



# Carbon Neutral Action Report | 2012

# Executive Summary

## Connecting People and Communities

BC Transit's Vision is to connect people and communities to a more sustainable future.

From small towns to large urban centres, BC Transit connects over 50 million customers in communities across the province every year. Choosing to travel by bus helps clean the environment: car trips are avoided and that means fewer greenhouse gases, less carbon monoxide, hydrocarbons and other toxic substances released into the air.

BC Transit worked hard to balance support for provincial Climate Action goals and the *Provincial Transit Plan*, alongside decreased local government capacity to fund new commuter and regional services in 2012. Global economic uncertainty and industry wide cost pressures, including capital replacement, fuel, labour and maintenance, put further strain on costs and the ability of local funding partners to meet demand for increased public transit services.

Despite these pressures, BC Transit continued to benchmark favourably to its peers across Canada in terms of ridership, supply of service and the efficiency of services provided. This made it possible to offer transit services in many smaller communities across the province and contributed directly to the sustainability of each of the more than 130 communities in which we operate and serve.

This is the third year for which BC Transit has measured operational GHG emissions from its buildings and fleet. Total carbon emissions declined to 61,923.22 tonnes; a reduction of more than 300 tonnes from the previous year. This includes a reduction of 55 tonnes in direct greenhouse gas (GHG) emissions from diesel fuel combustion in BC Transit's vehicle fleet.

Direct GHG emissions from BC Transit's facilities declined significantly in 2012, falling by 237 tonnes to 1,161 tonnes. This was as a result of continued efficiency improvements in operating the Victoria Regional Transit System facilities; garage and yard retrofits in other Regional Transit Systems; and the introduction of new facilities in Kamloops and Vernon, replacing older, less efficient buildings.

Rounding out the carbon inventory from BC Transit's operations, emissions from both indirect purchased energy and from the use of office paper also declined in absolute tonnage terms year on year, from 2011 to 2012.

The continued expansion in service of what remains the world's largest fleet of hydrogen fuel cell buses (operating in the Resort Municipality of Whistler) displaced more than 1,490 tonnes of direct GHG emissions that would have otherwise occurred had that fleet operated on diesel fuel.

Additional new vehicle technologies were investigated during the year as part of BC Transit's continuing commitment to exploring sustainable transit solutions.

In line with the Province's announcement of a natural gas transportation strategy in May 2012, significant progress was made during the year in developing the business case for implementation of our first fleet of compressed natural gas (CNG) powered buses.

For BC Transit and our local government partners, the prime benefit of CNG buses compared to diesel buses today is lower and more stable fuel prices. Additional benefits include quieter engines and simplified emission systems.

Natural gas is abundant in British Columbia which is also home to world-leading natural gas vehicle industries, including engine and refueling technologies, deepening the potential economic benefits to the province from the increased use of this transportation fuel.

In support of these opportunities and benefits BC Transit expects to begin operating CNG buses in revenue service by spring 2014.

Today the provision of transit service is central to enabling more sustainable communities: optimizing land use and facilitating people's mobility by walking, cycling and transit. All of these reduce traffic, smog and GHG emissions by reducing the use of single-occupancy vehicles.

The benefits of transit to our regional economies is demonstrated by increased mobility, reduced pressure on transportation and other public infrastructure, and cleaner, more efficient energy use. These benefits extend beyond BC Transit's system users to the economy of the Province at large.



*Mike Davis*

Vice President & Chief Operating Officer  
BC Transit

McTavish Exchange



## 2012 Greenhouse Gas Emissions

Most greenhouse gases produced from BC Transit's operations comes from the combustion of fossil fuels in our vehicle fleet and the energy used to heat and cool the buildings we own or lease.

