



Where the past lives.

2010 Carbon Action Neutral Report



Royal BC Museum Corporation - 2010 Carbon Neutral Action Report

Executive Summary

This is the second Carbon Action Neutral Action Report prepared and submitted by the Royal British Columbia Museum Corporation (Royal BC Museum, RBCM). The report was prepared in accordance with the *Greenhouse Gas Reduction Targets Act* adopted in November 2007 by the Ministry of Environment's Climate Action Secretariat. It reflects our continued and ongoing commitment to acting responsibly on the environment and climate change action. In addition, we aim to educate and assist members of the Royal BC Museum community to understand and fulfill their responsibilities to practice environmental sustainability.



We consider ourselves a leader in sustainability initiatives but these aren't new ideas around here! We've been practicing good environmental stewardship for decades. As the keeper of BC's environmental history, it's our business and we will continue to move forward. Our staff and volunteers are committed and passionate about a culture of conservation and continued greening of our practices.

The Royal BC Museum has been practicing sustainability throughout its operation for many years. For example: we discontinued the use of tropical hardwoods for exhibit construction in the 1970's; upgraded lighting throughout the facilities to energy efficient models; installed power management software to shut down our workstations; completed a comprehensive water audit (in partnership with the Capital Regional District); are participating in the Continuous Optimization Program with BC Hydro and continue to work closely with BC Hydro as a Power Smart Partner on energy conservation initiatives.

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

As we move forward with our long term vision and strategic plan, we will continue to demonstrate leadership through implementing initiatives that support sustainable operations. The Royal BC Museum 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.

A handwritten signature in black ink that reads "Pauline Rafferty". The signature is fluid and cursive, with a long horizontal stroke at the end.

Pauline Rafferty

CEO

Overviews

2010 Greenhouse Emissions

As required by the *Greenhouse Gas Reduction Targets Act*, the Royal BC Museum's total greenhouse gas (GHG) emissions for 2010 Calendar Year from all sources covered by the Act are 189.62. In-scope sources include Mobile Fuel Combustion (fleet vehicle and other mobile equipment), Stationary Fuel Combustion and Electricity (buildings), and Supplies (paper).

Offsets Applied to Become Neutral in 2010

The Royal BC Museum's Offsets that have been applied to become Carbon Neutral in 2010:

- Total Offsets Purchased: 188.79
- Total Offset Investment: \$4,719.75
- Emissions not requiring offset: 0.83

Under the Carbon Neutral Government Regulation of the Greenhouse Reduction Targets Act, some emissions do not require offsets and those emissions total 0.83.

It was estimated that stationary fugitive emissions from cooling (small air conditioner in Server Room) do not comprise more than 1% of the Royal BC Museum's total emissions and 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 the Royal BC Museum's total greenhouse gas emissions profile.

The Royal BC Museum has a contract in place with the Provincial Government (through Shared Services BC) for delivery of cooling in the summer months and supplementary steam for heating in the winter if the Royal BC Museum's electric boiler cannot supply enough heating to the precinct. Fugitive emissions from this source have not been reported as part of our greenhouse gas emissions profile in 2010 as it is currently unclear whether the associated emissions are in or out of reporting scope and discussions are underway with Shared Services BC and the Climate Action Secretariat to resolve the uncertainty. We believe it is out of scope since we are already paying the Provincial Government for the delivery of these utility services.

Actions Taken to Reduce Greenhouse Gas Emissions in 2010

In 2010, the Royal BC Museum:

- installed additional low flush toilets;
- upgraded additional gallery lighting to more energy efficient lighting with controller cabinets;
- continues to be bottled-water free zone and we do not purchase bottled water for our meetings or events;
- purchased and installed a recycling centre in our student lunch room and installed exterior recycling containers for aluminum/glass/cans;

- purchased and installed six (6) recycled concrete picnic tables;
- purchased and installed six (6) Dyson Airblade hand dryers in public washrooms;
- installed a hot water on demand water heater in Helmcken House;
- is purchasing 100% recycled photocopier and printer paper;
- annual analysis of the computer software power management that was installed in 2009 has shown annual energy savings of 86,255 kWh; and
- participated in Earth Hour on March 28, 2010 and we left off all non-essential lighting all night, not just for one hour.

