



SD34 (Abbotsford)

2010 Carbon Neutral Action Report

Executive Summary

Abbotsford School District has been diligently working for many years to save energy, reduce consumption, and improve the working environment for our staff and students. We are recognized as a "PowerSmart Leader" by BC Hydro, and as such, we get a lot of encouragement and support in the work we do. We have retrofitted our properties to reflect the latest technologies in lighting, heating and building control systems.

We are committed to becoming one of the most energy efficient School Districts in BC, and will ensure that every reasonable effort is made to conserve energy and resources in order to reduce the School District's Carbon footprint and move towards Carbon neutrality.

Our Carbon neutral plan includes a Sustainable Energy Management Plan (SEMP). In 2010, our plans moved fully ahead thanks to the reinstatement of our Annual Facilities Grant (AFG) by the Provincial Government in March.

Integration of environmentally sustainable considerations into the School District's business decisions are related to: Lighting, HVAC, new and renovation construction, and recycling programs.

We have instigated mechanisms to report to the Board of Education on energy management and sustainability progress (through our Energy Policy)

We are preparing a revised Purchasing Policy that will include Energy Star products and encourage suppliers to meet or exceed our environmental management standards.

2010 Greenhouse Gas (GHG) Emissions

Our total GHG Emissions for calendar 2010 was 4,816.29 tCO₂e. Part of this was for fuel for the bus fleet, which we don't need to purchase offsets for, so our total offset emissions were 3,829.05 tCO₂e.

Offsets Applied to become Carbon Neutral in 2010

The amount of offsets applied in 2010 was \$ 95,726.25.

Actions Taken to Reduce Greenhouse Gas Emissions in 2010

We have continued with our program of ongoing awareness and training, to increase involvement, knowledge and competence of staff and students in energy management.

Our two-year-old "Green Team" approach to having each School organize a (teacher-led, student-driven) team whose responsibility is to organize and implement new and existing methods of saving energy, is winning accolades from our peers. Included are such activities as meter reading (and graph plotting to compare previous sessions), computer shut downs and recycling efforts. The kids have designed their own "turn it off" light switch stickers too, a very successful program. This year's program (2010/11) has been expanded to incent a larger range of self-starting sustainability initiatives. They will be given an "Earthopoly" board game, and score points for a predetermined list of "green" initiatives, that include electrical and gas consumption reduction, recycling efforts, carbon reduction and energy generation projects, working independently with BC Hydro support teams, initiating Earth Day events and "lights/computers out" hours for the complete school.

There will be only one "winning" team, and they will have a special (all expense paid) full day rewards program, designed especially for them.

Construction started on our new, 1,100 student, LEED Gold, Abbotsford Collegiate Secondary School, which will use an open loop ground water source geoexchange system to provide 100% of the heating and cooling requirements. Other initiatives include natural ventilation, daylight lighting design, and solar hot water system to preheat the domestic water requirements.

Please refer to attached reports for more detailed information.

Operational Changes in 2010

We committed to ten (10) additional large schools joining the BCHydro Continuous Optimization (C.Op) program (5, this year, 5 next year), whereby they are fitted with "real time" gas and hydro meters, and by means of specialty software, we will be able to monitor consumption and minimize the use of gas and electricity. We also submitted an expression of interest to BCH for a pilot project for our smaller schools. We are bullish on the C.Op program.

Please refer to attached reports for more detailed information.

Plans to Continue Reducing Greenhouse Gas Emissions 2010 – 2012

Now that our AFG funding is reinstated, we will be in a position to revisit our preventative maintenance program and develop new energy reduction projects. We will also extend our DDC program to all our facilities so as to speed up any temperature and/or operation schedules thus maximizing shutdown during non-student occupation, thereby reducing GHGs.

