# Government of B.C. 2011 Carbon Neutral Action Report

British Columbia's core government ministries and agencies have been taking action to reduce greenhouse gas (GHG) emissions since 2007. To meet this mandate, Green Teams were established at each ministry to encourage behaviour change initiatives among staff, while Shared Services BC, the office responsible for making building and major procurement decisions for core government, developed a program to achieve carbon neutrality.

Since 2007, government has built on Green Team successes, while working to manage our buildings, fleet and paper as effectively as possible. We have reported annually on core government's GHG emissions since 2008, and have been carbon neutral for our emissions associated with business travel since October 1, 2007. Beginning in 2010 the entire public sector of BC, including core government, achieved carbon neutrality for their building, paper, fleet and equipment emissions. Additionally, core government continued to be carbon neutral for business travel emissions.

This report will present core government's emissions for 2011 and highlight a few of the actions taken to reduce emissions.

## 2011 Greenhouse Gas Emissions

Core government reports on emissions from buildings, fleet vehicles, equipment, paper consumption and business travel.

In 2011 core government produced 98,212 tonnes of CO2e of which 96,678 tonnes require offsets to be purchased. This is an increase in total emissions of 3% over 2010 emissions. An increase in total emissions from 2010 to 2011 is a pattern seen across B.C.'s public sector, and is largely attributed to 2011's colder weather. When normalized for climate, Core Government total emissions have decreased by 3.5%.

It is estimated that stationary fugitive emissions from cooling comprise considerably less than 1% of core government's total emissions and the effort required to effectively capture this data is disproportionately onerous to the overall quantity of emissions they represent, therefore, they have been deemed out-of-scope from core government's emissions profile.

| 2011 Core Government Emissions Normalized for Climate | | | |
|---|---|---|---|
| 2010 | | 2011 | |
| Total Emissions | 95,228* | Total Emissions | 98,212 |
| Emissions for Offsets | 93,656* | Emission for Offsets | 96,678 |
| Normalized Total Emissions | 99,442 | Normalized Total Emissions | 96,028 |
| Normalized Emissions for Offsets | 97,870 | Normalized Emissions for Offsets | 94,494 |

| 2010 – 2011 Emission changes | |
|---|---|
| Total Emissions | +3% |
| Emissions for Offsets | +3% |

| 2010 – 2011 Normalized Emission Changes | |
|---|---|
| Total Emissions | **-3.5%** |
| Emissions for Offsets | **-3.5%** |

* 2010 core government emissions numbers used for normalization are based on data from May 2012, which is slightly different from the published 2010 emissions (total emissions 94,494, Emissions for offsets 92,951). This is due to amendments made to the 2010 emissions data.

**Normalized Emissions**

56% of core government emissions come from energy used in buildings, largely for heating. In order to make direct comparisons between 2010 and 2011, we normalize emissions from buildings with a consistent temperature. This is done using a 30 year average temperature (from Environment Canada) and a baseline of 15$^{o}$C for commercial buildings. Once core government emissions are normalized for climate, 2011 emissions have decreased by 3.5% from 2010 levels.

### Offsets Purchased to Become Carbon Neutral for 2011

To declare carbon neutrality for 2011, core government has purchased $2,416,950 in offsets from Pacific Carbon Trust. This is based on 96,678 tonnes of offsetable emissions.

1,534 tonnes of emissions are from the use of biofuels which are carbon neutral as specified under the *Carbon Neutral Government Regulation,* therefore they do not require the purchase of offsets.

## Government of B.C. Emission Reduction Activities - Highlights from 2011

Across core government, there are committed individuals working hard to reduce our greenhouse gas (GHG) emissions. From Green Team leads who engage in emission reduction and sustainability initiatives to dedicated energy managers, the Province is proud of the clear dedication staff have shown to achieving carbon neutrality. Below are some of the key initiatives that are supporting a low-carbon public service across B.C.

**Leading Workplace Strategy reduces footprint and supports flexible work environments**

The Leading Workplace Strategy (LWS) is a government-wide initiative that takes advantage of technology and new approaches to how and where we work in the public sector. The strategy employs different ways to configure and reduce office space and associated energy costs and GHG emissions. By eliminating traditional offices and replacing them with smaller workstations and facilitating working from home and other flexible options, the amount of space used per employee is being reduced significantly. For example, in 2011 the B.C. Public Service Agency began a pilot to meet the 5-year goal of 50% medium workspace density (50% fixed workers and 50% mobile workers). Existing workspaces in their Learning Centre, Hiring Centre and Agency headquarters were modified to meet the needs of non-territorial workspace and new working styles.

This pilot currently includes over 300 Agency staff. Eighty-seven staff are currently utilizing flexible work styles including telework and a number of employees are actively promoting this cultural shift and addressing the obstacles and opportunities moving forward. Through the LWS pilot, the Agency will continue to work with Shared Services BC to:

- Enable mobile computing and improve access to remote services
- Investigate the use of virtual terminal sessions
- Build awareness of existing training and support for collaborative tools such as Communicator and LiveMeeting
- Support at-home telework with tools such as headsets and conference calling accounts, as appropriate

By adopting LWS, the B.C. Public Service Agency now has greater opportunities to encourage different ways of working thus engaging employees and reducing costs. In the first phase, the Agency's square footage for office space has decreased by approximately 12% in Victoria.

