

CARBON NEUTRAL ACTION REPORT 2012

SCHOOL DISTRICT NO. 8 (KOOTENAY LAKE)



5/15/2013

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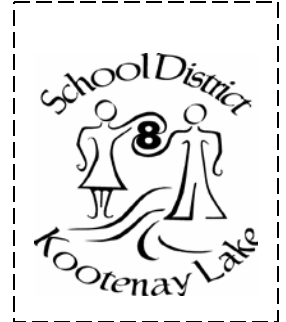
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School District No. 8 (Kootenay Lake)

2012 Carbon Neutral Action Report

Executive Summary

Carbon neutrality for School District No. 8 will have many spin-offs at varying levels not only for the school district itself but also within the communities and the geographic regions in which we operate. In addition, reduction in the use of carbon will contribute to a reduction in our operating costs. Such operational cost savings will enable the school district to focus more resources on its' core objective of education. Reduction of carbon usage will also lead to an improvement in the quality of life for not only for our clients and workers, but also for all residents in the communities and regions in which we operate. Also, our clients have , on many occasions, communicated directly with us on what initiatives we are undertaking and have offered numerous suggestions on this same topic. It is clear that, as a good corporate citizen responding to the needs and wishes of its constituents, that reducing our carbon footprint is a good, and moral, direction to take for now and in the future. It is hoped that every employee, student and school volunteer would contribute to energy efficiency with a key goal of reducing our greenhouse gas emissions. Implementation of this commitment shall be the joint responsibility of the Board of Education, administration, teachers, students, staff and volunteers. Its success shall be dependent on cooperation at all levels. Each employee, student and school volunteer will be encouraged to actively participate in the district's energy conservation and efficiency programs. District facilities will be evaluated continually for efficient operation and cost effective modifications. The district has recently converted J.V. Humphries Elementary Secondary School to ground source heating through funding provided by the Public Sector Energy Conservation Agreement. Our maintenance department is engaged in lighting retrofits and boiler retrofits on an on-going basis to reduce energy consumption. Accurate records are kept of energy consumption, associated costs and greenhouse gas emissions.



A handwritten signature in black ink, appearing to read 'Kim Morris'.

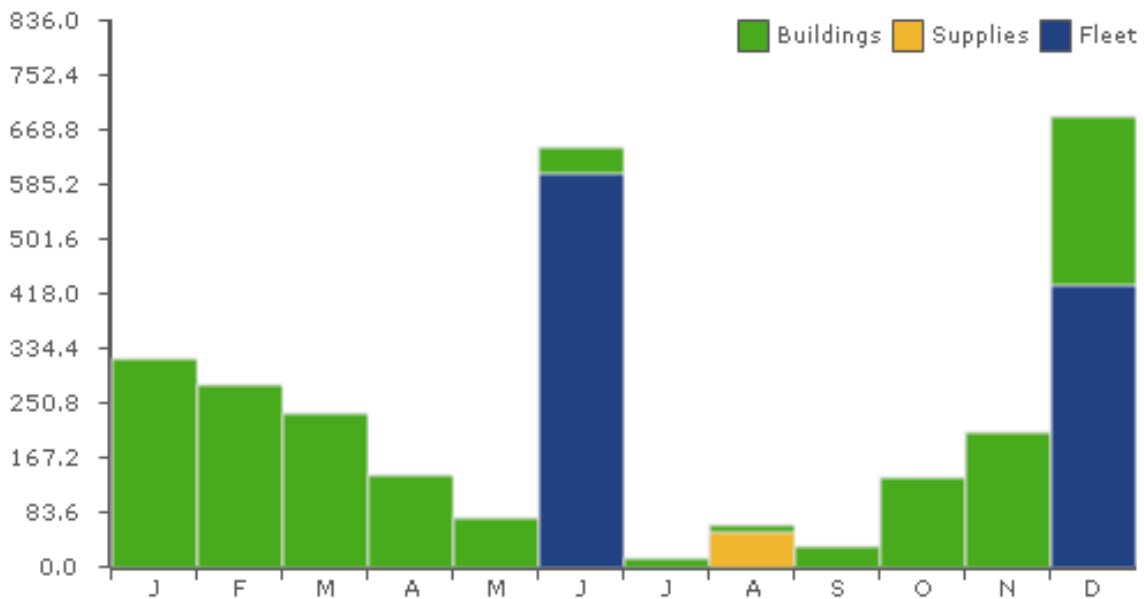
Kim Morris, Secretary-Treasurer

GREENHOUSE GAS EMISSIONS

Total Greenhouse Gas Emissions for the Kootenay Lake School District for the 2012 calendar year were **2873** tonnes CO₂e. The picture below shows the district's emissions by source