In the fall of 2009, we embarked on the 2nd of our multi-phase mechanical upgrade projects and we are installing a state-of-the-art, energy-efficient heating, ventilation and air conditioning (HVAC) system for our 3rd Floor First Peoples Gallery. This HVAC system creates an optimum environment for the preservation of the collections in our care. That project is underway and is scheduled for completion by March 31, 2011.

In the planning stages of Behind the Scenes Exhibition, which opened in June 2010, the team responsible for the children's area, the AmusEum, felt strongly that due to the hands on nature of the area that it should be fabricated from materials that were healthy for children and the planet. As a result, the Royal BC Museum took a number of initiatives towards making the area greener, including:

- Met with sustainability consultant Jason Found of Found Solutions to discuss strategies for greening the AmusEum. This resulted in a resource guide to help us make sustainable choices;
- Reused previously used exhibit components when possible. (Mainly graphic panels- generally mdf. Some lumber & drywall);
- Sourced furniture from Greenplay, a children's furniture company that uses environmentally sustainable materials and manufacturing processes, including:
 - Zero to Low – VOC emission finishes
 - Urea formaldehyde free MDF with FSC certified birch veneers
 - Recycled and/or composite materials
 - Shipped flat and unassembled
 - Packaging is 30 – 40% post-consumer recycled and 100% recyclable
- Conducted R & D on non-toxic & sustainable materials and design/build practices, including:
 - Tested non-toxic wood stains, sealants, and glues
 - Solvent free inks
 - Bioplastic and non-toxic casting materials
 - Inherent fire resistance of natural materials (e.g. cork, wool)
 - Cradle-to-cradle design strategies

This Research & Development resulted in one interactive (designed for toddlers) being almost entirely green and safe for mouth & hand contact. It also provided valuable experience & information on timelines, design & fabrication considerations & budgets for future green projects.

- Built 2 interactive games from blue stain pine (pine beetle wood) and used beeswax as a sealant for the toddlers' Memory Blocks game as well as hemp & wool for bags to house the blocks; and
- Fabricated beanbag chairs from repurposed in house fabric, stuffed with organic buckwheat hulls.

In the Behind The Scenes Exhibition we also recycled 50% of the case exhibit glass from previous exhibits; 80% of the internal walls from previous exhibits; used low VOC paint for the wall; purchased eco-friendly furniture built by a Vancouver company; recycled 20% of the electronic components and 100% of the lighting fixtures from previous shows; incorporated LED technology into the showcase design and consideration was given to future use of showcases to ensure they could be reused and recycled for future exhibitions.

We have a Sustainability Policy and a staff Sustainability Committee to keep us moving forward. Our people are passionate about sustainability, reducing emissions and continued greening of our practices. We look for ways to get people thinking about living sustainably through tips, newsletters, and project and staff meetings.

Operational Updates and Changes in 2010

Although we previously installed state-of-the-art energy-efficient heating, ventilation and air conditioning equipment (HVAC) in our temporary travelling exhibition gallery and a HVAC upgrade to our First Peoples Gallery is underway, 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 installation underway 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, air cooled chiller, variable speed drives, and an innovative and user-friendly Direct Digital Control (DDC) dashboard.

Action Plans to Continue Reducing Greenhouse Gas Emissions 2011 – 2013

The RBCM intends to continue with its sustainability programs and recognizes the importance of incorporating carbon actions planning into the organization's strategic plan. We will continue to undertake energy and other sustainability initiatives and improvement upgrades, replace existing toilets with low flush toilets and install other low-flow water fixtures; encourage recycling and composting within our facilities, remind staff to turn out lights off when not in use, provide energy tips from the home and continue to educate our staff (and visitors).

