

# TAKING ACTION

British Columbia's Universities and  
Colleges Respond to the Greenhouse  
Gas Reduction Targets Act

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walkingthetalk



**“By 2010, you’re going to have 2 million people working or learning in carbon neutral facilities and by extension those people touch every household, every person in BC. One of the key points of [Carbon Neutral Government] is to get people motivated across the province.”**

**GOVERNMENT RESPONDENT**

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# EXECUTIVE SUMMARY



British Columbia's Greenhouse Gas Reduction Targets Act (hereinafter GGRTA or the Act) puts into law the GHG reduction commitments made in the province's Climate Action Plan and sets a progressive path to find solutions to climate change. Enacted in November 2007, GGRTA requires that core government and all Public Sector Organizations (PSOs) be carbon

neutral beginning in 2010. This new policy direction will have profound impacts on how colleges and universities operate.

A truly sustainable institution is one in which conservation is embedded into all aspects of the institution including curriculum, strategic planning, purchasing, and the day to day behaviour of students, staff and faculty. Sustainability is more than just replacing boilers and upgrading lights; it requires a cultural shift in which the institution views itself as part of a broader community and acts on its obligations to that community. Collaboration and interdisciplinarity are critical to overcoming barriers and navigating difficult decisions.

We undertook this study to find out how, one year after the introduction of the Act, post secondary institutions were responding—what actions they have taken and what challenges they are facing.

This study builds on the work done in an earlier report titled Taking Stock (Owens & Moore, 2008) which found that colleges and universities in BC face substantial barriers to achieving sustainability including bureaucratic inertia, lack of funding, and lack of awareness and communication. These barriers are even more pressing now that a timeline has been set in law for changing how post secondary institutions operate.

This research will contribute to British Columbia's Climate Action strategy by clarifying the requirements and structure of the Act, drawing attention to the challenges that post secondary institutions will face in implementing the Act, and inspiring greater collaboration and sharing of best practices.

# Key Findings

All institutions interviewed have dedicated resources to implementing sustainability prior to the introduction of the Act. Nearly half of the institutions interviewed have created one or more dedicated sustainability positions while sustainability planning in the remaining institutions is being managed by existing staff. All institutions have also created a high-level multi-stakeholder sustainability advisory committee. Many commented that while the Act itself was not a primary motivator for implementing sustainability practices, it has greatly accelerated their timelines.

All institutions interviewed have taken some action in 2008 to minimize GHG emissions and many are finding creative ways to tap into their unique environments for sources of heat and energy.

Institutions are at various points in the process of becoming sustainable; some have considerable experience managing their energy use while others are only just beginning. There are also physical and structural differences between institutions, such as location, ability to finance projects, and the age of buildings.

All institutions interviewed stated that financing was the largest challenge they face in implementing GGRTA and there is concern that without additional funding, institutions may be forced to cut in areas that could affect core programming. While it is widely recognized that investments in energy conservation will pay off in the long run, many institutions face the immediate challenge of finding the capital to initiate these projects.

One third of the institutions interviewed expressed concern about the lack of information coming from the government around GGRTA. From the government's point of view, the primary focus has been implementing carbon neutrality in core government and establishing the tools and framework. As we approach 2010, the first year for which offsets must be purchased, we can expect communication to improve as the focus expands to the broader public sector.

All institutions expressed a desire for greater collaboration internally and with the broader post secondary community.

# INTRODUCTION

The BC Working Group and Network on Sustainability Education has been created as a multi-sectoral, collaborative working group and network where participants can engage in dialogue and action around sustainability education. The project is funded by Learning for a Sustainable Future and Environment Canada with matching funds from the BC Ministry of Education and the BC Ministry of Advanced Education and Labour Market Development as well as in-kind support from the organizations of the working group members. It includes representatives from higher education, K-12 education, non-formal education, industry, government, and NGOs. The group has organized dialogues, workshops and conferences, wrote the Taking Stock report on sustainability education in BC, provided scholarships for students to pursue research in the field of sustainability education, and currently hosts a website to facilitate dialogue and expand the Province's capacity to innovate in this field.

If you have any concerns or questions about this research please contact Dr. Janet Moore at Simon Fraser University: [jlmoore@sfu.ca](mailto:jlmoore@sfu.ca) or 778-782-7884.

**Please visit us at [www.walkingthetalk.bc.ca](http://www.walkingthetalk.bc.ca).**

# The Research

Interviews for this report were conducted between January and March 2009 with relevant staff at nine post secondary institutions and three government bodies. A list of all post secondary institutions was compiled from the Ministry of Advanced Education and Labour Market Development and grouped into research universities, universities, colleges and institutes. Thirteen post secondary institutions were then selected in proportion to the distribution of institutions across each group. Specific institutions were selected at random so that all geographic regions of British Columbia were represented in the sample. Out of these thirteen, two declined to participate and two did not respond bringing the total sample down to nine. The missing institutions were not replaced due to time constraints. We were unable to obtain an interview with any post secondary institutions on Vancouver Island or within the First Nations community. Our intention is to continue this research and we look forward to input from institutions that were not able to participate at this time. Each individual consented to participate under the condition of confidentiality. Each interview was conducted over the telephone, recorded and transcribed. Following is a list of all organizations interviewed.

## POST SECONDARY INSTITUTIONS

University of British Columbia (UBC)  
University of Northern British Columbia (UNBC)  
Capilano University (CU)  
Emily Carr University of Art and Design (ECU)  
Thompson Rivers University (TRU)  
Okanagan College (OC)  
Northern Lights College (NLC)  
Selkirk College (SC)  
British Columbia Institute of Technology (BCIT)

## GOVERNMENT

Ministry of Advanced Education and Labour Market Development (MAE)  
Ministry of Labour and Citizen's Services (MLCS)  
Climate Action Secretariat (CAS)

If your institution is not listed here and you want to be included in this research please contact the authors at [info@walkingthetalk.bc.ca](mailto:info@walkingthetalk.bc.ca)

# THE GREENHOUSE GAS REDUCTION TARGETS ACT

British Columbia's Greenhouse Gas Reduction Targets Act puts into law the GHG reduction commitments made in the province's Climate Action Plan and sets a progressive path to find solutions to climate change. Legislated in 2007 by the Province of British Columbia, the Act requires all of BC's public sector organizations to be carbon neutral by 2010—this includes all BC school districts, post-secondary institutions, and hospitals. In addition, the Act and subsequent regulations set the following fixed targets for reducing provincial greenhouse gas emissions (GHG).

- » By 2012: 6% below 2007 levels
- » By 2016: 18% below 2007 levels
- » By 2020: 33% below 2007 levels
- » By 2050: 80% below 2007 levels

Note: 2012 and 2016 targets were set in November of 2008 by Ministerial order M286 available from the Minister of Environment and are based on a report by the BC Climate Action Team titled *Meeting British Columbia's Targets*, published July 28, 2008.