The Ministry of Education is also piloting LWS as an opportunity to find cost savings and to model a 21st century learning organization. Education (in Victoria) is moving from occupancy of five buildings to one. While working towards modelling the Ministry of Education's vision, the green benefits have been dramatic and scalable across government. Reducing lease costs have also reduced travel costs, heating, lighting and maintenance costs; maximizing space for personal use has supported the centralization of supplies and elimination of paper files; space improvements have lead to better light and air circulation, reducing reliance on heaters, fans, and desk lights.

*The Ministry of Education is proud of its record in reducing its carbon footprint. Since 2008, the Ministry has reduced our total emissions by 55%.*

*Our priority for 2012 is to complete the implementation of the Leading Workplace Strategy, which supports a variety of green initiatives already underway. The Ministry will also continue to examine opportunities for increasing our energy efficiency, and support behavioural change initiatives developed by the Green Team.*

*James Gorman, Deputy Minister of Education*

## Green Teams are helping embed a conservation culture

Core government has been reporting its actions to reduce GHG emissions since 2008. With four years of reporting now complete, all ministries have Green Teams which facilitate reduction activities and encourage behaviour changes in staff. Annual activities promoted by Green Teams include Earth Week events, *Bike to Work Week*, *Target: Green Streets* and the *Hibernation challenge*. These events encourage behaviour change actions which are becoming normal activity in many government offices.

The Citizens' Services and Open Government Green Team is one of the most active Green Teams and in 2011, the Team's efforts were buoyed by its highly supportive executive sponsor – the Assistant Deputy Minister of Integrated Workplace Solutions. The Team members are an impressive mix of 96 keen individuals from various positions and divisions who all share a common commitment to sustainability.

The Green Team's mandate is to engage fellow staff in sustainable behaviours at the workplace and at home. The word *engage* in their mandate is important. The Team goes beyond education and awareness and employs behavioural best practice methods (e.g. community-based social marketing) to ensure Public Service employees actively participate in campaigns and routine behaviour that reduces greenhouse gas emissions. The Team's strategy is threefold: they implement well established annual green team campaigns, they support other successful events with partners like Bike-to-Work-Week and World Wildlife Fund BC, and they allow flexibility for grassroots initiatives by members and non-members alike.

*The Ministry of Citizens' Services and Open Government is proud to be carbon neutral. We will do all we can to reduce our GHG emissions moving forward. One of our priority initiatives for 2012 is our ongoing advocacy of the Ministry Green Team. We support their efforts to minimize the environmental impacts of staff behaviour on the four carbon neutral categories of facilities, fleet, business travel, and paper.*

*Kim Henderson, Deputy Minister*
*Ministry of Citizens' Services and Open Government*

*Target: Green Streets* is a week-long event to encourage people to try new ways to commute. Ministries advertised the project online, through posters and word of mouth to engage with staff and see if they would be willing to switch to using the bus, a bicycle, carpool or walking.

At Ministry of Advanced Education, sixty-two staff participated in the five day event. With a 25% participation rate – the highest in government – people got thinking about their commuting options, not only from an environmental standpoint, but also as a savings in fuel costs for their families. This combination of seeing the personal economic benefit and the environmental benefit can be a great motivator for people to make green choices.

In 2011, *Target: Green Streets* measured the reduction in emissions (kilograms of carbon dioxide avoided) and fuel savings. The entire B.C. government had 1439 participants and reduced $CO2_e$ by 681.12 kg for a savings of $494.37 in fuel costs.

The Ministry of Aboriginal Relations and Reconciliation (MARR) has also been very successful at engaging staff to participate in initiatives that focus on behavioural change, including the *Hibernation Challenge*. The *Hibernation Challenge* invites staff to participate in a number of energy saving actions such as turning off lights and power bars, closing window blinds at night and wearing sweaters vs. turning up the heat. MARR had 75 participants with a total of 635 energy-saving tasks. This was an increase in participation from 2010 and MARR placed 2nd in participation across government. This initiative was very successful because of the high level of staff participation and the overall level of engagement resulting in discussion around energy conservation and a low-carbon lifestyle.

*"The Ministry of Aboriginal Relations and Reconciliation is proud that it is now carbon neutral. We will continue to reduce our GHG emissions going forward. Our priority initiative for 2012 is to continue looking for new opportunities to reduce our ministry's meeting and travel emissions. Much of our business requires travel throughout the province; however, we will continue to strive towards reduce our travel emissions while maintaining our relationships with BC First Nations in both urban and remote communities."*

*Steve Munro,*
*Deputy Minister,*
*Ministry of Aboriginal Relations and Reconciliation*

## Videoconferencing technology connects natural resource staff

The Ministry of Forests, Lands and Natural Resources (MFLNRO) has committed to using video conferencing units and embracing their considerable environmental as well as cost saving effects. MFLNRO is doing this in conjunction the other natural resource ministries.

