million dollar project. Royal Roads will be responsible for the research, monitoring and reporting aspects of the project. Two BSc student projects were approved in 2010 – one, a lifecycle analysis of solar thermal systems and the other, monitoring and reporting framework for the 3 year project. The results of these projects will be presented to the City of Colwood, Canada's first "Green Learning University City", in August 2011. In addition, a two year research project was approved by the Pacific Institute for Climate Solutions to undertake research on the social diffusion aspects of the Solar Colwood Project, with a budget of \$47,000 over 2 years.

2010 Greenhouse Gas Emissions

RRU's greenhouse gas emissions in 2009 were 1549 tonnes and in 2010 they were reduced to 1460 tonnes. The majority of these emissions come from the buildings on campus, followed by fleet vehicles and then paper use. The retrofits planned for the buildings, as a result of the PSECA funding, and the installation of a solar thermal units on 2 of the buildings, will see an expected reduction of 20% in greenhouse gas emissions for these buildings next two years. The new LEED NC Gold Learning and Innovation Centre will be included in the greenhouse gas calculations for 2011.

Total Emissions Calendar Year 2010 Royal Roads University

Metric tonnes
CO2 equivalent (tCO2e)



Click on the bars to view data for each month

Fugitive

GHG Emissions
(Metric Tonnes CO2e)



Travel

GHG Emissions
(Metric Tonnes CO2e)



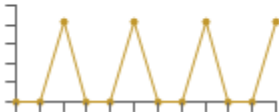
Buildings

GHG Emissions
(Metric Tonnes CO2e)



Supplies

GHG Emissions
(Metric Tonnes CO2e)



Fleet

GHG Emissions
(Metric Tonnes CO2e)



Totals Calendar Year 2010, Royal Roads University

	Measure	Quantity	Greenhouse Gases in Tonnes				tCO ₂ e ¹
			CO ₂	BioCO ₂	CH ₄	N ₂ O	
Scope 1 (Direct) Emissions							
Mobile Combustion (Fleet)	Litres	23,697.63	50.54	1.60	0.00	0.01	53.84
Stationary Combustion, Reported ³	GigaJoules	24,910.13	1,251.49	0.63	0.02	0.02	1,259.59
Scope 2 (Indirect) Emissions							
Purchased Energy, Estimated ²	GigaJoules	146.40	30.95	0.00	0.00	0.00	30.95
Purchased Energy, Reported ³	GigaJoules	13,757.48	94.93	0.00	0.00	0.00	94.93
Scope 3 (Business Travel and Office Paper) Emissions							
Office Paper	Packages	3,911.00	22.86	0.00	0.00	0.00	22.86
Total Emissions, Calendar Year 2010			1,450.76	2.23	0.03	0.03	1,462.16
Carbon Neutral or Offset Exempt			0.00	2.23	0.00	0.00	2.23
Total for Offsets			1,450.76	0.00	0.03	0.03	1,459.93

1. Each greenhouse gas has been converted to a standard measurement (tCO₂e) by multiplying its emissions by its [global warming potential \(GWP\)](#). The GWP of carbon dioxide (CO₂) from both anthropogenic and biogenic sources is 1; methane (CH₄) is 21, and nitrous oxide (N₂O) is 310.

2. Estimated data has been calculated based on the methods described in the Methodology Document

3. Reported data refers to consumption which has been directly billed to the organization.

Offsets Applied to Become Carbon Neutral in 2010

A total of \$40,878.32 has been paid to the Pacific Carbon Trust to offset the total carbon emissions for Royal Roads University for the year 2010. This amount reflects a total offset investment of \$36,498.50 plus 12% HST of \$4,379.82, for a total payment of \$40,878.32.