Section 2(3) of the Act gives the Minister of Environment the discretion to set additional targets. It is important to note that these reduction targets apply only to the Province of BC, not to public sector organizations. The obligations that apply directly to all public sector organizations including post secondary institutions are to:

- » **Pursue** actions to minimize greenhouse gas emissions in each calendar year beginning in 2008.
- » **Report** annually what actions have been taken to minimize greenhouse gas emissions beginning in 2008 and their plans to continue to reduce in subsequent years.
- » **Purchase** offsets for all greenhouse gas emissions from the Pacific Carbon Trust beginning in 2010. This requirement to purchase offsets means that all public sector organizations must have completed a full GHG inventory by the end of 2010.

For Carbon Neutral Action Report guidelines and templates, go to [www.bced.gov.bc.ca/greenschools/](http://www.bced.gov.bc.ca/greenschools/)

The Act does not require that public sector organizations reduce their gross emissions every year, only that they

take annual action to minimize emissions and offset the remainder. However, since the larger goal of the Act is to achieve real provincial emissions reductions it is very likely that the cost of carbon offsets, currently priced at \$25 per tonne, will rise over time based on market prices. Carbon offsets are a tool for reducing emissions, not the end goal.

"I think the offset obligation is definitely something universities have to deal with but it's not going to be the biggest challenge. I think the biggest challenge is going to be where they try to push their emissions down over time. We are going to want to keep seeing reductions down the road."

GOVERNMENT RESPONDENT

## Emissions Sources

Following are the emissions that must be accounted for by all public sector organizations including post secondary institutions. These sources are taken from the Carbon Neutral Government Regulation, Order in Council No. 904 approved December 8, 2008, and are organized in accordance with the three categories of emissions as defined by the World Resources Institute in the GHG Protocol: namely, scope 1, scope 2 and scope 3.

- » Direct and indirect energy emissions from the heating, air conditioning and lighting of a building.
- » Direct and indirect energy emissions from the operation of appliances, equipment and machinery.
- » Direct emissions from the operation of a vehicle.
- » Direct emissions from the production of office paper purchased by the public sector organization for use in its business.

Core government must also account for and offset emissions related to travel and accommodations. This is not currently required of public sector organizations but many colleges and universities are beginning to consider it.

A discussion of emission scope can be found in the *Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard* at [www.wri.org/project/ghg-protocol](http://www.wri.org/project/ghg-protocol)

# Tools

**SMARTTool** is a web-based reporting tool to help core government and all public sector organizations monitor their greenhouse gas emissions. It is being developed and supported by the Ministry of Labour and Citizen's Services which expects to roll it out to post secondary institutions by the end of 2009.

**SMARTtec** is a web-based tool for calculating emissions related to travel. It is currently only available to core government.

# Government Bodies

The **Ministry of Environment** oversees all matters related to the implementation of the government's Climate Action Plan and GGRTA. The Ministry of Environment is also responsible for enacting supplementary orders and regulations.

The **Climate Action Secretariat** is the main coordinating body for the government's Climate Action Plan. The Secretariat was originally established under the Premier's Office but was moved to the Ministry of Environment in January of 2009.

The **Ministry of Labour and Citizen's Services** provides accommodation and procurement services for government and manages many of the direct sources of government emissions such as travel, fleets and purchasing. The MLCS is also acting as a resource to help PSOs implement the Act.

The **Ministry of Advanced Education and Labour Market Development** is working with Facility and Operation personnel at post secondary institutions to assist in meeting the requirements of the Act. All Carbon Neutral Action Reports will be submitted directly to the Ministry of Advanced Education and Labour Market Development who will then coordinate sending those to the Ministry of Environment.

The **Pacific Carbon Trust** is a provincial Crown corporation with a mandate to invest in BC-based projects that deliver real emissions reductions. All public sector organizations must purchase their carbon offsets through the Pacific Carbon Trust. PSOs may also submit projects for inclusion in the Trust provided they have not already been used to reduce emissions.

## Green Corporate Supply Arrangements

The Ministry of Labour and Citizen's Services is in the process of identifying products and services that can help organizations reduce their carbon footprint. They would also appreciate recommendations and feedback.

<http://pss.gov.bc.ca/csa/csa.html>



Simon Fraser University's new Faculty of Environment began operating in April 2009.

# RESPONSE FROM PUBLIC POST SECONDARY INSTITUTIONS

The institutions interviewed were variably enthusiastic about the Act itself but they all expressed support for climate action more generally. The following quotes illustrate the different responses.

## What was your institution's initial reaction to the introduction of the Greenhouse Gas Reduction Targets Act?

"We are on board with it ... it's the right direction to go."  
RESPONDENT A

"It's impressive what they're attempting."  
RESPONDENT B

"It was welcome news ... since it was consistent with what [our leadership] wanted to do. And then at the same time they recognized that it would represent a lot of work."  
RESPONDENT C

"Another cost downloaded to sector already underfunded."  
RESPONDENT D

"The leadership decided not to include it in the college wide objectives for this year because they thought it was more of an operational imperative. Their attitude is that we have to do [carbon neutrality] anyway so why would it be an objective?"  
RESPONDENT E

All of the institutions interviewed noted that they had already begun moving towards sustainability prior to the introduction of the Act. Four institutions also commented that while the Act itself was not a primary motivator for implementing sustainability practices, it has accelerated their timelines.

## In what way has the Act changed your planning process?

"It didn't spark anything that hadn't been discussed anyway."  
RESPONDENT F

"It has probably pushed the timelines of when we need to act."  
RESPONDENT G

"Not sure that [the Act] has changed the planning process. The Act made it so that there is one more thing needing to be considered but it didn't change much since we were already moving in a direction of sustainability."  
RESPONDENT H

"In advance of the legislation coming out we had already begun a comprehensive climate action planning process and that process continues today. But of course as you can anticipate this legislation certainly gives us further incentive to continue with that programming."  
RESPONDENT I

## Organizational Structure

All institutions interviewed have a high level sustainability committee that includes representatives from the student body, faculty, staff and administration. These sustainability committees work with the person or department directly responsible for implementing GGRTA and serve primarily to engage the broader institutional community and make recommendations to the administration.

Four institutions (UBC, UNBC, TRU and CU) have created, or are in the process of creating, one or more dedicated positions. Sustainability planning in the remaining five is being by existing staff, either as part of their regular job

(typically facilities/operations staff) or as a member of the above mentioned committees in addition to their regular job.