The Royal BC Museum has a major exhibit that explains Climate and Climate change including potential impacts. The Botany and Earth History Section in the Natural History department at the Museum 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 describing climate changes in BC's ancient history and detecting their physical and ecological impacts. Factors affecting

climate change in the distant past could apply to the present and advances on this research front will help us make more informed decisions about adapting to and mitigating climate change today. Dr. Hebda is invited and lectures widely about climate change and its impacts and the need to conserve carbon in ecosystems and reduce CO2 emissions.

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. In the fall of 2010, we partnered with BC Hydro, Pulse Energy and our Energy Manager (Avalon Energy Management) to participate in the Continuous Optimization Program to improve the level of efficiency in our building operations and energy management programs. Once our baseline is established and analysed in the fall of 2011, we hope to replace or upgrade more outdated/obsolete equipment with more energy efficient equipment.

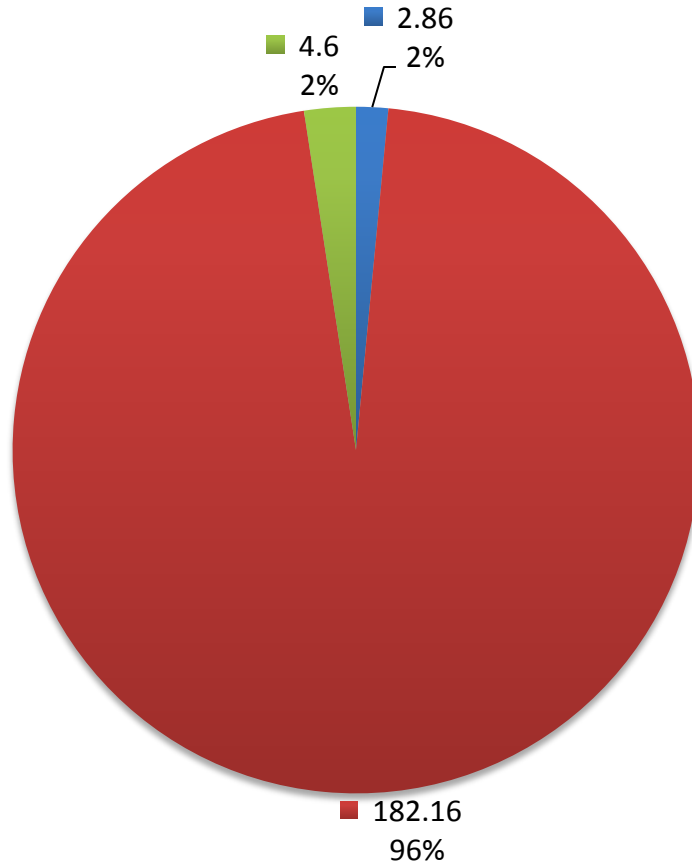
To demonstrate its leadership in sustainable operations, the Royal BC Museum will:

- continue to commit to undertake economic and other measures to increase the organization's energy efficiency and resulting positive effect on sustainability;
- 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 continue to 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 research); and

- develop, adopt and promote environmentally sustainable practices and processes in all of its operations and in the greater community, including video and phone conferencing and internet meeting (e.g., LiveMeeting) instead of traveling to meetings.



Royal BC Museum Corporation Greenhouse Gas Emissions by Source for the 2010 Calendar Year (tCO₂e*)



Total Emissions: 189.62

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion and Electricity (Buildings)
- Supplies (Paper)

Offsets Applied to Become Carbon Neutral in 2010

Total offsets purchased: **188.79**. Total offset investment: **\$4,719.75**. Emissions which do not require offsets: **0.83** **

*Tonnes of carbon dioxide equivalent (tCO₂e) is a standard unit of measure in which all types of greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.

** Under the *Carbon Neutral Government Regulation of the Greenhouse Gas Reduction Targets Act*, all emissions from the sources listed above must be reported. As outlined in the regulation, some emissions do not require offsets.