Total Emissions Calendar Year 2012 School District 08 - Kootenay Lake

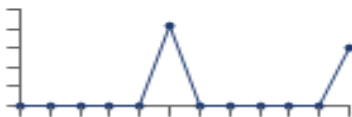
Metric tonnes
CO₂ equivalent (tCO₂e)



Click on the bars to view data for each month

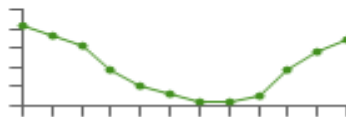
Fleet

GHG Emissions
(Metric Tonnes CO₂e)



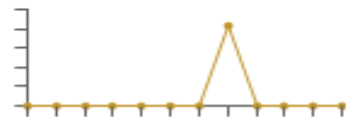
Buildings

GHG Emissions
(Metric Tonnes CO₂e)



Supplies

GHG Emissions
(Metric Tonnes CO₂e)



GREENHOUSE GAS EMISSIONS

| | |
|---------------------------------|--|
| Buildings | GHG emissions from buildings results from fossil fuels consumed to provide heating and cooling, ventilation, and electricity to schools and other district facilities. These emissions account for the majority of the district’s overall emissions at <u>61.65%</u> |
| Supplies | Emissions categorized as supplies are indirect emissions originating from the district’s use of office paper and account for <u>2.03%</u> of the district’s overall GHG emissions |
| Fleet | Emissions categorized as fleet direct emissions resulting from the fossil fuels used to power the district’s fleet vehicles, including maintenance vehicles and school buses. These emissions make up <u>36.32%</u> of the district’s overall emissions. |
| Fugitive emissions | <p>The following fugitive emissions are deemed by the British Columbia Provincial Government Carbon Neutral Government Regulation as out of scope for reporting:</p> <ul style="list-style-type: none">• Gases used for research purposes (e.g. science labs),• Type R-22 coolant from stationary air conditioning and refrigeration units in schools,• Any emission sources that comprise less than 1% of the district’s total GHG’s. |
| Travel related emissions | Under the Carbon Neutral Public Sector commitment, only core government organizations that report through the Consolidated Revenue Fund (e.g. ministries, special offices, tribunals) are required to track and report the emissions from the business travel of public officials. Kootenay Lake School District does not fall within “core government” and therefore does not track travel-related emissions. |
| Carbon Neutral | As required by section 5 of the Carbon Neutral Government Regulations, 907 tonnes CO ₂ e of emissions resulting from the operation of school buses were reported as part of our greenhouse gas emissions profile in 2012. These emissions from school buses were not off-set as they are out-of-scope under section 4(2)(c) of the Carbon Neutral Government Regulations. |

Overviews

Actions Taken to Reduce Greenhouse Gas Emissions in 2012

Some key actions that SD8 has undertaken beginning January 1, 2012 through to December 31, 2012 is targeted to staff training for energy management, creation of an active in-house energy retrofit program, completion of the JV Humphries ground source heating project, purchase and implementation of newer energy efficient and less polluting vehicles and equipment.

Plans to Continue Reducing Greenhouse Gas Emissions 2013 – 2014

School District No. 8 is committed to meeting our GHG reduction targets as required under the charter. We will continue to seek our creative and cost-effective strategies to meet that commitment including boiler replacement and lighting upgrades. In addition, the maintenance department will continue with HVAC improvements such as controls upgrades, roof top AC upgrades, and heat recovery ventilation units. In the transportation department, the federal government's Natural Resource Canada (NRCAN) driver training program for reducing fuel consumption will be a fixture of all driver training.

The district recently received approval for a boiler upgrade at the J.V. Humphries Elementary-Secondary School through the Carbon Neutral Capital Program. It is expected that the replacement of these backup boilers will be complete before the end of the 2013 calendar year.