<b>EMISSIONS SOURCE</b>	<b>GREENHOUSE GASES IN TONNES</b>
<b>Scope 1 (Direct) Emissions</b>	
Mobile Combustion: Vehicle Fleet – Diesel & Gasoline	58,425.54
Stationary Combustion	1,161.16
Total Scope 1 Emissions	59,586.70
<b>Scope 2 (Indirect) Emissions</b>	
Indirect Emissions	126.91
<b>Scope 3 Emissions</b>	
Office Paper	12.16
<b>Emissions from Biomass</b>	
Total Biomass Emissions	2,197.45
<b>TOTAL EMISSIONS CALENDAR YEAR 2012</b>	<b>61,923.22</b>

It was estimated that fugitive emissions from vehicle fleet air conditioning do not comprise more than one per cent of BC Transit's total emissions and an ongoing effort to collect or estimate emissions from this source would be disproportionately onerous. For this reason emissions from this source have been deemed out of scope and have not been included in BC Transit's total greenhouse gas emissions profile.

# Offsets Applied to Become Carbon Neutral in 2012

BC Transit measures and is accountable for its environmental results. BC Transit measures and reports its greenhouse gas emissions under carbon accounting protocols consistent with the *Carbon Neutral Government Regulation* using the web-based application known as SMARTTool, and offsets those regulated greenhouse gas emissions it cannot avoid through payments to the Pacific Carbon Trust.

In 2012 BC Transit offset 1,390 tonnes of regulated emissions.

As required by section 5 of the *Carbon Neutral Government Regulation*, 60,622.99 tonnes of CO<sub>2</sub>e of emissions resulting from the operation of transit buses was reported as part of our greenhouse gas emissions profile in 2012. However, they were not offset as they are out of scope under section 4 (2) (c) of the *Carbon Neutral Government Regulation*.



Supporting communities-reducing  
their GHG footprint

# Emissions Reduction Activities

Below is an overview of highlighted actions and targets reported in the CNAR Actions Table (attached)

## A. MOBILE FUEL COMBUSTION

Operation of the hydrogen bus fleet in the Resort Municipality of Whistler avoided more than 1,490 tonnes of GHGs in comparison with incumbent diesel bus technology

Under a test program, BC Transit modified two 2009 NovaBus' with shorter differential ratios, The test will monitor drivability and on-road performance with the goal of increasing fuel efficiency. If successful, the new ratio will become the BC Transit standard moving forward.

BC Transit took delivery of more than 50 ARBOC buses as part of an ongoing fleet upgrade for the Community Transit Service, which will deliver fuel and GHG savings when used in place of older, less efficient transit buses.

Non-revenue fleet: We continued implementation of BC Transit's fleet renewal program, incorporating full life-cycle accounting of energy efficiency and air emissions in the business case process. A new Mercedes Benz Sprinter Van was purchased for use by Victoria Regional Transit maintenance, providing improved energy efficiency and cleaner emissions when compared with the older, retired vehicle.

Sprinter Maintenance Van



BC Scrap It Program: BC Transit's Victoria Regional Transit System offers a monthly pass incentive for vehicle owners to scrap their older, more polluting vehicles and adopt transit. Implementation of this program removed 267.3 tonnes of GHGs that would otherwise have been emitted in 2012

## B. STATIONARY FUEL COMBUSTION - FACILITIES

Facilities GHG emissions declined by almost 17 per cent in 2012. This was as a result of continued efficiency improvements in the Victoria Regional Transit System facilities; garage and yard retrofits in other Regional Transit Systems; and the introduction of new facilities replacing older, less efficient buildings in Kamloops and Vernon.



Kamloops Transit Centre

*BC Transit's new state-of-the-art transit centre opened in Kamloops in July 2012. This new Transit Centre will enable BC Transit to effectively and efficiently meet the growing demand for transit in the City of Kamloops.*

*The newly built Transit Centre will better meet the needs of the increasing number of users in the Kamloops area. BC Transit had outgrown its former facility that included four service bays and was designed for 9.1-metre (30-foot) buses. The new transit centre at 1460 Ord Road is equipped with seven service bays and is able to accommodate today's conventional fleet of 12.2 metre (40-foot) buses.*

*The time-consuming, manual bus cleaning method has been replaced with a 90-second automated bus wash. Eighty per cent of the water used is recycled, reducing environmental impact.*

## C. SUPPLIES - PAPER

BC Transit reduced GHG emissions from the consumption of paper by more than 17 per cent in 2012 as a result of further reduction in total paper use and continued use of 40 per cent or better post-consumer recycled content paper.