Emissions Reduction Activities

Actions Taken to Reduce Greenhouse Gas Emissions in 2010

1. Solar thermal units were installed on the Millward building – the student residence, and the new Learning and Innovation Centre (LIC). Savings of \$4000 per year are expected from the Millward building. Numbers are not available for the LIC, as it does not open until mid-April, 2011.
2. A new settling sump was installed to improve the campus irrigation system. This will ensure the continued use of non-potable water for the landscape sprinkling systems.
3. Batteries were replaced for 3 of the electric golf carts, and no new fleet vehicles were purchased.
4. A number of thermostats were replaced in the buildings with programmable thermostats, enabling better controls of heating in the buildings.
5. An older refrigerator was replaced with an energy star appliance.
6. As part of regular maintenance, faulty lights were replaced to the T-8 type, using less energy.
7. Agreement was reached with Terasen Gas (FortisBC) to undertake a study on a District Energy System on campus, starting in the spring of 2011. This study will include a cost/benefit analysis of using a geexchange energy system for RRU.
8. Agreement was also reached with BC Hydro, Terasen Gas (FortisBC), League Assets (developer) and the City of Colwood, to do a larger District Energy Study, also starting in the spring of 2011. League Assets is developing Colwood City Centre, which is less than one km from RRU, which may have the potential to supply alternative energy to RRU for heating.
9. RRU entered into discussions with the BC Government's SMARTEC team to look at the potential of becoming a pilot for SMARTEC on campus.
10. The Bachelor of Commerce students were given the challenge of solving transportation issues on campus. A Transportation Demand Study revealed that 90% of the traffic coming to RRU is single occupant vehicles, and the students were challenged to reduce this number and increase the number of people carpooling, taking transit, cycling or walking.
11. A new brand was created for "Sustainability". This brand will be used alongside the new recycling stations being planned for the Learning and Innovation Centre which will open in mid-April, 2011. The plan is to extend this brand and the new recycling stations throughout campus, contingent on available budget dollars.

Plans to Continue Reducing Greenhouse Gas Emissions 2011-2013

1. Over 1 million dollars in energy retrofits will be completed in 2011, and are expected to reduce emissions by 20%, reduce utility bills by \$55,000 annually and reduce the carbon offset payment by \$8000. Projects include lighting upgrades throughout campus, heat pumps for four houses on campus, a new energy efficient boiler for Hatley Castle, air sealing and insulation for all of the buildings – including attic insulation in the Castle, significant upgrades to direct digital control systems, spark igniters for the gas stoves in the cafeteria, a new hot water boiler in the gymnasium, new LED and compact fluorescent units for office desks and residences, and new shower heads throughout, (which will save 162,000 litres of water per year). The success of this energy retrofit program is directly related to the excellent energy studies completed on campus in 2009 and 2010.
2. The District Energy Studies will be underway, and could potentially result in a new alternative energy source for RRU, either from geoexchange on campus, or in a partnership with League Assets off campus.
3. Assessment work will begin on the Wetland Ecosystem Restoration Project in order to prepare for the necessary approvals for the project. Research will begin on the potential of the Wetland Ecosystem Restoration Project and carbon offsets.
4. The Solar Colwood project will be underway, and the 2 student reports will be presented in August 2011. Solar Colwood is a \$3.9 million dollar project which involves solar thermal installations for up to 1000 homes in Colwood, retrofitting the Colwood firehall with solar thermal and solar electric, smart grid technology and alternative energy systems in commercial developments, incentives for ductless split heat pump systems for homes and a program with BC Hydro to install electric vehicle charging stations throughout the municipality. The research project on Social Diffusion will be underway.
5. Although staff travel, and student travel are exempt from public sector emissions reporting requirements, success of the Smartec pilot would result in the collection of voluntary offset funds from students in order to undertake sustainability projects on campus. In addition, success as a Smartec pilot for staff and faculty would greatly increase the awareness of staff and faculty regarding their travel and the related carbon emissions.
6. As part of the RRU Sustainability Plan, and the Transportation Demand Study, improving bus service to campus is required to encourage more people to use the bus service. To that end, RRU is building a bus turnaround at the top of campus, which will enable more buses to come into campus. In addition, the students are holding a referendum in the

spring of 2011, to vote on a UPASS bus pass for on campus students, which would greatly reduce the cost of a monthly bus pass.

