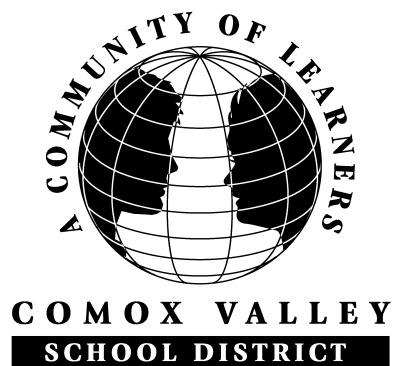


# Carbon Neutral Action Report (2011)

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**Mark Isfeld Secondary School Comox Valley**



# Carbon Neutral Action Report (2011)

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## Executive Summary

The Comox Valley School District has been very successful in 3 key areas of sustainability in 2011.

- ✓ We have invested in new technologies in many of our buildings including lighting upgrades, heating plant changes and fleet operation improvements. With the approval and support of senior management and the board of trustees we secured funding to complete these “hard-wired” projects.
- ✓ We have created new staff and student awareness campaigns such as our ERIP incentives and conservation awareness (including a series of videos) designed to shift our business culture towards a greener future.
- ✓ Plans are developing to add sustainability into our educational curriculum. Lesson plans that highlight alternative energy and conservation methods are being developed. These studies will help prepare our students for the challenges ahead and help shape the future.

## 2011 Greenhouse Gas Emissions

Greenhouse Gas Emissions for 2011 amounted to 2,480 tonnes of CO<sub>2</sub>e. Those emission sources included our fleet and other mobile equipment, building utilities and paper supplies. Our School District was able to reduce CO<sub>2</sub> emissions by 19 tonnes.

## Offsets Applied to Become Carbon Neutral

School District No. 71 is proud to proclaim we are Carbon Neutral for 2011. Through Pacific Carbon Trust<sup>1</sup> we purchased Carbon Offsets to the value of \$68,656 (before taxes) to allow the District to meet its obligations for carbon neutrality for 2011. The purchase of the offsets allows us to reduce our emissions to zero.

Our emissions included 215.13 t from fleet, 2,093.85 t from buildings, 161.51 t from paper supplies and 171.51 t from indirect sources. There were 6t of emissions that were carbon neutral.

Changes to greenhouse gas emissions and offsets from 2010 result in credits of 36t.

Therefore the total emissions included for carbon offsets were 2,475t-36 t=2,439t.

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<sup>1</sup> Crown Corporation of the Government of BC, created to deliver quality made-in-BC greenhouse gas offsets to help clients reduce their carbon footprint and drive the growth of BC's low-carbon economy.  
<http://www.pacificcarbontrust.com/>

# Carbon Neutral Action Report (2011)

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## Emissions Reduction Activities

During the past 12 months we completed several major GHG reduction projects:

- Vanier Secondary photovoltaic  
This project consisted of construction of a 5kW solar energy grid tie array on the roof of the school. SD71 applied for and received a grant from Solar BC to help fund this project. Future plans include a student designed monitoring display and school lobby interpretive kiosk.
- Arden and Airport HVAC upgrades  
Major capital improvements were completed to these schools in 2011. Old obsolete gas fired heating systems were replaced with state of the art condensing boilers. With financial assistance for the PSECA fund, these upgrades will reduce our GHG emissions and increase air quality and occupant comfort.
- BC Hydro Power Smart  
Over 20 electrical energy savings projects were implemented last year. These included lighting up grades, occupancy sensors and LED/induction lighting. These hardwired projects reduced our electrical consumption by over 300,000kWh.
- ERIP program  
SD71's groundbreaking incentive program continued to show great results in 2011. By measuring school energy use and then rewarding the staff with 50% of the savings, we achieved a 5% reduction overall. This is a proven low-cost no-cost technique that we hope to continue to implement in 2013/2014.



