



*"It is vital to get a comprehensive overview of where our energy is being put to use and where the energy savings opportunities lie. With this information in hand we are able to develop a plan to address our carbon emissions in a fiscally and operationally effective manner."*

— Albert Sommerfeld,  
Wrinch Memorial Hospital, Hazelton B.C.

# Carbon Neutral B.C. - Leading Change & Inspiring Action in B.C.'s Public Sector



## 2 Demonstrating leadership on climate action



*Carbon neutrality is a demonstration of commitment and leadership on climate action that we hope will take hold within homes and business here in B.C. and in other jurisdictions around the world.*

*Flake*  
The Honourable Dr. Terry Lake,  
Minister of Environment

In 2010, B.C.'s public sector became the first jurisdiction in North America to achieve carbon neutral operations. We are not alone, as many organizations see how putting a clear cost on carbon will motivate transformative change. For example Google Corporation's data centres use 50% less energy than the typical data centre. In B.C., Port Metro Vancouver, Heritage Office Furnishings Ltd, Graphic Office Interiors, and Harrison Hot Springs are all benefiting from paying attention to their carbon emissions. Globally – athletes also support climate action and the 2014 Olympic Winter games will follow the lead of the carbon neutral 2010 Olympic Winter Games in Vancouver.

Through 2011, the public sector continued to build on its achievement, further investing in emission reduction and cost saving projects, while implementing behaviour change and developing a broader idea of how we can operate more sustainably.

Carbon Neutral Government is a far reaching and multifaceted policy that covers the entire public sector funded through the Government Reporting Entity. The commitment covers the school system from kindergarten through all post-secondary institutions, all hospitals, social housing, Crown corporations, and government offices. When you add up everyone who works in, studies at, lives in, is a patient at, or visits regularly – it is easy to see how the carbon neutral initiative will touch two million people across B.C.

B.C.'s Climate Action Plan calls on all sectors to do their part. Carbon neutrality demonstrates leadership: putting government's house in order as we ask businesses, communities and individuals to take action. Carbon Neutrality is also a systematic approach to transitioning society to operate using less energy at reduced costs. It has and will continue to support new jobs through investment in routine energy efficiency and demonstrations of viable alternative energy conservation technologies throughout B.C. The program engages students, staff, doctors, nurses, teachers and users of public facilities with a sustainability message. Through this initiative we can reach almost everyone in B.C., supporting them to take action, conserve energy, and reduce emissions.

The Honourable Dr. Terry Lake,  
Minister of Environment

We achieve carbon neutrality through a continuous improvement process:

- PLAN** - determining the best route for the most reductions;
- MEASURE** – what is measured is managed;
- REDUCE** – saving energy and costs;
- OFFSET** – investing in clean-tech and growing jobs across B.C.; and
- REPORT** – engaging the public and demonstrating success.

## 3 Planning and action that leads to change

B.C. is proud to report how the public sector achieved carbon neutrality and how we are committed to continuing that leadership going forward. This report covers 2011, which is the second year the public sector measured and offset greenhouse gas emissions. Readers will see how an annual planning cycle supports a strong conservation culture to take root across the province. Building on the momentum of previous years; we are seeing measureable returns that are being re-invested into the organizations.

This annual reporting requires organizations to plan and implement energy efficiency and behaviour change actions going forward and is an idea bank for organizations. Key findings so far include:

- > 88% of all PSOs use web-conferencing software such as Live Meeting or Elluminate, to reduce business travel. To put this in perspective – by using Live Meeting instead of travelling from Vancouver to Fort St. John, a staff person will save eight to ten hours in travel and \$600–1,000 minimum in costs (about \$25 for offsets).
- > 86% of PSOs have introduced an anti-idling policy and/or raised anti-idling awareness for fleet drivers (e.g., signs, stickers, messages). The BC Oil and Gas Commission is an example of how paying attention to drivers, routes and vehicles can make a huge difference. In 2011 the Commission reduced their diesel consumption by 55% and overall fleet fuel consumption by 14%.

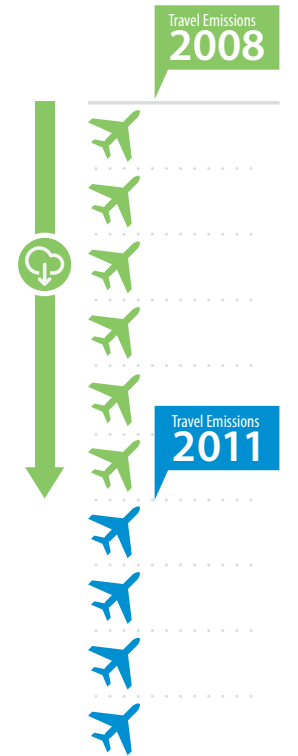
- > 91% of all PSOs have implemented server virtualization for dedicated ministry/agency servers and that leads to real savings, such as at BC Liquor Distribution Branch which virtualized 95% of their head office servers. Changes in 2011 are saving 444,700kWh per year.
- > 70% of all PSOs have replaced fleet vehicles with more fuel efficient models since 2009 and 67% of all PSOs are replacing larger vehicles with smaller models according to fleet "right-sizing" principles.