MFLNRO currently has in use 80 of the 97 video conferencing units owned by the entire resource sector ministries. These units allow staff from across the ministry to cut back on unnecessary travel, without having to compromise on their level of engagement during meetings. Because MFLNRO is so large and its offices are spread out all around British Columbia, these units have cut back considerably on the amount of carbon output that would have occurred had the ministry not had these conferencing units.

This project has been effective in a number of different ways. First, the cost savings of cutting back on the number of flights and trips that staff would have been taking is considerable. These units have also upped the level of engagement that existed when it comes to meetings across the province that was previously conducted over the phone. Staff now have the opportunity to speak with their co workers face to face while not adding to the Ministry's total emissions output or cost.

## Co-benefits of videoconferencing technology

The Ministry of Children and Family Development (MCFD) operates three youth custody centres in the Province (Prince George, Burnaby, and Victoria). The centres accommodate youth who are remanded or sentenced to custody by the youth justice court. MCFD is using videoconferencing technology to enable custody residents to visit their families. Videoconferencing is set up at a central location in the centres and visit times are scheduled with families, who are linked through video-technology in their home communities available through local ministry community offices. Residents are transferred to the location at the pre-determined time and visit their families.

This videoconferencing initiative eliminates lengthy time commitments and costs associated with physically travelling for the families who may live geographically far from the centres and cannot afford to visit frequently. It facilitates increased visitation for youth in custody by their families which has positive effects.

### Energy audits provide important data

As part of the Ministry of Transportation and Infrastructure's carbon neutral initiatives, comprehensive energy audits were conducted by an external engineering consultant for two of the ministry's 29 staff-occupied weigh scales. The audits were undertaken as the basis for a pilot program to determine the effectiveness of installing energy retrofit technologies to reduce power consumption at those facilities. The analyses identified a range of measures which could be implemented. The ministry chose four of those measures (interior and exterior lighting retrofits, installation of heat recovery ventilators, heat pump replacements and air leakage control measures) based on both the projected annual energy savings of approximately $6,000 per site and the respective return on investment timeframes. Implementation will take place in 2012.

This pilot project will provide important data to enable comparative analyses of energy savings using existing baseline energy consumption data for the two sites. Assuming the savings are in the order of those projected in the energy audits, a broader application of these energy savings measures to other weigh scales across the province could be implemented. In addition, successful testing of new exterior lighting fixtures and bulbs could potentially result in the same technologies being applied to thousands of highway lighting standards, which the ministry is responsible for province-wide.

## Energy management consultation led to toolkit to empower staff

In early 2012 Shared Services B.C. headed an initiative to consult with all ministries about how to engage building occupants with the goal of creating building-level efficiencies and conservation strategies. Buildings emissions account for 57% of all core government emissions and initiatives to conserve energy at the building level will result in direct savings.

Starting in 2012 Ministry staff from across government will have access to an online toolkit containing resources enabling them to conduct building audits to identify where energy savings can be made. They will also be given guidance on how to implement the findings of these audits and keep building-level behaviour changes on-going.

### Existing buildings and staff can benefit from LEED too

Beginning in 2009, the Ministry of Community, Sport and Cultural Development, working together with their landlord, began to implement building improvements and operational changes that reduced the environmental impact of running and maintaining the building that acts as their headquarters. These improvements led to their building becoming the first public sector building in Western Canada to receive Leadership in Energy and Environmental Design (LEED) Gold Certification for the “Existing Building: Operations and Maintenance” category. The certification also provides the opportunity to educate employees about the ongoing commitment and effort to maintain the standard and further build on our efforts to reduce energy consumption and greenhouse gases.