GP Vanier 5kW solar Grid Tie (expandable to 8kW)

# Carbon Neutral Action Report (2011)

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## 2012-2014 Planned Emissions Reduction Activities

Several exciting “green” initiatives are planned for the next few years:

- HVAC upgrades  
Our Heating and ventilation improvement plan will continue. Miracle beach and Royston schools will be upgrade with new boiler technology, new control systems and a heat pump plant to reduce our propane use.
- Building Envelope  
Plans are being formulated for major window and door replacements. This fenestration work will provide fuel and GHG savings, better air quality and provide our students with a much improved learning environment.
- Information technology  
Working with our IT department, we will embark on an upgrade from CRT to LCD computer monitors. Also the move towards thin clients and distributed servers will be explored for the next round of computer network upgrades.



Mr. Fred McGregor (Manager of Energy Conservation)



Dr. Russell Horswill (Secretary Treasurer)



Mark Isfeld students accepting \$1,000 BC Hydro Energy Ambassadors prize

# Board of Education School District No.71 (Comox Valley) - 2011 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 (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>							
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	15	% of vehicles are fuel- efficient models	purchased 2 new light duty vans for trades	planned replacement of 4 older pre 2000 vehicles	2012	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	5	% of vehicles down-sized since start year indicated	replaced large V-10 powered truck with V-6 model	Continue to right size fleet as budget allows	2012	No End Date (Continuous)
Perform regular fleet maintenance specifically to improve fuel-efficiency	Ongoing/In Progress	100	% of vehicles are subject to regular maintenance for fuel efficiency	All vehicles are serviced regularly to extend life and reduce fuel consumption.	Hired additional mechanics to better service fleet and equipment.	2012	No End Date (Continuous)
Replace small maintenance vehicles with more fuel-efficient models	In Development	25	% of small maintenance vehicles are fuel-efficient	Disposed of large propane power JLG lift. Replaced with scissor lift. Electric powered.	Continue to study the suitability of small service vans.	2012	No End Date (Continuous)
<b>Behaviour change program</b>							
Provide fleet driver training to reduce fuel use	In Development	5	% of current drivers are trained	Staff memos and meetings.	Planning more driver training and route planning for maintenance staff.	2012	2013
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Completed in 2011	20	Anti-idling signs installed	New signs installed in student drop-off zones.	more signs planned. New stickers to be issued.	2012	2013
<b>Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)</b>							
<b>Appliances and electronic devices</b>							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	45	% of fridges are ENERGY STAR rated	Several schools purchased new fridges in 2011	Plans to create a purchasing policy to mandate Energy Star only.	2012	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	25%	25% of appliances are EnergyStar rated	New appliances for home economic rooms were purchased.	Plans to create a purchasing policy to mandate Energy Star only.	2012	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			Most desk lamps have CFL/LED bulbs.	A lighting audit is planned to identify incandescent lamps.	2012	2013
<b>Behaviour change program</b>							
Help staff reduce personal energy use through "workstation tune-ups"	In Development	0	% of current staff have completed a workstation tune-up		To be implemented	2012	2013
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress	75	75% of district office equipment have "turn off" stickers applied	Stickers distributed	Balance of equipment to be labeled	2012	2012
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress			Information included in "energy" newsletter	On-going as new units are added	2012	2012