# Hydrogen Bus Fleet, Resort Municipality of Whistler

The hydrogen fleet travelled more than 1,065,000 kms in calendar 2012 and avoided more than 1,490 tonnes of CO<sub>2</sub>e in comparison to diesel buses.

By December 2012, the fleet had logged more than 3 million kms in service since the program began in December 2009, avoiding over 3,700 tonnes of GHG had service been provided by diesel buses.

Whistler Facility





# Actions to Reduce Provincial Emissions and Improve Sustainability

## Transit Future

Transit Future Plans envision what a community's transit network should look like 25 years from now. Developed with local government to link the future transit vision to the Official Community Plan, the Transit Future Plan analyzes the existing transit system to see how it could be improved.

It describes and prioritizes infrastructure and investment needed to get there and it provides guidance for regional land use decision makers to ensure new developments have accessible, safe and convenient access to the transit system.

Transit Future guides future transit investment that is supportive of livable communities by:

- Offering more transportation choice
- Supporting smart land use plans that focus on walking, cycling and transit
- Meeting climate change goals
- Making it easy to access everyday services on foot, by bike and by transit

A key element in public consultation in support of Transit Future Plans is the "Transit Future Bus", a 12m bus re-worked as a mobile public consultation tool.

In 2012 the Transit Future Plan processes in Abbotsford, Chilliwack, North Okanagan Prince George, Nanaimo and the Sunshine Coast were integrated with community active transportation plans. We registered over 5000 individuals that were guests at our Transit Future Bus events over the year.



Transit Future Bus  
Vernon 2013

## Actions Planned for 2013

- Continue to advance low emission and low carbon fuel bus demonstrations (these will include natural gas and battery electric buses) and evaluate for implementation
- Continue to evaluate and monitor the 20 hydrogen fuel cell bus fleet in Whistler, B.C.
- Continue to advance opportunities for low emission and right sized vehicles, particularly for community shuttle bus service
- Purchase and deployment of BC Transit's first all battery electric car for use as a pool car in corporate operations.
- Install real- time energy-metering systems in the Victoria Regional Transit System at the Langford Transit Centre. Continue to convert Victoria Transit Centre yard lighting to LED type lighting
- Sell compliant carbon emission offsets to Pacific Carbon Trust



# Links to Other BC Transit Information Relevant to Sustainability

## **Government Letter of Expectations - 2012**

[http://www.bctransit.com/corporate/general\\_info/pdf/2012-13\\_Governments\\_Letter\\_of\\_Expectations.pdf](http://www.bctransit.com/corporate/general_info/pdf/2012-13_Governments_Letter_of_Expectations.pdf)

## **BC Transit Service Plan 2012 – 2015**

[http://www.bctransit.com/corporate/general\\_info/pdf/BCT\\_2012\\_Service\\_Plan.pdf](http://www.bctransit.com/corporate/general_info/pdf/BCT_2012_Service_Plan.pdf)

## **BC Transit 2011 - 12 Annual Report**

[http://www.bctransit.com/corporate/general\\_info/pdf/BC\\_Transit\\_201011\\_Annual\\_Report\\_Final\\_WEB.pdf](http://www.bctransit.com/corporate/general_info/pdf/BC_Transit_201011_Annual_Report_Final_WEB.pdf)

## **BC Transit Go Green**

<http://www.bctransit.com/gogreen/default.cfm>

## **BC Transit Future Plans**

<http://www.bctransit.com/transitfuture/>

## **BC Transit is a member of the Community Energy Association**

<http://www.communityenergy.bc.ca/node/295>

## **BC Transit Victoria Regional Transit System is member of BC Scrap It Program**

<http://www.scrapit.ca/incentivechoices.htm>

## **BC Transit is a member of the Canadian Hydrogen Fuel Cells Association**

<http://www.chfca.ca/>

## **BC Transit is a member of the Hydrogen Bus Alliance**

<http://www.hydrogenbusalliance.org/about.html>

## **BC Transit is a member of the Clean Hydrogen In Cities program**

<http://chic-project.eu/category/cities>

# BC Transit –2012 Carbon Neutral Action Report

## Actions Towards Carbon Neutrality

The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the *Greenhouse Gas Reduction Targets Act*.