### Read More

To see a full list of the thousands of actions public sector organizations across B.C. have taken to reduce energy use, costs and associated greenhouse gas emissions, and to achieve broader sustainability goals in 2011 and annually since 2008, visit [www.LiveSmartBC.ca](http://www.LiveSmartBC.ca).

# 60%

Core Government's 2011 travel emissions were 60% less than in 2008.



# Building a foundation for energy efficiency



B.C.'s public sector buildings are the spaces that support British Columbians through the stages of their lives. These buildings are a central part of community life, including schools, colleges, universities and hospitals, and often house many of the services we rely on daily like Crown corporation BC Transit or government offices. These buildings represent 8% of B.C.'s institutional building stock. In 2011 buildings comprised almost 80% per cent of total emissions for B.C.'s public sector. Since 2008, significant effort has been made to cut energy use, reduce emissions and save on energy costs from buildings. From major transformative change projects, to implementing energy management software, the public sector is making decisions that improve the efficiency and health of the buildings British Columbians live, work and play in. In addition to mainstreaming green building practices, B.C.'s public sector is finding opportunities for cost and energy savings through building retrofits and changing how buildings are maintained and managed.

Bill Coles, Facilities Operator for ICBC, uses his Smartphone to control building operations

“Since the implementation of direct digital controls upgrades in some of our buildings, I can check and remotely change temperature and ventilation settings, and I can even remotely turn off lights, just by using my Smartphone. This allows me to perform real time building energy management, from any place, at any time.” – Bill Coles, Facilities Operator at ICBC

# 107

In 2007, B.C. committed that all new public sector buildings or major renovations target LEED Gold certification. A number of organizations are pursuing LEED Platinum, or taking on the ambitious goals of the Living Building Challenge – a complementary rating system to achieve the highest level of sustainability possible. During 2011, 107 LEED Gold projects were complete or underway fulfilling this commitment.



## Digital controls save money

The Insurance Corporation of BC (ICBC) enabled digital controls at eight buildings revealing where upgrades were most needed. As a result, they were able to improve the mechanical systems at all of these buildings. This, along with lighting improvements implemented at nine sites, collectively saved enough electricity to power 90 homes annually and enough natural gas to heat 20 homes. ICBC estimates that the energy conservation projects implemented in operational properties in 2011 will result in net savings of over \$750,000 by 2020.

## Off the grid technology, conservation and training make Northern Lights a true centre for clean energy.

In 2011, Northern Lights College completed the Centre for Clean Energy and Technology. This LEED Platinum building will showcase water conservation and the latest “off the grid” technology for electricity production including solar and geothermal heating. In addition to the building’s green construction, it also provides skills training for the renewable energy industry.

Above: Northern Lights College, Centre of Excellence for Clean Energy Technology

## “LEEDing” the way with existing buildings too!

Beginning in 2009, the Ministry of Community, Sport and Cultural Development, working together with their landlord, began to implement building improvements and operational changes that reduced the environmental impact of running and maintaining the Mazda building that acts as their headquarters. These improvements led to their building becoming the first public sector building in Western Canada to receive Leadership in Environmental and Energy Design (LEED) Gold Certification for the “Existing

Building: Operations and Maintenance” category. LEED certification also provides the opportunity to educate employees about the ongoing commitment and effort to maintain the standard, and to further build on efforts to reduce energy consumption and greenhouse gases. The success of the Mazda building is a lesson in cooperation. By working together, the building owner and tenants were able to achieve a level of environmental performance that is anything but ordinary.

## BC Housing - Award of Excellence

Olympic Vista Apartments in Saanich won the Green Award at the Greater Victoria Commercial Building Awards. The three-storey development operated by Victoria Cool Aid Society provides 36 bachelor apartments with 24/7 support services for people who are homeless or at risk of homelessness. The apartments are reconfigured modular homes from the Olympic and Paralympic Village at Whistler. This project showcases how BC Housing meets its mandate, while employing innovative and award-winning sustainable building principles.

## Hot water conversion helps UBC reach reduction goals

In 2011, the University of BC (UBC) completed the first phase of one of the largest steam to hot water conversions in North America. This five year, \$88 million project will replace aging infrastructure with a modern hot water district energy system and save the university \$4 million a year in costs. By converting to hot water the university will avoid approximately \$42 million in infrastructure upgrades required for the antiquated steam heating system. UBC was able to develop a business case that outlined the savings potential and anticipated emission reductions to transition to a cleaner energy system. This will enable UBC to meet its ambitious climate targets and provide for research and alternative energy sources to be connected to the UBC grid.

