

Royal BC Museum Corporation - 2009 Carbon Neutral Action Report

Executive Summary

The Royal BC Museum Corporation (RBCM) is committed to acting responsibly on the environment. In addition, we aim to educate and assist members of the RBCM community to understand and fulfill their responsibilities to practice environmental sustainability.

At the Royal BC Museum we consider ourselves a leader in our sustainability initiatives. But this isn't new thinking around here! We've been practicing good environmental stewardship for decades. As the keeper of BC's environmental history, it's our business.

We have an active staff Sustainability Committee to keep us moving forward. Our people are passionate about continued greening of our practices.



The RBCM has been practicing sustainability throughout its operation for many years. For example: the use of tropical hardwoods for exhibit construction was discontinued in the 1970's; fluorescent lights were upgraded throughout the entire facility in 2004 to a more energy efficient model. In 2008 we completed a comprehensive water audit (in partnership with the Capital Regional District) and an Energy Management Assessment with BC Hydro and continue to work closely with our partner, BC Hydro on Power Smart and other energy conservation initiatives.

We have also implemented a comprehensive recycling and composting program; are a bottled-water free zone for corporate sponsored meetings and events; have installed solar-powered trash compactors around the exterior of the building; have installed low-flush toilets and dual motion-sensor lighting; switched to high-efficiency LED and CFL lighting; turn off all non-essential lighting at night; participate in Earth Hour (and encourage our staff to participate at home); began to purchase 100% recycled content paper in March 2009 for photocopiers and printers; and we have landscaped with low-water or native plants, to help reduce our water consumption.

We consider, with every undertaking, how our actions will impact (and be judged by) future generations of British Columbians; and display our world-renowned research on climate change within our gallery spaces and scientific journals and publications.

As we move forward, the Royal British Columbia Corporation will continue to demonstrate leadership through implementing initiatives that support sustainable operations. The RBCM will continue its commitment towards sustainable awareness, sustainability, energy conservation/management through its research, employee performance and development plans, community outreach, and any other initiatives that will result in a reduction in green house gas emissions and conservation of energy.



Pauline Rafferty, CEO
Royal BC Museum Corporation

Overviews

Actions Taken to Reduce Greenhouse Gas Emissions in 2009

In 2009, the Royal BC Museum:

- installed low flush toilets in public washrooms;
- installed dual motion sensor lighting in washrooms through out the precinct;
- replaced eight old fridges, and an old freezer with Energy Star models;
- upgraded gallery lighting to more energy efficient lighting with controller cabinets;
- replaced exterior flood lighting with more efficient LED lighting;
- became a bottled-water free zone and we do not purchase bottled water for our meetings or events;
- installed "virtual servers to reduce energy use and power management software (Verdiem) on all desk top computers to further reduce energy use;
- initiated a project to purchase and install software to shut down all computers at night and wake-up computers for maintenance;
- purchased and installed a recycling centre in our staff lunch room;
- began purchasing 100% recycled photocopier and printer paper;
- car stop bumpers in the parking lot were taken away and recycled, ground up for road fill, and replaced with 100% recycled rubber;
- marble that was removed from the building was taken to a landscape yard to be used as fill;
- held energy and water conservation "lunch and learn" sessions in partnership with BC Hydro and Capital Regional District – Water Services; and
- estimated yearly recycling statistics are: Glass/tin = 2683 cu ft/year; organics = 2012 cu ft /year; cardboard = 11232 cu ft/year; and shredded paper = 1980 lbs. It is estimated that nine - 40 foot trailer loads are kept out of the landfills. Our wood recycling bin program is estimated at 33 metric tonnes a year is being diverted from the landfill.

Phase 1 of a multi phase renewal mechanical upgrade project was also completed in March 2009 and we installed a state-of-the-art, energy-efficient heating, ventilation and air conditioning (HVAC) system for our feature exhibition gallery that creates an optimum environment for the preservation of the collections in our care. We are now embarking on the 2nd Phase of our HVAC project and will be installing new state-of-the-art HVAC equipment for the 3rd Floor First Peoples Gallery and that project is underway.

We have an active staff Sustainability Committee to keep us moving forward. Our people are passionate about sustainability and continued greening of our practices.

