

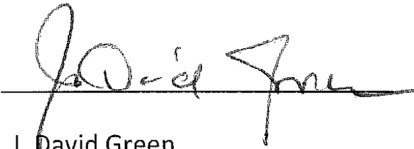


School District #35(Langley) Carbon Neutral

Action Report

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Secretary Treasurer

Overview:

Located approximately 45 kilometers southeast of Vancouver, BC, Langley School District provides services to the City of Langley and the Township of Langley. The district extends from the US border, north to the Fraser River and is neighbour to the communities of Surrey to the west and Abbotsford to the east. Total area of the district is 313 square kilometers. The district service over 19,000 students employs over 2,500 teachers, support staff and administrators and has an operating budget of over \$151 million. All of the resources are directed to our mission of Student success through excellence in education.

Executive Summary:

Every year brings with it new challenges, 2011 was no different. The measure of the District is how it handles those challenges. In 2011 Langley rose above:

- In a year that was much colder than the previous year, Langley maintained levels similar to the previous year.
- In a year of financial restraint, Langley still managed to incorporate many energy saving retrofits.
- In a year of Labour Disputes, Langley still moved forward in behavioural change and implementation of a major environmental waste reduction program.

Langley continues to invest in the future. To ensure sustainability, Langley has committed to reinvesting incentive funding received in back into future energy conservation programs. This funding will ensure that we continue to move forward in an effort to reduce emissions.

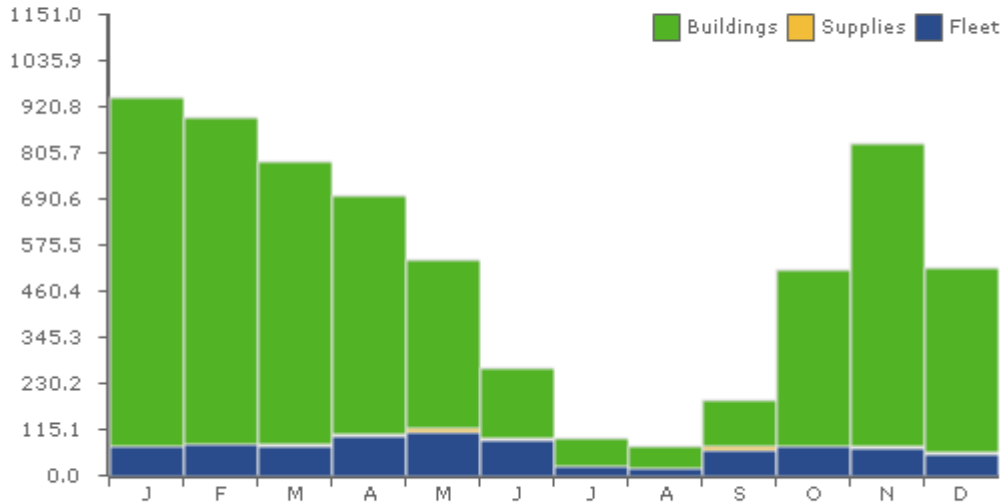
Many factors contribute to our success not the least of which is our community. The support of the Township and City of Langley and community based organizations make so many improvements possible. Students and staff compliment these efforts and show their enthusiasm in ways that constantly surprise us.

2011 CO2e

The chart below shows the breakdown of emissions by month and by source. The majority of our Carbon emissions arise from heating/cooling and power to our facilities.

Total Emissions Calendar Year 2011 School District 35 - Langley

Metric tonnes
CO2 equivalent (tCO2e)



Click on the bars to view data for each month

We are anxious to do a comparison with last year's data but after submission was made, Smart Tools did a review and noted some concerns in the load process. We have been unable to do a comparison against last year's data to see how we are doing. As 2011 was a much colder year than 2010 and as Building create the majority of our District emissions through heating and cooling, it is safe to say that our CO2e would be higher in 2011. .

	2010 HDD/CDD	2011 HDD/CDD		2010 HDD/CDD	2011 HDD/CDD
January	341	443	July	67	41
February	288	417	August	83	43
March	307	333	September	70	70
April	241	308	October	183	232
May	186	192	November	396	417
June	97	76	December	420	450

Carbon neutral

To become carbon neutral in 2011, the Board of Education of School District 35(Langley) purchased carbon offsets for 5941 tonnes of CO₂e from the Pacific Carbon Trust on March 31, 2012. With a cost of \$25.00 per tonne CO₂e and including HST @ 12% the bill came to \$166,348.00. Our submission to SmartTools for 2010 is currently being reviewed and this may result in a credit to be applied against this current payment.