The conversion project has a payback period of almost 25 years, but the lifetime of the system is much longer – it is a major investment that will last 60 to 80 years. The project includes 14 kilometers of insulated piping, 131 energy transfer stations across campus and a 52-megawatt, natural gas-powered hot water peaking plant to be built in 2013. When completed in 2016, the project will reduce UBC’s steam system energy use by 24 per cent and GHG emissions by 22 per cent, the equivalent of reducing 11,000 tonnes of GHG emissions, or taking 2,000 cars off the road. The first phase, complete as of January 2012, connected 13 buildings and includes waste heat recovery from the new bioenergy facility. The total cost of phase one was \$5 million and is estimated to reduce natural gas consumption by 20,000 GJ/Yr.

# 4 MILLION

UBC estimates it will save \$4 million a year in operational and energy costs through this infrastructure upgrade once complete.



University of British Columbia, District hot water system

“The district hot water system conversion will allow UBC to achieve its ambitious 2015 GHG reduction target and will provide the platform for achieving UBC’s long term GHG reduction target and the elimination of fossil fuel use by 2050.” – Orion Henderson, Director Sustainability, UBC.

# Reaching the leaders of the future

## School District 36 receives Clean Energy City Award

In 2011, the City of Surrey presented the "Clean Energy City Award" to the Surrey School District in recognition of a range of initiatives to achieve energy conservation and efficiency, as well as raise energy awareness among students. Key projects include a new District Education Centre built to LEED Gold standards, building retrofits, installation of energy management information systems and numerous education and engagement programs.

# 25%

Chute Lake Elementary School piloted a redesign of the HVAC heating loop to reduce glycol fluid flow when heat pumps are staging off. The calculated electrical pump saving is estimated at 25% of the total electrical usage at this school.



**Carbon neutral government isn't just about taking responsibility for our emissions – it's also about reaching out to students, clients, staff and community members to communicate the benefits and possibilities of climate action.**

### Integrating environmental programs

Placed in a small, fragile and unique ecosystem, School District 50 (Haida Gwaii) is endeavouring to be a leader in sustainable practices and carbon neutrality. They recognize that as an institution dedicated to education, they must make sure staff and students are full participants in the solutions they develop and actions they take. School District 50 works with students on environmentally themed programmes, including BC Hydro Power Smart and Farm to School.

At George M Dawson Secondary School, a team of students built a greenhouse using recycled wood from a local dock for plant beds. Students are partially responsible for the plants grown inside, and biology, home economic, and social studies classes all use the greenhouse for educational purposes. As a result of this project, the students are intimately aware of their impact on the earth. "They have created a relationship with the food they eat (fresh produce is almost a luxury item in a remote location like this), and indeed multigenerational relationships have

been established between students, who now share a passion for their learning, their project, and their planet," reflects Angus Wilson at School District 50. Next, the students plan to connect a solar panel to the cooling fan to make the greenhouse effectively completely carbon neutral.

### Ready Set Solve gets students hands-on experience solving local climate challenges

In 2011, the Capital Regional District partnered with the GoBEYOND Campus Climate Network and BC Hydro to connect various post-secondary institutions and their students with real, local sustainability challenges. Projects addressed corporate and community wide energy and emissions reduction opportunities, such as organic waste diversion, corporate emissions measurement, and active transportation infrastructure. This initiative is also building the next generation of sustainability practitioners through applied learning.

# Innovative funding and behaviour change programs

## Boundary Secondary offers "Sustainable Resources 12"

Starting in 2011, School District 51 began building a curriculum for a sustainable agriculture course for grade 12 students. Students got their hands dirty working closely with Community Garden volunteers installing water saving drip line irrigation, planting and weeding. Working with the Granby Wilderness Society, they planted 200 willow and cottonwood trees along the river, and plan to perform follow-up studies in the area to see what further action is needed to restore the site.

Additionally, the grade 12 students in the class have mentored the younger students in the school: they gave seminars on global warming and sustainable farming. In future, the class will be doing work with the local elementary students building recycled plant pots, planting some vegetables in them, and speaking to them about reducing their carbon footprint.

## Revolving Sustainability Fund = Savings

In 2011, the University of Victoria created and launched a funding mechanism to support innovative energy or water reduction projects on campus. The \$250,000 Revolving Sustainability Fund will provide the capital to implement projects that provide enough utility savings to pay back the fund in five years or less.

"The Revolving Sustainability Fund was established in 2011 as a priority initiative in the Sustainability Action Plan for Campus Operations," says Dan MacKinnon, UVic sustainability coordinator. "The fund gives students, staff and faculty an opportunity to pitch their own ideas and help to reduce utility costs and the carbon footprint of our campus."

To date, the fund has supported three projects: an upgrade to equipment in the chemistry teaching labs, the installation of carbon monoxide sensors in an underground parking lot to control ventilation, and the replacement of older water features with new low flow options in two campus buildings. The fund has already provided over \$70,000 to these three projects, which will save the university approximately \$17,500 per year and pay for themselves in less than 4 years. More information about the fund and other innovative UVic programs is available at [www.uvic.ca/sustainability](http://www.uvic.ca/sustainability).