We look for ways to get people thinking about living sustainably through noon hour lunch and learn sessions, talks, tips, and newsletters.

Operational Changes in 2009

Although we installed state-of-the-art energy-efficient heating, ventilation and air conditioning equipment in our temporary travelling exhibition gallery, the preservation of the collections for future generations requires controlling the environment of the facility, including the temperature and humidity, where the artifacts and collections are exhibited or housed; which may impact on the energy requirements of the corporation.

To minimize impact on energy requirements, the new HVAC system has employed many innovative strategies for reducing the extra energy required for the fine humidity and temperature control. These included free cooling /humidification based on dew point, dehumidification coupled with fan speed, electronic air filtration, low temp heating from existing return lines, booster chiller heat rejection into main plant chilled water return, and an innovative and user-friendly DDC dashboard.

Plans to Continue Reducing Greenhouse Gas Emissions 2010 – 2012

The RBCM intends to continue with its sustainability programs. We will continue to install more motion detector lighting; undertake other energy improvement upgrades, replace existing toilets with low flush toilets and install other low-flow water fixtures; and continue to educate our staff (and visitors).

The Botany and Earth History Section in the Natural History department at the RBCM is actively engaged in the dialogue and objectives of the Climate Action Secretariat within the Ministry of Environment. In addition to Dr. Hebda's role as a Technical Advisor, much of his research at the museum relates to detecting climate changes in BC's ancient history. Factors affecting climate change in the distant past could apply to the present and advances on this research front can help us make more informed decisions regarding climate change today.

Our partnership with BC Hydro is very important to us, and not only do we wish to continue to foster that relationship; but we want to demonstrate that we "walk the talk" on sustainability activities within our own organizations. As funding permits, we hope to replace more outdated/obsolete equipment with more energy efficient equipment.

We will be continue to review the recommendations from our Energy management framework (Avalon Mechanical) and our GHG reduction report (Golder Associates) to implement low cost, high impact items over the coming year(s).

To demonstrate its leadership in sustainable operations, the RBCM will:

- continue to commit to undertake economic and other measures to increase the organization's energy efficiency and resulting positive effect on sustainability;
- embark on a 5-year plan, under which appropriate funding will be allocated to implement sustainability and energy management initiatives;
- promote practices that are influenced by our academic and research activities. Priority will be given to identifying ways to improve the long-term quality and capacity of the environmental, social and economic systems that support the RBCM's activities and needs. These activities will include influencing use and acquisition of environmentally friendly/sustainable products in the development of exhibitions; goods and services that are consumed and/or sold on the site (e.g., by food services providers and shops) and the use of environmentally friendly products by the property management services provider.

- minimize its consumption of non-renewable energy, minimize water consumption, and grow its recycling program to include inclusion of compostable materials in other areas;
- landscape using environmentally friendly plants and reduce the water use on its grounds;
- implement sustainable building design and construction principles when renovating or constructing new buildings or exhibits;
- balance quality, cost and environmental sustainability in its purchasing and investment decisions including considering long term and life-cycle costs to achieve this balance;
- support the BC Government's Climate Action initiatives by assessing the sustainability impacts associated with its activities and report specific targets, priorities and timetables for achieving its renewed sustainability and energy management objectives;
- use its capacity and leadership role in the museum/archives community to promote and educate others about sustainability within and beyond the borders of the institution (e.g., through initiatives like the climate change gallery and BC Map film and research);
- encourage the active engagement of all members of the RBCM community and its on-site partners in issues of sustainability and will support sustainability awareness and action in the greater community; and
- develop, adopt and promote environmentally sustainable practices and processes in all of its operations, including video and phone conferencing and internet meeting (e.g., LiveMeeting) instead of traveling to meetings.