### **SELKIRK COLLEGE**

Sustainability planning and implementation of GGRTA has been incorporated into the college's strategic plan and is managed through the Environmental Sustainability Committee which reports directly to the President. The environmental sustainability committee was set up approximately one year ago and is made up of individuals throughout the college. Its mandate is to promote day to day lifestyle changes that reduce energy use and waste.



## **OKANAGAN COLLEGE**

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Sustainability planning and implementation of GGRTA is being driven by the Director of Campus Planning & Facilities Management. The college has also set up a sustainability committee which is composed of the President, the Director of Campus Planning, a number of senior staff, and students. The committee's mandate is to advise on short and long term sustainability actions.

## **NORTHERN LIGHTS COLLEGE**

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Sustainability planning and implementation of GGRTA is being driven by the Facilities Department. The college recently updated their strategic plan to include the GGRTA obligations and they have developed a seven year plan to bring all the campuses in line with the Act.

## **CAPILANO UNIVERSITY**

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Sustainability planning and implementation of GGRTA is being driven by the Energy Manager reporting to the Director of Capital Planning & Contract Services and the VP Finance. The university has also created a multi-stakeholder energy management task force which meets regularly to assess the university's progress and has been developing a general sustainability policy which was recently adopted by the Executive.

## **EMILY CARR UNIVERSITY OF ART AND DESIGN**

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Sustainability planning and implementation of GGRTA is currently being driven by the Chair of the Sustainable Practices Committee in partnership with the Director of Facilities. The committee includes representatives from the student body, faculty, staff and administration. The committee's mandate is to put together recommendations for a sustainability plan that will feed into the university's strategic planning process.

## **THOMPSON RIVERS UNIVERSITY**

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Sustainability planning and implementation of GGRTA is being driven by the newly created Director of Environmental Sustainability whose mandates are to: 1) advise the board and senior management on policy; 2) work with the individual departments on carbon reduction and other sustainability

programs, and; 3) engage and educate the community. The university has also created an environmental advisory committee which reports directly to the board and the senate. The committee is made up of students, faculty, staff, and administrators and makes recommendations on waste management, transportation policy, land systems, building and energy, public relations, research, and curriculum.

## **UNIVERSITY OF BRITISH COLUMBIA**

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Sustainability planning and implementation of GGRTA is being driven by the Associate Director of Climate and Energy in the Sustainability Office whose mandate is to create a culture of sustainability within the university. More specifically, the Sustainability Office is developing a comprehensive climate action plan that will set out longer term emission reduction targets. UBC anticipates that this plan will be released in the fall of 2009

## **UNIVERSITY OF NORTHERN BC**

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Sustainability planning and implementation of GGRTA is being driven by the Green University Committee, a high level committee chaired by the VP Academic and composed of upper level administrators, students, faculty, and staff. The university is putting in place the organizational structure necessary to tackle climate action. To this end the Green Committee is developing a green statement that will drive the planning process. The university has also created four positions involved in sustainability: the PICS Campus Coordinator (hired); BC Hydro Energy Manager (hired); Forestry and Climate (funded but not hired), and; Campus Sustainability Coordinator (clarifying role and seeking funding).

## **BC INSTITUTE OF TECHNOLOGY**

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At BCIT, sustainability has been integrated into campus planning for the last 10 years and implementation of GGRTA is being driven by the Campus Planning Department whose present focus is finding ways to better utilize space and materials. The institute has also created the Environmental Stewardship and Sustainability Practices Committee whose mandate is to educate the BCIT community about climate action and gather feedback. The committee includes representatives from faculty, the executive, campus planning, the student body, purchasing, and information technology.

# Actions to Minimize GHG Emissions

Each institution is unique—its location, its geography, its community and its history. “People [and institutions], are creatures of the local, collectively breathing its air, sharing its water and its weather, and engaging in the thousand chaotic interactions of membership in the ecology of everyday life” (M’Gonigle & Starke, 2006, p.66). Awareness of its unique role in the time and place occupied is at the core of a sustainable institution. The actions being taken by many of BC’s post secondary institutions indicate an incipient awakening to this need—an emerging renaissance of place.

Following is a summary of the actions that the institutions interviewed reported taking to address climate change and reduce their GHG emissions. The actions have been grouped into the following categories:

1. Upgrades and Retrofits
2. GHG Inventory and Energy Audits
3. Heat and Energy Generation
4. Cultural/Behavioural Change
5. Collaboration and Community Involvement
6. Transportation
7. Waste Management
8. New Buildings
9. Curriculum
10. Funding
11. Other

Most of the actions being taken involve upgrading and retrofitting existing facilities, conducting GHG inventories and energy audits, finding creative ways to generate heat and energy, and promoting cultural change through education and collaboration.

## UPGRADES AND RETROFITS

### SELKIRK COLLEGE

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- » is in the process of installing retrofits to make buildings more energy efficient
- » is upgrading to more energy efficient HVAC systems

### OKANAGAN COLLEGE

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- » is renovating and retrofitting their cafeteria based on a recently completed energy study. This project is in the design phase and they hope to carry out the actual work in the summer of 2009.
- » has installed additional electrical sub-meters to improve their ability to monitor gas and electricity consumption; previously none of their buildings were individually metered.
- » replaced CRT monitors with higher efficiency LCD monitors.

### NORTHERN LIGHTS COLLEGE

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- » has retrofitted many buildings on the Fort St John campus with high-efficiency energy and heating systems.
- » has upgraded boilers at all campuses except Fort Nelson.
- » is installing triple paned windows and adding styrobloc foam exterior cladding to buildings at their Fort Nelson campus to increase R-value. They also completed roof renovations in 2006 to bring buildings up to R40 standard.
- » is looking at installing video conferencing rooms in all campuses as a way to reduce faculty travel between campuses (1500km in one direction is not uncommon). So far they have installed virtual classrooms at Dawson Creek, Fort Nelson, Fort St. John and Chetwynd.



NLC Video Conferencing



## **CAPILANO UNIVERSITY**

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- » has upgraded the major boiler systems
- » has installed energy efficient vending machines.
- » is rolling out power management software to 1000 computer workstations. The software senses when a computer is not in use and switches it to power saver mode. They hope to have this project completed in the spring of 2009 and expect savings of approximately 21% of energy consumed by computers at their North Vancouver campus.
- » is beginning a major lighting upgrade which includes installing sensors in classrooms and other common areas.

## **EMILY CARR UNIVERSITY**

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- » has an ongoing project to replace T12 fluorescent lighting with higher efficiency T8.
- » is developing a plan to replace their boilers.

## **Dalhousie Energy Calculator**

This calculator lets you see how much you can save in energy and dollars by using T8 tubes and ballasts in place of T12 tubes & ballast.