As required by section 5 of the Carbon Neutral Government Regulation, 505.08 tonnes CO₂e of emissions resulting from the operation of school buses were reported as part of our greenhouse gas emissions profile in 2011. These emissions were not offset as they are currently not within the scope under section 4(2)(c) of the Carbon Neutral Government Regulation.



SMARTTool Greenhouse Gas Inventory Report

Reporting Entity: School District 35 - Langley
Reporting Year: Calendar Year 2011

Measure	Quantity	Greenhouse Gases in Tonnes				
		CO ₂	CH ₄	N ₂ O	tCO ₂ e ¹	
Scope 1 (Direct) Emissions						
Mobile Combustion (Fleet)	Litres	338,332.64	811.16	0.04	0.13	850.86
Stationary Combustion, Reported ³	GigaJoules	103,001.88	5,155.63	0.10	0.10	5,188.68
Total Scope 1 Emissions			5,966.79	0.15	0.22	6,039.54
Scope 2 (Indirect) Emissions						
Purchased Energy, Reported ³	GigaJoules	50,556.84	348.84	0.00	0.00	348.84
Total Scope 2 Emissions			348.84	0.00	0.00	348.84
Scope 3 Emissions						
Business Travel and Office Paper						
Office Paper	Packages	11,535.00	71.20	0.00	0.00	71.20
Total Scope 3 Emissions			71.20	0.00	0.00	71.20
Emissions from Biomass						
Total Biomass Emissions			29.88	0.00	0.00	29.88
Total Emissions, Calendar Year 2011			6,416.72	0.15	0.22	6,489.46

1. Global Warming Potential (GWP) has been applied only to the tCO₂e values.

2. Estimated data has been calculated based on the methods described in the Methodology Document.

3. Reported data refers to consumption which has been directly billed to the organization.

This information is provided by the Government of British Columbia, and is subject to verification.

Emission reduction

Buildings:

- As the majority of the emissions were from building fuel/power, this is our primary focus.
- As a BC Hydro Power Smart partner, Langley School District has a long term plan to eliminate T12 lights and move to more energy efficient T8. In 2011 we went a step further and investigated reduction of wattage in the lamps. We have found that replacing a T12 32Watt lamp with a T8 25 Watt lamp can save considerably more energy without negatively impacting student learning. In a study site where this was tested, most everyone felt the levels had improved.
- As part of this Districts sustainability program, 2011 saw the promise that all incentive funding received from other sources would be reinvested into future energy conservation programs.
- We had instituted Continuous Optimization at our largest Secondary School and these efficiencies produced over 100,000 annual ekWh savings for our District.
- Langley is all about community. We partner with the Township and City of Langley in many areas. We were fortunate this year to persuade the Township to consider the option of LED lighting in and shared parking lot venture. We appreciate their willingness to invest in new technologies.
- In the area of water and energy conservation, the District has a practice of installing on-demand water and removing old, inefficient hot water storage tanks. When replacing fixtures, low flush toilets are installed. When replacing boilers, we move to the High efficiency condensing boilers. Every retrofit we do incorporates new technology and energy conservation techniques.

Procurements:

- In Procurements we are also making advancements. In 2011 negotiations were including green initiatives. The District was nearing the end of their contract in copiers and this was an ideal time to have an audit done. In 2012, this District will replace old, inefficient copiers with new one that make scanning available to reduce paper consumption, will process recycled paper so that we can increase our supplies in this area and reduce the number of overall copiers in our District.

Behavioural Change:

- Langley is also excited to work with the Township of Langley in re-direction of organic waste. 2011 included many hours of discussion and planning to introduce this concept in our District. 2012 will be the start of the pilot program in two of our schools with full incorporation of the plan in 2013. We anticipate an overall waste reduction ranging from 30-50%.
- Langley has always been a willing participant on environmental concerns. Many of our schools have invited speakers and educators in. Organizations such as BC Hydro Education Sector, Translink Travel Smart, Langley Environmental Partners Society (L.E.P.S.) and more have come to our schools with reminders and new ideas on energy and environmental topics.