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Actions Towards Carbon Neutrality

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

Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)		Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Mobile Fuel Combustion (Fleet and other mobile equipment)							
Vehicle fuel efficiency							
Replace vehicles with more fuel-efficient models	In Development			Not able to take action in 2009 due to current lease agreement	Current vehicle lease expires 2011. New fuel efficient vehicle should be in place for 2011	2011	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	In Development			Not able to take action in 2009 due to current lease agreement	We only lease one vehicle and will be considering a smaller fuel efficient vehicle once the lease expires in 2011	2011	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	100	% of vehicles are subject to regular maintenance for fuel efficiency	Our vehicle is regularly maintained through the PHH program	Continue to maintain through the PHH program	2006	No End Date (Continuous)
Behaviour change program							
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Ongoing/In Progress			Property Management and Operations newsletter gave this as a tip	Provide all staff with anti-idling information document and request that they practice anti-idling when using the vehicle.	2010	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Ongoing/In Progress			Staff are always encouraged to proactive alternatives to travel especially for meetings in downtown Victoria. Bike racks are on site for use by staff and visitors.	Continue to practice other methods of travel. We also have bike racks on site, have lockers and showers available for staff. As well, staff have the opportunity to purchase a bus pass through payroll deductions (ESS).	2006	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							
Planning/management							
Enrol in a building energy benchmarking program (e.g., GREEN UP)	Ongoing/In Progress			Participated with BC Hydro and contracted an Energy Manger to guide us through the Energy Management Assessment requirements that were completed in 2008. Final Quarter 4 review was completed in July 2009. We also participate in the International Association of Museum Facility Administrators (IAMFA) benchmarking.	Continue to have our Energy Management Consultant review our organization on a yearly basis and continue to participate in the IAMFA benchmarking program. We are also planning to apply for the BOMA Best green certification.	2008	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	In Development			The building uses direct digital controls (DDC) systems (Reliable Controls - Houle Controls) on the HVAC systems that is connected to the Central Heating Plant.	As HVAC projects and other projects are undertaken, where applicable, the DDC system is being installed, monitored and managed within the RBCM buildings. Real monitoring will be investigated in 2010.	2010	2012
Owned buildings							
Establish energy performance baseline for owned buildings	Ongoing/In Progress	100	% of owned buildings have an established energy performance baseline	Completed an Energy Management Assessment in partnership with BC Hydro	Continue to review and implement energy upgrades as funding permits.	2008	No End Date (Continuous)
Incorporate integrated design process into new construction or during renovations of owned buildings	Ongoing/In Progress			Project teams are established for construction activities undertaken with new and current exhibitions. For facilities construction projects we have a RBCM employee project manage and coordinate with other branches to ensure all areas of concern are addressed and dealt with prior to occupancy permits or final project sign off.	Continue to engage stakeholders	2003	No End Date (Continuous)

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)		Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Ongoing/In Progress			One small air conditioning unit and 2 walk in coolers (fur storage and collection storage) under 5 tonnes are on site and regular maintenance is undertaken.	Continue to maintain including monitoring refrigerant. Work with government as required as the majority of the RBCM's cooling is received from the Central Cooling plant.	1990	No End Date (Continuous)
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress			Completed a major lighting retrofit in 2004. A further gallery lighting upgrade and replacement of some exterior lighting with LED lighting was completed in 2009 with funding from BC Hydro. For the 2009 lighting upgrade, the Royal BC Museum was recognized as a Power Smart Partner for our dedication to energy conservation and our completion of an energy efficiency project which saved 338,000 kWh/year - the equivalent of powering 31 homes for a full year. Exterior LED lighting upgrade projected savings of 9,800 kWh/year.	Continue to improve energy efficiency upgrades as funding permits. Energy management program are maturing and have evolved to become and integral part of regular business activity throughout the organization.	2004	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress			Phase 1 of an HVAC upgrade to the 2nd Floor Temporary gallery was completed in March 2009. This project included the installation of state of the art energy efficient temperature and humidity control equipment, including variable speed drives, free cooling, and a DDC control system. Phase 2 of an HVAC upgrade with state of the art equipment in the 3rd Floor First Peoples Gallery started in September 2009 and is currently underway. As noted above, the HVAC upgrades employed many innovative strategies for reducing the extra energy required for the fine humidity and temperature control. These included free cooling/humidification based on dew point, dehumidication coupled with fan speed, electric air filtration, low temperature heating from existing return lines, booster chiller heat rejection into main plant chilled water return, and an innovative and user friendly DDC dashboard.	Phase 2 of an HVAC upgrade project for the 3rd Floor First Peoples Gallery is underway with an expected completion date of March 31, 2011.	2009	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	100	% of retrofits (captured above) had lighting systems upgrades	Completed with BC Hydro Powersmart Retrofit. BC Hydro estimated a saving of 338,000 kWh/year for the Interior lighting upgrade and 9,800 kWh/year for the exterior lighting upgrade. RBCM also tuned the central chiller plant chiller controls to a soft start, which should result in demand saving during cool weather (not on RBCM meters but the central chiller plant meters).	Old inefficient lighting will continue to be upgraded.	2004	2012
Upgrade/adjust control systems during retrofits	Ongoing/In Progress			A Direct Digital Control (DDC) system was installed as part of the HVAC Phase 1 upgrade in the temporary gallery.	Continue to install DDC systems on Phse 2 HVAC projects and other	2008	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress			None undertaken in 2009. Windows were previously caulked to minimize any leakage, and coated with film.	Will be considered in future upgrades.	2003	No End Date (Continuous)
Install an on-site renewable energy demonstration project	Ongoing/In Progress			Angstrom Power dipslay showcasing the technology of the hydrogen powered flashlights is exhibited in Clifford Carl Hall in the RBCM.	Continue showcasing the display and using the hydrogen powered flashlights.	2006	No End Date (Continuous)
IT power management							
Install power management software which shuts down computers outside of regular business hours	Complete	100	% of computers shut down automatically outside of regular business hours	Centrally controlled power management software (Verdiem) that turns off computers was completed in early 2009. BC Hydro approved a rebate application.		2009	2009