Action	Status	Steps Taken in 2012	Steps Planned for 2013 - 2014	Start Year	End Year
<b>Mobile Fuel Combustion (Fleet and other)</b>					
<b>Behaviour change program</b>					
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	BC Transit has an ongoing and progressive training module under the SMART Driver program which defines and reinforces "fuel sense" driving techniques. There were 45 drivers trained in 2012 and a separate Operator Workshop was held (discussion included driving techniques). We also review these techniques during ride checks.	Continue to train operators in the SMART Driver program and review techniques through ride checks.	2008	No End Date (Continuous)
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Ongoing/In Progress	Continue to reinforce the anti-idling policy.	Maintain the Anti-idling policy in the training manual and continue to provide anti-idling training to new operators.	2008	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress	All BC Transit employees have bus passes. Pool cars (hybrids) are available when meeting logistics prevent transit use.	Continued use of hybrid pool cars when meeting logistics prevent transit use.	2008	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Ongoing/In Progress	BC Transit worked with partners to implement our vision to be a leader of integrated transportation solutions connecting people and communities to a more sustainable future. The Transit Future Plan processes in Abbotsford, Chillawack, North Okanagan, Prince George, Nanaimo and the Sunshine Coast were integrated with community active transportation plans. In 2012, we registered over 5000 individuals that were guests at our Transit Future Bus events over the year.	BC Transit will continue to work with its strategic partners and stakeholders to promote transit and sustainable transportation solutions. In particular, the Transit Future Plan process will continue to integrate active transportation and transit planning for communities over 25,000 people. Service Reviews in smaller communities will also look to integrate active transportation and transit planning.	2009	No End Date (Continuous)
<b>Other Mobile Fuel Combustion Actions</b>					
BC Transit continued to implement its environmental fuel strategy	Ongoing/In Progress	Continued implementation of BC Transit's environmental fuel strategy in line with the Renewable and Low Carbon Fuel Regulation requirements for diesel fuel established January 1, 2010.	Continued implementation of BC Transit's environmental fuel strategy in line with the Renewable and Low Carbon Fuel Regulation requirements for diesel fuel established January 1, 2010.	2008	No End Date (Continuous)
Increased fuel efficiency of non-revenue service vehicles	Ongoing/In Progress	Continued implementation of BC Transit's fleet renewal program for non-revenue fleet vehicles. The program incorporates full life cycle accounting of energy efficiency and air emissions in the business case process. Purchased and received a new Mercedes Benz Sprinter Van for use by Victoria maintenance.	Purchase and deployment of an all electric pool car. Continued implementation of BC Transit's fleet renewal program for non-revenue fleet vehicles. The program incorporates full life cycle accounting of energy efficiency and air emissions in the business case process.	2008	No End Date (Continuous)
Low Emission Vehicle Pilot Program	Ongoing/In Progress	Compressed Natural Gas (CNG) business case development and battery Electric bus investigations and consultations.	Procurement of six low emission fuel efficient Mercedes Sprinter handyDART buses. Continue to investigate low emission and low carbon fuel bus demonstrations (these will include natural gas and battery electric buses).	2008	No End Date (Continuous)

