



SCHOOL DISTRICT 5

S O U T H E A S T K O O T E N A Y

2010 Carbon Neutral Action Report

Executive Summary

In 2009, The Board of Education of School District 5 (Southeast Kootenay) and the Province of British Columbia signed the British Columbia Climate Action Charter. This agreement cemented the commitment of School District 5 to work towards carbon neutrality and climate change.

School District 5 has put substantial funding into the area of retrofitting buildings in order to improve the energy efficiency of mechanical systems, direct digital control and lighting. We will continue to improve our fleet and building efficiencies and examine opportunities to reduce our greenhouse gas emissions at an infrastructural level.

As an educational system, School District 5 always considers the welfare and growth of its students first. By putting into place dynamic and substantial learning opportunities for our students, we believe that society as a whole improves. The social and economic benefits of teaching our students to become environmentally responsible citizens are immeasurable. We will strive towards incorporating green teams into our buildings to see real movement towards climate change.

2010 Greenhouse Gas Emissions

In 2010, School District 5 has produced 3354.53 tonnes of CO₂e greenhouse gas (GHG) emissions. Emissions have been produced in the following proportions:

Emission Source	Tonnes of CO ₂ e
Mobile Fuel Combustion	774.33
Stationary Fuel and Electricity (Buildings)	2472.46
Supplies (Paper)	107.74
Fugitive Emissions	0

Offsets Applied to Become Carbon Neutral in 2010

Total emission offsets have been applied to ensure that School District 5 has fully met the requirement of Bill 44: Greenhouse Gas Reduction Targets Act, and is Carbon Neutral for 2010.

As required by section 5 of the Carbon Neutral Government Regulation, 637.98 tonnes of CO₂e of emissions resulting from the operation of school buses were reported as part of our greenhouse gas emissions profile in 2010. 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 2010

The greatest impact on the reduction of School District 5's greenhouse gas emission has come as a result of retrofitting through our Maintenance department. We have or are currently working towards the upgrade of some of the heating, cooling, and ventilation systems. We have improved the energy efficiency of many of our lighting systems, have adjusted direct digital control system schedules, and have continued to improve on the heat containment of a number of schools through weather stripping, improving insulation, and through the sealing of exterior walls.

Our transportation department has purchased more fuel-efficient vehicles to replace larger less efficient models and continues with optimal maintenance schedules of our entire fleet.

Plans to Continue Reducing Greenhouse Gas Emissions 2011-2013

The maintenance department will continue to work towards improving the energy efficiency of the building in our school district. We have also incorporated integrated design processes into the plans for the future Mount Baker Secondary School and hope to achieve LEED Gold or Platinum certification in its design.

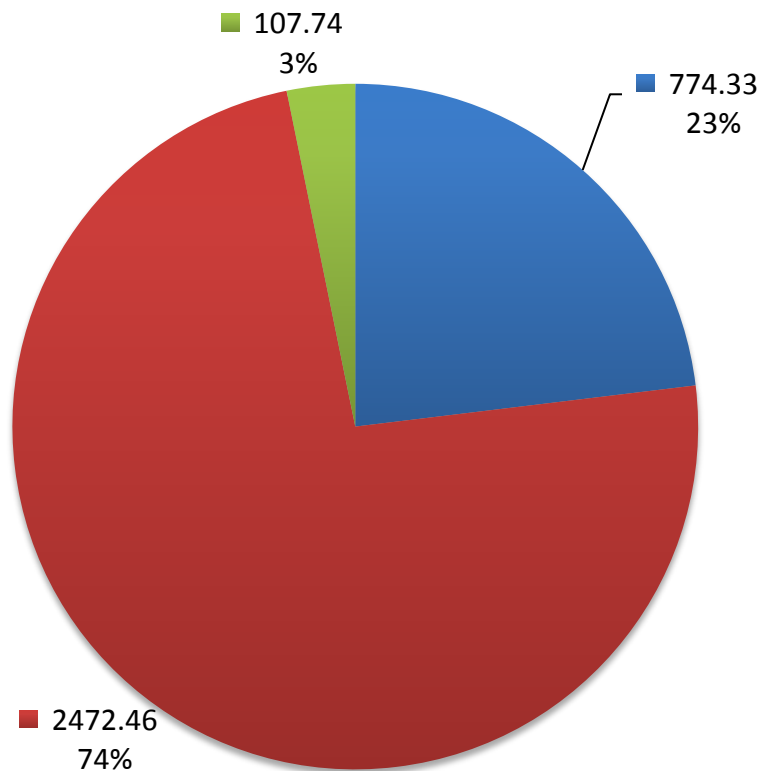
The climate action team at School District 5 will be moving forward in the future years to incorporate a more involved behavior change program of both the staff and students. We hope to evolve our current committee structure to include participants from a wider range of employee areas with the hope of fostering greater environmental change.



