

**Executive Summary**

As of calendar 2008, BC Transit served 1.4 million B.C. residents and provided 50 million annual rides with a fleet of 860 buses and vans. The service was delivered in partnership with local governments and health authorities through contracts with private management companies, non-profit agencies and municipalities. With the introduction of the Climate Action Plan and the Provincial Transit Plan in 2008 (which aims to double ridership by 2020), the value of transit and our role in delivering service has been raised across the province. BC Transit's structure has been realigned to meet these goals, and to achieve our long-term business plans. As part of this re-alignment a new environmental support team was established in October 2008 and our environmental policy enhanced to reflect the carbon neutral goal.

BC Transit launched major service expansions as a result of increased funding from the province. service expansions occurred throughout British Columbia including Victoria, Cowichan Valley, Fraser Valley, Kamloops, Kelowna, Prince George and Fort St. John. BC Transit provided advice and support to the Shareholder on Transit services and technologies that support government's environmental and climate change objectives.

BC Transit engaged with BC Hydro to investigate the BC Hydro Power Smart Programs for energy studies, including identifying resources and incentives for energy conservation projects for our fixed assets. We undertook facilities improvements at the Langford Transit Centre and the Victoria Transit Centre to improve energy use.

BC Transit continued to work with our municipal partners in support of municipal plans to develop more compact, sustainable, and efficient communities, so as to reduce energy use and greenhouse gas emissions, and to advance municipal plans that support increased population and employment densities near transit hubs and along transit corridors.

BC Transit continued to support the BC Hydrogen Highway as a member of the project's steering committee.

BC Transit worked with VANOC toward the development of sustainable transportation choices plan in support of the 2010 Olympic and Paralympics Games that includes showcasing the most advanced transport technology and service delivery possible.

BC Transit partnered with the Canadian Urban Transit Association on a study guide to hybrid propulsion systems for transit buses. The study will report out in 2009 on the status of such systems and will include a decision tool that will guide transit agencies to adopt BC Transit continued to expand its environmental fuels strategy. This strategy involves a staged migration from #1 light diesel to a renewable biodiesel blended with ultra-low sulphur diesel. Two additional transit systems implemented the strategy in 2008.

During 2008, BC Transit agreed a partnership with a supplier to demonstrate and test North America's first hybrid double-deck bus in the Victoria region. The in-service test will be implemented in 2009.

## Objectives

BC Transit is committed to the protection of the environment through responsible management in all aspects of its operations. BC Transit strives to communicate its environmental programs, policy and objectives to its employees and stakeholders and encourages and recognizes the environmental efforts of its personnel. BC Transit acquires, manages and disposes of properties, works, materials and operations in a manner that is environmentally sound; we integrate environmental factors into all aspects of our planning and decision-making; and we include environmental issues in training programs and encourage and implement input from all levels of personnel to achieve improved environmental performance.

Sustainability - BC Transit worked with Translink, CUTA, the federal government and the Ministry of Transportation and Infrastructure on harmonizing sustainability information and developing tools and methods for measuring sustainability indicators that can be used to better assess the social, environmental and climate benefits from transit investment.

Sustainability - BC Transit improved water recycling systems in Kelowna, Victoria and Langford. Storm water upgrades were undertaken in Campbell River. Trials of environmentally friendly products (paints, cleaning materials and solvents) were undertaken in Victoria.

Promoting healthier communities - BC Transit worked with the support of Ministry of Environment to launch a diesel emissions retrofit program to reduce emissions from diesel buses for cleaner air.

Promoting healthier communities - in 2008 18 communities in B.C. participated in Clean Air Day. A partnership involving BC Transit, the Ministry of Environment and Environment Canada, the goal is to increase awareness about local air quality and climate change issues, and to educate the public about what individuals can do to help maintain a healthy environment.