## Board of Education School District No.71 (Comox Valley) - 2011 Carbon Neutral Action Report

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
Encourage staff to use air dry setting on dishwashers	Completed in 2011	100	completed	completed		2012	2012
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			Stickers/posters and reminders have been distributed	More media is planned	2012	2012
Promote hot water conservation	In Development				information to be distributed	2012	2013
<b>Other Stationary Fuel Combustion, Electricity, and Fugitive Emissions Actions</b>							
Our ERIP (Energy Reduction Incentive Program) is an on-going campaign that promotes electrical savings. Cash awards are paid to the schools that save energy on a quarterly basis.	Ongoing/In Progress			ERIP continues	Pending senior management approval, this program will continue.	2012	2013
We continue to be a BC Hydro Powersmart partner allowing us to qualify for incentives for hardwired projects. In 2011 we saved over 300,000 kWh in SD71.	Ongoing/In Progress			We have extended our PSP agreement for a 4th year	We will establish goals and targets for electrical savings	2012	2013
Our full time energy manger continues to measure and evaluate our energy use. He plans, manages and implements various energy conservation projects .	Ongoing/In Progress			Our energy manager position has been extended until June 2013	Energy management will continue.	2012	2013
<b>Supplies (Paper)</b>							
<b>Paper Type</b>							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	98	% of total paper purchased contains 30% recycled content	We moved almost entirely to recycled paper in 2011.	Completed	2012	2012
Purchase 100% post-consumer recycled paper	Ongoing/In Progress	2	% of total paper purchased contains 100% recycled content	Worked towards more 100% recycled.	Staff awarness when ordering paper.	2012	2012
<b>Printer/document settings</b>							
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	75	% of network printers or photocopiers are set to automatic double-sided	no changes	More printers to be programmed for double sided printing.	2012	2012
Reduce default margin size in standard document templates (e.g., letters, briefing notes, forms, etc.)	In Development				More staff communication will be undertaken.	2012	2012
<b>Electronic media in place of paper</b>							
Use electronic document library for filing common documents	In Development				School board office is moving towards electronic archiving	2012	2014
Post materials online that were previously printed	Ongoing/In Progress			Most newsletters were PDF format	will continue the PDF mode	2012	2013
Switch to an electronic payroll notification system in place of paper pay stubs	Completed in 2011			Payroll is 100% paperless		2012	2012
<b>Behaviour change program</b>							
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development	25	% of staff currently have received collaborative software training		limited use of this technology	2012	2012

## Board of Education School District No.71 (Comox Valley) - 2011 Carbon Neutral Action Report

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
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress		Use of powerpoint with few handouts is common.	Will continue to improve	2012	2012
Encourage re-use of scrap paper	Ongoing/In Progress		Print shop offers scratch pads made from scrap paper.	will continue	2012	2014
<b>Other Paper Supplies Actions</b>						
We have established paper recycling in all facilities. Staff are encouraged not to send paper to the waste stream.	Ongoing/In Progress		"Blue bins" in all work locations were installed	Regular recycling pick-up of paper will continue.	2012	2013