School District #35 - 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
Mobile Fuel Combustion (Fleet and other mobile equipment)						
Vehicle fuel efficiency						
Perform regular fleet maintenance specifically to improve fuel-efficiency	Ongoing/In Progress		Preventative Maintenance Program is in place.	continue current practice	Started before 1995	No End Date (Continuous)
Behaviour change program						
Provide fleet driver training to reduce fuel use	Ongoing/In Progress		Smart Driver Training for both the white fleet and bus fleet provided annually.	continue with current practice	2006	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		This is done through the Smart Driver Training Program. Langley Environmental Partners Society(LEPS) also goes out to our schools to educate staff and parents	continue with current practice	2006	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress		Lighty Duty Vehciels, staff encouraged to car pool when they can on projects.	continue with current practice	2000	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)						
Planning/management						
Enrol in a building energy benchmarking program (e.g., GREEN UP)	In Development		Benchmarking is already done with other like facilities throughout BC and across Canada for Energy conservation program	BC Hydro Energy Managers have also their own Lower Mainland benchmarking to evaluate.	2010	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	30	% of buildings have a real time metering system installed	same as last year but discussion are taking place - additional funding required	2009	No End Date (Continuous)
Owned buildings						
Register for performance labelling/certification for operations and maintenance of owned buildings (e.g., LEED EB:O&M)	Ongoing/In Progress		New Construction - design stage of new school to be LEED Gold	build school	2011	2012
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress		New school LEED Gold	see above	2011	2012
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Ongoing/In Progress		All Refrigeration systems are on a Preventative Maintenance program and school based units shut down during summer months.	continue with practice	2002	No End Date (Continuous)
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress		Each year retrofits are done to the latest standards and codes. AFG funding is directed toward this component of our Facilities makeup	continue with practice	Started before 1995	No End Date (Continuous)
Retrofitting owned buildings						

School District #35 - 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
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress			As mentioned previously this is standard practice as funding becomes available. All mechanical systems are on life cycle replacement plan and when work is done it is to the latest codes and standards. If additional energy savings can be found the process will be utilized	continue practice	Started before 1995	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress			If Mechanical system is being replaced, we always attempt to do the lighting upgrade at the same time. It is more economical to do it this way.	continue practice	Started before 1995	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress			The Langley School District understands the value of controls on existing systems. All retrofits and new design have controls. This includes lighting and HVAC	continue practice	Started before 1995	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress			When possible, double glazed glass is utilized when replacement of windows is called upon. The district is fully aware that proper insulation provides greater energy savings.	continue practice	Started before 1995	No End Date (Continuous)
Install an on-site renewable energy demonstration project	Completed in 2011			2 schools have Solar panels installed to provide Domestic Hot Water. Both are part of the learning component at those schools		2010	2011
IT power management							
Install power management software which shuts down computers outside of regular business hours	In Development			Planned for purchasing in 2012	to be installed in 2012	2011	2012
Implement server virtualization	In Development			Still in test stage	no opportunity to move forward at this point	2012	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress	80	% of computers have auto-sleep settings applied	Internal system activated on all new machines	Power Management Software to be installed in 2012	2008	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	In Development			New contract year will enable the District to upgrade existing and eliminate excess copiers in the District	Current contract ends March 2012. Full implementation of new equipment in 2012	2011	2012
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	Ongoing/In Progress	80	% of devices have auto-sleep settings applied	New computers have internal power saver options started as default.	Looking to Power Save Management Software in 2012	2008	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress			This is current practice	continue with current practices	2008	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	100	% of fridges are ENERGY STAR rated	Part of purchasing policy	continue with current practices	2010	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	100		part of purchasing policy	continue with current practices	2010	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	100		Where possible CFL are being utilized.	continue with retrofits	2009	No End Date (Continuous)
Behaviour change program							
Ask staff to unplug electrical equipment or switch off power bars when not in use	In Development			Encourage staff to switch off lights and computers when they leave	Installing Power Save Software on all computers in the District in 2012	2011	No End Date (Continuous)