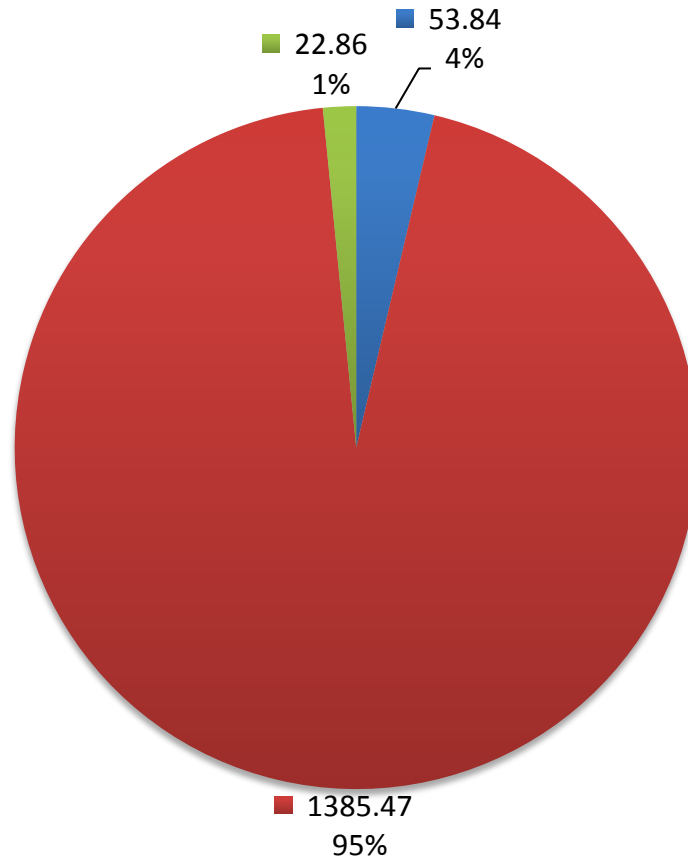
7. A new carpooling system is being explored – called “Double Pass on the Dash”. Rideshare will be promoted throughout campus and a bulletin board will be dedicated to rideshare and carpooling for students, staff and faculty.
8. The new LEEDS NC Gold Learning and Innovation Centre (LIC) will open and will showcase the many energy efficient and environmental aspects of this new academic building. As well, a state of the art Video Conferencing “Centre for Dialogue” will be open in the building, to attract people from around the world to engage in meaningful dialogue, online, without needing to travel to RRU.
9. The new sustainability branding and the new recycling stations will be operational in the LIC, and additional branding and stations will begin to be installed throughout campus, as budget permits.

Royal Roads University is on its way to reducing its greenhouse gas emissions through a concerted effort to undertake energy retrofits on its buildings, use alternative energy sources such as solar and to find new energy sources to meet its target of a 50% reduction by 2020 and being “off the grid” by 2018.

Mr. Dan Tulip, Vice President and Chief Financial Officer,

Royal Roads University

Royal Roads University Greenhouse Gas Emissions by Source for the 2010 Calendar Year (tCO₂e*)



Total Emissions: 1462.17

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion and Electricity (Buildings)
- Supplies (Paper)

Offsets Applied to Become Carbon Neutral in 2010

Total offsets purchased: **1459.94**. Total offset investment: **\$36,498.50**. Emissions which do not require offsets: **2.23** **

*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.

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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 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	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	61	% of vehicles are fuel- efficient models	Batteries were replaced in 3 Electric Golf Carts	Continue to replace older vehicles with fuel efficient models, as budget becomes available. Looking into electric vehicles, as part of the partnership with Solar Colwood and the installation of electric vehicle charging stations in the municipality.	2006	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	60	% of vehicles down-sized since start year indicated	None	Continue to review vehicles according to capacity, needs and fuel efficiency	2006	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	100	% of vehicles are subject to regular maintenance for fuel efficiency	CMMS - computerized maintenance schedule in place	Continue CMMS	2007	No End Date (Continuous)
Replace small maintenance vehicles with more fuel-efficient models	Ongoing/In Progress	60	% of small maintenance vehicles are fuel-efficient	None	Continue to replace older vehicles with fuel efficient models, as budget becomes available. Looking into electric vehicles, as part of the partnership with Solar Colwood and the installation of electric vehicle charging stations in the municipality.	2006	No End Date (Continuous)
Behaviour change program							
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	100	% of current drivers are trained	Training carried out	Training will continue	2006	No End Date (Continuous)
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	In Development			Hosted the CRD's Transportation Tune-Up Workshop	Place anti-idling stickers on dashes of all fleet vehicles	2011	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress			Vehicles have been reduced in the past and staff share vehicles regularly.	Continue vehicle sharing program	2008	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Ongoing/In Progress			Staff walk between campus buildings. There are 18 electric golf carts for staff use. Saunders Subaru donated a Subaru Impreza for a student project for 1 month, and the vehicle was also available as a fleet vehicle for 2 months, at no cost to RRU.	Continue to encourage staff to walk between campus buildings and continue to purchase electric golf carts as needed.	2007	No End Date (Continuous)
Other Mobile Fuel Combustion Actions							
Grounds crew have revised the lawn mowing schedule and reduced the use of gas powered lawn mowers	Ongoing/In Progress			Continue with reduced lawn mowing schedule	Continue with reduced lawn mowing schedule	2007	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			RRU is a Power Smart Partner	Continue to maintain credits to be a Power Smart Partner	2007	No End Date (Continuous)
Reduce office space (square meters) per employee	Ongoing/In Progress			The Shoal Point site is the only "rentable" space for RRU employees, and was leased for a special, time limited program.	Include sustainability impacts of office space per employee as a consideration in future office space re-design.	2009	2012