Action	Status	Steps Taken in 2012	Steps Planned for 2013 - 2014	Start Year	End Year
Hydrogen Fuel Cell Demonstration Fleet	Ongoing/In Progress	Continue to operate the largest Fuel Cell Bus fleet in the world. The 3 million km milestone was achieved in 2012. We avoided the creation of 1495 T of CO2e emissions in 2012.	Ongoing operations of FCB fleet.	2009	No End Date (Continuous)
Involvement in BC Scrap It Program	Ongoing/In Progress	BC Transit Victoria Regional Transit System is a program partner in the BC Scrap It Program. This is a voluntary early retirement vehicle program that provides incentives to help British Columbians replace higher polluting vehicles with cleaner forms of transportation. The program is designed to reduce greenhouse gas emissions and to lower exhaust pollutants across the province. All scrapped vehicles and their components are permanently and properly recycled. BC Transit offers a monthly pass incentive for vehicle owners to scrap their older vehicles and adopt transit. As of 2009 residents of Victoria could trade in their 1995 or older vehicle in exchange for up to two years of free rides on the bus. 20 Vehicles were scrapped in 2012 for BC Transit incentives (EcoPasses). The CO2 reduction benefit was 267.3 Tonnes of CO2e.	BC Transit Victoria Regional Transit System intends to continue as a program partner in the BC Scrap It program.	2009	No End Date (Continuous)
<b>Vehicle fuel efficiency</b>					
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	Developed bus specifications that focus on optimization of fuel efficiency wherever possible. Modified two 2009 NovaBus' with shorter differential ratios, the test is aimed to monitor drivability and on road performance with the goal of increasing fuel efficiency. If successful then the new ratio will become BC Transit standard moving forward.	Procurement of 12 replacement heavy duty buses, six of the twelve will be specified with the latest ZF transmission. All buses will have the latest Topodyne or sensotop software algorithms. Fuel efficiency is the main goal of this change. All twelve buses have been specified with all electric cooling packs - document 2-7% fuel efficiency compared to hydraulically driven systems.	2012	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right- sizing" principles	Ongoing/In Progress	Procurement and specification of 15 ISB powered Vicinity buses. Delivery of 50+ ARBOC buses as part of a ongoing fleet upgrade for the Community Transit Service.	Delivery of 15 ISB powered Vicinity buses. Many of these will replace larger less fuel efficient heavy duty buses. Ongoing replacement of the community shuttle buses using the ARBOC model.	2009	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	Ongoing regular maintenance throughout the Provincial fleet. BC Transit continues to maintain all revenue buses to 5,000 km Preventative Maintenance cycle.	All vehicles are maintained and serviced as per BC Transit's Preventative Maintenance program requirements. Ongoing periodic fuel efficiency monitoring and investigations into any vehicle that reports above average fuel usage compared to sample.	2009	No End Date (Continuous)
<b>Stationary Fuel Combustion, Electricity</b>					
<b>Behaviour change program</b>					
Help staff reduce personal energy use through ""workstation tune-ups""	Not Yet Evaluated				
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress	Published article in company "Connections" newsletter outlining responsible occupant behaviour.	Additional articles and promoting occupant awareness.	2012	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress	Published article in company "Connections" newsletter outlining responsible occupant behaviour.	Additional articles and promoting occupant awareness.	2012	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress	Published article in company "Connections" newsletter outlining responsible occupant behaviour.	Additional articles and promoting occupant awareness.	2012	No End Date (Continuous)

Action	Status	Steps Taken in 2012	Steps Planned for 2013 - 2014	Start Year	End Year
Encourage staff to use air dry setting on dishwashers	Ongoing/In Progress	Published article in company "Connections" newsletter outlining responsible occupant behaviour.	Additional articles and promoting occupant awareness.	2012	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Ongoing/In Progress	Published article in company "Connections" newsletter outlining responsible occupant behaviour.	Additional articles and promoting occupant awareness.	2012	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress	Published article in company "Connections" newsletter outlining responsible occupant behaviour. Installed occupancy sensors in many areas.	Additional articles and promoting occupant awareness. Additional occupancy sensors installations.	2012	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress	Published article in company "Connections" newsletter outlining responsible occupant behaviour.	Additional articles and promoting occupant awareness.	2012	No End Date (Continuous)
<b>IT power management</b>					
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	All of the company's old PC's and laptops were replaced with newer more efficient ones. The old PC's were either donated or disposed of in an environmentally friendly manner.	Timeframe for investigating software that manages power more effectively has not been determined.	2010	No End Date (Continuous)
Implement server virtualization	Ongoing/In Progress	We have increased the capacity for our virtual environment	Plan to move all stand alone servers into a virtual environment	2013	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress	Computers lock after 30 minutes of idle time.	Policies will be put in place to force computers to sleep after idle time.	2010	2013
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices as part of a print management strategy	Ongoing/In Progress	A few redundant printers were removed for networked multi function devices.	Plans are to continue to consolidate our printers.	2009	No End Date (Continuous)
Apply auto-sleep settings on printers, fax machines, and/or multi- function devices	Ongoing/In Progress	We enable all multi-function devices and printers to go to sleep after a period of inactivity.	All output devices purchased going forward will also have this feature enabled.	2009	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	All PC's and laptops were replaced with energy efficient devices.	Computers will be refreshed on an ongoing basis. Each time we purchase new hardware we will continuously look for more efficient devices.	2009	No End Date (Continuous)
<b>Leased buildings</b>					
Establish energy performance baseline for leased buildings	Not Yet Evaluated				No End Date (Continuous)
Lease space with operations and maintenance performance labelling/certification (e.g., LEED EB:O&M)	Not Yet Evaluated				No End Date (Continuous)
Lease space with commercial interiors performance labelling/certification (e.g., LEED CI)"	Not Yet Evaluated				No End Date (Continuous)
Lease space in buildings with new construction performance labelling/certification (e.g., LEED NC)	Not Yet Evaluated				No End Date (Continuous)
Develop a green lease policy that requires green features to conserve energy be included in all lease negotiations	Not Yet Evaluated				No End Date (Continuous)