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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 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	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 2010 due to current six year lease agreement	Current lease expires 2012/2013. New fuel efficient vehicle should be in place for 2012/2013. Analysis will begin in 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 2010 due to current lease agreement	We only lease one vehicle and will be considering a smaller fuel efficient vehicle once the lease expires in 2012/2013. Analysis 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			Provide all staff with anti-idling information document and request that they practice anti-idling when using the vehicle (ie. Tips in newsletters)	Continue steps taken in 2010	2010	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Ongoing/In Progress			We have bike racks on site, and lockers and showers available for all staff. Staff have the opportunity to purchase a bus pass through payroll deductions.	Continue to practice other methods of travel.	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			An Energy Management Consultant reviews our organization on an annual basis and we continue to participate in the IAMFA benchmarking program.	Continue to have consultant review our organization and continue to participate in IAMFA benchmarking program.	2008	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress			In September we began participating in the Continuous Optimization Program with BC Hydro and Pulse Energy, a contract is in place with BC Hydro and an Energy Consultant, Avalon Energy Management.	Real time monitoring was installed and the meter baseline is being established. We have asked BC Hydro about being a test location for the installation of a large screen TV to show the real time energy usage to the public and BC Hydro has agreed. A dashboard system is scheduled to be installed in the spring of 2011. The 2nd phase of the mechanical upgrade to install state-of-the-art HVAC system for our 3rd Floor Peoples gallery that creates an optimum environment for the preservation of the collections in our care is being controlled through a Reliable Controls DDC system.	2010	2012
Owned buildings							
Establish energy performance baseline for owned buildings	Ongoing/In Progress			Power Smart Partner with BC Hydro and participant in the Continuous Optimization Program with BC Hydro. Annual review of energy consumption was undertaken by our Energy Consultant.	Continue to review and implement energy upgrades as funding permits. Annual review by Energy Consultant.	2008	No End Date (Continuous)

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Incorporate integrated design process into new construction or during renovations of owned buildings	Ongoing/In Progress			Construction activities are undertaken with new and current exhibitions. For facilities construction projects we have an RBCM employee to oversee/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)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Ongoing/In Progress			One small air conditioning unit and two wak in coolers (fur storage and collections storage) under 5 tonnes are on site and regularly maintained.	Continue to maintain including monitoring refridgerant. Work with government as required as the majority of the RBCM's cooling is received from the Central Cooling plant.	Started before 1995	No End Date (Continuous)
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress			Upgraded lighting through the facilities to energy efficient modes and controller cabinets; installed power management software to shut down workstations; purchased and installed six dyson airblade hand dryers in public washrooms. Energy management programs are maturing and have evolved to become an integral part of regular business activity throughout the organization.	Continue to improve energy efficiency upgrades as funding permits.	2004	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress			Started the 2nd phase of the mechanical upgrade to install state-of-the-art HVAC system for our 3rd Floor Peoples gallery that creates an optimum environment for the preservation of the collections in our care. As 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 our housed, the new HVAC system installation has employed many innovative strategies for reducing the extra energy required for the fine humidity and temperature control. Free cooling/humidification based on dew point, dehumidication coupled with fan speed, electronic air filtration, air cooled chiller, variable spped drives and an innovatinve and user friendly Direct Digital Control (DDC) dashboard.	Begin Phase 3 of the HVAC upgrades as funding permits.	2008	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress			Upgraded lighting through the facilities to energy efficient models and controller cabinets	Continue to update lighiting systems as funding permits	2004	2012
Upgrade/adjust control systems during retrofits	Ongoing/In Progress			Installed DDC dashboard for HVAC project	Continue to install DDC systems on other projects	2008	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress			Windows were previously caulked to minimize any leakage, and coated with film. Window film was installed on the Exhibitions building second and third floors and east corridor to reduce additional heat loading.	Will consider for future upgrades.	2003	No End Date (Continuous)
Install an on-site renewable energy demonstration project	Ongoing/In Progress			Angstrom Power display showcasing the technology of hydrogen powered flashlights is exhibited in Clifford Carl Hall in the RBCM.	Continue to showcase the display and use the flashlights.	2006	No End Date (Continuous)
IT power management							
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	Replaced as funding permitted	Analysis of equipment to be undertaken and continue to reduce as per operational and program demands	2007	No End Date (Continuous)
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	Ongoing/In Progress	95	% of devices have auto-sleep settings applied	Replaced with more efficient equipment as funding permitted	Analysis of equipment to be undertaken and continue to reduce as per operational and program demands. Continue to replace new computers with Energy Star models.	2001	No End Date (Continuous)

