



**SCHOOL DISTRICT #81
FORT NELSON**

**2012 CARBON NEUTRAL ACTION
REPORT OVERVIEW**



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EXECUTIVE SUMMARY



School District #81 (Fort Nelson) is one of the smaller educational districts in British Columbia. Fort Nelson is in the Northeast of the province, four hours by vehicle from the closest larger centre. Fort Nelson is a resource based community with a population of approximately 5500. The district services 900 students K-12 and prides itself with attaining one of the highest FSA results in Primary Literacy in the province. Staff and students are housed in seven locations: two primary schools, a middle school, a highschool, a maintenance yard and a school board office, within Fort Nelson proper, and a K-12 two room school and teacherage two hours north of Fort Nelson, in Toad River.

School District #81 believes that leadership, in attempting to reduce our carbon footprint, is best demonstrated through action and example.

Fort Nelson is a community in its infancy of recycling programs. Many recycle opportunities available in larger centres are not available in Fort Nelson. Significant distance, resulting in high transportation costs, limit the amount of recyclable materials sent out to other markets. Therefore, a great deal of thought, effort, and personal time is represented by the recycle initiatives undertaken by school district personnel.



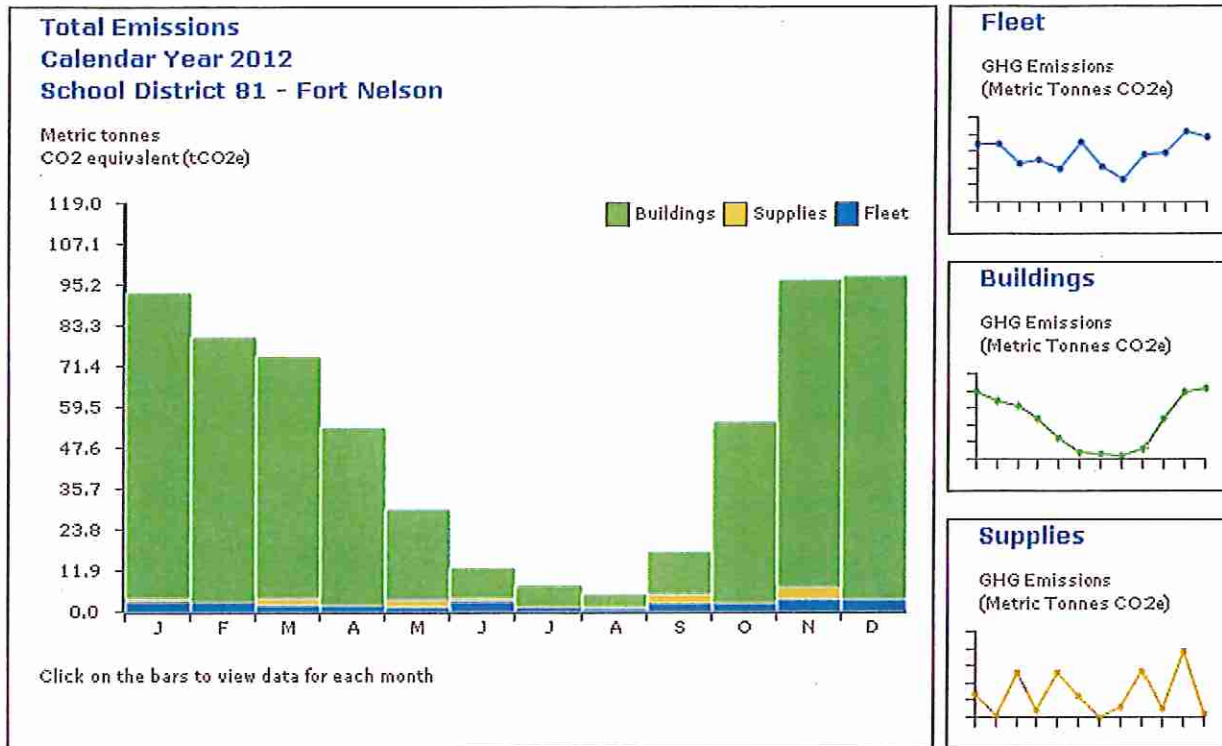
Throughout 2012, Fort Nelson School District maintained and celebrated their energy conservation projects completed to date and continued to encourage a culture of conservation through ongoing classroom environmental projects and district carbon reduction initiatives.