# Shared Services BC - Actions reported on behalf of Core government - 2011 Carbon Neutral Action Report

## Actions Towards Carbon Neutrality

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

| Action | Status (as of 12/31/11) | Performance to Date (as of 12/31/11) | Steps Taken in 2011 | Steps Planned for 2012 -2014 | Start Year | End Year |
|---|---|---|---|---|---|---|
| **Mobile Fuel Combustion (Fleet and other mobile equipment)** | | | | | | |
| This section is either not applicable, not yet evaluated, or was completed before 2011 | | | | | | |
| **Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)** | | | | | | |
| **Planning/management** | | | | | | |
| Enrol in a building energy benchmarking program (e.g., GREEN UP) | Ongoing/In Progress | | Energy performance of provincial buildings is comparatively evaluated on a building level using a Building Energy Performance Index (BEPI). This data is normalized for weather conditions, which allows a building's performance to be compared effectively with other buildings, regardless of size or location. In 2011, SSBC worked with the outsourced facilities provider, Workplace Solutions Inc. (BLJC-WSI), benchmarked 100% of owned buildings and had set up a BEPI target, monitored and evaluated with Building operator in quarterly basis. | SSBC's technical staff and WSI will continue to use both the average provincial BEPI and individual buildings' BEPIs to identifying buildings that require attention to their energy performance.<br>A quaterly dashboard meeting including Facilities manager has been incorporated in the Energy Management Conservation Strategy, providing active participation at all levels. A new Energy monitoring software is being implemented to control and correct energy performances in the building portfolio. | Started before 1995 | No End Date (Continuous) |
| Reduce office space (square meters) per employee | Ongoing/In Progress | | 2011 saw the continuation of the Annual Space Planning Process. This process enables SSBC and clients to work together towards supporting program and service delivery while enabling a more flexible and mobile workforce. The BC Government's office and carbon footprint is reduced through the implementation of the Leading Workplace Strategies (LWS) initiative, which began in 2010. To date, LWS capital projects have been undertaken and completed for the Ministry of Education, Ministry of Transportation and Infrastructure, and the BC Public Service Agency.<br><br>-BC Public Service Agency (PSA): 716 Courtney, Victoria Learning Centre – baseline density went from 14um2 per person to 10.2um2 per person. 31% FTE uptake of LWS. Through LWS, the PSA has reduced their overall space requirements<br>-EDUCATION: 620 Superior, Victoria 2nd Floor – baseline density of 18.6um2 to 13.9um2 per person. 70% FTE uptake of LWS.<br>-EDUCATION: 620 Superior, Victoria 3rd Floor – baseline density of 17um2 to 13.6um2 per person. 41% FTE uptake of LWS.<br>-EDUCATION: 620 Superior, Victoria 4th Floor – baseline density of 17um2 to 13um2 per person. 44% FTE uptake of LWS.<br>-LCTZ: 4000 Seymour, Victoria – baseline density of 14.6um2 to 11.4um2 per person. 32% FTE uptake of LWS.<br><br>These projects share an increased utilization of existing office footprint through implementation of Internally and Externally mobile work styles | Further LWS projects will be undertaken with an initial focus on Victoria office space. Specific capital projects in progress which will lead to a reduction of office footprint include:<br>-LCTZ (4000 Seymour): Floor 2 currently with more planned throughout the building<br>-BC Public Service Agency (Hiring Centre): 810 Blanshard and ground floor 940 Blanshard.<br>-EDUCATION (620 Superior): to be completed by the end of fiscal 12/13<br><br>Additional LWS space reduction opportunities will be identified and implemented in Victoria for 13/14 based on opportunities identified through the Annual Space Planning Process and ministry functional suitability, measured in part through broader scale roll-out of the "Teletrips" on-line work style assessment tool. Increased in telework (part-time and home-based) in Victoria, and elsewhere, is expected in 13/14. While outside the scope of Government Carbon Neutral Operations, these efforts are expected to result in a reduction of GHGs associated with employee commute. | 2009 | No End Date (Continuous) |

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| Action | Status (as of 12/31/11) | Performance to Date (as of 12/31/11) | | Steps Taken in 2011 | Steps Planned for 2012 -2014 | Start Year | End Year |
|---|---|---|---|---|---|---|---|
| Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls) | In Development | | | Real time tracking and reporting of energy consumption in government facilities has been identified as a key strategy to reduce energy consumption and greenhouse gas emissions across the Provincial real estate portfolio. Real time metering systems have been implemented in various properties throughout the province, but a cost effective strategy to employ real time metering pervasively throughout the Provincial portfolio has yet to be realized. No additional steps to integrate real time metering were implemented during 2011. | In partnership with BC Hydro and as part of their Continuous Optimization Program, SSBC is planning to integrate real time metering in six buildings for the 2012-2013 reporting period, as an initial pilot program. | 2009 | 2014 |
| **Owned buildings** | | | | | | | |
| Establish energy performance baseline for owned buildings | Completed in 2011 | | | SSBC's technical staff and WSI continued to use both the average provincial BEPI and individual buildings' BEPIs to identifying buildings that require attention to their energy performance. | Going forward, SSBC will continue to work with BLJC-WSI to implement and maintain benchmarking. SSBC Service Level agreement has included an energy target of 1% reduction each year until 2020 for all owned buildings in the portfolio. | Started before 1995 | No End Date (Continuous) |
| Register for performance labelling/certification for operations and maintenance of owned buildings (e.g., LEED EB:O&M) | Ongoing/In Progress | | | In facilities where Shared Services BC has access to energy consumption information, quarterly reviews continued to be undertaken, adjustments to building performance were actioned through O&M activities, and capital and major asset maintenance projects continued to be identified . | In facilities where Shared Services BC has access to energy consumption information, quarterly reviews will continue to be undertaken, adjustments to building performance will continue to be actioned through O&M activities, and capital and major asset maintenance projects will continue to be identified .<br><br>A strategy to identify the best performance certification for the organization is planned for this period. | 2009 | No End Date (Continuous) |
| Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI) | Ongoing/In Progress | | | On behalf of Shared Services BC and ministry tenants, the province's outsourced service provider for property management, Workplace Solutions Inc. (BLJC-WSI), applies the LEED CI checklist for every construction and renovation project valued over $80,000.<br><br>Occasionally, if budget is available and building performance labelling/certification is idenitfied as a priority for ministry tenants, LEED-CI certification is sought for tenant improvements to commercial interior spaces in owned facilities. | If budget is available and building performance labelling is identified as a priority for ministry tenants, LEED-CI certification will be sought for tenant improvements to commercial interior spaces in BC Government owned facilities. | 2010 | No End Date (Continuous) |
| Achieve LEED NC Gold certification at a minimum for new construction or major renovations | Ongoing/In Progress | | | Since 2007, LEED-NC Gold certification or better is a requirement for any major renovations or new construction project (in market space >600m2).<br><br>Current LEED NC projects include the construction of the Ministry of Public Safety and Solicitor General's new Women's Unit associated with the Prince George Regional Correction Centre, which was completed in 2010 and is targeting LEED-NC Gold, and the construction of a new facility for women at Alouette Correctional Center for Women, which is also targeting LEED-NC Gold and will be completed in July 2012. Expansion of the Surrey Pretrial Services Center (LEED Project 10199) is targeting LEED-NC Gold and is scheduled for completion in 2013. | Expansion of the Surrey Pretrial Services Center is targeting LEED-NC Gold and is scheduled for completion in 2013. Construction of a new Okanagan Correctional Center in Oliver will begin in 2013/14 and is targeting LEED-NC Gold. Expansion and renovations to the Surrey Courthouse are scheduled for 2012/13 is targeting LEED-NC Gold.<br><br>All construction and renovations will target LEED-NC or CI Gold using an Integrated Design Process. | 2007 | No End Date (Continuous) |