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	In Development			Made application to the Public Sector Energy Conservation Agreement and was successful - with a grant of over \$1.1 million dollars for energy related retrofits to the campus buildings	To install metering systems, in accordance with the 2010 Energy Audit, and the funding available from PSECA	2010	2011
Owned buildings							
Establish energy performance baseline for owned buildings	In Development			Applied for PSECA funding and was successful	Funding will enable the university to establish a baseline for the campus but not for individual buildings.	2010	2011
Register for performance labelling/certification for operations and maintenance of owned buildings (e.g., LEED EB:O&M)	In Development			None	Investigate certification of existing camus buildings under LEED Canada for Existing Buildings: Operations & Maintenance 2009 Standards	2011	2012
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	The new Learning and Innovation Centre has been under construction throughout 2010 in accordance with LEED NC Gold standards	Apply for LEED NC Gold Certification for the Learning and Innovation Centre, which is scheduled to open in the Spring of 2011	2008	2011
Incorporate integrated design process into new construction or during renovations of owned buildings	Ongoing/In Progress	0	% of buildings built or renovated since start year indicated used the integrated design process	Included in LEED NC Gold Certification process. In addition, all staff, faculty and students were consulted on the design of the new Learning and Innovation Centre	Apply for LEED NC Gold Certification for the Learning and Innovation Centre, which is scheduled to open in the Spring of 2011	2008	2011
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Ongoing/In Progress			Qualified contractor hired to "retire" fugitive emissions when refrigerators are replaced. One was replaced with a new Energy Star rated appliance	Continue to hire a qualified contractor to "retire" fugitive emissions, where required	2005	No End Date (Continuous)
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress	8	% of owned buildings have undergone energy retrofits since start year indicated	Solar Thermal systems were installed on 2 buildings on campus	Undertake planned retrofits on campus buildings, in accordance with the PSECA, Terasen (Fortis), and BC Hydro funding.	2010	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	In Development			Applied for PSECA funding and was successful	Undertake planned retrofits in accordance with funded program	2010	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	60	% of retrofits since start year indicated had lighting systems upgrades	Applied for PSECA funding and was successful	Undertake planned retrofits in accordance with funded program	2005	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	85	% of retrofits since start year indicated had control system upgrades or adjustments	Applied for PSECA funding and was successful	Undertake planned retrofits in accordance with funded program	2008	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	In Development			Applied for PSECA funding and was successful	Undertake planned retrofits in accordance with funded program	2011	No End Date (Continuous)
Install an on-site renewable energy demonstration project	Ongoing/In Progress	8	% of retrofits since start year indicated had on-site renewable energy components	Solar Thermal systems were installed on 2 buildings on campus	A study on a District Energy System for campus, and with the City of Colwood will begin in the Spring of 2011.	2010	No End Date (Continuous)
Leased buildings							
Develop a green lease policy that requires green features to conserve energy be included in all lease negotiations	Ongoing/In Progress	0	% of leases negotiated since start year indicated have included green features	None	A green leasing policy will be included in a Sustainable Purchasing Policy for RRU	2011	2012
Appliances and electronic devices							