[http://eco-efficiency.management.dal.ca/Files/T-12\\_vs.\\_T-8.xls](http://eco-efficiency.management.dal.ca/Files/T-12_vs._T-8.xls)



## **UBC**

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- » Ecotrek, started in 2003, is an energy and water retrofit project which saves over 8000 tonnes of GHG emissions every year.
- » UBC Renew is a partnership struck with the Government of BC to avoid building new by retrofitting buildings that are past their life. Phase 1 has refurbished 10 buildings and avoided 8000 tonnes of emissions. They are now moving to phase 2.

## **BCIT**

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- » has been retrofitting lights since 2000.
- » is researching ways of turning off computer systems when not in use.
- » is installing heating sensors to automatically adjust room temperature.

## **GHG INVENTORY AND ENERGY AUDITS**

### **SELKIRK COLLEGE**

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- » is completing a benchmark GHG inventory.

### **OKANAGAN COLLEGE**

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- » has completed a GHG inventory for '08 using an internally developed spreadsheet; emissions were less than 2000 tonnes across all 4 campuses.
- » has completed energy audits in partnership with Terasen gas on all four main campuses. They have had about 8 energy studies done to date and are now in the process of reviewing those results. They have also hired a consultant to help them model the energy use of every building starting with the main Kelowna campus.

### **NORTHERN LIGHTS COLLEGE**

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- » has completed an energy audit on all campuses.

### **CAPILANO UNIVERSITY**

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- » has completed a GHG inventory for 2007/2008; their total emissions were slightly less than 2800 tonnes.
- » completed a baseline energy audit for all facilities. They audited natural gas, energy, fleet and paper and are putting in place ongoing tracking and review mechanisms.

### **EMILY CARR UNIVERSITY**

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- » has completed a baseline GHG inventory for 2008. Final results were not available at the time of interview.

### **THOMPSON RIVERS UNIVERSITY**

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- » has installed measurement equipment in all buildings in preparation for conducting a baseline energy audit in partnership with BC Hydro.

### **UBC**

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- » completed a comprehensive GHG inventory in 2006 with the Corporate Accounting and Reporting Framework developed by the World Resources Institute. Intend to continue using the WRI framework to calculate scope 3 emissions above and beyond what is mandated by GGRTA.

### **UNBC**

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- » is conducting a baseline GHG inventory and energy audit which they expect to be completed by the end of 2009.

### **BCIT**

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- » has completed a GHG inventory for 2008 based mostly on energy use; their total annual emissions were 8600 tonnes.



## HEAT AND ENERGY GENERATION

### OKANAGAN COLLEGE

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- » uses heat from the waste water of a neighbouring water treatment plant to heat the Kelowna campus in the spring and fall. An added benefit of this process is that it cools the water before going back into Lake Okanagan.
- » is planning to install solar panels on their residences for hot water.
- » is looking at ways to schedule more efficiently so that buildings can be shut down during slow periods.

### NORTHERN LIGHTS COLLEGE

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- » plans to produce and export energy from their Dawson Creek campus to the local community. This plan could save them \$500,000 per year on energy costs and has the potential to generate additional revenue.

### THOMPSON RIVERS UNIVERSITY

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- » captures waste heat from their computers to heat the Centre for Learning.

### UBC

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- » is working to eliminate Scope 1 emissions from all buildings. This plan is based on an Alternative Energy Feasibility Study.

### UNBC

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- » is developing a biomass, bio-energy research and demonstration facility which could compensate for up to 85% of their energy use. This facility will use pellets made from pine-beetle kill wood. The project has been approved for \$50 million in funding from the provincial and federal governments including \$15 million for infrastructure.

### BCIT

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- » is planning to replace natural gas with renewable energy systems such as geothermal.
- » is testing a solar canopy developed by UBC to see if it can reduce electricity from lighting.
- » plans to be an energy producer and supply electricity to neighbouring communities.

## CULTURAL/BEHAVIOURAL CHANGE

### SELKIRK COLLEGE

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- » is educating employees throughout the institution about waste and energy reduction and hope to reduce expenditures through changing behaviours. They have incorporated sustainability education into professional development.

### OKANAGAN COLLEGE

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- » is educating staff and faculty on all four campuses about carbon neutrality and climate action through presentations to the departments.

### CAPILANO UNIVERSITY

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- » has created a climate action environmental sustainability employee awareness program which focuses on specific actions such as paper consumption.
- » is developing a personal sustainability pledge for graduate students and other campus community members. They hope to have this finalized and ready by the fall of 2009.

### EMILY CARR UNIVERSITY

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- » held a social reception in the middle of February 2009 to inform faculty and staff about the work of the sustainably practices committee and get input.
- » students hosted a 100-mile dinner in 2008.

### THOMPSON RIVERS UNIVERSITY

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- » is working with Citigroup to develop a campus community garden for the purpose of educating on local food issues.

### UBC

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- » is educating the UBC community about climate action, GGRTA, the carbon tax and BC's climate action plan. This work is carried out through presentations in classrooms, meetings, publications such as the climate action discussion paper and forthcoming climate action plan, and a climate action symposium in October 2008.

### UNBC

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- » held a second annual green day for the purpose of educating the UNBC community and gathering feedback.



## COLLABORATION AND COMMUNITY INVOLVEMENT

### CAPILANO UNIVERSITY

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- » collaborates with other institutions through BC Hydro and energy manager groups.

### THOMPSON RIVERS UNIVERSITY

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- » participated in a meeting with Williams Lake municipal leaders to discuss how the city can improve local sustainability.
- » hosted a provincial sustainable campuses conference in 2008.

### UBC

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- » led, in partnership with University of Toronto and Algonquin College, a roundtable discussion at the 2008 AASHE conference.
- » partners with the Sierra Youth Coalition and Common Energy Network to facilitate the campus climate network and the goBeyond project.
- » developed and signed the University College President's Climate Change Statement of Action which commits UBC to working collaboratively with the community and especially students in the development of a climate action plan.

### UNBC

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- » collaborates in the Pacific Institute for Climate Solutions along with UVIC, SFU and UBC.

## Social Marketing

Community-Based Social Marketing is an emerging concept based on research which indicates that initiatives to promote behaviour change are often most effective when they are carried out at the community level and involve direct contact with people.

<http://www.cbsm.com/public/world.lasso>



## TRANSPORTATION

### SELKIRK COLLEGE

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- » is researching ways to reduce student and faculty travel.

### OKANAGAN COLLEGE

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- » has purchased two Toyota Prius hybrids and plans to change over their entire fleet.
- » has engaged a consultant to create a sustainable transportation plan in partnership with neighbouring Kelowna Secondary school, ICBC and the City of Kelowna.

### CAPILANO UNIVERSITY

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- » participates in the U-Pass program.