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| Action | Status (as of 12/31/11) | Performance to Date (as of 12/31/11) | | Steps Taken in 2011 | Steps Planned for 2012 -2014 | Start Year | End Year |
|---|---|---|---|---|---|---|---|
| Incorporate integrated design process into new construction or during renovations of owned buildings | Ongoing/In Progress | | | The inclusion of the Integrated Design Process (IDP) in procurement documents was piloted in 2009 and continued to be considered for procurement activities for new building developments and major renovation projects. All construction and renovation projects >600m2 and valuing more than $2million will target LEED-NC or CI Gold using an Integrated Design Process. | The application of IDP principles will continued or new building developments and major renovation projects. | 2007 | No End Date (Continuous) |
| Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions | Ongoing/In Progress | | | The management of refrigerant systems has been in compliance with Provincial regulation. As required, precautions are taken to mitigate emissions, and emissions were reported per regulatory requirements by WSI-BLJC in behalf of SSBC. | The management of refrigerant systems will continue to be in compliance with Provincial regulation. As required, precautions are taken to mitigate emissions, and emissions were reported per regulatory requirements by WSI-BLJC in behalf of SSBC | Started before 1995 | No End Date (Continuous) |
| Perform energy retrofits on existing, owned buildings | Ongoing/In Progress | | | On behalf of ministry tenants, SSBC and WSI have successfully applied for funding through the Powersmart Partner Express program for 172 projects to retrofit T12 to T8 lighting systems and 108 projects to retrofit incandescent lighting to light-emitting diode (LED) bulbs.<br><br>The Ministry of Advanced Education installed weather stripping on heritage windows at St. Ann's Academy, reducing drafts and maintaining a more constant temperature, thereby reducing heating needs.<br><br>A Ministry of Attorney General Court Services Branch building in Surrey is replacing the membrane on a skylight, which will reduce the heating needs of the building. | On behalf of ministry tenants, SSBC and WSI will continue to apply for funding through the Powersmart Partner Express program to retrofit lighting systems, as well as and other initiatives such as Continuous Optimization Program and the Commercial Kitchen Initiative. SSBC and WSI-BLJC have also started a partnership with Fortis BC to assess mechanical systems in correctional facilities. | Started before 1995 | No End Date (Continuous) |
| **Retrofitting owned buildings** | | | | | | | |
| Upgrade mechanical systems (heating, cooling, ventilation) during retrofits | In Development | | | On behalf of ministry tenants, SSBC and WSI have successfully applied for funding to implement mechanical systems updates such as new boiler installations and improvement to ventilation and HVAC in several buildings throught out the province. Examples include the Powell River Courthouse, which saw a reduction of 44 % GJ and 28 Tonnes of GHG emmisions, and the North Fraser Pre-Trial Centre in Port Coquitlam, which saw a reduction of 237 tonnes of GHG emissions. | If budget is available and replacements have lesser lifecycle cost impacts than existing infrastructure, HVAC and boiler replacements will be sought during tenant improvements in owned facilities. | 2010 | No End Date (Continuous) |
| Upgrade lighting systems during retrofits | Ongoing/In Progress | | | On behalf of ministry tenants, SSBC and WSI have successfully applied for funding to PSECA, BC Hydro and Fortis BC to implement electrical systems updates such as retrofits of fluorescent lights, replacement of lighting systems, and retrofits to LED bulbs in several locations, including Kutenai Place in Nelson, Kamloops Multi-Tenant office, the Powell River Provincial Courthouse, and the Ministry of Forests Regional office and warehouse in Nanaimo. | If budget is available and replacements have lesser lifecycle cost impacts than existing infrastructure, electrical lighting retrofits will be undertaken during tenant improvement projects in owned facilities. | Started before 1995 | No End Date (Continuous) |
| Upgrade/adjust control systems during retrofits | Ongoing/In Progress | | | On behalf of ministry tenants, SSBC and WSI have successfully applied for funding to PSECA, BC Hydro and Fortis BC for the installation of motion sensor controls and energy monitoring systems in several locations, including Kutenai Place in Nelson, Kamloops Multi-Tenant office, the Powell River Provincial Courthouse, and the Ministry of Forests Regional office and warehouse in Nanaimo. | If budget is available and replacements have lesser lifecycle cost impacts than existing infrastructure, electrical and HVAC controls updates will be implemented during tenant improvement projects in owned facilities. | Started before 1995 | No End Date (Continuous) |