## Board of Education School District No.71 (Comox Valley) - 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.

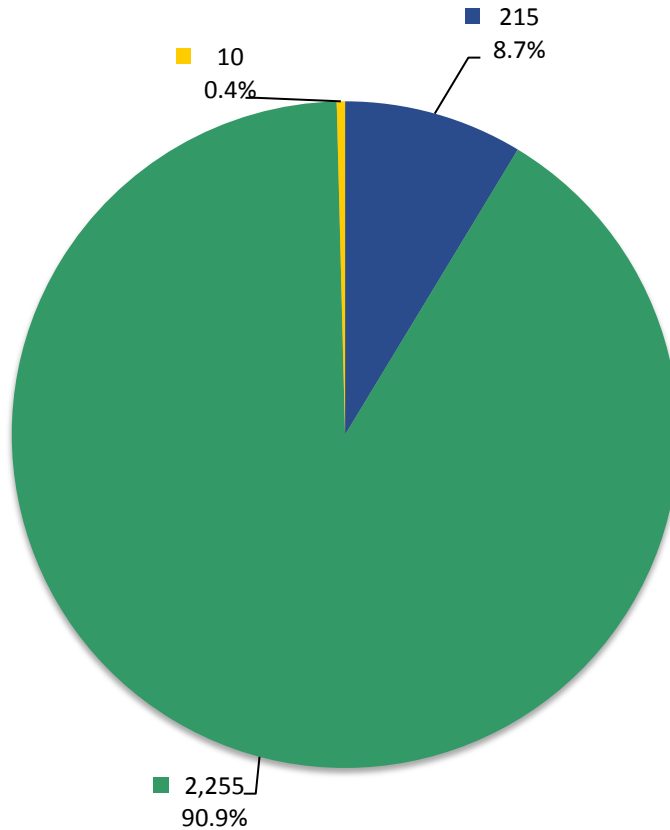
Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)	Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
<b>Business Travel</b>						
<b>Virtual meeting technology</b>						
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Ongoing/In Progress	15 % of computers have web-conferencing software installed	Used in conference rooms mainly.	Some additional updates are planned as required	2012	2013
Make desktop web-cameras available to staff	Ongoing/In Progress		Provided as needed	continues as required	2012	2013
<b>Behaviour change program</b>						
Encourage staff to consider virtual attendance/presentation at events where possible	In Development			More staff are participating in webinars	2012	2014
Encourage carpooling to meetings	In Development			When appropriate this will continue.	2012	2013
<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		Green teams established in all facilities	Teams to be re-established in 2013	2013	2013
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress		Energy Manger in place	Energy Manager will continue to coach this	2012	2013
Providing behaviour change education/training to teams (e.g., community-based social marketing)	In Development			To be organized	2012	2013
<b>Awards/Recognition</b>						
Establish a sustainability/green awards or recognition program	Ongoing/In Progress		ERIP program	erip program continues	2012	2013
<b>Staff awareness/education</b>						
Provide green tips on staff website or in newsletters	Ongoing/In Progress		2 newsletters were distributed	Plans for quarterly newsletters in the works	2012	2014
Provide sustainability education during new staff orientation	Ongoing/In Progress		Introduced this year	Energy Manager will continue to coach this	2012	2014
<b>Other Education, Awareness, and Engagement Actions</b>						
Our district installed 2 new solar energy projects in 2011. Grand openings were conducted and media stories were a result of this.	Completed in 2011		Solar hot water and solar photovoltaic systems wer commissioned		2011	2012
Students were involved in BC Hydro students programs.	Completed in 2011		BC Hydro Energy Ambassadors		2012	2013
<b>Other Sustainability Actions</b>						



## Board of Education School District No.71 (Comox Valley) - 2011 Carbon Neutral Action Report

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>Water conservation</b>						
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Ongoing/In Progress		30 low flush toilets were installed in 2011	More units will be installed as well as metering faucets.	2012	2013
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	In Development			a "rain garden" stormwater management system is planned for Brooklyn school	2013	2014
<b>Waste reduction/diversion</b>						
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress		A storage facility is in place	Regular collection and disposal is planned	2012	2013
<b>Procurement (non-paper supplies)</b>						
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	In Development			Working with custodial manager to implement these steps	2012	2013
<b>Indoor air quality</b>						
Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.)	In Development			Most schools are aware of the risks and post notices as required	2012	2014
Incorporate low volatile organic compounds (VOCs) standards into procurement policy for products such as paints, carpets, and furniture	In Development			Yet to be implemented	2014	No End Date (Continuous)
<b>Commuting to and from home</b>						
Encourage commuting by foot, bicycle, carpool or public transit	In Development			looking to provide staff bicycle parking	2012	2013
Provide secure bicycle storage	Ongoing/In Progress		on-going	improvements planned	2012	2013
<b>Other Sustainability Actions</b>						
Irrigation water use	Ongoing/In Progress		School field water controls improved	More "sentinal" systems to be added to conserve water	2013	2014

**School District 71 - Comox Valley  
Greenhouse Gas Emissions by Source  
for the 2011 Calendar Year (tCO<sub>2</sub>e\*)**



**Total Emissions: 2,480**

- 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 12:30 PM)**

Total offsets required: **2,475**. Total offset investment: **\$61,875**. Emissions which do not require offsets: **6** \*\*

\*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.