GREENHOUSE GAS EMISSIONS

The total Greenhouse Gas Emissions for Fort Nelson School District for the 2012 calendar year were 638.34 tones of CO₂e. The graph below depicts the district's emissions by source. The Greenhouse Gas Emissions included the following:



Scope 1 Direct Emissions (Fleet)	32.65 tones
Scope 1 Direct Emissions (Stationary)	557.15 tones
Scope 2 Indirect Emissions	31.84 tones
Scope 3 Office Paper	15.65 tones
*Biomass Emissions	1.05 tones
Total 2012 Emissions	638.34 tones

- 1.05 tones of Co₂e of carbon dioxide emissions from the combustion of biomass-based fuels were reported as part of our greenhouse gas emissions profile. However, as stated in B.C. Best Practices 2012, Methodology for Measuring Greenhouse Gas Emission, the carbon dioxide emissions resulting from the combustion of biogenic fuel sources must be reported but do not require offsets.

School District #81 (Fort Nelson) will pay \$15,750 in offset costs for 2012. This is a slightly higher amount than paid in 2011 as our winter was not as mild resulting in higher heating costs in our buildings and higher vehicle fuel costs.





GREENHOUSE GAS EMISSIONS

Buildings

Greenhouse gas emissions from buildings are as a result of fossil fuels consumed to provide heating and cooling, ventilation, and electricity to school district facilities. These emissions account for the majority of the school district's emissions at 87.28%

Fleet

Fleet emissions are direct greenhouse gas emissions resulting from fossil fuels used to operate the school district's maintenance fleet.

Our diesel fuel fleet includes our skid steer and two lawn tractors. These emissions represent 4.99% of our district overall emissions.

Our gasoline fuel fleet includes our bus, one pick-up, three vans, a one-ton truck, and our Echo car. The emissions from these vehicles represent 5.11% of our district overall emissions.

Supplies

Supplies are identified as indirect emissions from the district's use of office paper. These emissions account for 2.45% of the school district's overall emissions.





GREENHOUSE GAS EMISSIONS

Fugitive emissions

Fugitive emissions identified by the BC Provincial Government Carbon Neutral Government Regulation as out of scope for reporting include type R-22 coolant from air conditioning and refrigeration units in schools. For this school district these emissions account for .16% of the district's total greenhouse gas emissions.

Travel Related Emissions

Only core government agencies such as ministries, special offices and tribunals are required to track and report the emissions from business travel of public officials. School districts are not considered to be core government agencies.





REDUCE EMISSIONS

WHAT ACTIONS DID WE TAKE TO REDUCE GREENHOUSE GAS EMISSIONS IN 2012?

In 2012 we continued to monitor previous projects to ensure that our greenhouse gas reduction savings were sustainable.

Brita Hydration Stations

In 2011 we completed the installation of Brita hydration stations in our four in town schools. A Brita station offers a touch-free hygienic opportunity to fill up reusable water bottles.

We know that an estimated 88% of individual plastic bottles end up in landfills and oceans. We are told that plastic bottles in landfills can take thousands of years to break down. In the oceans, the bottles react with sunlight and eventually break down into plastic pellets that are eaten by birds and fish, ending in death.

Recently, in 2012, the filters in our Brita hydration stations located in our two primary schools were identified as needing to be changed. A change in filters is required after processing the equivalent of 2500 US gallons or 9750 bottles of water.

We will continue to encourage students, staff, and visitors in our schools to use reusable water bottles in our Brita hydration stations.





REDUCE EMISSIONS

Worm Composting



Many of our school classrooms participate in worm composting. Worm composting recycles organic waste in a classroom into compost. In this way we are participating in a natural cycle and cutting down on the amount of garbage going from our classrooms to the landfill.