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|---|---|---|---|---|---|---|---|
| **Leased buildings** | | | | | | | |
| Establish energy performance baseline for leased buildings | Ongoing/In Progress | | | Building level energy performance targets were identified as part of Shared Service BC (SSBC) and Workplace Solutions Inc. (BLJC-WSI)'s Energy Management and Conservation Strategy for core government buildings, which was implemented in 2009 to support efforts to address Provincial climate action targets and regulations as they relate to public sector facilities. The established goal Building Energy Performance Indicators (BEPIs) is based on a combination of empirical operator knowledge of building-specific systems and energy accounting data. The strategy provides direction for leased buildings and funding. In particular, it addresses:<br><br>a. Optimal energy use and performance by identifying indicators and targets for energy use and GHG reduction<br>b. Demand side management, including conservation actions intended to achieve energy use and GHG reduction targets<br>c. Actions to confirm direction and ensure progress.<br><br>However, in many cases, SSBC does not pay for energy costs in leased buildings, therefore our ability to establish performance baselines is somewhat inhibited. | Energy performance in leased facilities will continue to be reviewed, and tailored improvement plans implemented when and where appropriate and authorized | 2009 | No End Date (Continuous) |
| Lease space with operations and maintenance performance labelling/certification (e.g., LEED EB:O&M) | Ongoing/In Progress | | | A number of factors are considered during lease negotiations for BC Government space. The environmental performance of leased space is addressed where feasible through the use of 'green' elements in lease schedules, which are intended to improve performance regarding conservation of energy and water, waste reduction and recycling, and support of green team activities. While performance labelling and certification of leased space is desirable, other priorities may take precedent (such as location, building occupancy costs, unique space programming requirements, etc.) during the selection of a new space or renewing an existing lease. | No additional plans are underway to certify leased space to LEED EB:O&M. | 2007 | No End Date (Continuous) |
| Lease space with commercial interiors performance labelling/certification (e.g., LEED CI) | Ongoing/In Progress | | | SSBC is not actively seeking leased space with commercial interiors performance labelling/certification at this time unless specifically required. | No additional plans are underway to certify leased space to LEED CI. | 2007 | No End Date (Continuous) |
| Lease space in buildings with new construction performance labelling/certification (e.g., LEED NC) | Ongoing/In Progress | | | A number of factors are considered during lease negotiations for BC Government space. The environmental performance of leased space is addressed where feasible through the use of 'green' elements in lease schedules, which are intended to improve performance regarding conservation of energy and water, waste reduction and recycling, and support of green team activities. While performance labelling and certification of leased space is desirable, other priorities may have taken precedent (such as location, building occupancy costs, unique space programming requirements, etc.) during the selection of a new space or renewing an existing lease. | No plans are currently underway to certify leased space to LEED NC. | 2007 | No End Date (Continuous) |

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|---|---|---|---|---|---|---|---|
| Develop a green lease policy that requires green features to conserve energy be included in all lease negotiations | Ongoing/In Progress | | | A significant number of government's building portfolio is leased space. SSBC undertook research and analysis on 'green' elements in lease schedules that are intended to improve performance regarding conservation of energy and water, waste reduction and recycling, and support of green team activities. These schedule elements will be considered during the negotiation of new leases and lease renewals. | Green lease performance will continue to be an area of focus during the 2012-2014 period, and will be incorporated into the development of a Real Estate Strategy for government's building portfolio. | 2007 | No End Date (Continuous) |
| **IT power management** | | | | | | | |
| Install power management software which shuts down computers outside of regular business hours | Ongoing/In Progress | | | Done prior to 2011. Since 2008 all workstations have auto-standby settings applied as a standard, according to the Power Management Implementation Program which has resulted in 10 million kilowatt hours of savings per year. During 2011/2012, electricity savings from workstation power management approximated 30% to 40% and resulted in $240,000 of savings. | All new workstations will be subject to the same power management settings. | 2008 | No End Date (Continuous) |
| Implement server virtualization | Ongoing/In Progress | | | In 2011 SSBC yielded substantial space and energy savings by transforming 445 servers: 125 were decommissioned; 234 were transformed to virtual and 86 to physical. Of the servers that were not decommissioned, 73% were transformed to virtual. The total power saving in Province datacentres has been ~80KVA. | Servers will continue to be virtualized according to the 5-year schedule until 2013. SSBC also hopes to retire several high consuming, energy intensive storage arrays. | 2009 | No End Date (Continuous) |
| Apply auto-sleep settings on computer monitors and CPUs | Ongoing/In Progress | | | Done prior to 2011. Since 2008, the Power Management Program applies the auto standby for all workstations and their displays. | All existing and new workstations and displays will follow the Power Management Program. The Program applies aggressively low auto standby settings for all workstations and their displays. | 2008 | No End Date (Continuous) |
| Replace computers with ENERGY STAR models during regular computer upgrades | Ongoing/In Progress | | | Done prior to 2011. Since 2008, the Power Management Program dictates that all existing and new workstations are Energy Star and Epeat compliant. | All existing and new workstations will adhere to the Power Management Program. The Program dictates that all existing and new workstations are Energy Star and Epeat compliant. | 2008 | No End Date (Continuous) |
| **Supplies (Paper)** | | | | | | | |
| **Printer/document settings** | | | | | | | |
| Switch networked printers and photocopiers to automatic double-sided | Ongoing/In Progress | | | Since 2008, Shared Services BC has been proactively working with ministries and enabling auto-duplex on all capable printers at no cost. All multi-function devices (MFDs) deployed in 2011 had auto-duplex applied as a default unless a specific request was made due to special requirements.<br><br>Since 2008, Shared Services BC has been proactively working with ministries and enabling auto-duplex on all capable printers at no cost. All multi-function devices (MFDs) deployed in 2011 had auto-duplex applied as a default unless a specific request was made due to special requirements. | All new MFDs deployed will have auto-duplex applied as a default unless a specific request is made due to special requirements.<br><br>SSBC will continue to work with ministries who wish to enable auto-duplexing on existing printers. | 2008 | No End Date (Continuous) |
| **Electronic media in place of paper** | | | | | | | |
| Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.) | Ongoing/In Progress | | | Done prior to 2011. Network drives are used extensively across government for filing. MS SharePoint and Groove are also used for efficient document-sharing between different work units. | Network drives and online storage through SharePoint and Groove will continue to be the preferred file storage method. | 2008 | No End Date (Continuous) |
| Switch to an electronic payroll notification system in place of paper pay stubs | Ongoing/In Progress | | | Done prior to 2011. | Electronic payroll will continue to be the standard payroll method for the foreseeable future. | 2009 | No End Date (Continuous) |