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)		Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Implement server virtualization	Complete	100	% of servers have been virtualized since start year indicated	Implemented Server Virtualization. Estimated energy savings from implementation and install of software to power down computers when not in use - 109,000 kWh/year.		2008	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Complete	100	% of computers have auto-sleep settings applied	N/A		1990	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress	80	% reduction in printers, copiers, and/or fax machines since start year indicated	Wherever practical multifunctional devices are used. Some locations would not warrant having a multifunctional device.	Replace as needed based on funding	2007	No End Date (Continuous)
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	Ongoing/In Progress	90	% of devices have auto-sleep settings applied	As old printers were replaced, new ones were replaced with Energy Star rated equipment	Continue to replace with Energy Star approved equipment	2007	2012
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	90	% of computers are ENERGY STAR rated	Further replacement of computers with Energy Star rated	Continue to replace computers with Energy Star approved	2007	2012
Appliances and electronic devices							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	95	% of fridges are ENERGY STAR rated	Eight fridges were replaced with Energy Star models - projected savings of 1870 kWh/year.	Continue to replace any old fridges with Energy Star models as funding permits	2008	2011
Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	95	% of freezers are ENERGY STAR rated	Replaced an old freezer in Natural History with Energy Star models	Continue to replace freezers as/if required	2008	No End Date (Continuous)
Replace desk lamp incandescent bulbs with compact fluorescent (CFL) bulbs or source more efficient desk lamps for future purchases	Ongoing/In Progress	98	% of desk lamp bulbs are CFL bulbs	Majority of desk lamp bulbs have been replaced with CFL's in Corporation spaces	Continue to replace as required and continue to promote replacement with staff and onsite partners	2008	No End Date (Continuous)
Behaviour change program							
Help staff reduce personal energy use through "workstation tune-ups"	Ongoing/In Progress			Non essential lights are turned off, computers are turned off, blinds are pulled and energy saving are noted in real kWh	Continue to practice energy saving measures and good workstation habits and post reminders and helpful hints in the Property Management and Operations (PMO) Newsletters.	2006	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress			All workstations have power bars which are turned off when not in use	Continue to practice turning off power bars when not in use and encouraging staff to turn off and unplug unused equipment, battery chargers, cell phones, etc.	2008	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress			Staff have been asked to do this, and Sustainability Committee will be rewarding this positive behaviour through energy walkabouts	Continue to practice energy walkabouts and rewards	2008	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Ongoing/In Progress			Staff were invited to a Lunch and Learn information session with BC Hydro Power Smart. BC Hydro tips are part of every PMO newsletter.	Continue to promote and practice. A BC Hydro Power Smart kick off is also planned for early 2010	2008	No End Date (Continuous)
Encourage use of stairs instead of elevators	Ongoing/In Progress			In our newsletters, we encourage staff to continue to take the stairs reducing the energy used to run the elevator, and have placed juice boxes on various stair landings as incentive to encourage taking the stairs more regularly	Continue to promote and practice	2008	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			Turn off stickers have been used in all areas, and Security also checks to ensure items are unplugged when they do their rounds at night.	Continue to promote and practice. Staff are reminded that stickers are available for pick up for use in the office and at home.	2008	No End Date (Continuous)