### THOMPSON RIVERS UNIVERSITY

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- » participate in the U-Pass program

### UBC

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- » participates in the U-Pass program which saves over 15,000 tonnes of emissions each year compared to the baseline year.

### BCIT

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- » is researching ways to reduce student travel.



Gordon Campbell has promised to roll out the U-Pass program to all post secondary institutions. [www.cbc.ca/canada/bcvotes2009/story/2009/04/15/bc-liberal-election-platform-u-pass.html](http://www.cbc.ca/canada/bcvotes2009/story/2009/04/15/bc-liberal-election-platform-u-pass.html)

## WASTE MANAGEMENT

### SELKIRK COLLEGE

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- » is experimenting with strategies to reduce paper consumption.

### OKANAGAN COLLEGE

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- » is reducing waste in their cafeteria by composting and introducing biodegradable containers.
- » is reducing waste in their bookstore by stocking books and clothing made from renewable and recycled material wherever possible.

### CAPILANO UNIVERSITY

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- » is introducing reusable containers and composting into the cafeteria in partnership with students, staff, faculty and an independent contractor.

### EMILY CARR UNIVERSITY

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- » composts food waste from the cafeteria.
- » is developing a green procurement policy.

### THOMPSON RIVERS UNIVERSITY

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- » has moved to a paperless system for all admin functions and records: pay is deposited directly into accounts without the need for cheques or pay stubs and all benefit information is kept electronically. They are planning to purchase multifunctional copiers which have double sided copying as the default setting. They are also conducting a paper reduction audit which will allow individuals at the university to identify ways to reduce their paper use.

## NEW BUILDINGS

### OKANAGAN COLLEGE

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- » is building a new day care with solar panels and geothermal heating.
- » the college's new Centre for Learning will be LEED Gold registered and is scheduled to be complete at the end of June 2009 and open for students in September.



Okanagan College Centre for Learning

### NORTHERN LIGHTS COLLEGE

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- » is tearing down three buildings at the Dawson Creek campus that, financially speaking, are not worth renovating and they plan to rebuild using modern energy and water efficient systems. They estimate a 12 year payback period.
- » built the Centre for Oil and Gas Excellence at the Fort St John campus. This building includes very high insulation standards (R30), uses minimum heating, uses environmental controls that automatically turn on and off lighting as you walk down a hall and enter rooms, and incorporates short-burst water saver systems for drinking fountains and toilets.
- » is planning to build a new energy house which will incorporate solar electric, passive solar heating, biomass heaters, a 300 kW wind turbine, and geothermal heating.

### THOMPSON RIVERS UNIVERSITY

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- » is building a new Learning Centre to LEED Gold standards.



## CURRICULUM

### OKANAGAN COLLEGE

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- » is planning to incorporate sustainability into all courses. This includes little things like reminding electrical students to minimize waste by cutting only as much wire as needed.
- » is planning to create courses in geothermal and alternate energies.

### NORTHERN LIGHTS COLLEGE

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- » is creating 10 programs in sustainable energy to support the many wind farms that are being built in the Peace region. Their first new train-the-trainer course in solar-thermal installation began in February 2009 in North Vancouver. They are also developing programs for solar-thermal inspectors and installers, a 2 year wind energy technologist diploma and programs in geothermal, grey-water, and solar-electric.
- » is working with Lethbridge College, Royal Roads University, UNBC, and Thompson Rivers University to develop sustainability programs.

### UBC

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- » has created a Sustainability and Curriculum working group of the President's Advisory Council on Sustainability and is developing a sustainability academic strategy.

## Projects and Best Practices

The actions taken are not exhaustive. We would like to build on this list and we invite all post secondary institutions to submit their projects, best practices, and experiences. We encourage you to contact others who are doing similar work.



## Green Campus Loan Fund

To finance environmentally and economically beneficial projects, Harvard University created the Green Campus Loan Fund, a \$3,000,000 interest-free revolving loan fund designed as a financial incentive for green projects.

[www.green.harvard.edu/loan-fund](http://www.green.harvard.edu/loan-fund)



## FUNDING

### OKANAGAN COLLEGE

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- » has saved roughly \$300,000 of their 2008 annual capital allowance money to fund GHG reduction projects.

### NORTHERN LIGHTS COLLEGE

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- » has built relationships with the energy industry to fund renovations and acquire renewable energy equipment such as solar panels and wind turbines.

### CAPILANO UNIVERSITY

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- » has hired an energy manager funded through a contract with BC Hydro up to \$100,000 a year, renewable for 4 years provided they meet specific targets.

### UBC

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- » has seen significant savings from their EcoTrek project. These savings are used to repay the project loan and the surplus is reinvested into sustainability projects and programs at the sustainability office.

## OTHER

### NORTHERN LIGHTS COLLEGE

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- » recently acquired 30 acres of bog that they plan to leave in its natural state. Bogs are excellent carbon sinks.

# Challenges

This section discusses the challenges identified in meeting the obligations of the Act and reducing GHG emissions.

## FUNDING

Every institution interviewed identified lack of funding as the primary barrier to implementing GGRTA. Post secondary institutions have inherited a new set of financial obligations under GGRTA while also operating on reduced government funding. Furthermore, the annual capital allowance funding that each post secondary institution receives from the government only covers routine maintenance, not upgrades, so there is a considerable stock of aging and energy inefficient buildings in the province. Following are the major costs associated with implementing GGRTA.

## BASELINE GHG INVENTORY

Every institution must conduct a baseline GHG inventory which can cost upwards of \$30,000 if third-party energy consultants are required.

## CARBON OFFSETS

In 2011 post secondary institutions must purchase offsets for all emissions produced in 2010. The purchase of offsets will continue every year thereafter. Not all institutions interviewed have completed a baseline GHG inventory but of those that have, emissions range from 2000 tonnes to 8600 tonnes per year; this equals offset expenses of \$50,000 to \$215,000 per year at the current rate of \$25 per tonne. It is expected that offset costs will rise over time with market prices. Every dollar spent on offsets is a dollar that cannot be invested elsewhere.

## SMARTTOOL

All post secondary institutions are required to use SMARTTool to calculate their greenhouse gas emissions and are required to pay an initial fee to install and configure the software and then an annual maintenance fee for the next 3 to 4 years. While exact pricing has not been set it is estimated that the installation fee will be tied to FTEs and will cost between \$7,000 and \$33,000 depending on the size of the institution. There will also be an annual fee. The purpose of these fees is to recover the cost of developing and deploying SMARTTool. The Ministry of Advanced Education will be providing funding to help with the cost of SMARTTool.