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	50	% of fridges are ENERGY STAR rated	Replaced 1 existing refrigerator with an Energy Star Model	Continue to replace with Energy Star models	2008	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			None	Continue to replace with Energy Star models	2008	No End Date (Continuous)
Replace desk lamp incandescent bulbs with compact fluorescent (CFL) bulbs or source more efficient desk lamps for future purchases	Ongoing/In Progress			Applied for PSECA funding and was successful	Undertake planned retrofits in accordance with funded program	2008	No End Date (Continuous)
Behaviour change program							
Help staff reduce personal energy use through "workstation tune-ups"	In Development	0	% of current staff have completed a workstation tune-up	None	Planned for 2012	2012	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	In Development			Supplied Power Bars	Continue to supply power bars, and encourage conservation practices	2010	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	In Development			A new Sustainability Brand was created to improve conservation actions by staff, faculty and students	The new Sustainability Brand will be installed in the new Learning and Innovation Centre, and then distributed throughout campus.	2010	No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	In Development			None	Air dry setting is unacceptable for commercial dishwashers due to health reasons.	2010	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	In Development			A new Sustainability Brand was created to improve conservation actions by staff, faculty and students	The new Sustainability Brand will be installed in the new Learning and Innovation Centre, and then distributed throughout campus.	2010	No End Date (Continuous)
Encourage use of stairs instead of elevators	In Development			None	Work with the RRU recreation centre staff to start up a program of using the stairs instead of the elevators.	2011	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	In Development			A new Sustainability Brand was created to improve conservation actions by staff, faculty and students	The new Sustainability Brand will be installed in the new Learning and Innovation Centre, and then distributed throughout campus.	2010	No End Date (Continuous)
Promote hot water conservation	In Development			A new Sustainability Brand was created to improve conservation actions by staff, faculty and students. In addition, having the new Solar Thermal installations on the student residence building will be used to draw attention to the need to conserve hot water	The new Sustainability Brand will be installed in the new Learning and Innovation Centre, and then distributed throughout campus.	2010	No End Date (Continuous)
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	95	% of total paper purchased contains 30% recycled content	None	None	2005	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	In Development	5	% of total paper purchased contains 100% recycled content	None	None	2005	No End Date (Continuous)
Printer/document settings							
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	100	% of network printers or photocopiers are set to automatic double-sided	None	None	2005	No End Date (Continuous)

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Reduce default margin size in standard document templates (e.g., letters, briefing notes, forms, etc.)	In Development			None	None	2012	No End Date (Continuous)
Electronic media in place of paper							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development	100	% of staff workstations with software installed	Staff are trained on Elluminate and also have access to SharePoint.	Continue to make Elluminate and SharePoint available to all staff and faculty. Multiple training opportunities will continue to be offered to staff and faculty.	2007	No End Date (Continuous)
Use electronic document library for filing common documents	In Development			Developed document library (online and one printed copy) for large documents.	None	2008	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress			Developed document library (online and one printed copy) for large documents.	None	2008	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Ongoing/In Progress	80		None	None	2001	No End Date (Continuous)
Behaviour change program							
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development	0	% of staff currently have received collaborative software training	None	None	2012	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	In Development			None	None	2012	No End Date (Continuous)
Encourage re-use of scrap paper	In Development			None	None	2012	No End Date (Continuous)
Other Paper Supplies Actions							
Supplying labtops/tablets	In Development			Currently laptops are available for staff/faculty to book.	Continue making laptops available	2005	No End Date (Continuous)
Trained staff in the use of Live Meeting	Ongoing/In Progress			Staff trained, but did not keep track of numbers.	Continue to offer the training.	2004	No End Date (Continuous)
Installed video conferencing facilities	Ongoing/In Progress			Multiple locations available on campus, including a new state of the art video conferencing facility in the new Learning and Innovation Centre, scheduled for opening in April 2011.	Maintain and upgrade existing systems and launch the new service in the Learning and Innovation Centre.	2009	No End Date (Continuous)
Restructuring a process to use less paper	In Development			None	None	2012	No End Date (Continuous)
Staff and Student Newsletters only online	Ongoing/In Progress			None	None	2005	No End Date (Continuous)

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Actions to Reduce Provincial Emissions and Improve Sustainability

The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the *Greenhouse Gas Reduction Targets Act*. Public sector organizations can optionally use this section to report on actions that will help British Columbia meet its provincial greenhouse gas reduction targets, engage the public, and improve environmental sustainability across all aspects of their organization.

