



## School District No. 51 (Boundary) 2011 Carbon Neutral Action Report

### Executive Summary

School District No. 51 (Boundary) continues to strive to be an integral part of the solution to the ongoing concerns that face our environment. With the added stress of aging facilities and financial constrictions, these changes often take place more slowly than we would like. We did not fund or initiate any new projects in 2011. Efforts continue to be made to conserve energy and natural resources while pursuing sound financial management. We believe that is the responsibility of every employee, student and school volunteer to actively participate in moving our District towards a more sustainable future.

We continue to partner with our community through a shared fibre network. This project coupled with ongoing training and upkeep of our current operating systems continued to be our focus in 2011. The Operations Department continues to focus on operating our facilities and fleet in an efficient manner, and the HVAC attendant as well as our Operations Manager continue to monitor our buildings and will upgrade systems that are no longer sustainable as money allows. We continue to move forward towards implementing policies and programs within our schools that encourage the health of the students. Our goal this year will be to continue to intentionally make those choices that will benefit our students, not only within the walls of their classroom but also in their environment.

A handwritten signature in blue ink that reads 'Jeanette Hanlon'.

Jeanette Hanlon  
Secretary-Treasurer

### 2011 Greenhouse Gas Emissions

In 2011 our total offsets were 1117. It was estimated that stationary fugitive emissions from cooling do not comprise more than 0.01% of School District No. 51's total emissions and an ongoing effort to collect or estimate emissions from this source would be disproportionately onerous. Therefore, emissions from this source have been deemed out of scope and have not been included in the total greenhouse gas emissions profile.

### Offsets Applied to Become Carbon Neutral in 2011

Total emission offsets have been applied to become carbon neutral for 2011. Offsets purchased were 881 tonnes with a total offset investment of \$22,025. As required by section 5 of the Carbon Neutral Government Regulation, 236 tonnes CO<sub>2</sub>e of emissions resulting from the operation of school buses were reported as part of our greenhouse gas emissions profile in 2011. However, they were not offset as they are out-of-scope under section 4(2)(c) of the Carbon Neutral *Government Regulation*.

### Emissions Reduction Activities

#### Actions Taken to Reduce Greenhouse Gas Emissions in 2011

Our IT Department continues to work under the load of an ever increasing demand for technology upgrades as well as upkeep. We continue to move forward in an effort to replace aging and inefficient equipment. In 2011 the CRT units were replaced with monitors at our high schools. New computers were also purchased for both secondary schools. The Secretary-Treasurer as well as the

Director of Instruction attended numerous meetings via elluminate, video and/or phone conferencing rather than travelling to the coast.

In 2011 the School District continued work on the installation of the community fibre network and connecting the facilities in the city to consolidate our network data servers. We continue to anticipate a reduction in our hardware requirements as well as the energy necessary to power our separate networks. Teachers participated in several professional development opportunities supporting the implementation of Smart Boards, and we continue to post meeting agendas on our website as well as making them accessible to all staff. A Professional Development opportunity was presented to the clerical staff to further implement facilitation of the school websites as a means of communication with parents and the community. The continued education of our employees in relevant technology is fundamental in educating our students and creating a dynamic learning environment.

In 2011 West Boundary Elementary school underwent an HVAC assessment. Recommended retrofits will be implemented for a variable fresh air system and add a heat recovery system. We are committed to continue to retrofit and upgrade the schools in our District as required and as our budget allows.

In 2011 we did see a slight increase in our paper purchase. In 2009 and 2010 we saw quite a reduction in paper purchased in an effort to responsibly use the paper already available in each of our schools. I believe our increase in 2011 is due to a "catch up" effect.

During the 2011 year we continued to consciously work at environmental education and sustainable behaviour change. The schools in our District have taken part in several learning initiatives this year. The 2011 school year began with green initiatives being highlighted as the District offered a professional development presentation by Wild BC.

One of the highlights for our District is the integration of a new Sustainable Resources 12 class. This class was very well received and an even greater population of students is showing interest for next year. Students in the program are building a small greenhouse and planting seedlings, transplanting the seedlings to the Community Garden and caring for them, tree planting, working with local Food Share groups, river reclamation/conservation projects and managing a school green awareness bulletin board as well as making presentations to the grade 8 and 9 students in their school.