School District #35 - 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 use of stairs instead of elevators	Ongoing/In Progress			Not applicable to every school. Most don't have elevators	Schools with elevators require a key to operate	Started before 1995	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			Part of energy conservation program	Environmental groups being developed at school level. This will be part of their mandate.	Started before 1995	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress			Hot water usage in a School District is not a concern. All custodial products are mixed with cold water. Only shower usage is in Secondary Schools. Hot Water shut down in summer.	continue with current practices	Started before 1995	No End Date (Continuous)
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	24	% of total paper purchased contains 30% recycled content	Most older model copiers do not allow increased recycled content.	New photocopiers leased starting March 2012 which can better handle recycled paper product and reduce overall paper consumption because of scanning and fax routing to email features.	2011	No End Date (Continuous)
Purchase 40% post-consumer recycled paper	Ongoing/In Progress	5	% of total paper purchased contains 40% recycled content	Most older model copiers do not allow increased recycled content.	New photocopiers leased starting March 2012 which can better handle recycled paper product and reduce overall paper consumption because of scanning and fax routing to email features.	2011	No End Date (Continuous)
Electronic media in place of paper							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress			Utilized in only a small fraction of the District	hope to increase use	2010	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress			First Class for staff has location for Conferences/Form & Template	continue current practice and enhance.	2009	No End Date (Continuous)
Behaviour change program							
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress			The District communication centre allows sharing of documentation. Incorporation of web based training is ongoing.	continue with current practices	2009	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress			When possible - templates are created and process cleaned up to reduce amount of paper generated.	Hope to increase this practice	2007	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress			Our Print Shop takes all scrap paper and makes them into memo pads for distribution throughout the District	continue current practice and enhance.	2007	No End Date (Continuous)

School District #35 - 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
Business Travel						
Virtual meeting technology						
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	In Development		Used Elluminate wherever possible	Purchase of Lync and use of Elluminate	2014	No End Date (Continuous)
Behaviour change program						
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress		web meetings take place with external contacts. Internal meetings between schools still take place in person.	Evaluating Lync but will not be ready to incorporate until 2014	2014	No End Date (Continuous)
Education, Awareness, and Engagement						
Team-building						
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	In Development		Environmental Program discussions with Township	Pilot program at 2 schools - 1 Elementary and 1 Secondary	2011	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress		BC Hydro Educational Sector Grades 1-12 Educational Programs	continuation of programs	2006	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress		Translink Travel Smart Program in our City	Extend program to include our Township	2011	No End Date (Continuous)
Awards/Recognition						
Establish a sustainability/green awards or recognition program	In Development		Was done in 2009 based on Energy Conservation only.	incorporate this into our environmental teams in 2012/13	2012	No End Date (Continuous)
Staff Professional Development						
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress		Organic Waste pilots at 2 schools were developed in 2011 BC Hydro OutReach attending schools with relamping projects Township waste management education at school level Support international Walk to school week in october.	increase awareness with recycling and redirection of Organic waste in conjunction with Township	2011	No End Date (Continuous)
Staff awareness/education						
Provide education to staff about the science of climate change	Ongoing/In Progress		Job Action in BC has impacted our ability to educate at the school levels however we have been able to introduce Translink, and Township Waste management programs at some of our sites.	Pilot program of waste management to complete in 2012 with full inclusion of all schools by 2013. Work to incorporate Translink Smart travel into Township schools.	2011	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress		Replace existing DHW storage with on demand water systems. Installation of Solar Panels in 2 schools-Education package included. Energy Manager in place.	As job action ends, we can incorporate further education into the alternative fuel sources and conservation measures this District wants to pursue.	2008	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress		District web page on Energy Conservation	continue	2009	No End Date (Continuous)

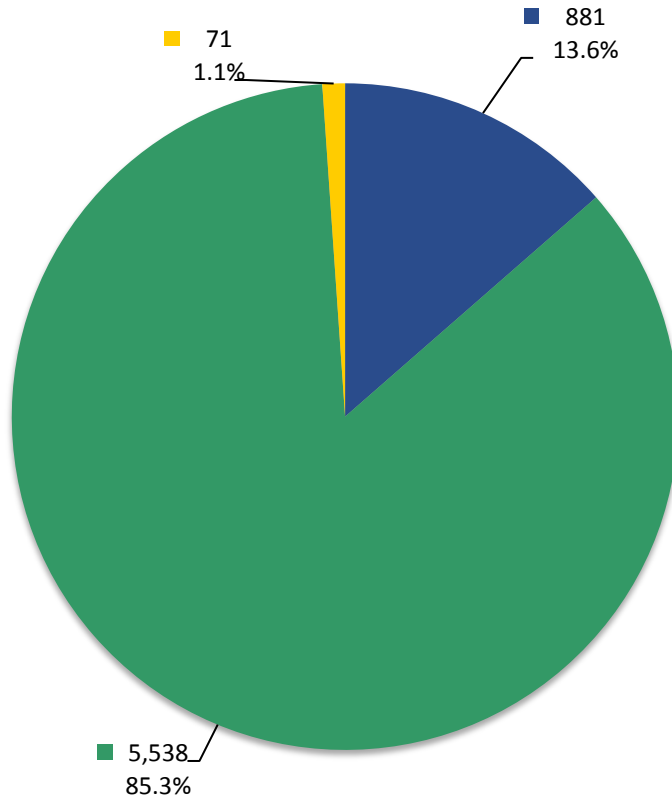
School District #35 - 2011 Carbon Neutral Action Report