Action	Status	Steps Taken in 2012	Steps Planned for 2013 - 2014	Start Year	End Year
<b>Owned buildings</b>					
Establish energy performance baseline for owned buildings	Ongoing/In Progress	Worked to establish baseline data.	Increase analysis and scrutiny on energy consumption data.	2012	No End Date (Continuous)
Register for performance labelling/certification for operations and maintenance of owned buildings (e.g., LEED EB:O&M)	Not Yet Evaluated				No End Date (Continuous)
Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI)	Not Yet Evaluated				No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Not Yet Evaluated				No End Date (Continuous)
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	Langford Transit Centre underwent a fairly significant project to reduce consumption, including occupancy sensing installations, garage door interlocks added, server room envelope tightened, adding thermal insulation to DHW pipes.	Continue to optimize DDC systems	2012	2014
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Not Yet Evaluated				No End Date (Continuous)
<b>Planning/management</b>					
Reduce office space (square meters) per employee	Ongoing/In Progress	Applied a standard developed in 2009 representing functional minimum space per employee (130sqft including meeting rooms, hallways, storage etc). This standard is 44% of the GOSS standard amount when considered workspace by workspace. We have continued with the same standard.	Continued with the same standard.	2009	No End Date (Continuous)
"Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	Installation begun for Langford Transit Centre site.	Finalize installation at Langford Transit Centre. Develop reports and processes around this tool prior to rolling it out further to other sites.	2012	2013
<b>Retrofit details for owned buildings</b>					
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	Re-ducted areas of Langford Transit Centre to increase warm air diffusion. DDC control for HVAC added to Victoria Transit Center Garage and Langfor Transit Centre.	Replacing and updating aging admin HVAC equipment during planned renovation.	2012	2014
Upgrade lighting systems during retrofits	Ongoing/In Progress	Victoria Transit Centre Administration building lighting, Central Fraser Valley service area garage and yard retrofits completed.	Continue to convert Victoria Transit Centre yard lighting to LED type lighting.	2011	2014
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	Building automation systems installed in Langford Transit Centre. Additional control zones added to Victoria Transit Centre Administration Building and Garage.	Ongoing addition of control zones and optimization of schedules and programs.	2012	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	No building envelope projects this year.	No project planned for 2013.	2014	No End Date (Continuous)

Action	Status	Steps Taken in 2012	Steps Planned for 2013 - 2014	Start Year	End Year
<b>Supplies (Paper)</b>					
<b>Behaviour change program</b>					
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Not Yet Evaluated				No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Not Yet Evaluated				No End Date (Continuous)
<b>Electronic media in place of paper</b>					
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Not Yet Evaluated				No End Date (Continuous)
Use electronic document library for filing common documents	Not Yet Evaluated				No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	In Development	Planning and some action was taken to transition the BC Transit payroll system to a paperless system in 2012.	Further planning and action to move BC Transit payroll system to a paperless system.	2012	No End Date (Continuous)
<b>Paper Type</b>					
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	Nearly all paper purchased under reporting guidelines is between 30 to 40% recycled.	Maintain performance level.	2010	No End Date (Continuous)
Purchase 40% post-consumer recycled paper	Ongoing/In Progress	Increased use of 40% recycled content paper.	Review opportunities to further increase post-consumer content in purchased paper.	2011	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Ongoing/In Progress	Maintained 100% recycled content performance level.	Review opportunities to further increase post-consumer content in purchased paper.	2010	No End Date (Continuous)
<b>Printer/document settings</b>					
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	All network printers and photocopiers are now defaulted to double-sided printing. Evaluating setting the colour printer to a default 'print and hold' setting to limit unclaimed print jobs.	All network printers and photocopiers are now defaulted to double-sided printing. Evaluating setting the colour printer to a default 'print and hold' setting to limit unclaimed print jobs.	2010	No End Date (Continuous)