Recyclable Paper Purchase/Recycling Paper



Some of our schools use recycled paper. We continue to encourage schools to purchase recycled paper and to recycle their paper.

Hand Dryer Installation



In 2012, the district installed its first hand dryer, on an experimental basis. We know that high speed, energy efficient hand dryers save energy and resources such as trees and water and reduce landfill space. Monitoring of this hand dryer will take place to determine if investment in this product is of value.



REDUCE EMISSIONS

Carbon Neutral Capital Plan

In 2012, School District #81 was awarded \$42,984 under the Carbon Neutral Capital Program (CNCP). This funding was initiated by the Ministry of Education as a capital funding program for school districts in an amount equal to, or greater than, the annual cost of carbon offsets for school districts. School District #81 received \$17,356 for 2010 carbon offsets; \$15,002 for 2011 carbon offsets; \$3309 for additional 2012/13 project funding and \$7317 Energy Study Funding for 2012/13 as we are not large enough to be eligible for an energy manager through B.C. Hydro.

A portion of the funding was used for an energy consultant to assist with a light review district wide. The balance of the funds will be used to install direct digital controls in one of our elementary schools. This project will be completed in 2013.





Future Plans

We are eagerly awaiting 2013 as the School District recently was awarded \$2.3 million dollars to upgrade the ventilation system in the academic block of Fort Nelson Secondary School. Phase one of this program will commence in the summer of 2013. As well, we will see the completion of the installation of the Direct Digital Controls in our G.W. Carlson Elementary School.

We have other carbon footprint reduction projects in planning stages including the reduction of our maintenance fleet by one vehicle, installation of intelligent parking lot controllers, and changes to lighting.

The District Green Committee has plans to host an Earth Day Art/Animation Challenge in the spring of 2013.

We will continue to encourage a variety of green initiatives throughout our district.

Diana Samchuck
Superintendent of Schools
School District #81 (Fort Nelson)

Margaret-Anne Hall
Secretary-Treasurer
School District #81 (Fort Nelson)



School District 81 Fort Nelson - 2012 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	Steps Taken	Steps Planned	Start Year	End Year
Mobile Fuel Combustion (Fleet and other)					
Behaviour change program					
Provide fleet driver training to reduce fuel use	Not Yet Evaluated				No End Date (Continuous)
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Completed (in Previous Year)				No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress	Will continue to encourage car pooling with fleet vehicles.	Will continue to encourage car pooling with fleet vehicles.	2011	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Not Yet Evaluated				No End Date (Continuous)
Vehicle fuel efficiency					
Replace vehicles with more fuel-efficient models	Not Yet Evaluated				No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	In Development	Right-sizing principles being considered with respect to our current fleet and future decisions.	Reduction of fleet by one vehicle.	2012	2013
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	Oil and air filters are changed two times a year or every 5000 km. Air pressure of tires is checked weekly.	Same as previous year.	2008	No End Date (Continuous)
Stationary Fuel Combustion, Electricity					
Behaviour change program					
Help staff reduce personal energy use through ""workstation tune-ups""	Not Yet Evaluated				No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Not Yet Evaluated				No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Not Yet Evaluated				No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Completed (in Previous Year)				No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	Completed (in Reporting Year)	A dishwasher was installed at the board office - we encourage staff to use the air dry setting.		2012	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Not Yet Evaluated				No End Date (Continuous)
Promote hot water conservation	Not Yet Evaluated				No End Date (Continuous)
IT power management					
Install power management software which shuts down computers outside of regular business hours	Not Yet Evaluated				No End Date (Continuous)
Implement server virtualization	Not Yet Evaluated				No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Completed (in Previous Year)				No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices as part of a print management strategy	Completed (in Previous Year)				No End Date (Continuous)
Apply auto-sleep settings on printers, fax machines, and/or multi-function devices	Completed (in Previous Year)				No End Date (Continuous)
Replace computers with ENERGY STAR models during regular	Completed (in				No End Date