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Replace computers with ENERGY STAR models during regular computer upgrades	Completed in 2010	100	% of computers are ENERGY STAR rated	Replaced remaining older models with Energy Star models		2007	2010
Appliances and electronic devices							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	96	% of fridges are ENERGY STAR rated	Not enough funding to permit any action	Continue to replace fridges as funding permits	2006	No End Date (Continuous)
Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	96	% of freezers are ENERGY STAR rated	Replaced additional freezers	Continue to replace additional freezers as funding permits	2008	No End Date (Continuous)
Replace desk lamp incandescent bulbs with compact fluorescent (CFL) bulbs or source more efficient desk lamps for future purchases	Completed in 2010	98	% of desk lamp bulbs are CFL bulbs	Continue to switch them out to CFL's as required	Continue to switch them out to CFL's as required	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 savings are noted in real kWh. Energy saving measures, good workstation habits, post it reminders are always in use. Helpful hints are mentioned in every issue of the Property Management & Operations newsletters (internally distributed through email and posted on our website)	Continue to practice all steps taken in 2009 and 2010 and any other energy saving measures that can be introduced.	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 turn off power bars when not in use	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 shut blinds at the end of the day, and the Sustainability Committee go on energy saving walkabouts on a regular basis	Continue to shut blinds at the end of the day, and continue the Sustainability Committee walkabouts	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			Continue to raise awareness	Continue to promote and practice power smart measures	2008	No End Date (Continuous)
Encourage use of stairs instead of elevators	Ongoing/In Progress			Newsletters and emails to all staff are sent out frequently offering stair climbing competitions and prizes. Staff are encouraged to reduce energy in the home as well as at work and tips on energy conservation are posted regularly in the Property Management and Operations newsletters which is sent to all staff and partners as well as volunteers and members of the RBCM	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 night rounds	Continue to use stickers and check to ensure items are unplugged at night	2008	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress			Six new dyson airblade hand dryers were installed in public washrooms, and a hot water on demand water heater was installed in Helmcken House.	Continue to install hand dryers in other washrooms and promote water and energy conservation	2008	No End Date (Continuous)
Other Stationary Fuel Combustion and Electricity Actions							
Installed solar powered trash compactors	Ongoing/In Progress			Solar powered garbage compactors are in place around exterior of building. No new bins were installed in 2010	Install additional compactors if needed	2008	No End Date (Continuous)
Security team members use hydrogen powered flashlights (angstrom Power - BC Technology)	Ongoing/In Progress			Purchased some LED , and lithium ion battery rechargeable flashlights.	Rechargeable LED and lithium ion batteries will continue to be used	2008	No End Date (Continuous)