Reduce-reuse-recycle continues to be one of the taglines for our students. All our schools continue to run recycling programs and teach recycling strategies. Our Alternate School has actively targeted water conservation and water use, recycling and composting over the past four years. Their senior students have partnered with Public Health in water monitoring and conservation work.

Several of our schools are involved in community gardens and partner with the community with germination tables as well as greenhouses. Teachers are actively involved in implementing green initiative lessons within their curriculums. Workers involved in recycling receive recognition awards and are acknowledged at school assemblies for green actions such as turning off lights, adopting home programs, picking up garbage and for their part in the recycling programs.

In 2011 our schools continue to encourage the purchase of sustainable and organic food and beverages and have made adjustments to their snack and foods programs.

#### **Plans to Continue Reducing Greenhouse Gas Emissions 2012-2014**

Environmental education and sustainable behavior change will continue to be one of our key focuses over the next three years as we strive to work towards even greater school involvement through education programs and teacher designed curriculum from K to 12. District, school and classroom presentations, field trips and workshops will continue to highlight the importance of our task ahead. Each school in our District is eager to work diligently to educate their students as well as inform parents about opportunities and steps that we can take to reduce our carbon footprint.

In 2012-2014 the District will continue to replace and upgrade its facilities and technology as funds are available and as they are needed. Our District continues to investigate the feasibility of purchasing hardware required for electronic document storage.

In 2012 we plan to install a heat recovery system at West Boundary Elementary School. It is estimated that there will be a 10-15% reduction in energy use. Our HVAC Dept will also begin a comprehensive cleaning of all air handling units in the District. There are 120 units that move air within and or supply fresh air to our buildings. During this time they will assess each of the facilities and make recommendations towards upkeep and replacement.

In the next three years we will also continue to maintain our fleet in a fiscally and environmentally responsible manner. As funds are available we will begin to replace our regular fleet with vehicles that are more environmentally friendly. In 2012 we plan to purchase one new bus for our fleet. We will also continue to strive to reduce the amount of paper used at each of our schools and will stress responsibility in reuse and recycling of all paper. We will monitor future paper orders and attempt to encourage our schools to purchase paper with a higher recycled content.

The Health Promoting Schools Coordinator continues to working on a Walk to School/Active Transportation initiative for students. Ms. Shilton will develop a website with newsletters and publications with tips for staying active and eating healthy, along with links to grant opportunities such as the School Ground Greening Grant.

Schools that do not already have a green team are making it a priority and placing it into their goals for 2012-2014. There are also plans for additional schools to participate in the BC Green Games, and schools will continue to partner with their communities in community garden projects, participating in reducing noxious weeds program and a composting system.

Our teachers will continue to educate students on topics such as the effects of global warming on habitat and hybridization. All schools will continue to implement recycling as well as research strategies to enhance even greater success to these programs. There is strong commitment to diligently use our resources and to share green tips with the students, parents and the public through websites and newsletters.