# 80%

80% of all Public Sector Organizations have trained staff to use collaborative software for electronic editing such as SharePoint or Groove.



## Energy Reduction Incentive Program rewards effort

Comox Valley School District's groundbreaking Energy Reduction Incentive Program (ERIP) continued to show great results in 2011. By measuring school energy use and then rewarding the staff with 50% of the savings, they achieved a 5% reduction overall. In 2011 this resulted in an estimated reduction of 255 tonnes of greenhouse gas emissions. The ERIP creates incentives and rewards for a shift towards a culture of conservation. Students create campaigns such as lights out Fridays and ugly sweater days to advertise their message. Energy consumption data is distributed to all schools, fostering a healthy competition between schools and facilities. This is a proven no- to low-cost technique.

"ERIP has helped us build a school food garden and install occupancy sensors in our school. The program has validated my students' efforts in energy conservation" Chantel Parsons, teacher, Mark Isfeld Secondary.



Turn off equipment when not in use.



curb the carbon

### ICBC launches behaviour change initiative

As part of its 10 month Curb the Carbon campaign, ICBC supported more than 1,900 employees in taking action to reduce their energy use at work — everything from conserving hot water to shutting off their computer monitors.

# 69%

of all Public Sector Organizations provide resources and/or dedicated staff to support Green Teams in their workplace.

### Composting program reduces waste and cost

A group of engaged volunteer staff at Emily Carr University of Art + Design has championed and managed a composting initiative to decrease waste and the amount of methane created in landfills. Because Emily Carr pays for waste by weight, this initiative not only provides sustainability benefits and emissions reductions, it also provides cost savings for the university. This project goes above

and beyond what is required. Emily Carr is not alone in championing organics diversion projects; Simon Fraser University, Selkirk College, and School District 61 Victoria, among others have similar programs to reduce waste. Composting is a great program to instil behaviour change as it is accessible to almost everyone.

The Citizens' Services and Open Government Green Team's membership is an impressive mix of 96 keen individuals who all share a common commitment to sustainability. The team uses behavioural changes best practice methods (e.g., community-based social marketing) to ensure public service employees actively participate in campaigns and make routine behaviour changes that reduce GHGs. The team's strategy is threefold: implement well established annual green team campaigns, support other successful events with partners like Bike-to-Work-Week BC, and allow flexibility for grassroots initiatives by members and non-members alike. The team's activities are in addition to other important Ministry initiatives like Leading Workplace Strategies and Telepresence that reduce business travel carbon emissions and promote flexible work options.



Above (top left): ICBC Curb the Carbon poster; Above (top right): Emily Carr University of Art + Design composting program; Above (bottom): Ministry of Citizen's Services and Open Government, Green Team

# Measuring and planning for success

Measuring and planning are essential components for success in energy management and emission reductions. After two years of measuring our energy use across the over 7500 buildings in the public sector, we now have a strong baseline of data that is being analysed for successful reduction ideas and programs. Regular planning and reporting requirements means that public sector organizations are taking steps to reduce emissions, building on the information they have gathered to date. Some organizations have begun to use sophisticated energy and facility management software to inform day-to-day operational decisions, resulting in reduced emissions and energy costs.

# 100,000

100,000 kWh were saved by School District 35 Langley, which instituted Continuous Optimization at their largest secondary school. That is enough energy to power 9 homes for a year.



### Sophisticated tools support daily savings

In early 2011, Interior Health Authority added functionality to their utility management software to normalize utility consumption data for changes in weather year over year and to allow for the generation of cost avoidance graphs and tables. This has helped Interior Health develop robust analytical capabilities and share timely, meaningful information with plant managers, supervisors, and other stakeholders. Given that 95% of the carbon emissions for Interior Health are from buildings, the investment provided a crucial, strategic push that informed decisions to reduce emissions and costs, while improving day-to-day operations.

### Energy study finds reductions

Wrinch Memorial Hospital in Hazelton B.C., working with the Northern Health Authority, undertook a comprehensive energy study of facilities in 2011. This audit found opportunities for energy savings and emissions reductions that will be used in ongoing facility project planning to optimize energy use and reduce costs throughout their operations.

"It is vital to get a comprehensive overview of where our energy is being put to use and where the energy savings opportunities lie. With this information in hand we are able develop a plan to address our carbon emissions in a fiscally and operationally effective manner." – Albert Sommerfeld, Wrinch Memorial Hospital.