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)	Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Promote hot water conservation	Ongoing/In Progress		Staff were made aware of water saving techniques through a CRD Water Conservation session that was held during lunch hours in September 2009. Water conservation tips are also mentioned in the PMO newsletter.	Continue to practice	2008	No End Date (Continuous)
Other Stationary Fuel Combustion and Electricity Actions						
Installed solar powered trash compactors	Ongoing/In Progress		Continue to leave in place around exterior of building	Install additional compactor if needed	2008	No End Date (Continuous)
Security team members use hydrogen powered flashlights (Angstrom Power - BC Technology)	Ongoing/In Progress		Continue to use. LED flashlights are also being purchased.	Continue use	2005	No End Date (Continuous)
Installed motion sensor lighting in public washroom	Ongoing/In Progress		Installed 40 dual motion sensors in the majority of washrooms and locker rooms. Estimated savings of 19,200 kWh/year	Continue to add motion sensors in areas not used as frequently	2009	2010
Supplies (Paper)						
Paper Type						
Purchase 30% post-consumer recycled paper	Ongoing/In Progress		If photocopier paper is not available in 100 % recycled (some coloured paper), 30 % is purchased.	Continue to purchase if 100 % is not available	2008	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Ongoing/In Progress		All paper purchased is 100 % recycled. Our letterhead, envelopes and business cards are printed on Mohawk Options 100% PC White. They are made with windpower and are Green Seal Certified and acid free. They are also FSC (Forest Stewardship Council) Certified and contain 100% post consumer waste.	Continue to purchase 100 % recycled paper	2009	No End Date (Continuous)
Printer/document settings						
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress		Continued to practice double-sided copying	Continue to practice double-sided copying	2008	No End Date (Continuous)
Reduce default margin size in standard document templates (e.g., letters, briefing notes, forms, etc.)	Ongoing/In Progress		Templates designed and used	Continue to use designed templates	2008	No End Date (Continuous)
Electronic media in place of paper						
Use electronic document library for filing common documents	Ongoing/In Progress		RBCM has always used this process (prior to having shared drive, shared folders were used in Outlook)	Continue to post common documents in shared drive and encourage people to consider the environment before printing	1990	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress		RBCM has always used this process (prior to having shared drive, shared folders were used in Outlook) - printed normally discouraged unless necessary	Continue to post common documents in shared drive	1990	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Ongoing/In Progress		Switched for all staff in 2009	New staff hired will be on electronic payroll	2009	No End Date (Continuous)
Behaviour change program						
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress		This is encouraged and in many instances is already done	Continue to encourage paperless meetings	2008	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress		This has been a practice for several years by many employees. Paper recycling bins are also used to encourage staff to recycle scrap paper.	Continue to practice reusing non-confidential paper for scrap paper	1990	No End Date (Continuous)
Other Paper Supplies Actions						

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Most members of the "What's Insight" magazine will now receive their magazine via email on a quarterly basis	Ongoing/In Progress	45	% of members receive the membership magazine by email	Most members of the "What's Insight" magazine will now receive their magazine via email on a quarterly basis, plus e-Bulletin updates, rather than mailouts.	Continue to practice sending magazine by email rather than mailouts	2009	No End Date (Continuous)

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Actions to Reduce Provincial Emissions and Improve Sustainability