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)	Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Business Travel						
Policy and budgeting						
Create a low-carbon travel policy or travel reduction goal	In Development		Worked with Provincial Government representatives to determine if RRU would become a pilot for Smarttec.	Continue to look at the feasibility of becoming a Smarttec Pilot University.	2010	2012
Behaviour change program						
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress		A number of meetings include faculty from distance locations, all done through video conferencing.	Continue to encourage staff to use video conferencing.	2004	No End Date (Continuous)
Encourage carpooling to meetings	In Development		Revised carpool policy in process.	To implement the new Carpool Policy.	2009	2011
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress		University buildings are all within walking distance and 17 electric golf carts are available as needed.	To continue to encourage staff to walk, cycle and use electric golf carts for travel to meetings. The University has full capability for video conferencing and online teaching, and will enhance this capability with the opening of the new Learning and innovation Centre in April 2011.	2007	No End Date (Continuous)
Other Business Travel Actions						
Working with the Provincial Government Smarttec representatives to pilot a "Voluntary Student Travel Mitigation Project".	In Development		Project Charter was approved by the Heritage and Environmental Stewardship Committee. Discussions are underway with the BC Smarttec representatives to pilot a project for student travel, with the funds being donated to the SAFE fund - Sustainability Actions for the Environment - at RRU.	To continue work on becoming a Smarttec pilot for the voluntary student travel project.	2009	2012
Education, Awareness, and Engagement						
Team-building						
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress		RRU had a Go Beyond Coordinator who was very successful in engaging students in sustainability activities on campus. Also, the Director, Office of Sustainability, gave talks to the students in the Faculty of Management and the Faculty of Social and Applied Science on the RRU Sustainability Plan.	To apply for another Go Beyond Student Coordinator position to do outreach activities with students and the local Westshore community.	2008	No End Date (Continuous)
Staff Professional Development						
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress		Earth Day celebrations on campus are well attended by staff, faculty and students. Staff support green initiatives on campus. There is a new informal sustainability networking group, organized by the Faculty of Management, which meets monthly.	Continue to encourage and support green staff development and green initiatives on campus.	2008	No End Date (Continuous)
Staff awareness/education						

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)	Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Provide education to staff about the science of climate change	Ongoing/In Progress		The University launched its new Sustainability Website, at www.sustainability.royalroads.ca which provides a one stop shop for sustainability information, research, reports and news. Roadspiel is the University newsletter and links staff to weekly research and information on Climate Change, provided by the faculty and the Office of Sustainability.	To keep providing staff with current information and research results through Roadspiel and the new Sustainability Website	2008	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress		As above. In addition, a new course was designed and provided by Continuing Studies on Carbon and Energy Leadership, which is open to staff and faculty either through Staff Development opportunities, or regular registration.	To expand the Continuing Studies course on Carbon and Energy Leadership to include a "for credit" option.	2008	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress		Green Tips are regularly included in Roadspiel, dependent on staff time being available to submit them to the newsletter.	Staff reductions continue to reduce the regularity of Green Tips in the newsletter.	2008	No End Date (Continuous)
Provide sustainability education during new staff orientation	Ongoing/In Progress		A BSC student project was approved to produce a Green Guide to RRU, for staff, faculty and students. Currently the Student Orientation Guide does include new slides on Sustainability. New staff also receive a tour of Royal Roads, with a verbal affirmation of the University's commitment to Sustainability, and a tour of Hatley Park - a National Historic Site.	To produce the Green Guide when completed by the BSC students and approved for publication.	2008	No End Date (Continuous)
Client/public awareness/education						
Provide education to clients/public about the science of climate change	Ongoing/In Progress		The Director, Office of Sustainability represents RRU on the Climate Action Westshore Committee, and the Colwood Energy Task Force. The new Sustainability Website for RRU is also open to the public.	Continue to participate on Climate Action Westshore and Colwood's Energy Task Force and speak to community organizations.	2008	No End Date (Continuous)
Provide education to clients/public about the conservation of water, energy, and raw materials	Ongoing/In Progress		RRU's Continuing Studies provides opportunities for the public, through its Green Learning Series. The new Carbon and Energy Leadership Course was open to the public for registration. A new Graduate Certificate in Community Sustainability Development was also made available to qualified applicants.	Continue to engage with the local community and provide educational opportunities through Continuing Studies, faculties and the Centre for Applied Leadership and Management.	2009	No End Date (Continuous)
Other Education, Awareness, and Engagement Actions						
Memorandum of Understanding between RRU and City of Colwood	Ongoing/In Progress		The MOU continues to represent an opportunity for the University and City to collaborate on green initiatives. Two new BSC Student projects were approved in 2010 connected to the Solar Colwood program.	The two BSC student projects on Solar Colwood will be complete in August, 2011 and presented to the City of Colwood.	2009	No End Date (Continuous)
Solar Colwood project.	Ongoing/In Progress		RRU, through the Office of Sustainability, joined the City of Colwood and other partners in applying to the Federal Government's Natural Resources Canada department for \$3.5 million dollars for the Solar Colwood Project. Royal Roads University has responsibility for the research, monitoring and reporting aspects of the 3 year project.	Solar Colwood project will be underway. A total of \$97,500 over 3 years will be available to RRU for the research, monitoring and reporting aspects of the project.	2010	2013
Social Mobilization Research Project	Ongoing/In Progress		A research grant application was submitted to PICS (Pacific Institute for Climate Solutions) for a 2 year research project on Social Mobilization, under the Solar Colwood project.	With successful funding, the research project will be underway.	2010	2013