Employee engagement - BC Transit established a focus on climate action and sustainability in outreach communications to employees and for employee recruitment

The 2008 GreenApple Canada SMART Transportation Ranking Report identified areas of best practice undertaken by Canada's largest urban areas. Urban transportation policies were measured against 17 indicators tracked in 4 policy categories: air quality, public policy, transport policy and technology adoption. Public transit is a key area of assessment. BC Transit's service provision contributed to BC Transit established new regional transit initiatives connecting North and Central Okanagan, and a new Malahat commuter service between the Cowichan Valley and Victoria

**Part 1: Actions Taken to Reduce Greenhouse Gas Emissions in 2008**

**Overview**

BC Transit initiatives to address emissions from our assets in 2008 included further development of alternative fuel use (biodiesel and hydrogen), new fare initiatives (e.g. UPASS), the purchase of 105 new clean diesel buses, benefits from increased passenger growth and from service improvements (e.g. service enhancements in 28 communities) and extensive marketing of transit service and its benefits to British Columbians.

BC Transit continued to expand its environmental fuel strategy . The strategy involves a phased migration from #1 light diesel to a renewable biodiesel blended with new ultra low sulphur diesel. In combination this specification results in significantly lower lifecycle emissions from fuel combustion in transit vehicles

BC Transit continued to advance its hydrogen fuel cell bus demonstration which will see the world's first fleet of 20 hydrogen fuel cell buses deployed in Whistler by the end of 2009. This project also includes hydrogen fuelling demand of up to 1,000/kg day - the world's largest automotive fleet demand.

During 2008 BC Transit took delivery of 105 new buses. These buses were the first in the fleet to meet the new 2007 emission regulations which drastically reduce the allowable amount of particulate matter. The majority of these buses (84) were used to expand service across the province providing greater opportunities for greenhouse gas emissions reductions resulting from passenger growth and mode-shift. In addition new buses entering the fleet replaced older, more polluting and less energy efficient buses, 21 of which were retired from service.

BC Transit worked with local governments in the development of strategic transportation initiatives that supported local and regional growth strategies; including transit oriented development plans, alternative transportation solutions, and pedestrian and transit friendly community design.

BC Transit worked with local partners to improve transit speed, reliability, energy efficiency and reduce emissions through transit priority measures - e.g. signal priority for buses, as well as parking and traffic management policies that favour transit.

**1.1 Mobile Fuel Combustion**

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Replaced # of TYPE OF VEHICLE with MORE EFFICIENT VEHICLE/Hybrid	Complete	105 new clean diesel buses acquired in 2008. 84 vehicles providing expanded service and 21 buses replaced older more polluting vehicles	
Provided driver training to reduce fuel use	Complete	445 transit drivers received a "Smart Driver Refresher" course	BC Transit has an established a Smart Driver training program. This course was designed to refresh drivers on the reasons to drive in a fuel efficient and environmentally sound manner.
Initiated new fleet maintenance program (could include – changing filters, checking tire pressure, regular check-ups)	In Progress	Regular scheduled maintenance to maintain requirements. Constant monitoring of vehicle fuel consumption to identify performance outside operating parameters requiring remedial maintenance.	BC Transit has an established Fleet Maintenance Program. Continual improvement of the program is a key objective for BC Transit.