## CAPITAL EXPENDITURES

All institutions spoke of low hanging fruit—the sources of emissions that can be addressed most readily. These include more efficient scheduling of classes and buildings, upgrading to higher efficiency lighting, installing software to turn computers off when not in use, and setting printers to print double-sided by default. While addressing these low hanging fruit will result in real emissions reductions, there are a limited number of such actions that can be taken; once exhausted, further emission reductions will require significant capital investment in such things as new HVAC systems, retrofits to building envelopes, replacing fleets, installing power generation equipment, and installing video conferencing equipment to reduce travel.



Boiler used for heating

Furthermore, energy is typically metered only at the point of entry into the campus making it virtually impossible to know exactly where electricity can be conserved. In many cases, especially older campuses, capital investments are required in gas and energy sub-meters to even begin the process of managing and conserving energy.

## CARBON TAX

The carbon tax affects gas and electricity consumption and could cost institutions in the neighbourhood of \$50,000 per year. While the carbon tax is not technically part of GGRTA it is a component of the government's larger Climate Action Plan. Get a spreadsheet to help estimate your carbon tax: [www.bced.gov.bc.ca/greenschools](http://www.bced.gov.bc.ca/greenschools)

## DIFFERENCES BETWEEN INSTITUTIONS

The financial challenges discussed above do not affect all institutions equally; the size, age, type and location of each institution directly impacts the scope of its financial challenges.

### AGING CAMPUSES AND DEFERRED MAINTENANCE

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There is great diversity in the age of post secondary facilities throughout British Columbia. Older buildings are less energy efficient than newer buildings and will require significant capital investment to bring them in line with modern energy efficiency expectations. Some of the oldest buildings have had maintenance deferred for several years under the incorrect assumption that they would no longer be needed. Reducing the energy consumption of these neglected buildings requires two separate investments, one to catch up on deferred maintenance and another to upgrade.

### GROWING INSTITUTIONS

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The growth of higher education institutions directly impacts their ability to finance emission reduction projects in two ways. First, adding buildings and equipment also adds emissions; considering that nobody has yet figured out how to build a completely carbon neutral building (Conniff, 2009), every new building will also increase an institution's offset costs. Second, without additional funding every dollar spent on a new building is a dollar that cannot be spent on emission reduction projects elsewhere on the campus; conversely, every dollar spent reducing emissions or in offsets is a dollar that cannot be spent growing the institution.

## Hard Questions

Is it better to retrofit old inefficient buildings or tear them down and build from scratch to modern efficiency standards? Evidence suggests that retrofitting will result in fewer emissions but in many cases demolishing and building new is more cost efficient. Considering that both solutions produce an energy efficient building, are the additional GHG emissions saved through retrofitting worth the additional cost in an already tight budget?



### ABILITY TO FINANCE

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As part of a debt reduction strategy the BC Government does not allow colleges to borrow money. Given that one of the government's primary messages around carbon neutrality is that investments in energy reduction will pay for themselves in the long run, it makes sense to allow colleges and other similarly affected institutions to borrow money under certain circumstances.

### REMOTE AND WIDELY DISTRIBUTED INSTITUTIONS

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Post secondary institutions in the colder northern regions of BC consume considerably more energy proportional to their size than do institutions in the south. These institutions are likely to have higher offset costs relative to enrolment. Institutions that are not served by public transit and institutions with highly distributed campuses will also face a larger financial barrier if they begin looking at reducing emissions from student and faculty travel. If the BC Government requires that post secondary institutions include travel related emissions in their GHG inventory—as is the case in core government—then the cost of offsets could jump dramatically for rural and highly distributed institutions.

## Equity

Differences between institutions draws attention to a question of equity: If we start from the assumption that all of BC's post secondary institutions are equally important then there needs to be some thought given to how we can balance the financial burdens so that they are all able to implement sustainability and maintain high levels of programming.





The PowerPod is a 500 square foot modular green building with an active solar array, remote building monitoring system, high efficiency lighting and water use, heavy insulation and airtight exterior, radiant floor heating, solar windows, rainwater collection scupper, and optional composting septic and grey water technology. The Yellow Barn Music School in Putney, Vermont is using eight PowerPods for its music lessons. [www.yellowbarn.org](http://www.yellowbarn.org)

### TENSION BETWEEN PROGRAMMING AND EMISSION REDUCTIONS

There is a danger that without new funding institutions will be forced to cut back in other areas in order to finance the legislated changes. Any cuts that would negatively impact programming would be counterproductive. The primary contribution that post secondary institutions can make is to influence thinking and social norms around climate change. We need our post secondary institutions to inject sustainability into our culture. Of course this means that the institutions themselves must be sustainable but the question in front of us is: What is the right balance of competing demands on limited resources?

*“Without [additional] funding, I wouldn’t be putting [our money] into insulating walls; where I’d be putting it is in educating this country’s future leaders to create change. They can’t ask us to cut back on programs to meet the Act.”*  
RESPONDENT

#### One-2-Five®

One-2-Five® is a range of diagnostic tools that assesses the state of your internal systems and procedures for managing energy and water costs and risks across your organization. More information can be obtained through BC Hydro. [www.one-2-five.com](http://www.one-2-five.com)



### ENERGY SAVINGS AND COST MANAGEMENT

Two government respondents commented that the need to better manage operating costs was a reason for implementing sustainability and particularly energy management systems. The government is promoting the message that investments in energy management and conservation will pay off in the long run. While there are conservation actions that can be taken with virtually no capital investment, such as more efficient scheduling of buildings, the bulk of energy conservation projects require considerable investment up front. Given that almost all institutions identified funding as the number one barrier to implementing GGRTA, savings associated with energy conservation are largely contingent on further financial assistance from the government in the form of direct funding, partnership agreements or relaxing the restrictions on debt financing.

*“Measuring and monitoring emissions is going to position these organizations well for managing their exposure to future energy price escalation and downstream increased costs of GHG management. What we are helping them do is take early action so they can mitigate future cost increases.”*  
GOVERNMENT RESPONDENT



## SOURCES OF FUNDING

### **PUBLIC SECTOR ENERGY CONSERVATION AGREEMENT**

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PSECA is the most common source of funding available to all post secondary institutions. It is an agreement between the BC government and BC Hydro which funded nearly \$10,000,000 in infrastructure projects for universities and colleges in 2008. Eligible projects must be able to demonstrate cost savings and benefits. It is a competitive process and not all applications will get funded. Furthermore, the approved energy consultants required to do an energy audit are in high demand and difficult to get.

### **BC HYDRO PRODUCT INCENTIVE PROGRAM**

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The Product Incentive Program provides incentives to businesses that want to lower their operating expenses through energy efficient technology upgrades, including lighting, controls and sensors, and HVAC. All products must be approved by BC Hydro and installed by qualified technicians. Installations in new construction projects are not eligible for incentives under this program. These incentives can be applied in addition to PSECA funding.