## Actions to Reduce Provincial Emissions and Improve Sustainability

The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the Greenhouse Gas Reduction Targets Act. Public sector

Action	Status	Steps Taken in 2012	Steps Planned for 2013 – 2014	Start Year	End Year
<b>Business Travel</b>					
<b>Behaviour change program</b>					
Train staff in web-conferencing	Not Yet Evaluated				No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress	Conference calling is encouraged and used extensively.	Maintain conference calling encouragement.	2010	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress	All BC Transit employees have bus passes. Pool cars (hybrids) are available when meeting logistics prevent transit use.	BC Transit will continue to issue employees bus passes and will continue to encourage staff to use the Hybrid pool cars when meeting logistics prevent transit use.	2009	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress	All BC Transit Employees have bus passes.	BC Transit will continue to issue employees bus passes and encourage staff to use the Hybrid pool cars when meeting logistics prevent transit use.	2009	No End Date (Continuous)
<b>Policy and budgeting</b>					
Create a low-carbon travel policy or travel reduction goal	Not Yet Evaluated				No End Date (Continuous)
<b>Virtual meeting technology</b>					
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Ongoing/In Progress	WebEx has been used extensively throughout the organization.	We will be purchasing more licenses for WebEx for new staff or computers.	2011	2012
Make desktop web-cameras available to staff	In Development	All new laptops have web cameras built in.	Cameras for PC's and conference rooms will be evaluated after all the upgrades and stabilization projects have been completed. We will be looking at the possibility of using WebEx from Desktops this year.	2012	No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	In Development	Telephone system upgrades have been planned and were implemented in 2012.	The phone upgrades will enable many new features, one of them being conference calling. We will explore and evaluate the conference calling options when all the infrastructure stabilization upgrades have been completed.	2011	2014
<b>Education, Awareness, and Engagement</b>					
<b>Awards/Recognition</b>					
Establish a sustainability/green awards or recognition program	Not Yet Evaluated				No End Date (Continuous)
<b>Staff Professional Development</b>					
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress	Several BC Transit employees will maintain their professional environmental certification/ accreditations.	Several BC Transit employees will maintain their professional environmental certification/ accreditations.	2009	No End Date (Continuous)
Include green options in employee performance measurement system	Not Yet Evaluated				No End Date (Continuous)