William (Bill) Gook
Superintendent of Schools

School District #5 Southeast Kootenay

Greenhouse Gas Emissions by Source for the 2010 Calendar Year (tCO₂e*)



Total Emissions: 3354.53

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

Offsets Applied to Become Carbon Neutral in 2010

Total offsets purchased: **2716.55**. Total offset investment: **\$67,913.75**. Emissions which do not require offsets: **637.98** **

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

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

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Actions Towards Carbon Neutrality

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

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)	Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Mobile Fuel Combustion (Fleet and other mobile equipment)						
Vehicle fuel efficiency						
Replace vehicles with more fuel-efficient models	Ongoing/In Progress		Chevy van courier vehicle changed to Ford Transit (V6-->4 cylinder).	2 pickups due for upgrade.	2008	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress		Chevy van courier vehicle changed to Ford Transit (V6->4 cylinder).	2 pickup trucks due for upgrade.	2008	No End Date (Continuous)
Behaviour change program						
Provide fleet driver training to reduce fuel use	Ongoing/In Progress		Driver training session on Diesel emission systems.	Fleetsmart training for maintenance, technology, and courier staff under consideration.	2009	2013
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)						
Planning/management						
Enrol in a building energy benchmarking program (e.g., GREEN UP)	Ongoing/In Progress		Requested proposals for Energy Manager, installed energy management software (FAME), hired secretary whose duties include data input into energy management software.	Establish benchmark and identify areas of need, audits, priority rankings. Energy manager duties pending.	2010	No End Date (Continuous)
Owned buildings						
Establish energy performance baseline for owned buildings	Ongoing/In Progress		Started negotiations with neighboring school districts to acquire energy manager.	pending.	2010	2011
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	In Development			Built into plans for future Secondary School design (Mount Baker)	2010	No End Date (Continuous)
Incorporate integrated design process into new construction or during renovations of owned buildings	In Development			Built into plans for future Secondary School design (Mount Baker)	2010	No End Date (Continuous)
Retrofitting owned buildings						
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress		Cleaned all heating and cooling coils at T.M. Roberts Elementary improving efficiency by 40% Started major HVAC project replacing condensing boilers to most efficient model available at Elkford Secondary.	Hot water heating piping modified for greater efficiency in music room at Mount Baker School. Replace two inefficient propane furnaces with 92% efficient units at Grasmere Elementary. Complete HVAC project at Elkford Secondary School	2010	2011