Please refer to attached reports for more detailed information or visit our Sustainable Schools website for additional information: http://www.sd34.bc.ca/sidebar/sustainable_schools/

Signed:



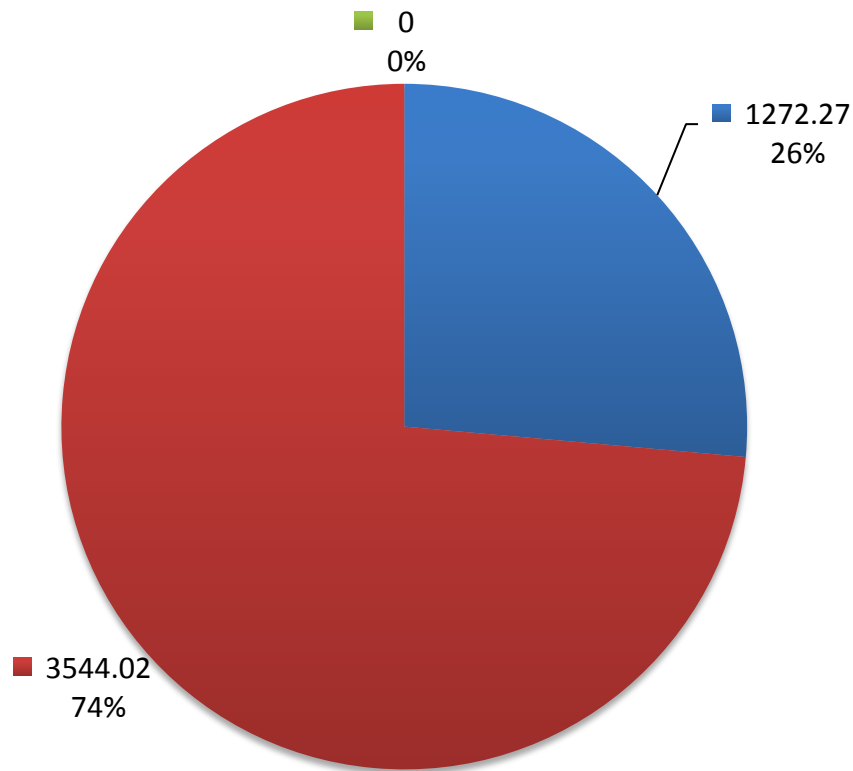
Ray Velestuk, Secretary/Treasurer



Tom Louie, Director of Facilities and Transportation

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



Total Emissions: 4816.29

- 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: **3829.04**. Total offset investment: **\$95,726.00**. Emissions which do not require offsets: **987.25** **

*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 <i>Greenhouse Gas Reduction Targets Act</i> .							
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							
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	100	% of vehicles are subject to regular maintenance for fuel efficiency	Maintenance continues as required for all vehicles	Maintenance will continue for all vehicles	2005	No End Date (Continuous)
Behaviour change program							
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	100	% of current drivers are trained	Training continues for 50% drivers per year	Training will continue on a 50% per year basis	2008	No End Date (Continuous)
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Ongoing/In Progress			Policy is in place with applicable signage	No changes planned	2008	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress			Encouragement commenced	We will continue to encourage staff to car-pool	2008	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							
Planning/management							
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	10	% of buildings have a real time metering system installed	We now have 5 large schools in the BC Hydro Continuous Optimisation program, and finalizing 2 more in the next month	We have 5 more schools slated to be metered	2010	2012
Owned buildings							
Establish energy performance baseline for owned buildings	Completed in 2010	100	% of owned buildings have an established energy performance baseline	Developed energy baseline for gas and hydro		2009	No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	In Development	0	% of owned buildings are certified LEED NC Gold or LEED NC Platinum		Construction underway for a new LEED Gold School	2010	No End Date (Continuous)
Incorporate integrated design process into new construction or during renovations of owned buildings	In Development				Construction underway for a new LEED Gold School	2010	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	25	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	Installed new condensing boiler at Abby Middle, and added Solar HW systems at Abby Middle and Robert Bateman	Additional upgrades planned dependant upon AFG funding	2005	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	5	% of retrofits since start year indicated had control system upgrades or adjustments	Control systems are updated on an as-required basis	We will modernize Ross Elementary in 2011, based on AFG funding	2005	No End Date (Continuous)
Install an on-site renewable energy demonstration project	Completed in 2010	3	% of retrofits since start year indicated had on-site renewable energy components	We installed a Solar HW preheat system at Abby Middle and Bateman Secondary		2010	2010
IT power management							