### Committing to Sustainability through Planning

In the fall of 2011, Vancouver Community College (VCC) launched a new three-year Strategic Plan with a vision to create an accessible urban college that engages the many diverse communities within the Vancouver area to provide learning opportunities that change lives. One of the shared values is that the college respects the environment and seeks to reduce its environmental impact. The following objectives support both carbon neutrality and a broader environmental focus:

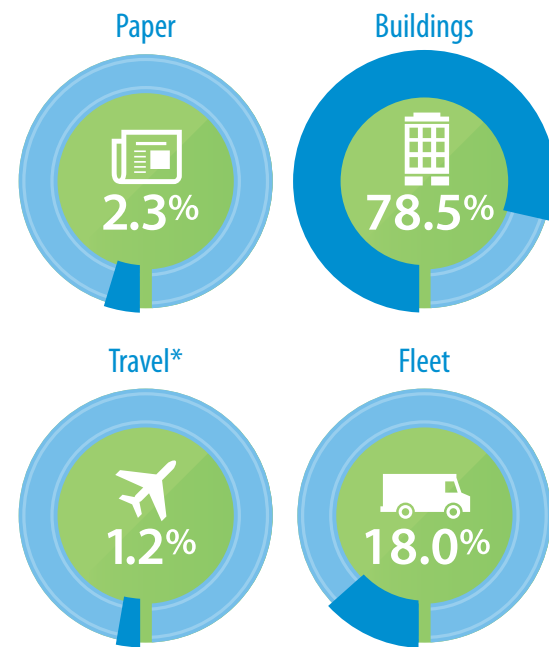
- > Bring sustainability principles into the thinking, actions, culture and everyday operations of VCC;
- > Demonstrate our respect for the environment as we educate students, staff and faculty about environmental stewardship; and
- > Seek innovations and improved practices that reduce our carbon footprint.

Above (right): Surrey School District, energy management software, Above (left) Vancouver Community College, students and staff brainstorm actions for greening their campus

## 2011 Emissions: Helping organizations understand energy use



2011 was the second year for which the public sector measured operational emissions from buildings, fleet, equipment, paper and travel for core government.



\*Travel emissions counted for core government only.

In 2011, the public sector emitted 864,040 tonnes of carbon dioxide equivalent, of which 88,531 tonnes did not require offsets. For 2011, 775,509 tonnes worth of offsets were purchased at a cost of \$19,387,725. As was expected, because of a much colder average temperature in 2011 over 2010, there is an estimated 5.9 per cent increase in total emissions. However it is important to note that when the current emissions data has been normalized for climate variability based on the 30 year climate normal temperature (an average temperature of 15°), it is estimated that relative emissions have decreased slightly – by as much 3 per cent for the entire public sector. Additionally, the emission factors used to calculate emissions changed slightly year over year to account for changes in hydrology, improvements in technology, new information, and policy changes such as the renewable fuels requirements.

In addition, for some organizations new or improved information became available or double-counting of an emission source was discovered after the reporting deadline for 2010. Organizations that had changes to their total emissions made adjustments for 2010, and purchased additional offsets if needed. Across the public sector, approximately 3,000 extra tonnes of offsets were purchased for 2010, a difference of 0.3%. Adjustments will be noted and addressed annually.

Please visit <http://www.livesmartbc.ca/government> for a detailed accounting of each organization's and sector's total and offsetable GHG emissions and their offset investment required to achieve carbon neutral status. It is important to note that under the Carbon Neutral Government Regulation, some of the emissions reported in the total do not require the purchase of offsets. This includes emissions from mobile or stationary combustion of biomass as well as emissions from bus fleets (school and BC Transit buses).

## Investing in emission reductions across B.C.

Clearly public sector organizations, their staff and students are taking steps to change business practices, personal lifestyle choices and technologies. Even so, there comes a point when we – whether as individuals, companies or organizations – can do nothing more to reduce the greenhouse gases we have created. This is when organizations that want to take responsibility for their carbon pollution turn to offset projects. An offset represents one tonne less of carbon dioxide in our atmosphere. It is created when an organization is supported to invest in real emission-reducing activities. Carbon emission reductions have an equal effect on climate change no matter where they occur.

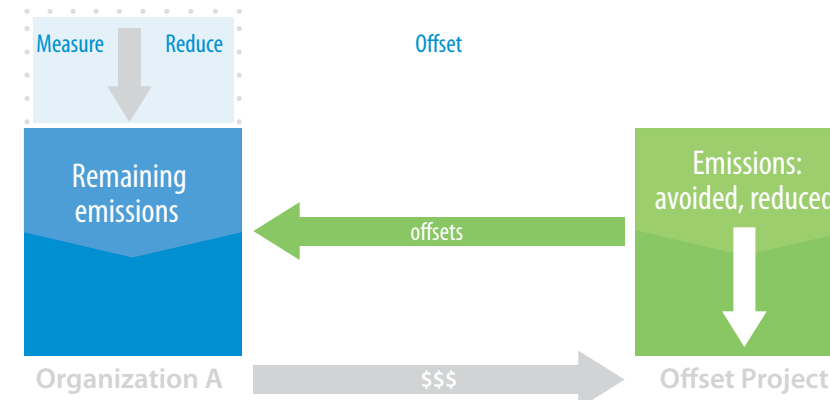
In 2008, the B.C. government established Pacific Carbon Trust (PCT) to establish an offset market and encourage the growth of low-carbon technologies – creating local jobs and providing economic opportunities for a range of businesses and economic sectors across B.C.