### **BC HYDRO INDUSTRIAL ENERGY MANAGER INITIATIVES**

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BC Hydro provides funding to customers who spend \$500,000 or more per year on energy for the purpose of hiring a dedicated or part-time energy manager.

### **NATURAL RESOURCES CANADA ECOENERGY RETROFIT GRANTS AND INCENTIVES**

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Natural Resources Canada's ecoENERGY Retrofit program provides financial support to public institutions to help them implement energy saving projects that reduce energy-related greenhouse gases and air pollution.

### **MINISTRY OF ADVANCED EDUCATION**

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The Ministry of Advanced Education will provide funding to help with the installation cost of SMARTTool.

### **INNOVATIVE CLEAN ENERGY FUND**

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The Innovative Clean Energy Fund is supporting 19 projects covering a range of technologies, including ocean tidal and wave, solar, geothermal, wind, biomass, wastewater, energy conservation and management, and variable street lighting technology. The call for applications is currently closed but a third call is expected later this year.

### **WESTERN ECONOMIC PARTNERSHIP AGREEMENTS**

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Western Economic Partnership Agreements are multi-year federal-provincial funding commitments to strengthen economic activity and improve quality of life in western Canadian communities. Through the agreements, Western Economic Diversification Canada and each western province provide a matching contribution, enabling significant investments to fund projects that support job creation, business productivity and competitiveness, foster a low carbon economy and generate regional economic development.

### **FEDERAL INFRASTRUCTURE STIMULUS FUNDING**

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The 2009 Federal budget included several program for improving provincial and community infrastructure including one program which will provide up to \$2 billion to support deferred maintenance and repair projects at post-secondary institutions. Post secondary institutions may be eligible for other infrastructure projects as well, especially if undertaken in partnership with local communities.

Additional programs that post secondary institutions may be eligible for, especially if pursued in partnership with local communities, can be found online at the BC Climate Exchange.

If you know of additional funding programs, please email us at: [info@walkingthetalk.bc.ca](mailto:info@walkingthetalk.bc.ca)



# Communication and Coordination

All of the institutions interviewed expressed uncertainty about the exact requirements and expectations of carbon neutrality and three of them expressed concern with a lack of information coming from the government around GGRTA. The specific concerns varied from not knowing how much offsets will cost, to waiting for SMARTTool and the reporting templates, to feeling that the process is too tightly controlled. The subject of top down control also came up in one discussion where the institution was working to reorganize their decision making structures so that the recommendations of the climate action committee could be made directly to the departments that would implement the recommendations without having to go through the traditional bureaucracy. Ultimately, the carbon neutral government initiative is in the very early stages and the bulk of work being done right now is within core government. Although there has been some rollout to what the government calls the SUCH sector (Schools, Universities, Colleges and Hospitals) we can expect to see a full rollout in the second half of 2009 as we approach 2010, the first year for which greenhouse gases must be calculated and offset. We can also expect that the government's messaging and information delivery will improve.

## Cultural Change

*"Our human civilization has to think differently."*

RESPONDENT

All of the institutions interviewed have taken steps towards affecting behavioural and organizational change and 75% of them identified these as the most difficult and crucial challenges to meet. When all low efficiency bulbs have been replaced, buildings reinsulated and boilers upgraded, further greenhouse gas emission reductions will become increasingly dependent on changing the ways in which organizations and people think and act. This includes day to day behaviour such as turning off lights when leaving a room and unplugging electrical equipment when not in use, but it is significantly broader and more fundamental than that.

To illustrate the difference between behaviour change and cultural change: recycling is the last of reduce, reuse and recycle, yet recycling—a behaviour—tends to be talked about in isolation because we remain culturally conditioned to consume and dispose. We need to infuse conservation and sustainability into our culture so that it is second nature to take only what you need, carry your own food containers, use alternative transportation, and unplug electrical equipment when not in use.

Cultural changes are also needed in terms of how we think about business and economics. The subject of bottom-lines and business-cases cropped up frequently during the interviews, particularly around capital intensive emission reduction projects, and in two instances it was commented that decision making must take into account more than just costs and revenues—that there are social and environmental aspects that must be considered. One immediate area where this may manifest is with regard to carbon offsets. Given the difficulty in accessing capital it may be more cost effective to simply pay the offset fees than retrofit and upgrade old buildings. Factoring in the social and environmental impacts will tend to provide a longer term perspective on such decisions.

*"A lot of decisions are based on cost savings. In our initial analysis of whatever we did it had to be a savings. But there's also a social aspect to it and we may have to weigh that into our decision making. It's not all about economics anymore, it's also about helping the environment and that may come at a financial cost."*

RESPONDENT

## Resistance to Change

There may be resistance to changes if they are seen to negatively affect previously held entitlements. For a thorough discussion, see: Moore, J (2005). Barriers and Pathways to Creating Sustainability Education Programs: Policy, Rhetoric and Reality. *Environmental Education Research*, Vol 11(5), 537–555.



# Collaboration

“Climate change, the next big global threat, is different, all the Nobel laureates in a room couldn’t solve it. All elements of society need to work together.” **RESPONDENT**

There is a clear need for collaboration between and within institutions. Most seem committed to participatory planning processes around climate action and have created a multi-stakeholder committee for this purpose. All institutions have engaged the student body. Externally, every institution is either pursuing collaboration with other institutions or expressed a desire to do so; yet the networks are ad hoc and fragmented. The only meetings where institutions from around the province get together are those conducted between the Ministry of Advanced Education and Labour Market Development and the Facility/Operation Directors and Vice Presidents, and those meetings are held separately for colleges and universities. This fragmentation can also be seen at the national and international levels.

## Green Teams

The BC Climate Action Secretariat has created over 100 Green Teams whose mandate is to find ways to influence behaviour at work and at home, in waste reduction, energy conservation, transportation, education and communications.



# LOOKING AHEAD

## DOES THE ACT GO FAR ENOUGH?

According to a report titled *Greenhouse Gas Emission Reduction Scenarios for BC* (Campbell & Stainsby, August 2008), in order for the world to “have a greater than 70 per cent chance of remaining under the 2°C threshold” (at which point we may lose the ability to control climate change), global emissions must not exceed 223 billion tonnes between now and 2100. Limiting BC to an equitable per capita share of that total lets us emit 144 million tonnes of carbon between now and 2100, equal to 750,000 tonnes per year. BC currently emits 19 million tonnes of carbon per year and will have reached its quota in just 7.5 years. According to the Climate Action Secretariat, the current framework is based on the science that informed the Kyoto Accord but the government is watching new developments and would act accordingly. BC’s targets may become more aggressive as the science on climate change progresses.