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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 <i>Greenhouse Gas Reduction Targets Act</i> .							
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
<b>Mobile Fuel Combustion (Fleet and other mobile equipment)</b>							
<b>Vehicle fuel efficiency</b>							
Perform regular fleet maintenance specifically to improve fuel-efficiency	Ongoing/In Progress	100	% of vehicles are subject to regular maintenance for fuel efficiency	Regular maintenance performed every 5000 kms on small maintenance vehicles. Bus maintenance performed monthly.	Continued regular maintenance.	2003	No End Date (Continuous)
<b>Behaviour change program</b>							
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	85	% of current drivers are trained	No scheduled training in 2011	No scheduled training confirmed at this time.	2008	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress			Geographically the District is large. Employees carpool to events and maintenance personnel co-ordinate work orders to cut down on travel time. Use buses to transport groups of teachers to pro-d event.	Ongoing awareness and communication in regards to scheduling. Incentives for carpooling to district sponsored professional development initiatives.	2009	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	In Development				Health Schools Coordinator continues working on a Walk to School/Active Transportation initiative for students, as well as a Walk to School month in October.	2009	No End Date (Continuous)
<b>Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)</b>							
<b>Planning/management</b>							
Enrol in a building energy benchmarking program (e.g., GREEN UP)	In Development				HVAC technician and Operations Manager want to attend energy benchmarking workshops if available and as funds allow.	2011	No End Date (Continuous)
<b>Owned buildings</b>							
Establish energy performance baseline for owned buildings	In Development				Carry on with Fortis workshops as able.	2010	No End Date (Continuous)
Incorporate integrated design process into new construction or during renovations of owned buildings	In Development			Assessment of fresh air requirements at Rock Creek Elementary School making recommendations aimed at reducing energy required to heat outdoor air.	Hire consultants to audit buildings and propose solutions to energy management issues.	2011	No End Date (Continuous)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Ongoing/In Progress			Recording refrigerant use, continued maintenance and repair of mechanical systems.	Ongoing	Started before 1995	No End Date (Continuous)
<b>Retrofitting owned buildings</b>							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	30	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	Assessment of fresh air requirements at Rock Creek Elementary School making recommendations aimed at reducing energy required to heat outdoor air.	Retrofit as budget allows.	2010	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress			Retrofit at West Boundary Elementary and Hutton Elementary schools.	Retrofit as budget allows.	2005	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress			None in 2011.	Comprehensive cleaning of all air handling units district wide. Retrofit as need and budget allows.	2009	No End Date (Continuous)
Install an on-site renewable energy demonstration project	Ongoing/In Progress			Heat recovery system for West Boundary Elementary School	Ongoing as budget allows	2011	No End Date (Continuous)
<b>Leased buildings</b>							
Establish energy performance baseline for leased buildings	In Development	100	% of leased buildings have an established energy performance baseline		None yet	2010	No End Date (Continuous)
<b>IT power management</b>							

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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
Implement server virtualization	Ongoing/In Progress			Not purchasing new hardware and using existing servers for virtualization.	More server consolidation. Still under investigation and in the planning process.	2010	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress			Ongoing.	Ongoing steps taken, including virtual desktop implementation. Use of thin client technology.	2010	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress			None taken in 2011	Ongoing replacement as needed.	2009	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress			Regular computer maintenance. Removed CRT's and replaced with monitors at both secondary schools. Bought new computers at both secondary schools.	Ongoing as budget permits.	2010	No End Date (Continuous)
<b>Appliances and electronic devices</b>							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	40	% of fridges are ENERGY STAR rated	None in 2011	Will replace any failed units with energy star rated models	2000	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			None in 2011	Will replace any failed units with energy star rated models	2000	No End Date (Continuous)
<b>Behaviour change program</b>							
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			No new steps take in 2011	Plans to initiate "lights out" program in all schools	2009	No End Date (Continuous)
Promote hot water conservation	In Development				Will continue to assess and evaluate the cost savings at BCSS and makes plans for future upgrades depending on outcomes.	2010	No End Date (Continuous)
<b>Supplies (Paper)</b>							
<b>Paper Type</b>							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	8	% of total paper purchased contains 30% recycled content	None	Continue to reduce paper use and encourage purchase of recycled paper.	2009	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	In Development				Future paper orders will continue to be monitored and schools encouraged to purchase recycled paper.	2010	No End Date (Continuous)
<b>Printer/document settings</b>							
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress			No new steps taken in 2011	Ongoing as printers need replacement	2008	No End Date (Continuous)
<b>Electronic media in place of paper</b>							
Use electronic document library for filing common documents	In Development				To investigate purchase of hardware required for electronic document storage.	2008	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress			Same as 2010	No new initiatives at this time	2009	No End Date (Continuous)
<b>Behaviour change program</b>							
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress	100	% of staff currently have received collaborative software training	Continue to provide staff with First Class access and email accounts. Have completed training of all current staff on electronic timesheets.	To continue to train new staff and offer support to existing staff.	2009	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress			No new actions taken 2011	To continue to train new staff and offer support to existing staff.	2008	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress			Continue to encourage reduction of paper use as well as re-use of existing paper products.	Continue to encourage re-use and recycling.	2008	No End Date (Continuous)