# Shared Services BC - Actions reported on behalf of Core government - 2011 Carbon Neutral Action Report

## 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 12/31/11) | Performance to Date (as of 12/31/11) | Steps Taken in 2011 | Steps Planned for 2012 -2014 | Start Year | End Year |
|---|---|---|---|---|---|---|
| **Business Travel** | | | | | | |
| **Virtual meeting technology** | | | | | | |
| Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.) | Ongoing/In Progress | | Starting in 2009, Shared Services BC rolled out desktop collaboration tools to more than 36,000 workstations across core government (e.g., LiveMeeting, instant messaging, peer-to-peer file sharing). In particular, SSBC provided an internal LiveMeeting service that allows meetings of up to 40 participants. Monitoring statistics show simultaneous web conference levels remained high throughout the year in the 60 - 80 range.<br><br>A service that allows clients from outside of the BC Government to attend Live Meeting web-conferences without the need to install special software has also been in place since 2008. In 2011 the service was enhanced by a new service provider allowing for more participant and greater levels of user support. Monitoring statistics demonstrate the service was used on 3285 occasions throughout the year, and the meetings had between 5-7 participants on average. All though not explicitly trackable, a safe conclusion would be to say that considerable carbon emissions were saved by those attendees in travel avoidance. | Web-conferencing software will remain available to BC Government staff and will be upgraded as the technology improves. As well, there are plans to improve the reporting capacity for the internal LiveMeeting service so that total meetings and average participants can be calculated and compared year-to-year or more frequently. | 2009 | No End Date (Continuous) |
| Install video-conferencing units in meeting rooms or provide mobile video-conferencing units | Ongoing/In Progress | | In 2010, Shared Services BC launched a pilot of Telepresence technology in 4 sites (2 in Victoria, 2 in Vancouver). In 2011, these telepresence sites were opened up to Executive Directors as well as Assistant Deputy Ministers. Hence the sites' usage increased considerably and 2995 kgCo2e was saved. The total estimated financial savings from travel avoidance amounted to $192,000. 1035 hours of conference time was booked in all four locations over the course of the year. | SSBC will continue to support the 4 telepresence locations on behalf of Ministry/Agency executives. Usage will tracked to evaluate year-to-year performance, travel costs avoided and impact on GHG emissions.<br><br>As well, a new site was added in Prince George in the Spring of 2012. Another two locations in Kamloops and Kelowna will be added before January 2013. | 2010 | 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 | | Shared Services BC's Technical Standards require water efficient fixtures when new developments and major tenant improvements are undertaken in owned government facilities. Fixture performance beyond the levels established in the Technical Standards may be provided at the request of ministry customers should funding allow.<br><br>WSI has business processes in place to ensure compliance with BC Building Code requirements for water-efficient fixtures. | The Technical Standards are periodically updated, when and if new technology and processes emerge and should be considered for a new construction project.<br><br>WSI business processes remain in place. | 1995 | No End Date (Continuous) |