As emission reduction projects often involve replacing older, carbon-intensive technologies with new, low-carbon technologies, by purchasing carbon offsets, organizations – such as the provincial government – are not only neutralizing their carbon footprint, they are also promoting innovation and the development of technologies and practices that will reduce carbon emissions and help slow climate change.

In order for offsets to make a real contribution to slowing climate change, they must be proven to achieve a quantifiable reduction in emissions. Offset projects have to be “additional.” Put simply, offsets can only be generated from emission reductions that go

beyond, or are “additional” to, a company's business-as-usual approach. Offsets purchased by Pacific Carbon Trust are subject to a rigorous third-party double audit process required by the BC Emission Offsets Regulation. Auditors, including KPMG, Ernst & Young, Stantec and Ruby Canyon Engineering are certified to international standards to ensure that projects are real, quantifiable and additional.

Offsets are providing a cost-effective way to implement carbon reduction strategies in B.C. The price attached to selling offsets can help make clean technology projects a reality, resulting in many economic and social benefits, in addition to the benefits of carbon reduction. This investment in offsets has leveraged approximately \$8 of private sector investment in communities across B.C., for every \$1 contributed from offset purchases. For more information on the location and types of emission reduction projects funded please visit [www.pacificcarbontrust.com](http://www.pacificcarbontrust.com).



# 100%

100% of all government ministries use 30-100% recycled paper.



### A cost-effective way to reduce emissions

Offsets are part of the climate action solution as they provide a cost-effective way to reduce large quantities of GHGs immediately and support innovative, cleaner technologies. For example, Pacific Carbon Trust delivered close to 730,000 tonnes of offsets for \$18.2 million in one year. In comparison, the \$75 million Public Sector Energy Conservation Agreement will reduce GHGs by 35,600 tonnes per year – taking twenty years to achieve the same quantity of reductions.

### Okanagan College receives silver rating in the Sustainability Tracking and Assessment Rating System

Okanagan College is the first college in Canada to receive a silver ranking from STARS – or the Sustainability Tracking and Assessment Rating System administered by the Association for the Advancement of Sustainability in Higher Education. STARS examines practices, policies, and achievements that contribute to sustainability.

# 26%

GHG emissions per full-time equivalent (FTE) student at UBC Okanagan University fell by 26% despite a 53% increase in FTE students since 2007.

# What's next for carbon neutral government



Climate change is not a challenge that the B.C. Government can solve on its own. By taking a leadership position and seeing this commitment through, B.C. is demonstrating that energy and resource conservation are achievable, save money and have co-benefits like job creation, cleaner air and a more active population that is choosing to walk or cycle. Responsibility for carbon pollution is beginning to resonate with the close to two million staff, students or members of the public who work, learn or visit public sector buildings every day. We are seeing uptake in conservation behaviour change that supports organizational transformation and broader community sustainability — a benefit to us all.

The Government of B.C. is committed to credible carbon neutral policy that leads to real energy use and greenhouse gas savings, in addition to a broader conservation culture taking root across the public sector. 2011 is the second year for which B.C. has complete and accurate energy use and greenhouse gas data. The importance of this cannot be overstated as this information will allow us to benchmark organizations by building and region – to support a better understanding of energy use and identification of anomalies. It has been a year of continuous improvement. Through an engagement with directly impacted stakeholders, the province has committed to the following:

## Invest in Reductions

Starting with 2012/2013, school districts will have access to a \$5 million annual energy efficiency fund;

## Reduce Costs

SMARTTool costs will no longer be charged for broader public sector;

## Collaborate

PCT will establish an offset advisory panel including representatives from the public sector;

## Improve Information

A data interchange is being developed with BC Hydro & Fortis BC to flow energy data directly into SMARTTool, which will save time, decrease manual entry and improve accuracy; and

## Create New Tools

Carbon neutral reporting will go online – addressing technical issues and improving functionality.

# Appendix A

## BC Public Sector greenhouse gas emissions and offset investments

The 'Total Emissions' reported meet the reporting requirements of the Carbon Neutral Regulation of the Greenhouse Gas Reduction Targets Act. As per the regulation, some of the emissions reported in the total do not require the purchase of offsets in order to reach carbon neutrality. This includes emissions from mobile or stationary combustion of biomass as well as emissions from bus fleets (school buses and BC Transit buses). The total offsets purchased matches the emissions requiring offsets.

For more information on how the B.C. Public Sector measures emissions, please visit [www.LiveSmartBC.ca](http://www.LiveSmartBC.ca). Following this report, any adjustments to emissions or offsets purchased due to unforeseen errors or omissions will be noted on-line.