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Saunders Subaru Student Project	Ongoing/In Progress		An agreement was signed with Saunders Subaru and RRU for a Student Project to develop a strategic marketing plan, using social media, for the new 2011 Impreza. As part of the agreement, Saunders Subaru loaned a new 2011 Impreza to the University for the students to test out, and for the staff to use, over a period of 3 months.	The students will make their presentation to Saunders Subaru on the strategic marketing plan for the 2011 Impreza. This project may lead to other community businesses applying for student projects.	2010	2011
RRU has two representatives on the Esquimalt Lagoon Stewardship Initiative (ELSI)	Ongoing/In Progress		ELSI is the major environmental stakeholder group that protects the Esquimalt lagoon (which RRU sits on) and the surrounding area. By working collaboratively with ELSI, RRU has received positive recognition for it's community outreach and direct support the the RRU Wetland Restoration Project.	Continue participation and support for ELSI.	2007	No End Date (Continuous)
Wetland Ecosystem Restoration Project	Ongoing/In Progress		Successful applications were made to the Vancouver Foundation (\$19,000) and the Pacific Salmon Foundation (\$11,000) to undertake the assessment and planning phases of the Wetland Restoration Project.	To complete the assessments and approvals required for the Wetland Restoration Project to begin. Make application to the Habitat Conservation Trust Foundation for the actual construction phase of the Wetland project.	2009	No End Date (Continuous)
Launched the new publicly accessible RRU Sustainability Website	Ongoing/In Progress		The website was launched. A partnerships page highlights all of the partnerships RRU has with the community, on sustainability initiatives.	To continue to update and enhance the website.	2010	No End Date (Continuous)
New Branding and Recycling Stations	Ongoing/In Progress		A new Sustainability Brand was approved in 2009, however in 2010 this brand was integrated with the new recycling stations project for the new Learning and Innovation Centre.	To showcase the new Brand and Recycling stations in the new Learning and Innovation Centre, scheduled for opening in April 2011. Develop an education program for the new recycling stations and undertake a new waste audit on Earth Day, 2011.	2009	No End Date (Continuous)
RRU is a member of QUEST - a National organization which provides a network of organizations interested in Integrated Energy Systems.	Ongoing/In Progress		The Director, Office of Sustainability is the Chair of the Education and Training committee of QUEST. This network is very valuable in helping the University raise it's profile in the area of Integrated Energy Systems, and in particular District Energy systems.	Continue to participate on QUEST.	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		A water survey was completed, through Roadspiel, to determine staff use of water at home and on campus. A water tasting station was set up at Earth Day 2010, which resulted in RRU tap water being rated over bottled water!	Determine the barriers to banning bottled water on campus. Recommend a positive solution to reduce the existing use of bottled water on campus, leading to a potential ban on bottled water by 2012. The new Learning and Innovation Centre will have water bottle filling capability on all floors.	2009	2012
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		Irrigation system uses non-potable water	The new Learning and Innovation Centre will use grey water for toilets and non-potable water for the irrigation system.	2005	2011
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	Ongoing/In Progress		Stormwater system in place.	A stormwater system will be operable in the new Learning and Innovation Centre.	2009	2011
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		Recycling program in place, in addition to composting at source. All grounds materials are composted as garden soil.	Continue very successful program.	2005	No End Date (Continuous)
Procurement (non-paper supplies)						