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
computer upgrades	Previous Year)				(Continuous)
Owned buildings					
Establish energy performance baseline for owned buildings	Not Yet Evaluated				No End Date (Continuous)
Register for performance labelling/certification for operations and maintenance of owned buildings (e.g., LEED EB:O&M)	Not Yet Evaluated				No End Date (Continuous)
Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI)	Not Yet Evaluated				No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Not Yet Evaluated				No End Date (Continuous)
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	Involved with BC Hydro optimization program to determine recommended replacement	Have recently been approved for a 2.3 million dollar upgrade to ventilation at our highschool. Phase one will take place in the summer of 2013.	2008	No End Date (Continuous)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Not Yet Evaluated				No End Date (Continuous)
Planning/management					
Reduce office space (square meters) per employee	Not Yet Evaluated				No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Not Yet Evaluated				No End Date (Continuous)
Retrofit details for owned buildings					
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	Conducted research into what was needed for upgrades at one elementary school and our highschool.	DDC controls will be installed at one of our elementary schools by May 2013 and phase 1 of a two year project will commence in July 2013 to upgrade the ventilation system in the academic wing of our highschool.	2008	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	We had an energy consultant review our lighting needs.	In partnership with BC Hydro we hope to allocate a portion of our annual facilities grant to replace bulbs in the highschool gymnasium.	2010	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	Research into needs at one of our elementary schools and highschool.	DDC control systems will be installed at one of our elementary schools and our highschool academic wing.	2009	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	No specific steps taken in 2012. We have replaced windows in our elementary and secondary schools.	No specific steps taken.	2008	No End Date (Continuous)
Supplies (Paper)					
Behaviour change program					
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Not Yet Evaluated				No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress	Held paperless calendar meetings. Our board meetings have been paperless since 2009.	Will continue to hold paperless board meetings. Will encourage other meetings to be paperless.	2009	No End Date (Continuous)
Electronic media in place of paper					
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Not Yet Evaluated				No End Date (Continuous)
Use electronic document library for filing common documents	In Development	Installed laser fiche capabilities in new copier machines.	Continue with training on laser fiche.	2012	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Completed (in Previous Year)				No End Date (Continuous)
Paper Type					

School District 81 Fort Nelson - 2012 Carbon Neutral Action Report

Actions Towards Carbon Neutrality					
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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Purchase 40% post-consumer recycled paper	Completed (in Previous Year)				No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Not Yet Evaluated				No End Date (Continuous)
Printer/document settings					
Switch networked printers and photocopiers to automatic double-sided	Completed (in Previous Year)				No End Date (Continuous)

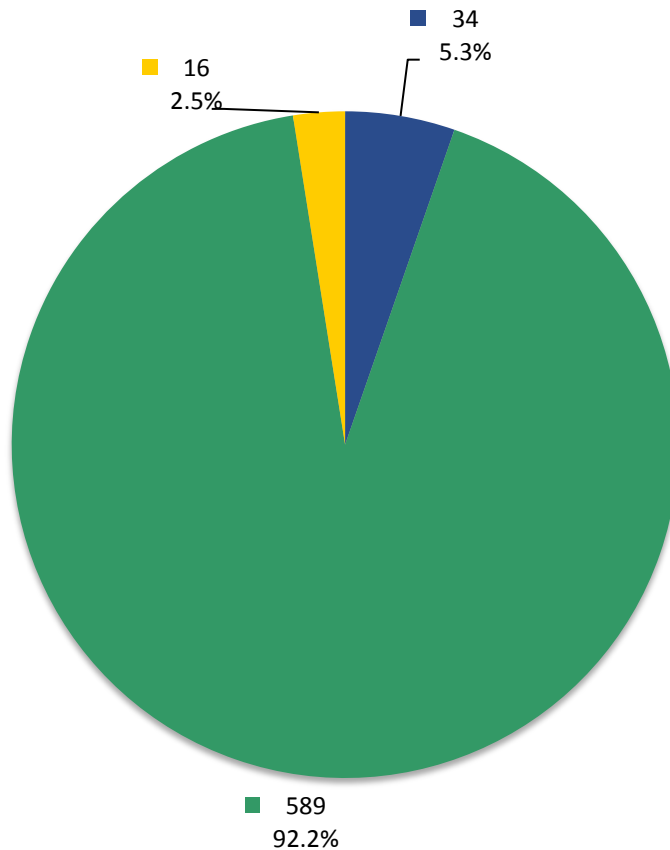
School District 81 Fort Nelson - 2012 Carbon Neutral Action Report