Established anti-idling behaviour change program (e.g. signs, stickers, messages)	Complete	445 transit operators received anti-idling training	BC Transit has an established anti-idling policy. When operating in the temperature range of ten degrees Celsius (10c) and twenty-five degrees Celsius (25c) and upon arriving at a terminus, timing point or layover, and it is anticipated that drivers will be idling for a period beyond one (1) minute, drivers are requested to shut off the engine. This policy is not to conflict with any local by-laws, but where no by-law exists or one exists that is less stringent, then this policy is to be adhered to.
Encouraged use of public transit/active transportation	Complete	This is the purpose of our organization	
	In Progress	BC Transit continued to expand its environmental fuel strategy .	The strategy involves a phased migration from #1 light diesel to a renewable biodiesel blended with new ultra low sulphur diesel. In combination this specification results in significantly lower lifecycle emissions from fuel combustion in transit vehicles
	In Progress	BC Transit continued to advance its hydrogen fuel cell bus demonstration	The demonstration will see the world's first fleet of 20 hydrogen fuel cell buses deployed in Whistler by the end of 2009. This project also includes hydrogen fuelling demand of up to 1,000/kg day - the world's largest automotive fleet demand
	Complete	During 2008 BC Transit took delivery of 105 new clean diesel buses.	These buses were the first in the fleet to meet 2007 emission regulations which drastically reduce the allowable amount of particulate matter. The majority of these buses (84) were used to expand service across the province providing greater opportunities for greenhouse gas emissions reductions resulting from passenger growth and mode shift. In addition new buses entering the fleet replaced older, more polluting and less energy efficient buses, 21 of which were retired from service
	Complete	BC Transit's pool car fleet in 2008 consisted of hybrid vehicles only. The fleet included a fuel cell hybrid car.	
	Complete	BC Transit produced the biodiesel blending guide in 2008 - a handbook for biodiesel procurement.	The guide is a resource for transit operators throughout British Columbia and provides guidance, best practice and direction for the procurement of biodiesel fuel.

## 1.2 Stationary fuel combustion and electricity

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Undertaken lighting retrofit	Complete	Lighting upgrades at Langford Transit Centre and Victoria Transit Centre facilities and works yard.	Replaced arc lights with higher efficiency bulbs

## 1.3 Supplies

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Committed to use 30% recycled paper	In Progress	BC Transit is committing to use 30% recycled paper	

## 1.4 Sustainability Actions (others)

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Took water conservation measures – low flow showers or toilets, fix leaks	Complete	Improved bus wash / recycling operations	Bus wash systems in Kelowna, Victoria and Langford Transit Centres were improved.
Improved recycling measures	Complete	Upgrade of materials recycling program to include a wider variety of wastes	Introduced recycling bins to office facilities in Victoria and Langford Transit Centres
Purchased green cleaning products	Complete	Supported trials of more environmentally friendly cleaning products in Victoria and Langford Transit Centres.	
Used green (low-e paints)	Complete	Implemented at Victoria Transit Centre paint shop	
	Complete	Improved storm water quality prior to discharge from facilities at Campbell River	Campbell River facility improvements

## Part 2: Plans to Continue Reducing Greenhouse Gas Emissions 2009 -- 2011

### Overview

Engage professional carbon planning consulting services to facilitate the planning and implementation of enterprise wide greenhouse gas management strategies

Work with BC Hydro to help BC Transit achieve or exceed energy conservation goals, reduce utility costs, reduce capital costs for energy efficiency projects and to optimize asset energy performance

## 2.1 Mobile Fuel Combustion

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Replace # of TYPE OF VEHICLE with MORE EFFICIENT VEHICLE/Hybrid	Planned	Corporate acquisition plan being defined for % new acquisitions to be hybrids	Fleet Plan breakdown for calendar year?	4Q 2009
Provide driver training to reduce fuel use	In Progress	In 2009, BC Transit's Nanaimo Regional District completed the Smart Driver program for their trainers	BC Transit's Nanaimo Regional District will be training all of their drivers over the next 2 years.	4Q 2009
Initiate new fleet maintenance program (could include – changing filters, checking tire pressure, regular check-ups)	Planned	Nitrogen tire inflation for BC Transit vehicles. Anticipating fewer scrap tires, longer lasting tires, better operating safety, less emissions pollution, lower operating costs	contract to supply & install the N2 system has been awarded	4Q 2009
Encourage use of public transit/active transportation	In Progress	Purpose of Enterprise		
	Planned	Engage professional carbon planning consulting services to facilitate the planning and implementation of enterprise wide greenhouse gas management strategies	Work with the consultant to establish corporate GHG emissions context; ensure the adequacy of existing monitoring systems; develop GHG management plans; and implement GHG management plans	4Q 2009
	Planned	BC Transit will develop strategic partnerships with new technology suppliers and bus manufacturers to assess the performance and operational benefits of emerging technologies		4Q 2009
	In Progress	BC Transit will launch the world's first fleet of 20 hydrogen fuel cell buses in demonstration as part of regular transit service		4Q 2009
	In Progress	BC Transit will demonstrate the first double deck hybrid bus in transit service in North America	The one year trial period is to test operational performance and fuel efficiency	Trial to begin 3/1/2009
	In Progress	Lifecycle model and amortization strategy for fleet assets can be more closely linked to maintenance strategy, duty cycle and service delivery	Continual improvement for full life accounting of assets	