## School District No. 51 (Boundary) - 2011 Carbon Neutral Action Report

### Actions to Reduce Provincial Emissions and Improve Sustainability

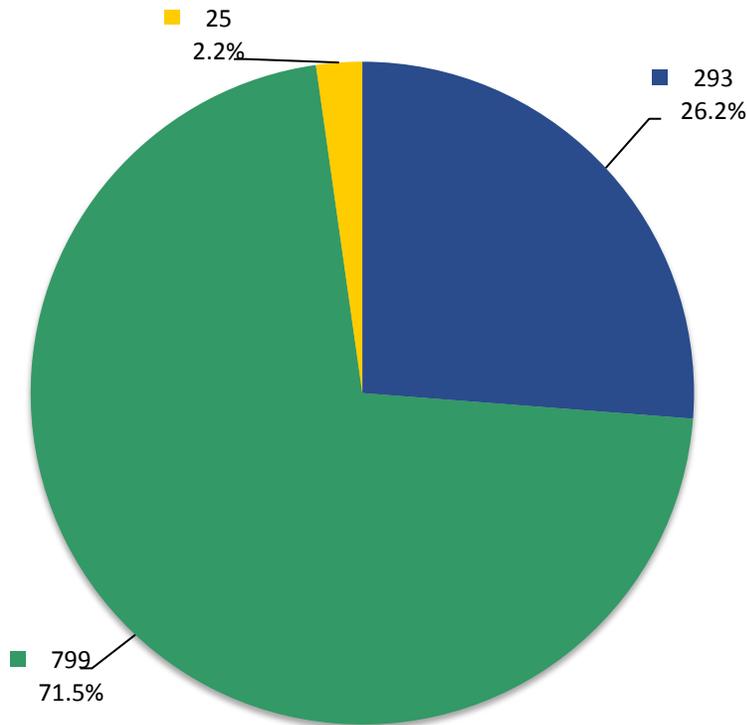
The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the *Greenhouse Gas Reduction Targets Act*. Public sector organizations can optionally use this section to 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
<b>Business Travel</b>							
<b>Virtual meeting technology</b>							
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Ongoing/In Progress	80	% of computers have web-conferencing software installed	Same as 2010	Continue to upgrade systems as funds available and as needed	2007	No End Date (Continuous)
Make desktop web-cameras available to staff	Ongoing/In Progress			Principals and teachers have new laptops. Laptops have built in cameras.	Continue to investigate new ways of implementing this	2009	No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	In Development				Investigating web conferencing hardware	2009	No End Date (Continuous)
<b>Behaviour change program</b>							
Train staff in web-conferencing	Ongoing/In Progress			No new staff trained in 2011	Train staff as needed	2009	No End Date (Continuous)
Train staff in video-conferencing or provide technical support for video-conferencing set-up	Ongoing/In Progress			No new staff trained in 2011	Train staff as needed	2009	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress			Continue to participate in virtual meetings as often as possible. Board Office admin attended several meetings virtually	Continue to implement this technology as more meetings are implemented virtually	2009	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress			Continue to provide car pooling incentives and bus travel when large attendance is required	As needed	2008	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress			Health School Coordinator is continuing to work on a Walk to School/Active Transportation initiative for students, and a participate in a "Walk to School" month. She also provides education and incentives to encourage active lifestyle	Continue to work on the Walk to School/Active Transportation initiative and the "Walk to School" month initiative.	2009	No End Date (Continuous)
<b>Education, Awareness, and Engagement</b>							
<b>Team-building</b>							
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	Ongoing/In Progress			District Committee did not meet in 2011. Several schools have teacher and student green teams.	Encourage all schools to develop a teacher and student-based green team.	2009	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	In Development				No steps planned as of yet.	2009	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress			Began the school year with teacher professional development presentation by WildBC. Some teachers participated in Spuds in Tubs as well as co-oping with the Granby Wilderness Society	Make school gardens accessible to staff. Pursue grant programs for solar panels as well as funds to continue to "green" our schools. Continued development of Nature Trails and outdoor classroom use.	2009	No End Date (Continuous)
<b>Awards/Recognition</b>							
Establish a sustainability/green awards or recognition program	Ongoing/In Progress			Several schools have Green Teams and they offer recognition and awards at assemblies	No new steps planned.	2009	No End Date (Continuous)
<b>Staff Professional Development</b>							
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress			Provided pro-d event for teachers at the beginning of the school year.	Continue to support teacher and student interests in these events.	2009	No End Date (Continuous)
<b>Staff awareness/education</b>							
Provide education to staff about the science of climate change	Ongoing/In Progress			August 2011 Teacher Pro-D sessions .	none as yet	2011	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress			Wild BC, participation in Spuds in Tubs and increase usage of germination table and community gardens in Midway and participate in the Lights Out program 2011.	Work with community members to build a new composting system, partner with local food sharing groups, further develop school garden space and raised beds. Further develop a green initiative portion in School Growth plans.	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