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)	Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Installed motion sensor lighting in public washroom	Ongoing/In Progress		More motion sensed lights were installed in washrooms and locker rooms	Continue to add during renovations and new construction and other areas as needed	2009	No End Date (Continuous)
Supplies (Paper)						
Paper Type						
Purchase 30% post-consumer recycled paper	Ongoing/In Progress		All paper purchased is 100% recyclable unless it is not available (some coloured paper is not 100%)	Continue to purchase 100 % recyclable paper, unless not available	2008	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Ongoing/In Progress		All 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% recyclable paper supplies	2009	No End Date (Continuous)
Printer/document settings						
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress		Continued to use double-sided copying practices	Continue to use double-sided copying practices	2008	No End Date (Continuous)
Reduce default margin size in standard document templates (e.g., letters, briefing notes, forms, etc.)	Ongoing/In Progress		Templates were designed and are being used through the shared drive	Continue to produce new templates designed with this format	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). Also printing out large documents is discouraged. All competition documents are saved in a shared project folder with restricted access to eliminate large print outs	Continue following this practice and encourage people to consider the environment before printing	Started before 1995	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress		RBCM has always used this process (prior to having a shared drive, shared folders were used in Outlook) - printing is discouraged unless necessary. Many Public documents are also posted on our website (ie. Shareholder's letter, Annual Service Plan, Sustainability Policy, Newsletters, etc.)	Continue to post common documents in shared drive	Started before 1995	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Ongoing/In Progress		All staff are on electronic payroll and use the Employee Self Service system to access pay information	Continue this practice with all new staff	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 highly encouraged and in most instances is already in place	Continue to encourage paperless meetings and or presentations	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 by all staff	Continue to reuse non-confidential paper for scrap and recycle	Started before 1995	No End Date (Continuous)
Other Paper Supplies Actions						
Membership newsletters are sent out via email to all those members with email addresses	Ongoing/In Progress		Magazines and membership newsletters are sent out via email to all those members with email addresses, plus e-Bulletin updates are sent out rather than mailouts	Continue to send all mailouts by email when able to	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 12/31/10)	Performance to Date (as of 12/31/10)	Steps Taken in 2010	Steps Planned for 2011 -2013	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 and a sustainability policy has been endorsed by Executive and is 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		Staff have been educated on greener choices for supplies, and purchases although we have always looked at purchasing greener materials. Our Behind the Scenes nature area was fabricated from materials that were healthy for children and the planet. Previously used exhibit components were reused where possible. Furniture was purchased from Greenplay, a children's furniture company that uses environmentally sustainable materials and manufacturing processes: Zero to low VOC emission finishes; urea formaldehyde free MDF with FSC certified birch veneers; recycled and/or composite materials; shipped flat and unassembled; packaging is 30 - 40% post consumer recycled and 100% recyclable. Woods stains, sealants and glues used to create and design the exhibit were tested and non-toxic and solvent free. Bioplastic and non toxic casting materials and inherent fire resistant natural materials were used like cork and wool. Pine beetle wood and beeswax was used to seal the toddlers memory block game as well as hemp and wool for bags to house the blocks. Beanbag chairs were made from repurposed in house fabric and stuffed with organic buckwheat hulls. Carpentry shop is using a water-based contact cement now rather than solvent based.	Continue to purchase green materials and supplies	2008	No End Date (Continuous)
Staff Professional Development						
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress		A reports was prepared for Material Options/Potential Sponsors/Design Courses to educate staff on greener choices for material and supply purchases. A Property Management and Operations team member has taken a Sustainable Building Advisory Program course and will continue to support other employees when sustainability learnings are identified in their personal learning plans	Continue to purchase green materials and supplies, and keep educated on greener choices available	2008	No End Date (Continuous)
Include green options in employee performance measurement system	Ongoing/In Progress		Staff EPDP's reflected responsibility for environmental sustainability and staff were supported with their plans	Continue to support environmental sustainability and reflect it in EPDP's through learning opportunities	2008	No End Date (Continuous)
Staff awareness/education						
Provide education to staff about the science of climate change	Ongoing/In Progress		One of our staff is continuously involved in the climate change studies and we have audio sessions daily related to climate change	Continue to support climate change studies and practice and promote	2007	No End Date (Continuous)