## 2.2 Stationary Fuel Combustion (including electricity)

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Encourage staff to use stairs	In Progress			
Undertake lighting retrofit	Planned	Lighting retrofit at Victoria Transit Centre		4Q 2009
Implement server virtualization	Planned	Implement server virtualization	upgrade server technology to reduce power consumption through virtualization and new infrastructure	4Q 2009
Undertake building energy audit at LOCATION(s)	Planned	Energy Audits to be undertaken at Victoria and Langford Transit Centres		3Q 2009
	Planned	BC Transit will work with BC Hydro to achieve or exceed energy conservation goals, reduce utility costs, reduce capital costs for energy efficiency projects and to optimize asset energy performance	Establish on-line monitoring of electricity utilities consumption and charges at all BC Transit owned and leased facilities (completed March 2009). Proceed with energy study with BC Hydro. Undertake Energy Management Assessment process. Develop energy management implementation plan (may include Public Sector Energy Conservation Agreement Round 3 application)	4Q 2009
	Planned	Engage professional carbon planning consulting services to facilitate the planning and implementation of enterprise wide greenhouse gas management strategies	Work with the consultant to establish corporate GHG emissions context; ensure the adequacy of existing monitoring systems; develop GHG management plans; and implement GHG management plans	4Q 2009
	Planned	Upgrade Victoria and Langford Transit Centre stand-by power generator systems	upgrade to replace less efficient, more polluting generators	4Q 2009
	In Progress	New Transit Facility in Whistler	The new facility, which will be built to LEED standards, will include: Covered storage for 50 buses (36 initially built), 5 new maintenance bays, Wash Bay, Fuelling Stations (including hydrogen fuelling)	4Q 2009

## 2.3 Supplies

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Use collaborative software to edit on-line	In Progress	Introduction of SharePoint document management system		

## 2.4 Employee Engagement

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Provide climate change education	In Progress	Regular updates to employees through corporate newsletter "Connections"		1-4Q 2009
Develop Green Teams	Planned	Establish Green Team at Victoria Transit Centre	Green Team Victoria to be used as best practice for other BC Transit Systems	3Q 2009
	In Progress	Expanded inter-operability of staff bus pass use in systems outside Victoria		

## 2.5 Sustainability Actions (others)

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
	In Progress	Provincial Transit Plan mode shift targets. Increase transit ridership and market share	Propass promotions, Upass referenda, marketing	1-4Q 2009
	In Progress	BC Transit has joined the BC Scrap-It program in the Victoria region	As of February 2009 Victorians can trade in their 1995 or older vehicle in exchange for up to two years of free rides on the bus	1Q 2009
Additional Actions Taken or Planned	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
	In Progress	Rapid transit initiatives are underway in Victoria and Kelowna. Both aim to identify primary corridors and alignments for rapid transit investments that will drive mode shift and land use investment in a positive feedback system. Outcome is a business case for rapid transit investment in each community	Multi-disciplinary studies will identify the costs and benefits of rapid transit alignments and options in Kelowna and Victoria. In conjunction with 25 year master plans for these communities, the rapid transit studies will establish the framework for future sustainable transportation and supporting land use developments in the regions.	1-4Q 2009