## Shared Services BC - Actions reported on behalf of Core government - 2011 Carbon Neutral Action Report

| Action | Status (as of 12/31/11) | Performance to Date (as of 12/31/11) | Steps Taken in 2011 | Steps Planned for 2012 -2014 | Start Year | End Year |
|---|---|---|---|---|---|---|
| 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 | | Potable water management by Shared Services BC (SSBC) is done on a case by case basis to meet both customer programming needs and required codes and standards | Potable water management by SSBC will continue to be considered on a case by case basis. | 2002 | No End Date (Continuous) |
| Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales) | Ongoing/In Progress | | Stormwater management is considered on a case by case basis when determining the building site and systems design from a whole buildings perspective. Shared Services BC (SSBC)'s Technical Standards are updated periodically to reflect further requirements, including the consideration of indigenous plants and other water reduction strategies where appropriate.<br><br>Stormwater management and landscaping expectations beyond the levels established in the Technical Standards may be provided at the request of ministry customers should funding allow. | Stormwater management will continue to be considered on a case by case basis when determining the building site and systems design from a whole buildings perspective. Shared Services BC (SSBC)'s Technical Standards are updated periodically to reflect evolving requirements.<br><br>Stormwater management and landscaping expectations beyond the levels established in the Technical Standards may be provided at the request of ministry customers should funding allow. | 2002 | 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 | | WSI engaged a new waste services provider in Oct/11. This provider is required to submit reporting that will allow SSBC and WSI to set reduction and diversion targets.<br>Currently, reduction of occupant waste not covered by the Recycling Regulation or municipal by-laws is at the discretion of clients. | The multi-stream recycling program will be offered by BLJC-WSI to ministry tenants who request it.<br><br>SSBC, in consultation with WSI, will establish reduction and diversion targets. SSBC will also help coordinate client access to services. | 2011 | No End Date (Continuous) |
| Implement a hazardous waste reduction and disposal strategy | Ongoing/In Progress | | Shared Services BC maintains an ISO 14001 registered Environmental Management System (EMS). The EMS provides a disposal strategy for hazardous waste in all government facilities, except for smaller items such as batteries.<br><br>Sixty government offices throughout the province have registered with the Call2Recycle program as drop off sites for battery recycling. LCTZ has 12 collection sites including 4000 Seymour, which recycled approximately 600 lbs/272 kgs in the first 8 months of 2011. | Continued registration of the EMS, and its associated strategies and requirements. | 2000 | No End Date (Continuous) |
| **Procurement (non-paper supplies)** | | | | | | |

## Shared Services BC - Actions reported on behalf of Core government - 2011 Carbon Neutral Action Report

| Action | Status (as of 12/31/11) | Performance to Date (as of 12/31/11) | | Steps Taken in 2011 | Steps Planned for 2012 -2014 | 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 | | | The Integrated Workplace Solutions (IWS) division has been established to provide "everything needed to design, set up an manage a workstation for SSBC clients". Coordinated redistribution of furniture to government managed by Workplace Support Services through centralized tracking to achieve a lower cost to government will be emphasized, rather than disposal by one ministry in parallel with purchases being undertaken by another ministry.<br><br>Also, to ensure effective use of Government assets, ministries and agencies can source used office furniture through Asset Investment Recovery (AIR) or dispose of it. AIR provides disposal, recycling, secure warehouse storage and asset management services for government ministry clients.<br><br>Environmental certifications are required on furniture acquisitions via furniture resellers who have been awarded a corporate supply arrangement with corporate government. These certifications include Greenguard certified, SCS Indoor Advantage certified, BIFA Level 1, 2 or 3, Contribution to LEED, etc. | Steps taken in 2011 will be continued to the future.<br><br>Cost avoidance (i.e. significant savings to be realized based on historical experience) from deployment of surplus furniture, rather than purchasing new furniture, will be the continued goal for Workplace Support Services. | 2009 | No End Date (Continuous) |
| Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags | Ongoing/In Progress | | | WSI janitorial services provider is contractually required to use products with less environmental impact, including Green Seal and Ecologo.<br><br>Performance of janitorial services provider is monitored by WSI, and reported to SSBC. | No additional plans to improve janitorial performance beyond current contract requirements is planned. | 2009 | 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 | | | WSI meets or exceeds a contract perfromance target that requires 80% of construction waste be diverted from landfills on projects over $80K in the Lower Mainland and Southern Vancouver Island (where diversion facilities are available). WSI has also piloted diversion on projects over $80K in other regions of the province to establish a baseline. | The 80% construction waste diversion target will continue to be in effect during the 2012-14 reporting period. There is potential to increase this target as additional recycling availability established. | 2007 | No End Date (Continuous) |
| Incorporate lifecycle costing into new construction or renovations | Ongoing/In Progress | | | Shared Services BC's Technical Standards are based on lifecycle costing. All major projects where the Technical Standards are applied (e.g. Major tenant improvements and new construction) have been considered under a lifecycle costing model. Lifecycle costing and triple bottom line planning services were available for use during project planning and business case development and are employed at the discretion of ministry customers. | SSBC's Technical Standards will continue to be applied to major project developments during the 2012-14 reporting period. | Started before 1995 | No End Date (Continuous) |
| **Indoor air quality** | | | | | | | |
| Incorporate low volatile organic compounds (VOCs) standards into procurement policy for products such as paints, carpets, and furniture | Ongoing/In Progress | | | Shared Services BC's Technical Standards require reducing volatile organic compounds when new developments and major tenant improvements are undertaken in owned government facilities. | The Technical Standards are periodically updated, when and if new technology and processes emerge and should be considered for a new construction project. | 2009 | No End Date (Continuous) |