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

Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)	Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Education, Awareness, and Engagement						
Team-building						
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	Ongoing/In Progress		Sustainability Committee in place. A Sustainability Policy has been endorsed by Executive and it has been posted on the website	Sustainability Committee to remain active and engaged	2008	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress		Sustainability Committee projects are funded through base operations (Property Management and Operations)	The Property Management and Operations team will continue to be responsible for implementation of various sustainability initiatives	2008	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress		Although we have always looked at green material choices for purchases a report has also been prepared for Material Options/Potential Sponsors/Design Courses to educate staff on greener choices for supplies, etc.	Continue to practice	2008	No End Date (Continuous)
Staff Professional Development						
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress		A report was prepared for Material Options/Potential Sponsors/Design Courses to educate staff on greener choices for supplies, etc.	Continue to practice and support staff in participating in green building workshops, courses and designations. A Facilities Technician in the Property Management and Operations department has enrolled in the Sustainable Building Advisory Program and will be completed in the fall of 2010. Continue to support other employees when Sustainability learnings are identified in their personal learning plans.	2008	No End Date (Continuous)
Include green options in employee performance measurement system	Ongoing/In Progress		EPDP's reflected responsibility for environmental sustainability and staff were supported with their plans	Continue to support and have staff reflect learning opportunities in EPDP's	2008	No End Date (Continuous)
Staff awareness/education						
Provide education to staff about the science of climate change	Ongoing/In Progress		As one of our staff is continuously involved in the Climate Change studies, we have audio sessions daily related to Climate Change	Continue to practice and promote	2007	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress		Water conservation and BC Hydro information sessions have been offered to staff through a lunch & learn sessions. Conservation tips are provided to staff in the Property Management and Operations newsletters that are issued quarterly.	Continue to practice and promote	2008	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress		Always included in our newsletters and the newsletter is posted on the website for visitors	Continue to practice and promote	2008	No End Date (Continuous)
Client/public awareness/education						
Provide education to clients/public about the science of climate change	Ongoing/In Progress		As one of our staff is continuously involved in the Climate Change studies, we have audio sessions daily related to Climate Change	Continue to practice and promote sustainability issues. Our new temporary exhibit opening in June 2010 will be highlighting the biodiversity of the province, including sustainability, green issues and environments.	2008	No End Date (Continuous)

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Provide education to clients/public about the conservation of water, energy, and raw materials	Ongoing/In Progress		Water conservation techniques have been provided to staff through lunch hour session. We purchased and installed a recycling centre (bottles/cans, plastic, paper, compost and metal/tins) in our staff lunch room.	Continue this practice and promote sustainability issues. We purchased recycling centres, including a compost bin for the student lunch room and the Café to promote sustainability.	2009	No End Date (Continuous)
Provide green tips on client/public website or in newsletters	Ongoing/In Progress		Provide regular tips in the quarterly newsletter that is sent to all staff and partners, including volunteers. The newsletter is also posted on the website.	Continue with this practice.	2007	No End Date (Continuous)
Other Education, Awareness, and Engagement Actions						
Participate in Earth Hour Annually	Ongoing/In Progress		Participated in the Event and noted on our website that we participated in Earth Hour. We also encouraged our staff to participate in Earth Hour and to share it with family and friends.	Continue to participate annually. We plan to leave all non-essential lighting off on March 27, 2010 for the entire night.	2008	No End Date (Continuous)
Bottled Water Free Zone	Ongoing/In Progress		The Corporation does not buy bottled water for its meeting or events; and we are trying to influence our on-site partners to provide non-bottled water for visitors, but we recognize that sometimes our visitors prefer to purchase bottled water from the Cafe or IMAX	Continue with this practice and will continue to promote and influence our onsite partners.	2008	No End Date (Continuous)
Other Sustainability Actions						
Water conservation						
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Ongoing/In Progress		Replacement of shower and toilets in staff washrooms in basement with low flush and energy saving fixtures. Installed aerators on taps to conserve water. Received a rebate for low flow toilet replacement from the CRD.	Continue to replace faucets with motion sensor faucets and replace other precinct toilets with low flush toilets as funding permits.	2009	No End Date (Continuous)
Put in place a potable water management strategy to reduce potable water demand of building-level uses such as cooling tower equipment, toilet fixtures, etc. and landscape features	Ongoing/In Progress		Landscape with low water or native plants and applying mulch to help reduce our water consumption	Continue to practice	2009	No End Date (Continuous)
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	Ongoing/In Progress		Planning is in the works for a green roof	Will continue to plan for a green roof on one of the roofs. As the museum moves forward with site development, the buildings will be designed to meet LEED gold standards.	2009	No End Date (Continuous)
Waste reduction/diversion						
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	Ongoing/In Progress		No bottled water policy; composting and recycling programs in place	Continue to practice	2008	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress		Arrangements made to dispose of hazardous waste material.	Pickup and disposal of hazardous waste, and continue to review and arrange	2009	No End Date (Continuous)
Procurement (non-paper supplies)						
Incorporate minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.)	Ongoing/In Progress		Green purchase practices have been implemented	Continue to practice	2008	No End Date (Continuous)