School District 08 Kootenay Lake - 2013 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 | Ongoing/In Progress | All school bus drivers as well as maintenance staff drivers attended a training session on the NR Canada Smart Driver Program for School Bus Drivers. | All new drivers will receive the NR Canada training as part of the hiring process as well as part of our regular Professional Development opportunities | 2008 | 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 | Not Yet Evaluated | | | | 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 | Ongoing/In Progress | Two new vehicles were purchased and incorporated into the maintenance fleet. In addition 4 new school buses were also purchased. | SD8 has an on-going vehicle replacement program. Older, less efficient, polluting vehicles are replaced at scheduled intervals | 2008 | No End Date (Continuous) |
| Replace larger vehicles with smaller models according to fleet "right-sizing" principles | Ongoing/In Progress | As part of the on-going SD8 vehicle replacement program the proposed use of any replaced vehicle defines the nature of the replacement, including the size required. | As part of the on-going SD8 vehicle replacement program the proposed use of any replaced vehicle defines the nature of the replacement, including the size required. | 2008 | No End Date (Continuous) |
| Perform regular fleet maintenance to improve fuel-efficiency | Ongoing/In Progress | All vehicles within the SD8 fleet are maintained to the highest standard possible. | All vehicles within the SD8 fleet are maintained to the highest standard possible. | 2008 | No End Date (Continuous) |
| Stationary Fuel Combustion, Electricity | | | | | |
| IT power management | | | | | |
| Install power management software which shuts down computers outside of regular business hours | Ongoing/In Progress | As computers and labs are being replaced power management software is being installed and configured. | Continuation of existing power management software utilization process. | 2008 | No End Date (Continuous) |
| Implement server virtualization | Not Yet Evaluated | | | | No End Date (Continuous) |
| Apply auto-sleep settings on computer monitors and CPUs | Ongoing/In Progress | As computers and labs are being replaced auto-sleep settings on computers and CPU's are being configured. | Program continuance. | 2008 | 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 | Ongoing/In Progress | Wherever practicable stand alone printers, copiers, and/or fax machines have been replaced with multi-function devices. | Selection of devices is based on evaluation of needs by the user(s). | 2008 | No End Date (Continuous) |
| Apply auto-sleep settings on printers, fax machines, and/or multi-function devices | Ongoing/In Progress | As printers, copiers, fax machines, and/or multi-function devices are being implemented auto-sleep settings are being configured. | Program continuance. | 2008 | No End Date (Continuous) |
| Replace computers with ENERGY STAR models during regular computer upgrades | Ongoing/In Progress | As computers and labs are being replaced ENERGY STAR models are being purchased. | Program continuance. | 2008 | No End Date (Continuous) |
| Leased buildings | | | | | |
| Establish energy performance baseline for leased buildings | Not Yet | | | | No End Date |