Action	Status	Steps Taken in 2012	Steps Planned for 2013 – 2014	Start Year	End Year
<b>Staff awareness/education</b>					
Provide education to staff about the science of climate change	Ongoing/In Progress	The BC Transit environmental Green Team has been working on restructuring but is committed to developing strategies that reduce our impact on the environment including education opportunities for BC Transit employees. Basic focus areas of action and education were developed in 2012.	Once a renewed BC Transit Green Team is fully operational (expected during the 2nd quarter of 2013), work will begin to offer environmental education to BC Transit staff.	2010	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress	The BC Transit environmental Green Team has been working on restructuring but is committed to developing strategies that reduce our impact on the environment including education opportunities for BC Transit employees. Basic focus areas of action and education were developed in 2012.	Once a renewed BC Transit Green Team is fully operational (expected during the 2nd quarter of 2013), work will begin to offer environmental education to BC Transit staff.	2010	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress	The BC Transit environmental Green Team has been working on restructuring. Basic focus areas of action and education were developed in 2012. Part of the Green Team website has been updated.	Once a renewed BC Transit Green Team is operational (expected during the 2nd quarter of 2013), work will begin to offer environmental education to BC Transit staff through the revitalization of a e-newsletter.	2010	No End Date (Continuous)
Provide sustainability education during new staff orientation	Ongoing/In Progress	Sustainability is part of new staff orientation provided by the HR department.	Maintain current training process.	2010	No End Date (Continuous)
<b>Team-building</b>					
Create Green, Sustainability, Energy Conservation, or Climate Action	Ongoing/In Progress	Core group was maintained while working to restructure Green Team to be more accessible to all staff and garner higher level endorsement.	Continue working on the group restructuring some planned events for later in the year.	2009	No End Date (Continuous)
Teams with executive endorsement"	Completed (in Previous Year)				No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Not Yet Evaluated				No End Date (Continuous)
<b>Other Sustainability Actions</b>					
<b>Adaptation to Climate Change</b>					
Assessed whether extreme weather events and/or long term changes in climate will affect the organization's business areas	In Development	8 sink faucets replaced in 2011 with low flow versions.	Continuing program of faucet replacements, toilet replacements and urinal replacements. Low flow showerheads installed.	2011	No End Date (Continuous)
Integrated considerations of extreme weather events and/or long term changes in climate into the organization's decision making.	Not Yet Evaluated				No End Date (Continuous)
<b>Building construction, renovation</b>					
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	In Development	No significant construction or demolition activities occurred during this year.	No significant construction or demolition activities are forecasted for this period. However, where practical, specify LEED performance specifications for any new construction and demolition projects.	2013	2014
Incorporate lifecycle costing into new construction or renovations	In Development	None.	Incorporate life-cycle costing when planning new facilities and infrastructure.	2013	No End Date (Continuous)

Action	Status	Steps Taken in 2012	Steps Planned for 2013 – 2014	Start Year	End Year
<b>Commuting to and from home</b>					
Introduce telework/work from home policy	Not Yet Evaluated				No End Date (Continuous)
Offer staff a compressed work week	Not Yet Evaluated				No End Date (Continuous)
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress	BC Transit encourages transit staff to use greener types of travel through employee engagement strategies (including commuting surveys) and education. All BC Transit employees have bus passes.	Where feasible encourage transit staff to use greener types of travel by implementing transportation demand management policies and incentives, and by continuing to include showers, lockers, and bicycle parking areas in plans for new transit operation centres.	2009	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Ongoing/In Progress	BC Transit has shower and locker room facilities at its main facilities.	Where feasible encourage transit staff to use greener types of travel by implementing transportation demand management policies and incentives, and by continuing to include showers, lockers, and bicycle parking areas in plans for new transit operation centres.	2009	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In Progress	BC Transit has secure bicycle storage at its main facilities.	Where feasible encourage transit staff to use greener types of travel by implementing transportation demand management policies and incentives, and by continuing to include showers, lockers, and bicycle parking areas in plans for new transit operation centres.	2009	No End Date (Continuous)
<b>Procurement (non-paper supplies)</b>					
Incorporate minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.)	Not Yet Evaluated				No End Date (Continuous)
Establish green standards for goods that are replaced infrequently and/or may require capital funds to purchase (e.g., office furniture, carpeting, etc.)	Not Yet Evaluated				No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	In Development	Framework for new cleaning products established.	Switch high percentage of products to those that are ECOlogo compliant.	2012	2014
<b>Waste reduction/diversion</b>					
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	Ongoing/In Progress	Composting program initiated.	Investigating recycling options for metal waste. Continued roll out of composting program.	2012	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress				No End Date (Continuous)

Action	Status	Steps Taken in 2012	Steps Planned for 2013 – 2014	Start Year	End Year
<b>Water conservation</b>					
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Ongoing/In Progress	Replaced numerous toilets with low flow. Replaced all showerheads with low flow versions. Multiple faucets replaced with motion activated versions.	Continue replacements of fixtures with low flow options as required.	2012	2014
Put in place a potable water management strategy to reduce potable water demand of building-level uses such as cooling tower equipment, toilet fixtures, etc. and landscape features	Not Yet Evaluated				No End Date (Continuous)
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	Not Yet Evaluated				No End Date (Continuous)



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