# Appendix

Organization	Total Emissions (tonnes)	Total Offsets Purchased (tonnes)	Offset Investment (dollars)
<b>Public Sector Total</b>	<b>864,040</b>	<b>775,509</b>	<b>\$19,387,725</b>
Core Government Total	98,212	96,678	\$ 2,416,950
Crown Corporations Total	158,361	96,817	\$ 2,420,425
BC Assessment Authority	538	534	\$ 13,350
BC Games Society	7	7	\$ 175
BC Housing	27,244	27,159	\$ 678,975
BC Hydro	30,728	29,963	\$ 749,075
BC Innovation Council	5	5	\$ 125
BC Liquor Distribution Branch	4,118	4,087	\$ 102,175
BC Lottery Corporation	1,506	1,492	\$ 37,300
BC Pavilion Corporation	6,623	6,620	\$ 165,500
BC Transit	62,223	1,623	\$ 40,575
BC Securities Commission	201	201	\$ 5,025
Columbia Basin Trust	23	23	\$ 575
Columbia Power Corporation	35	34	\$ 850
Community Living BC	675	672	\$ 16,800
First Peoples Heritage, Language & Culture Council	2	2	\$ 50
Forestry Innovation Investment	148	148	\$ 3,700
Industry Training Authority	31	31	\$ 775
Insurance Corporation of BC	23,102	23,073	\$ 576,825
Knowledge Network Corporation	101	101	\$ 2,525
Legal Services Society	89	89	\$ 2,225
Oil and Gas Commission	391	382	\$ 9,550
Pacific Carbon Trust	2	2	\$ 50
Partnerships BC	35	35	\$ 875
Private Career Training Institutions Agency	4	4	\$ 100
Provincial Capital Commission	287	286	\$ 7,150
Royal BC Museum	177	177	\$ 4,425
<b>Health Authority Total</b>	<b>231,691</b>	<b>231,472</b>	<b>\$5,786,800</b>
Bella Coola General Hospital	287	277	\$ 6,925
Fraser Health Authority	40,965	40,954	\$1,023,850
Interior Health Authority	44,199	44,127	\$1,103,175
Louis Brier Home & Hospital	781	781	\$ 19,525

Organization	Total Emissions (tonnes)	Total Offsets Purchased (tonnes)	Offset Investment (dollars)
<b>Health Authority Total Continued</b>			
Menno Hospital	462	462	\$ 11,550
Mount St. Mary Hospital	476	476	\$ 11,900
Nisga'a Valley Health Authority	251	246	\$ 6,150
Northern Health Authority	24,710	24,674	\$ 616,850
Providence Healthcare	11,978	11,974	\$ 299,350
Provincial Health Services Authority	23,395	23,387	\$ 584,675
RW Large Memorial Hospital	164	164	\$ 4,100
St. Joseph's General Hospital	1,534	1,532	\$ 38,300
St. Michael's Center	375	375	\$ 9,375
Vancouver Coastal Health Authority	47,050	47,038	\$1,175,950
Vancouver Island Health Authority	35,005	34,946	\$ 873,650
Wrinch Memorial Hospital	58	58	\$ 1,450
<b>Post Secondary Total</b>	<b>161,727</b>	<b>159,207</b>	<b>\$3,980,175</b>
British Columbia Institute of Technology	11,249	11,246	\$ 281,150
Camosun College	2,089	2,088	\$ 52,200
Capilano University	2,418	2,417	\$ 60,425
College of New Caledonia	1,442	1,441	\$ 36,025
College of the Rockies	637	618	\$ 15,450
Douglas College	2,294	2,294	\$ 57,350
Emily Carr University of Art & Design	993	993	\$ 24,825
Justice Institute of BC	818	814	\$ 20,350
Kwantlen Polytechnic University	2,892	2,891	\$ 72,275
Langara College	1,720	1,720	\$ 43,000
Nicola Valley Institute of Technology	565	563	\$ 14,075
North Island College	1,227	1,227	\$ 30,675
Northern Lights College	1,578	1,573	\$ 39,325
Northwest Community College	2,213	2,189	\$ 54,725
Okanagan College	1,600	1,597	\$ 39,925
Royal Roads University	1,550	1,547	\$ 38,675
Selkirk College	1,631	1,629	\$ 40,725
Simon Fraser University	18,670	18,660	\$ 466,500
Thompson Rivers University	4,382	4,375	\$ 109,375