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)	Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Establish green standards for goods that are replaced infrequently and/or may require capital funds to purchase (e.g., office furniture, carpeting, etc.)	Ongoing/In Progress		Although we have always looked at green material choices for purchases a report has also been prepared for Material Options/Potential Sponsors/Design Courses to educate staff on greener choices for supplies, etc.	New carpeting will be purchased in 2010 for the temporary gallery and Clifford Carl Hall. The old carpet is being removed and recycled as part of the contract with the carpet installer. New certified sustainable marmoleum flooring will also be installed in various parts of the museum.	2003	No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress		As part of the contract, our on-site cleaning service provider is required to use biodegradable cleaning products and post consumer paper towels, which are also essential for the safekeeping of our collections and being responsible stewards.	Continue to practice. In 2010, we plan to purchase 10 Dyson Airblade hand dryers to replace the old hand dryers in public washroom in the facility. The airblade is more energy efficient as there is no energy heating element to power. We are setting up a program to recycle the 100% recycled paper towels used in public washrooms and we will be disposing of them in compostable bags.	2003	No End Date (Continuous)
Require a minimum purchase of sustainable, and organic food and beverages supplied by contracted food suppliers or caterers	Ongoing/In Progress		Our preferred corporate caterer (Truffles Catering) and our other preferred caterers are part of the sustainable movement and promote ocean wise and sustainable practices. Truffles Catering, our Corporate Caterer, has a sustainability program in place and in 2009 their kitchen reduced their landfill waste by 95%; they are Ocean Wise certified; recycle cooking oils for biofuel; all glass, hard and soft plastics, styro-foam and cardboard are recycled; they compost organics; their dishwashers and appliances are low water use and energy efficient; left over food that is safe is donated to "Our Place"; their offices and production facilities were built to provide abundant natural light reducing requirement for electrical lighting; and they use only 100% post consumer recycled paper in their offices.	Continue to work with our onsite partners and caterers to provide and promote sustainability. In the summer of 2010, we are planning to issue a Request for Proposal for preferred caterers and will require that successful caterers be required to provide their corporate sustainability policy, be Ocean Wise certified, provide a minimum amount of sustainable and organic food (minimum percentage to be determined).	2007	No End Date (Continuous)
Building construction, renovation, and leasing						
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	Ongoing/In Progress		Recycling of building products is a regular practice	Continue to practice	2008	No End Date (Continuous)
Incorporate lifecycle costing into new construction or renovations	Ongoing/In Progress		Always considered before decision is made	Continue to practice	2008	No End Date (Continuous)
Indoor air quality						
Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.)	Ongoing/In Progress		We have a scent free policy in place and reminders are sent out on a periodic basis.	Continue to support a scent free policy	2003	No End Date (Continuous)
Incorporate low volatile organic compounds (VOCs) standards into procurement policy for products such as paints, carpets, and furniture	Ongoing/In Progress		Green purchasing practices in place, green cleaning products are used, low VOC paint is used when painting the facility	Continue to practice and look for other green and sustainable options,	2008	No End Date (Continuous)
Commuting to and from home						
Introduce telework/work from home policy	Ongoing/In Progress		Many of our staff have flexibility and work from home.	Further evaluation and review by Executive to determine implementation opportunities for additional staff to work from home.	2008	No End Date (Continuous)
Offer staff a compressed work week	Ongoing/In Progress		In compliance with other Government practice, staff were provided with an option to reduce their work week/hours and many are on a modified or true flex work schedule	Options still provided to staff to reduce their work week/hours	2003	No End Date (Continuous)
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress		Bus passes are made available through payroll deduction, and many staff bike to work	Options still available to purchase bus passes through payroll deduction. Continue to encourage biking to work, or carpooling	2008	No End Date (Continuous)

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)	Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Ongoing/In Progress		Shower and locker facilities are available	Shower and locker facilities are available	1990	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In Progress		Bicycle storage is available and bikes racks for public use are located in various areas around the museum precinct	Bicycle storage is available	1990	No End Date (Continuous)