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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
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	35	% of computers shut down automatically outside of regular business hours	Our IT department has installed software for all Mac computers. As Windows servers get upgraded, PC shutdown occurs automatically.	Additional server and PC upgrades	2009	No End Date (Continuous)
Implement server virtualization	Ongoing/In Progress	35	% of servers have been virtualized since start year indicated	We received an IBM roadmap to take us into the future	We will implement the IMB roadmap as funds allow	2010	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	In Development	5	% of computers are ENERGY STAR rated		When Purchase Policy is finalized, then this will be mandated	2009	No End Date (Continuous)
Appliances and electronic devices							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	30	% of fridges are ENERGY STAR rated	Advising individual schools to upgrade to Energy Star	Will change on an as-needed basis and dependant upon new Purchase Policy	2009	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			Being done on an as-required basis	Will be done on an as-required basis and upon implementation of new Purchase Policy	2009	No End Date (Continuous)
Replace desk lamp incandescent bulbs with compact fluorescent (CFL) bulbs or source more efficient desk lamps for future purchases	Ongoing/In Progress			Being done on an as-required basis	Will be done on an as-required basis and upon implementation of new Purchase Policy	2009	No End Date (Continuous)
Behaviour change program							
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress			Being done on an as-required basis	Will be done on an as-required basis and upon implementation of new Purchase Policy	2009	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Ongoing/In Progress			Ongoing	Ongoing	2009	No End Date (Continuous)
Encourage use of stairs instead of elevators	Ongoing/In Progress			Ongoing	Ongoing	2009	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			Ongoing	Ongoing	2009	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress			Ongoing	Ongoing	2009	No End Date (Continuous)
Other Stationary Fuel Combustion and Electricity Actions							
PC Virtualization	Ongoing/In Progress			3 pilot projects completed	Additional projects planned as AFG becomes available	2009	No End Date (Continuous)
Under desk heaters	Ongoing/In Progress			Started to replace them with low wattage types	Will continue to replace them as soon as AFG funding returns	2009	No End Date (Continuous)
Smart power bars	Ongoing/In Progress			Encouraging use of "smart" power bars	Will continue to encourage them	2009	No End Date (Continuous)
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	8	% of total paper purchased contains 30% recycled content	Ongoing/Continuous	Ongoing/Continuous	2008	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Ongoing/In Progress	0	% of total paper purchased contains 100% recycled content	Ongoing/Continuous	Ongoing/Continuous	2008	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
Electronic media in place of paper							
Use electronic document library for filing common documents	ongoing/In Progress			Existing 80% (est) of documents filed electronically	Will attempt to increase	2005	No End Date (Continuous)
Behaviour change program							
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress			Ongoing	Ongoing	2008	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress			Ongoing	Ongoing	2008	No End Date (Continuous)

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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 <i>Greenhouse Gas Reduction Targets Act</i> . 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 carpooling to meetings	Ongoing/In Progress			Ongoing	Ongoing	2009	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress			Ongoing	Ongoing	2009	No End Date (Continuous)
Education, Awareness, and Engagement							
Team-building							
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress			Energy Manager with BC Hydro support provide education services	Energy Manager with BC Hydro support provide education services	2008	No End Date (Continuous)
Staff Professional Development							
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress			Energy Manager provided Pro D support	Energy Manager will provide Pro D support	2010	No End Date (Continuous)