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)	Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress		Water conservation practices are outlined in issues of the Property Management and Operations newsletters . Additional low flush toilets were purchased, native and drought tolerant plants are being planted in the gardens and more mulch has been added to the garden beds. Dyson air blades have been installed in public washrooms and some staff washrooms	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 PMO newsletters which are posted on the website for visitors as well	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		Audio sessions are held daily related to climate change and our temporary exhibit highlights biodiversity of the province, including sustainability, green issues and the environment. Newsletters are posted on the website for visitors	Continue to practice and promote	2009	No End Date (Continuous)
Provide education to clients/public about the conservation of water, energy, and raw materials	Ongoing/In Progress		Newsletters are posted on the website for visitors and conservation techniques are contained in every issue of the newsletter	Continue to practice and promote	2009	No End Date (Continuous)
Provide green tips on client/public website or in newsletters	Ongoing/In Progress		Tips are in the newsletters and posted for all to see on the website	Continue to practice and promote	2007	No End Date (Continuous)
Other Education, Awareness, and Engagement Actions						
Participate in Earth Hour Annually	Ongoing/In Progress		Participating in Earth Hour and have encouraged all staff to participate and to share information with family and friends. Also posted in newsletters	Continue to participate and 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		Additional low flush toilets were purchased, native and drought tolerant plants are being planted in the gardens and more mulch has been added to the garden beds	Continue to replace faucets with motion sensor faucets and purchase 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		Landscapes include native and drought resistant plants and mulch has been added to help reduce water consumption	Continue to plant native and drought resistant plants and add mulch where necessary	2009	No End Date (Continuous)
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	Ongoing/In Progress		An extra garden was added over the generator room and contains native or drought resistant plants and mulch is used to keep water consumption down	Continue to explore other opportunities when renovations are required. Site development 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		Recycling practices are used for wood, metal, glass, tin, plastics, cardboard, paper and compost. A no bottled water policy is in place. Further recycling centres have been added to the lobby area for public use	Continue to ensure all options of recycling practices are used	2008	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress		Hazardous waste is picked up and disposed of properly	Continue to review and arrange for pickup and/or proper disposal	2009	No End Date (Continuous)
Procurement (non-paper supplies)						

Royal BC Museum Corporation - 2010 Carbon Neutral Action Report

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)	Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
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 are encouraged and practiced	Continue to encourage and use green purchasing practices	2008	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.)	Ongoing/In Progress		Used carpet was recycled and donated to a charitable organization by the installer. New certified marmoleum flooring was installed in various parts of the museum.	Continue to recycle all materials through green friendly practices	2010	No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress		Our on-site cleaning service provider is required to use biodegradable cleaning products and post consumer paper towels and toilet paper, which are essential for the safekeeping of our collections and being responsible stewards.	Continue to practice using green cleaning products	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) is an Environmental Responsiveness Eco Star Award Winner for 2010. They have a strict sustainability practice in place. Our other caterer also has sustainability practices in place.	Continue to work with onsite partners and caterers to provide and promote sustainability.	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		Building debris was used as landscape fill and then recycled a second time due to incompatibility with the plants, it was sent to a landscape yard to be used as fill. New carpet was installed in Clifford Carl Hall and the old carpet was taken away and recycled by the installer to a charitable organization. Wood waste was recycled and 4706 kg's were diverted from the landfill. Recycled cardboard was 120 kg and recycled glass, tin and plastics were 75 kg also diverted from the landfill.	Continue to encourage and practice	2008	No End Date (Continuous)
Incorporate lifecycle costing into new construction or renovations	Ongoing/In Progress		All renovations noted in other areas of this report were in practice with lifecycle costing	Continue to encourage and 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 send out by Human Resources a few times each year.	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 are in place and low VOC products are being purchased and used	Continue to support the purchase use of low VOC products	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 in their working hours, or work from home	Further evaluation and review by Executive to determinine implementatINg opportunities for additional staff to work from home or have flexible working hours	2008	No End Date (Continuous)
Offer staff a compressed work week	Ongoing/In Progress		Options are provided to staff to reduce their work week/hours when possible due to operational requirement	Continue to support requests for reduced/compressed work week	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	Continue to encourage biking to work or carpooling or taking the bus	2008	No End Date (Continuous)
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 will continue to be available	Started before 1995	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In Progress		Bicycle storage is available for staff and bike racks for staff and pubic are located in various areas around the museum precinct	Continue to provide bicycle storage	Started before 1995	No End Date (Continuous)