School District 08 Kootenay Lake - 2013 Carbon Neutral Action Report

Actions Towards Carbon Neutrality

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| Action | Status | Steps Taken | Steps Planned | Start Year | End Year |
|---|------------------------------|---|---|------------|--------------------------|
| | Evaluated | | | | (Continuous) |
| Lease space with operations and maintenance performance labelling/certification (e.g., LEED EB:O&M) | Not Yet Evaluated | | | | No End Date (Continuous) |
| Lease space with commercial interiors performance labelling/certification (e.g., LEED CI) | Not Yet Evaluated | | | | No End Date (Continuous) |
| Lease space in buildings with new construction performance labelling/certification (e.g., LEED NC) | Not Yet Evaluated | | | | No End Date (Continuous) |
| Develop a green lease policy that requires green features to conserve energy be included in all lease negotiations | Not Yet Evaluated | | | | No End Date (Continuous) |
| Owned buildings | | | | | |
| Establish energy performance baseline for owned buildings | Ongoing/In Progress | All buildings have been evaluated for baseline performance. | As upgrades are completed baselines will be modified. | 2009 | 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 | Only Crawford Bay Elementary Secondary School has been constructed to GOLD LEED standard. | Future building replacements will be considered for GOLD LEED. | 2009 | No End Date (Continuous) |
| Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI) | Ongoing/In Progress | Only Crawford Bay Elementary Secondary School has been constructed to GOLD LEED standard. | Future building replacements will be considered for GOLD LEED. | 2009 | No End Date (Continuous) |
| Achieve LEED NC Gold certification at a minimum for new construction or major renovations | Completed (in Previous Year) | | | | No End Date (Continuous) |
| Perform energy retrofits on existing, owned buildings | Ongoing/In Progress | JV Humphries has had a cascading heat pum/geo-thermal; system installed in 2001 | Create business cases for further projects to be submitted for funding | 2009 | 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 | Only minor retrofits specific to mechanical systems occurred in 2012. | SD8 has received a grant from the Carbon Neutral Capital Program to upgrade the boilers at JVH during 2013. | 2008 | No End Date (Continuous) |
| Upgrade lighting systems during retrofits | Ongoing/In Progress | Only minor retrofits specific to lighting occurred in 2012. | All future retrofits are contingent upon funding and project identification. | 2008 | No End Date (Continuous) |
| Upgrade/adjust control systems during retrofits | Ongoing/In Progress | Only minor retrofits specific to adjust control systems occurred in 2012. | All future retrofits are contingent upon funding and project identification. | 2008 | No End Date (Continuous) |
| Improve building insulation (including windows) during retrofits | Ongoing/In Progress | Only minor retrofits specific to building insulation occurred in 2012. | All future retrofits are contingent upon funding and project identification. | 2008 | No End Date (Continuous) |
| Supplies (Paper) | | | | | |
| Behaviour change program | | | | | |
| Train staff to use collaborative software for electronic editing (e.g. | Not Yet | | | | No End Date |

School District 08 Kootenay Lake - 2013 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 |
|---|---------------------|---|--|------------|--------------------------|
| SharePoint, Groove, etc.) | Evaluated | | | | (Continuous) |
| Encourage staff to hold paperless meetings or presentations (i.e., no handouts) | Ongoing/In Progress | Information has been provided to staff regarding the use of paper and its' impact upon the District climate action initiatives. | Staff will be encouraged through information dissemination | 2010 | No End Date (Continuous) |
| Electronic media in place of paper | | | | | |
| Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.) | In Development | | Collaborative software will be evaluated through the District IT committee. | 2010 | No End Date (Continuous) |
| Use electronic document library for filing common documents | In Development | | Electronic document library for filing common documents will be evaluated through the District IT committee. | 2010 | No End Date (Continuous) |
| Switch to an electronic payroll notification system in place of paper pay stubs | Ongoing/In Progress | Almost 50% of staff receive electronic payroll notification. | With the introduction of electronic time sheets in early 2013 the school district will be very close to 100% implementation by the end of the calender year. | 2009 | No End Date (Continuous) |
| Paper Type | | | | | |
| Purchase 30% post-consumer recycled paper | Ongoing/In Progress | Information has been provided to staff regarding the use of paper and its' impact upon the District climate action initiatives. | Work with suppliers to reduce price differential to encourage users to order 30% paper. | 2009 | No End Date (Continuous) |
| Purchase 40% post-consumer recycled paper | In Development | | Work with suppliers to reduce price differential to encourage users to order 40% paper. | 2011 | No End Date (Continuous) |
| Purchase 100% post-consumer recycled paper | In Development | | Work with suppliers to reduce price differential to encourage users to order 100% paper. | 2009 | No End Date (Continuous) |
| Printer/document settings | | | | | |
| Switch networked printers and photocopiers to automatic double-sided | Not Yet Evaluated | | | | No End Date (Continuous) |

School District 08 Kootenay Lake - 2013 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 | | | | | |
| 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.) | Ongoing/In Progress | Web conferencing software has been installed on select computers only. | Expansion of web conferencing software to a wider group of machines has been upon recommendations of the District IT Committee | 2012 | No End Date (Continuous) |
| Make desktop web-cameras available to staff | Ongoing/In Progress | Desktop Web-cameras hav been installed on select computers only. | Expansion of Desktop Web-cameras to a wider group of machines will be upon recommendations of the District IT Committee | 2012 | No End Date (Continuous) |
| Install video-conferencing units in meeting rooms or provide mobile video-conferencing units | Completed (in Previous Year) | | | | 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) | Not Yet Evaluated | | | | No End Date (Continuous) |
| Include green options in employee performance measurement system | Not Yet Evaluated | | | | No End Date (Continuous) |
| Team-building | | | | | |
| Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement | Completed (in Previous Year) | | | | No End Date (Continuous) |
| Provide resources and/or dedicated staff to support teams | Completed (in Previous Year) | | | | No End Date (Continuous) |
| Providing behaviour change education/training to teams (e.g., community-based social marketing) | Completed (in Previous Year) | | | | No End Date (Continuous) |
| Other Sustainability Actions | | | | | |
| 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 | Ongoing/In Progress | All projects and renovations contemplated by the district employ, as part of the project evaluation phase and benefit/cost analysis, lifecycle costing to determine viability. | Continuation of existing program. | 2008 | No End Date (Continuous) |
| Commuting to and from home | | | | | |
| Introduce telework/work from home policy | In Development | | An SD8 Telework Policy is under development | 2013 | 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 | | | | No End Date |