Organization	Total Emissions (tonnes)	Total Offsets Purchased (tonnes)	Offset Investment (dollars)
<b>Post Secondary Total Continued</b>			
University of British Columbia - Okanagan	3,239	3,238	\$ 80,950
University of British Columbia	67,617	67,571	\$1,689,275
University of Northern British Columbia	5,857	3,508	\$ 87,700
University of The Fraser Valley	3,236	3,236	\$ 80,900
University of Victoria	15,463	15,453	\$ 386,325
Vancouver Community College	3,080	3,080	\$ 77,000
Vancouver Island University	3,268	3,239	\$ 80,975
<b>School District Total</b>	<b>214,048</b>	<b>191,335</b>	<b>\$4,783,400</b>
School District 05 Southeast Kootenay	3,381	2,707	\$ 67,675
School District 06 Rocky Mountain	2,231	1,647	\$ 41,175
School District 08 Kootenay Lake	2,822	1,937	\$ 48,425
School District 10 Arrow Lakes (Nakusp)	394	275	\$ 6,875
School District 19 Revelstoke	517	421	\$ 10,525
School District 20 Kootenay-Columbia	2,519	2,073	\$ 51,825
School District 22 Vernon	3,589	2,791	\$ 69,775
School District 23 Central Okanagan (Kelowna)	6,546	5,284	\$ 132,100
School District 27 Cariboo-Chilcotin	5,639	4,193	\$ 104,825
School District 28 Quesnel	2,413	1,675	\$ 41,875
School District 33 Chilliwack	2,308	1,638	\$ 40,950
School District 34 Abbotsford	5,962	4,802	\$ 120,050
School District 35 Langley	6,489	5,941	\$ 148,525
School District 36 Surrey	21,244	21,008	\$ 525,200
School District 37 Delta	4,077	4,024	\$ 100,600
School District 38 Richmond	8,280	8,017	\$ 200,425
School District 39 Vancouver	18,372	18,354	\$ 458,850
School District 40 New Westminster	2,081	2,080	\$ 52,000
School District 41 Burnaby	6,648	6,638	\$ 165,950
School District 42 Maple Ridge	3,834	3,827	\$ 95,675
School District 43 Coquitlam	10,636	10,623	\$ 265,575
School District 44 North Vancouver	5,138	5,042	\$ 126,050
School District 45 West Vancouver	1,654	1,650	\$ 41,250
School District 46 Sunshine Coast	1,428	1,424	\$ 35,600
School District 47 Powell River	1,413	1,182	\$ 29,550
School District 48 Sea To Sky/Howe Sound	2,392	1,978	\$ 49,450

Organization	Total Emissions (tonnes)	Total Offsets Purchased (tonnes)	Offset Investment (dollars)
<b>School District Total Continued</b>			
School District 49 Central Coast	390	360	\$ 9,000
School District 50 Haida Gwaii	725	709	\$ 17,725
School District 51 Boundary	1,117	881	\$ 22,025
School District 52 Prince Rupert	1,063	1,042	\$ 26,050
School District 53 Okanagan Similkameen	1,099	712	\$ 17,800
School District 54 Bulkley Valley	1,498	1,120	\$ 28,000
School District 57 Prince George	7,143	7,130	\$ 178,250
School District 58 Nicola-Similkameen	1,189	983	\$ 24,575
School District 59 Peace River South (Dawson Creek)	3,914	3,108	\$ 77,700
School District 60 Peace River North (Fort St. John)	4,222	2,963	\$ 74,075
School District 61 Greater Victoria	6,974	6,950	\$ 173,750
School District 62 Sooke	3,228	2,655	\$ 66,375
School District 63 Saanich	2,405	2,019	\$ 50,475
School District 64 Gulf Islands	507	369	\$ 9,225
School District 67 Okanagan Skaha (Penticton)	2,052	1,935	\$ 48,375
School District 68 Nanaimo-Ladysmith	4,928	4,391	\$ 109,775
School District 69 Qualicum	2,520	1,897	\$ 47,425
School District 70 Alberni	1,833	1,622	\$ 40,550
School District 71 Comox Valley	2,480	2,475	\$ 61,875
School District 72 Campbell River	2,706	2,338	\$ 58,450
School District 73 Kamloops/Thompson	6,103	4,538	\$ 113,450
School District 74 Gold Trail	1,457	1,017	\$ 25,425
School District 75 Mission	2,451	2,077	\$ 51,925
School District 78 Fraser-Cascade	1,207	1,031	\$ 25,775
School District 79 Cowichan Valley	3,520	2,856	\$ 71,400
School District 81 Fort Nelson	609	600	\$ 15,000
School District 82 Coast Mountains	3,083	3,067	\$ 76,675
School District 83 North Okanagan-Shuswap	3,877	2,768	\$ 69,200
School District 84 Vancouver Island West	245	220	\$ 5,500
School District 85 Vancouver Island North	854	723	\$ 18,075
School District 87 Stikine	470	469	\$ 11,725
School District 91 Nechako Lakes	3,681	2,647	\$ 66,175
School District 92 Nisga'a	155	100	\$ 2,500
School District 93 Conseil Scolaire Francophone	2,333	2,333	\$ 58,325





*“As an institution dedicated to education, we must make sure staff and students are full participants in the solutions they develop and actions they take.”*

*– Angus Wilson at School District 50, Haida Gwaii*

Cover Image: Northern Lights College, Centre of Excellence for Clean Energy Technology



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**Above:** Powell River Board of Education, Outdoor and Ecological Education Program (photo credit: R. Barfoot)

**Above:** Ministry of Community, Sport and Cultural Development’s Mazda Building achieved LEED for Existing Buildings: Operations and Maintenance. **Bottom Right:** The Cambie Corridor Consortium provides shuttle services between Lower Mainland Health buildings. For more information see: <http://www.toolsofchange.com/en/case-studies/detail/100>