Provide green tips on staff website or in newsletters	Ongoing/In Progress		Classroom news information sent to parents regarding what students were studying. Occasional newsletter tips such as reusing containers, suggestions for use of water bottles/plates, etc. Green posters displayed in schools and some information posted on the school websites.	Green tips through newsletters and websites.	2008	No End Date (Continuous)
<b>Client/public awareness/education</b>						
Provide education to clients/public about the science of climate change	Ongoing/In Progress		Continued current programs. Deepen education awareness in student curriculum regarding global warming effect on habitat and hybridization. Educational billboards to increase awareness of solar energy initiative underway at BCSS.	Nothing new planned. Continue to incorporate green initiatives and education into the curriculum.	2009	No End Date (Continuous)
Provide education to clients/public about the conservation of water, energy, and raw materials	Ongoing/In Progress		New Sustainable Resources 12 class initiated in second semester. Involvement in community gardens, tree planting, local Food sharing groups, river reclamation/conservation projects. Greenhouses and planting seedlings. All schools continue to run recycling and compost programs.	Continue to incorporate green initiatives and education into the curriculum. More fun green events planned for students such as contests, dress-up days, recycling contests and presentations. Use school composted material in the greenhouses.	2009	No End Date (Continuous)
Provide green tips on client/public website or in newsletters	Ongoing/In Progress		Green tips through newsletters or websites. Displayed posters and bulletins.	Communication of green initiatives being undertaken in the schools through community presentations, newsletters, local newspaper.	2008	No End Date (Continuous)
<b>Other Sustainability Actions</b>						
<b>Water conservation</b>						
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Ongoing/In Progress		No new steps taken	Ongoing	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	In Development			Will replace as needed	2009	No End Date (Continuous)
<b>Waste reduction/diversion</b>						
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	Ongoing/In Progress		Maintained the recycle program throughout District.	Continued awareness and maintenance of the recycle program.	2003	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress		Nothing new in 2011.	Continue to monitor and implement safe disposal.	2008	No End Date (Continuous)
<b>Procurement (non-paper supplies)</b>						
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress		Continued replacing products with enviro-friendly alternatives where applicable.	Continue to replace with enviro-friendly products	2008	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		Continue with the fruit and vegetable program through local farmers and orchards. Continued development of school gardens where they plan to produce their own vegetables.	Building a greenhouse and planting seedlings. Continued use of community gardens, tree planting, composting systems. Partnering with local food sharing groups.	2009	No End Date (Continuous)
<b>Commuting to and from home</b>						
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress		No new actions taken.	Under development is a policy to change the pick up and drop off of students to a location that would encourage increased activity. Bus routes are being assessed as some stops are in the stated acceptable walking distance from the schools.	2010	No End Date (Continuous)

**School District 51 - Boundary  
Greenhouse Gas Emissions by Source  
for the 2011 Calendar Year (tCO<sub>2</sub>e\*)**



**Total Emissions: 1,117**

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion (Building Heating and Generators) and Electricity
- Supplies (Paper)

**Offsets Applied to Become Carbon Neutral in 2011 (Generated May 18, 2012 12:17 PM)**

Total offsets required: **881**. Total offset investment: **\$22,025**. Emissions which do not require offsets: **236** \*\*

\*Tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e) 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.