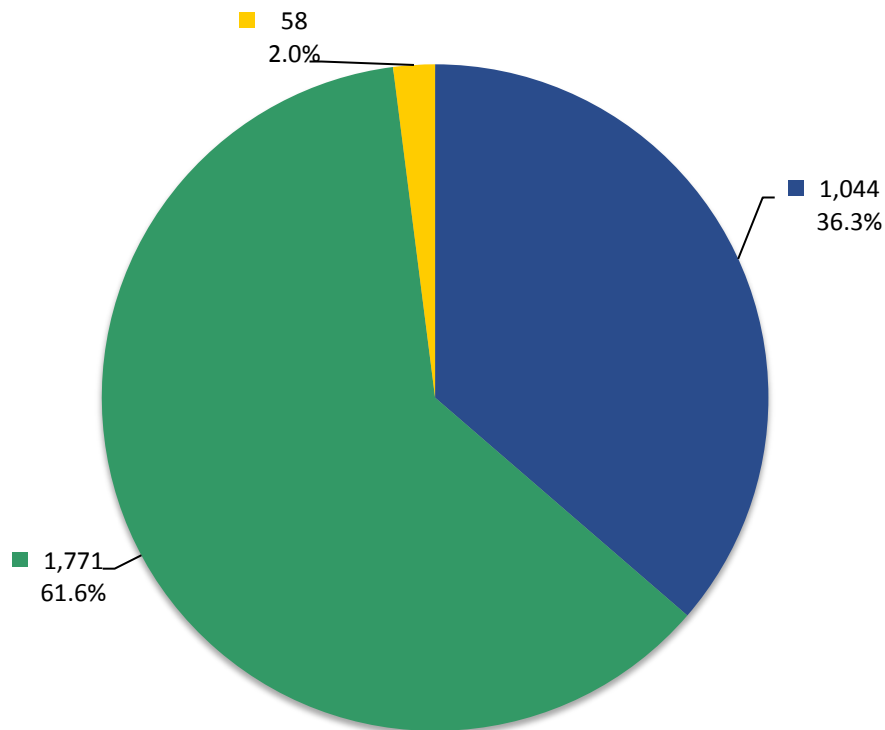
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Actions to Reduce Provincial Emissions and Improve Sustainability

The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the Greenhouse Gas Reduction Targets Act. Public sector

| Action | Status | Steps Taken | Steps Planned | Start Year | End Year |
|--|---------------------|--|---|------------|--------------------------|
| | Evaluated | | | | (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 | Not Yet Evaluated | | | | 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 | An active recycling program has been in place in the majority of schools throughout the district. | Continuation and possible expansion of the recycling program. | 2008 | No End Date (Continuous) |
| Implement a hazardous waste reduction and disposal strategy | Ongoing/In Progress | All schools have an active hazardous waste identification process in place. The district collects and disposes of all hazardous waste through qualified suppliers. | Continuation of existing program. | 2008 | No End Date (Continuous) |
| Water conservation | | | | | |
| Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models | Ongoing/In Progress | As fixtures are damaged or are rendered unservicable they are replaced with more efficient models. | Continuation of existing program. | 2012 | 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 08 - Kootenay Lake Greenhouse Gas Emissions by Source for the 2012 Calendar Year (tCO₂e*)



Total Emissions: 2,873

- 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 28, 2013 3:30 PM)

Total offsets required: **1,966**. Total offset investment: **\$49,150**. Emissions which do not require offsets: **907** **

*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.