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Incorporate minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.)	Ongoing/In Progress			The University continues to be part of a cooperative purchasing network, which purchases green products.	Continue to be part of the cooperative purchasing network.	2009	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			LEEDS standards are being used for furnishings in the new Learning and Innovation Centre. RRU recycles all of its furnishings.	Continue	2001	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	10	% of the combined total food and beverage purchase (in cost) meets these requirements	The Habitat Café is Green Table certified, Ocean Wise certified, and uses all compostable serving utensils, containers and composts food waste. Recently the head of the café reported that they no longer have a "garbage" can in the kitchen.	Under the retrofit program, the gas stoves will be modified with spark igniters, saving a total of 26 ghg's per year!	2008	No End Date (Continuous)
Building construction, renovation, and leasing							
Incorporate lifecycle costing into new construction or renovations	Ongoing/In Progress	100	% of business cases incorporating lifecycle costing since start year indicated	This percentage applies to lifecycle costing of new construction projects only. The LEEDS NC Gold standard required lifecycle costing for the new LIC building.	Determine if the process is suitable for other construction projects on campus. One of the BSC Student projects with Solar Colwood is a Lifecycle analysis on solar hot water heating, which will be presented in August, 2011.	2008	No End Date (Continuous)
Indoor air quality							
Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.)	In Development			Human Resources began work on a protocol.	Work on the protocol still underway.	2010	2012
Incorporate low volatile organic compounds (VOCs) standards into procurement policy for products such as paints, carpets, and furniture	Ongoing/In Progress			All paints are low VOC's	Expand to carpets and furniture.	2005	No End Date (Continuous)
Commuting to and from home							
Encourage commuting by foot, bicycle, carpool or public transit	In Development			The majority of travel to and from RRU campus is by single occupant vehicle. This challenge was provided to the BCOM students and a number of recommendations were provided to the Office of Sustainability. Meetings were held with BC Transit to design a new Bus Turnaround for the top of campus, to encourage more bus service to come in from Sooke Road. RRU is a member of the Jack Bell Rideshare program.	Based on a number of recommendations from the BCOM students and the Student Sustainability Committee, a new Carpool Policy has been developed for approval. The Student Association will be holding a referendum for a UPASS system for students, to encourage more bus use. The Rideshare program will be promoted throughout campus. RRU will continue to participate in Bike to Work Week.	2009	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	In Development			Existing bike storage areas covered.	The new Learning and Innovation Centre will have showers and lockers for cyclists, as well as covered storage areas.	2009	2011
Modify parking fees or parking availability for staff/students	In Development			Comparison work was completed on parking fees at other universities and colleges.	Initiatives will continue to reduce the number of single occupant vehicles coming to campus and create a more pedestrian friendly campus.	2009	No End Date (Continuous)
Other Sustainability Actions							
New Solar Hot Water Heating for the Student Residence Building	Completed in 2010			As a result of funding from NRCAN Ecoenergy, and Solar BC, RRU was able to install 42 solar panels on the student residence to reduce the use of natural gas to heat water in the building. The ghg and utility savings for this retrofit are still to be determined.		2010	2010
Energy Plan for all of the campus buildings, including Hatley Castle	Completed in 2010			This plan was submitted to the BC Government PSECA program for funding. A total of \$1,015,392 was requested.		2010	2011

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The new LEED NC Gold Learning and Innovation Centre	Ongoing/In Progress		The LIC has been under construction since 2008, with very careful attention to the surrounding environment. The road was aligned for the building construction, without any environmental impacts to the nearby fish bearing stream. The building is being built to LEED NC Gold standards and will incorporate solar hot water heating and showcase new recycling and new sustainability branding for the rest of campus.	Opening of the new Learning and Innovation Centre in April 2011. The Capital Region will be hosting its Resilient Cities Breakfast series in the new LIC in May, 2011.	2008	2011
Low flow shower heads	Ongoing/In Progress		Staff routinely retrofit new low flow shower heads as required. A program to replace all of them was included in the Energy Plan, which was submitted for funding to the BC Government PSECA program.	With successful funding from PSECA, all of the shower heads will be replaced, leading to a saving of 162,000 litres of water per year.	2008	2011
District Energy Studies	In Development		Following discussions with BC Hydro, Terasen Gas (FortisBC), City of Colwood and League Assets, verbal agreements were reached to undertake 2 District Energy Studies. One study by Terasen is on a stand alone system for the RRU campus and the other study by Terasen and BC Hydro is on a community wide District Energy System, including the new development of Colwood City Centre.	Undertake the District Energy Studies, and follow up on the results. These studies are critical to RRU meeting its ghg target for 2020.	2010	2012