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
Provide sustainability education during new staff orientation	Ongoing/In Progress		Sustainability policy in place. Limited ability to reach staff but Administrators had input in August discussion with Senior Management.	continue practice	2009	No End Date (Continuous)
Client/public awareness/education						
Provide education to clients/public about the science of climate change	Ongoing/In Progress		webpage in place	continue and expand	2011	No End Date (Continuous)
Provide education to clients/public about the conservation of water, energy, and raw materials	Ongoing/In Progress		Support from BC Hydro, Township Waste/Recycling and Tranlink Travel Smart	continue and expand	2011	No End Date (Continuous)
Provide green tips on client/public website or in newsletters	Ongoing/In Progress		District webpage	continue	2009	No End Date (Continuous)
Other Sustainability Actions						
Water conservation						
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Ongoing/In Progress		When retrofitting sites, all washroom facilities are upgraded to low flush and other water saving devices. DHW tanks being replaced with on-demand water systems. Solar panels installed at two sites.	ongoing process	2002	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	Ongoing/In Progress		Low flush toilet is the standard replacement for existing end of life systems in place.	ongoing process	2002	No End Date (Continuous)
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	Ongoing/In Progress		Environmental swails used to slow progress of water to prevent flooding.	ongoing process	2002	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		This District has recycled cardboard for many years. We have also disposed of hazard waste (including fluorescent lamps) through proper disposal methods. In 2011 talks with the Township to encourage redirection of Organic Waste started.	Pilot program on Organic waste redirect in progress with full implementation for all schools in 2013.	2002	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress		Our schools were inventoried for Asbestos in 2006. All retrofits include removal of the product where applicable. PCBs have now all been removed from this District.	continuation of practices.	2006	No End Date (Continuous)
Procurement (non-paper supplies)						
Establish green standards for goods that are replaced infrequently and/or may require capital funds to purchase (e.g., office furniture, carpeting, etc.)	Ongoing/In Progress		Replacement of District appliances must be Energy Star rating. All retrofits for mechanical systems incorporate the latest technologies to save energy & eliminate waste.	continue practice	2002	No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress		All cleaning products utilized are scrutinized by the Product Review Committee. Environmental standards are met or exceeded.	continue practice	2002	No End Date (Continuous)
Require a minimum purchase of sustainable, and organic food and beverages supplied by contracted food suppliers or caterers	In Development			Reviewing current contracts and revising as they expire and are re-tendered	2011	No End Date (Continuous)
Building construction, renovation, and leasing						

School District #35 - 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
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	Ongoing/In Progress		This has been in process for years in attempts to reduce costs.All major lighting upgrades include diversion of Lights & ballast to keep from landfill.	reviewing diversion of waste to reduce GVRD lift charges. Looking to divert Organic, Plastic & Glass waste first.	Started before 1995	No End Date (Continuous)
Indoor air quality						
Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.)	Ongoing/In Progress		Signage up at Board Office	Working to encourage schools to do the same	2008	No End Date (Continuous)
Incorporate low volatile organic compounds (VOCs) standards into procurement policy for products such as paints, carpets, and furniture	Ongoing/In Progress		All paint products are water based low VOC. Water base refinish on wood gym floors and elimination of carpets in District. Those areas that do receive carpets are all low VOCs	on going	2006	No End Date (Continuous)
Commuting to and from home						
Offer staff a compressed work week	Ongoing/In Progress		Inforce for summer work. Increased work day-additional time off in school calendar year implemented.	ongoing	2002	No End Date (Continuous)
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress		Staff email system has location for car pooling. Tranlink working with students. Encourage alternative transport on Earth Day	ongoing	2002	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Ongoing/In Progress		shower facilities in each school.	continue current practice	Started before 1995	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In Progress		All schools and other facilities have bike lockups	continue current practice	Started before 1995	No End Date (Continuous)

**School District 35 - Langley
Greenhouse Gas Emissions by Source
for the 2011 Calendar Year (tCO₂e*)**



Total Emissions: 6,489

- 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 12:04 PM)

Total offsets required: **5,941**. Total offset investment: **\$148,525**. Emissions which do not require offsets: **549** **

*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.