# Visions of the Future

*"We should be the ones leading the way, in everything we do."*

**DEMONSTRATE**

civic engagement

centres of conservation

*"UNIVERSITIES WILL BECOME CENTRES OF SUSTAINABILITY KNOWLEDGE AND PRACTICE AND THAT WILL RESULT IN AN OVERHAUL OF EVERYTHING THE UNIVERSITY STANDS FOR."*

fewer vehicles and fewer parking lots

closed water systems  
**ZERO WASTE**

*cooperation*

**community**

*"ALL WILL BE GREEN UNIVERSITIES"*

*"Let's have a rooftop vegetable garden"*

public transit

open learning

**TELEPRESENCE**

**Q: WHAT WILL YOUR INSTITUTION LOOK LIKE IN 30 YEARS?**

*"changing the way we deliver services to substantially reduce our carbon footprint"*

*buildings that are fully sustainable*

**BE A LEADER**

quantum leaps

*"deliver services in more innovative ways"*

*off the grid*

wireless delivery of education

solar canopy

compact universities

*"we're going to be a net exporter of energy"*

**photovoltaic**

geothermal systems

BEACON OF SUSTAINABILITY

*passive solar*

*more walking, more bicycles*

*wind*

*cogeneration*

**LEED Platinum**

conscientious stewardship of the campus and the land

**reduce reuse recycle**

*"There is an opportunity throughout the curriculum to factor in questions about values."*



## 5 Recommendations

1. We recommend that the Ministry of Advanced Education and Labour Market Development compile and manage a central list of funding programs that are available for post secondary institutions and then review this list to ensure that all institutions are able to access funding reasonably equally.
2. We recommend that the Government of British Columbia allow colleges to borrow money for the purpose of meeting the obligations of the Greenhouse Gas Reduction Targets Act, especially in cases where the money will be spent on energy conservation projects which will see a return on investment.
3. We recommend that all institutions integrate sustainability into their annual strategic plan. Furthermore, we recommend that the Ministry of Advanced Education and Labour Market Development update their Service Plan to include discussion of the obligations of the Greenhouse Gas Reduction Targets Act, its impact on post secondary institutions, and guidance on how to implement these changes.
4. We recommend that post secondary institutions collaborate with all members of their community, including students, staff, faculty, administration, other schools, governments, and the larger community as they move towards sustainability. One easy way to do this is to become a member of WalkingTheTalk.bc.ca.
5. We recommend that the Provincial Government of British Columbia develop a searchable online database of projects, best practices and experiences. The BC Working Group and Network on Sustainability Education would be pleased to collaborate with others in pursuing this project. Please contact us at [info@walkingthetalk.bc.ca](mailto:info@walkingthetalk.bc.ca) if you are interested.

## Conclusion

The primary focus for implementing GGRTA is on energy management as this represents the largest opportunity to reduce greenhouse gas emissions. We must remember that climate change is “not just about more efficient light bulbs and fewer parking lots” (M’Gonigle & Starke, 2006); it is about breaking down traditional barriers and disciplinary thinking; it is about new ways of relating to the environment and each other and about reassessing what we value. Catalyzing these essential cultural changes is where post secondary institutions can make the largest contribution since it is here that each new generation of leaders are trained. Post secondary institutions recognize that they play a critical role in this process and they are all committed to climate action. GGRTA has accelerated the timeframe in which institutions need to act and there are some real challenges that must be overcome, and many unknowns. Broad collaboration will be essential to moving forward and breaking down traditional barriers.

Carbon neutrality is not the ultimate goal, but it is a first step which has the capacity to transform higher education in British Columbia, which will in turn have profound cultural effects. Ultimately, this is a grand experiment and people are watching. What we do here will have an impact globally.

### Sustainability Transformation

For a more thorough discussion of institutional change, see Ferrer-Balas, D, et al. (2008, Vol.9, No.3). An International Comparative Analysis of Sustainability Transformation Across Seven Universities. *International Journal of Sustainability in Higher Education*, 295-316



# APPENDIX

## Interview Questions

### POST SECONDARY

- » Please tell me about your position and department.
- » What was your institution's initial reaction to the introduction of the Greenhouse Gas Reduction Targets Act?
- » In what ways has the Act changed the institution's planning process?
- » How familiar are the faculty and staff at your institution with the Act?
- » Section 5(3) of the Act states: "In advance of the obligation under subsection (1), for the 2008 and 2009 calendar years, each public sector organization must pursue actions to minimize its PSO greenhouse gas emissions." What have you done so far to meet this obligation?
- » Section 8(1) of the Act requires you to publish a report at the end of 2008. Will you meet this obligation and, if so, what will it contain?
- » What is the methodology you have been using (or will use) to calculate your GHG emissions?
- » What were your total GHG emissions in 2008? Anticipated 2009, 2010?
- » Are your emissions increasing or decreasing?
- » How much do you anticipate it will cost to offset your emissions in 2008, 2009, 2010?
- » How do you anticipate funding the changes required by the Act?
- » How, if at all, is your institution working with students and faculty to meet the obligations of the Act?
- » How, if at all, is your institution collaborating with other colleges and universities to meet the obligations of the Act?
- » What are the barriers that your institution faces in meeting your obligations under the Act and how do you anticipate overcoming these barriers?
- » Did your institution provide feedback for the Climate Action Team's July 2008 report? If so, what was the content of that feedback?
- » How do you see your institution changing as a result of the Act? What will it look like in 5, 15, 30 years?
- » How do you see curriculum changing as a result of the Act?
- » What else can government do to support?

### MINISTRY

- » What role do you play in the creation and implementation of GGRTA?
- » What is the relationship between your Ministry and the other government bodies involved in the Climate Action Plan?
- » What has been the response from public institutions, particularly colleges and universities?
- » What is the current state of the Act? Are there any supplementary regulations, statutes, or orders?
- » What are the next steps in implementing the Act?
- » What are the major challenges that colleges and universities will face?
- » What are the differences between institutions that might pose a challenge?
- » Will PSOs be required to purchase offsets from the Pacific Carbon Trust or can they source elsewhere?
- » What will be the cost of offsetting through the Pacific Carbon Trust?
- » What funding sources are available for post secondary institutions?
- » What additional support do you anticipate providing for institutions (such as colleges and universities) that are struggling to meet their obligations under the Act?
- » Given that the targets set by the Act fall short of those commonly accepted as necessary to avoid a rise of 2°C in global temperature (see Greenhouse Gas Emission Reduction Scenarios for BC, CCPA, 2008), do you anticipate setting more stringent targets in the future? And if so, what impact will this have on public sector organizations?
- » What are the consequences for not meeting the obligations of the Act (direct consequences on public service organizations and indirect consequences on the Climate Action Plan)?
- » How can institutions work together?
- » How do you see colleges and universities changing as a result of the Act? What will they look like in 5, 15, 30 years?
- » How can I find more information on Smarttool?



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