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)	Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Upgrade lighting systems during retrofits	Ongoing/In Progress		<p>Replaced T-12 light fixtures with more efficient T-8 technology at FJ Mitchell Elementary, Grasmere Elementary, Rocky Mountain Elementary, Fernie Learning Center, and Fernie Bus Shop.</p> <p>Began program to install motion sensor controls for lighting in Gymnasiums and classrooms.</p> <p>Replaced many "EXIT" lights from 9W bulbs to 1W LED lamps.</p> <p>Replaced 150W flood light at Steeples Elementary School with 13W LED.</p>	<p>Continue to replace flood lamps with LED bulbs.</p> <p>Continue to install motion sensors for occupancy lighting in gymnasiums and classrooms.</p>	2010	2013
Upgrade/adjust control systems during retrofits	Ongoing/In Progress		<p>Adjusted Direct Digital Control (DDC) systems to run "Continuous unoccupied" on all non instructional days where staff and students are not expected to be in the buildings.</p> <p>Adjusted DDC control schedules at Kootenay Orchards Elementary, Parkland Middle School, and Sparwood Secondary to allow for later start up and earlier shut downs.</p> <p>Installed new DDC systems at Pinewood and Kootenay Orchards Elementary Schools.</p>	<p>Install DDC systems at Isabella Dicken Elementary, Amy Woodland Elementary and Jaffray Elementary Secondary School.</p> <p>Upgrade DDC system at Fernie Secondary School.</p> <p>Complete reprogramming of DDC and HVAC units to run only building occupied.</p>	2010	2012
Improve building insulation (including windows) during retrofits	Ongoing/In Progress		<p>Weather stripping installed on all exterior doors at Laurie Middle School, Elkford Secondary, Mount Baker Secondary.</p> <p>Sealed all exterior walls at Jaffray Elementary Secondary School and Kootenay Orchards Elementary School.</p> <p>Partially replaced wall insulation at Sparwood Secondary.</p> <p>Partially replaced roof and upgraded (R-value) insulation at Isabella Dicken Elementary School</p>	<p>Continue with weather stripping program where necessary.</p> <p>Complete roofing and insulation upgrade project at Isabella Dicken Elementary.</p>	2010	2013
IT power management						
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress		Most classrooms and computer labs have power management software	Power management protocol to be installed as computers are deployed.	2008	No End Date (Continuous)
Implement server virtualization	Ongoing/In Progress		Under consideration	Technology department to consider at staff meeting in conjunction with Department Supervisor and Green Committee.	2010	2011
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress		Settings set as computers are deployed	Settings set as computers deployed.	Started before 1995	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress		All schools and board office have multifunction devices available	Working towards reducing stand alone printers.	2009	2010
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	Ongoing/In Progress		Most units have auto setting applied	Working towards completion	2008	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress		Purchasing only ENERGY STAR models	Replacing models with more efficient models.	2005	No End Date (Continuous)

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)	Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Appliances and electronic devices						
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Completed in 2010		2 new refridgerators purchased at Laurie Middle School		2010	2010
Behaviour change program						
Ask staff to unplug electrical equipment or switch off power bars when not in use	In Development			Blanket energy saving email to staff.	2011	2011
Ask staff to close blinds at end of work day to reduce heating/cooling demands	In Development			Blanket energy saving email to staff	2011	2011
Provide reminders for turning off lights (e.g., signs, stickers, messages)	In Development			Blanket energy saving email to staff	2011	2011
Supplies (Paper)						
Paper Type						
Purchase 30% post-consumer recycled paper	In Development			Cost to be evaluated during spring bulk order.	2011	2011
Printer/document settings						
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress		Encouraged through user choice	Blanket email	2009	2011
Apply "print and hold" settings to networked printers to eliminate unclaimed print jobs	Ongoing/In Progress		Encouraged set up at school level		2009	2011
Reduce default margin size in standard document templates (e.g., letters, briefing notes, forms, etc.)	Ongoing/In Progress		Encouraged through user choice	Blanket email	2009	2011

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Actions to Reduce Provincial Emissions and Improve Sustainability

The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the *Greenhouse Gas Reduction Targets Act*. Public sector organizations can optionally use this section to report on actions that will help British Columbia meet its provincial greenhouse gas reduction targets, engage the public, and improve environmental sustainability across all aspects of their organization.

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)	Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Business Travel						
Behaviour change program						
Encourage staff to consider virtual attendance/presentation at events where possible	In Development			Component of blanket email on energy conservation.	2011	2011
Education, Awareness, and Engagement						
Team-building						
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	Ongoing/In Progress		Establishment of Carbon Neutral Team.	Evolution of team dynamics to include broader scope.	2010	2011
Staff awareness/education						
Provide education to staff about the science of climate change	Ongoing/In Progress		Have shown "Inconvenient Truth" to transportation staff at driver training.			