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					
Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Business Travel					
Behaviour change program					
Train staff in web-conferencing	Completed (in Previous Year)				No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress	Continue to have conversations with the employers' association to provide alternatives to travel to meetings.	Same as in 2012.	2011	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress	Continue to encourage staff to carpool to meetings.	Same as 2012.	2010	No End Date (Continuous)
Policy and budgeting					
Create a low-carbon travel policy or travel reduction goal	Not Yet Evaluated				No End Date (Continuous)
Virtual meeting technology					
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Completed (in Previous Year)				No End Date (Continuous)
Make desktop web-cameras available to staff	Not Yet Evaluated				No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Not Yet Evaluated				No End Date (Continuous)
Education, Awareness, and Engagement					
Awards/Recognition					
Establish a sustainability/green awards or recognition program	Not Yet Evaluated				No End Date (Continuous)
Staff Professional Development					
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress	None in 2012.	Contact Green Works to identify current workshops available.	2011	No End Date (Continuous)
Include green options in employee performance measurement system	Not Yet Evaluated				No End Date (Continuous)
Staff awareness/education					
Provide education to staff about the science of climate change	Not Yet Evaluated				No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Not Yet Evaluated				No End Date (Continuous)
Provide green tips on staff website or in newsletters	Not Yet Evaluated				No End Date (Continuous)
Provide sustainability education during new staff orientation	Not Yet Evaluated				No End Date (Continuous)
Team-building					
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	Not Yet Evaluated				No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Not Yet Evaluated				No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Not Yet Evaluated				No End Date (Continuous)
Other Sustainability Actions					

School District 81 Fort Nelson - 2012 Carbon Neutral Action Report

Actions to Reduce Provincial Emissions and Improve Sustainability					
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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Adaptation to Climate Change					
Assessed whether extreme weather events and/or long term changes in climate will affect the organization's business areas	Not Yet Evaluated				No End Date (Continuous)
Integrated considerations of extreme weather events and/or long term changes in climate into the organization's decision making.	Not Yet Evaluated				No End Date (Continuous)
Building construction, renovation					
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	Not Yet Evaluated				No End Date (Continuous)
Incorporate lifecycle costing into new construction or renovations	Not Yet Evaluated				No End Date (Continuous)
Commuting to and from home					
Introduce telework/work from home policy	Not Yet Evaluated				No End Date (Continuous)
Offer staff a compressed work week	Not Yet Evaluated				No End Date (Continuous)
Encourage commuting by foot, bicycle, carpool or public transit	Not Yet Evaluated				No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Not Yet Evaluated				No End Date (Continuous)
Provide secure bicycle storage	Not Yet Evaluated				No End Date (Continuous)
Procurement (non-paper supplies)					
Incorporate minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.)	Not Yet Evaluated				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.)	Not Yet Evaluated				No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress	Continue to implement our "green" purchase program for cleaning products and trash bags.	Same as 2012.	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	Not Yet Evaluated				No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress	As the community provides opportunities for safe removal of these items, we participate. We recycle our computers, printers, batteries and paints.	same as 2012.	2011	No End Date (Continuous)
Water conservation					
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Not Yet Evaluated				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	Not Yet Evaluated				No End Date (Continuous)
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	Not Yet Evaluated				No End Date (Continuous)

**School District 81 - Fort Nelson
Greenhouse Gas Emissions by Source
for the 2012 Calendar Year (tCO₂e*)**



Total Emissions: 638

- 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 2012 (Generated May 31, 2013 12:11 PM)

Total offsets required: **629**. Total offset investment: **\$15,725**. Emissions which do not require offsets: **9** **

*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.