

# Carbon Neutral Action Report 2011

Surrey School District



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# Executive Summary

In 2011, the Surrey Board of Education continued to strategically implement a coherent, aligned and sustainable plan for the achievement of ongoing energy efficiencies.

The Board adopted an Energy Management Conservation Policy with measurable energy reduction targets. Stable, long-term funding was established to ensure the success of technical and behavioural projects for the next four years. As a result, Surrey Schools is on track to surpass the energy savings target of 10 million kilowatt (kWh) hours by 2015.

Recent energy savings projects include preparation for the installation of power management software on more than 13,000 computers.

An energy management information system was installed at 29 schools and the District Education Centre, where 27 departments from seven different sites were consolidated throughout the spring and summer of 2011, culminating in an official opening Sept. 21. This laid the foundation for greater operational efficiencies and student and staff engagement.

Through education, facility upgrades and effective maintenance and operations programs, the Surrey School District has reduced building energy intensity (kWh/m<sup>2</sup>) in each of the past five years. Based on current in-place projects, the district is expecting electrical energy savings of more than \$2 million over the next three years.

Surrey Schools is a BC Hydro Power Smart Partner with incentive funding agreements valued at more than \$1 million.



*Wayne Noye  
Secretary-Treasurer*



# Executive Summary

The Board of Education of Surrey Schools has purposefully undertaken a journey toward sustainable energy conservation. In recognition of the district's progress and achievement, the City of Surrey awarded the district with the Clean Energy City Award for innovation in energy conservation and efficiency.

*"... Surrey Schools is on track to surpass the energy savings target of 10 million kilowatt (kWh) hours by 2015."*

In addition, BC Hydro has nominated Surrey Schools for a Power Smart Excellence Award in the category of "New" Leader. The Power Smart New Leader designation provides the highest level of recognition to organizations that are demonstrating a "best-in-class" approach to strategic energy management planning and ongoing commitment to energy conservation.

Sincerely,

Wayne Noye  
Secretary-Treasurer  
Surrey Schools



# Greenhouse Gas Emissions

The total greenhouse gas emissions from all sources covered by the Greenhouse Gas Reduction Targets Act (as reported by SMARTTool) are 21,244 tonnes of CO<sub>2</sub>e.



It was estimated that fugitive emissions from stationary cooling comprise about 0.01 per cent of Surrey Schools' total emissions, and the ongoing effort to collect or estimate emissions from this source annually is disproportionately onerous. Thus, these emissions meet both the requirement to be below one per cent of the district's total emissions and the requirement to be onerous to collect. For this reason, emissions from this source have been deemed out-of-scope and are not included in the Surrey School District's total greenhouse gas emissions profile or offset purchase.



# Offsets Applied to Become Carbon Neutral

In order to become carbon neutral for 2011, the Surrey Board of Education purchased carbon offsets for 21,008 tonnes of CO<sub>2</sub>e from the Pacific Carbon Trust at a total cost of \$525,952.25 (excluding HST).

39.73 tonnes CO<sub>2</sub>e of carbon dioxide emissions from the combustion of biomass and biomass-based fuels were reported as part of our greenhouse gas emissions profile in 2011. However, as stated in Methodology for Reporting B.C. Public Sector Greenhouse Gas Emissions Version 2.0, the carbon dioxide emissions resulting from the combustion of biogenic fuel sources must be reported but do not require offsets.

As required by Section 5 of the Carbon Neutral Government Regulation, 193.38 tonnes of CO<sub>2</sub>e of emissions resulting from the operation of school buses were reported as part of our greenhouse gas emissions profile in 2011. However, they were not offset as they are out-of-scope under section 4(2) (c) of the Carbon Neutral Government Regulation.



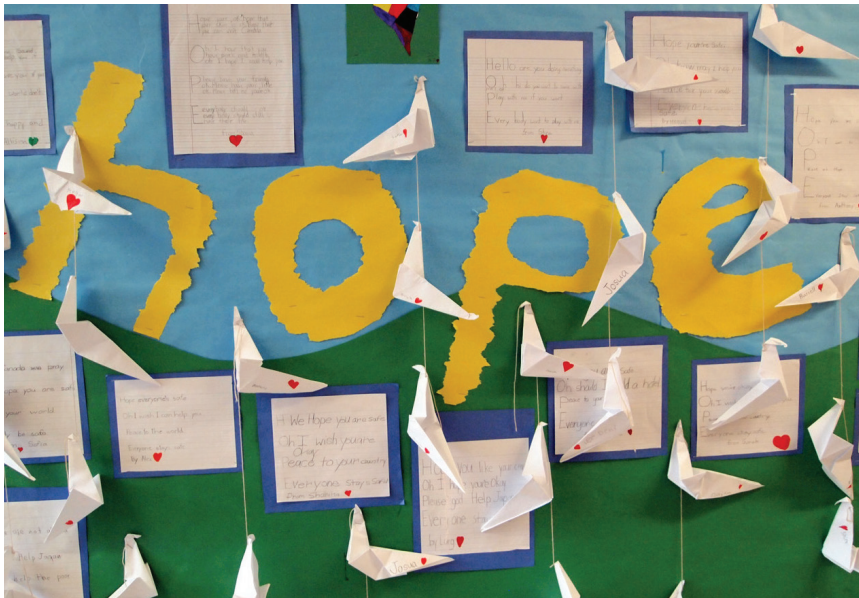




# Changes to Emissions and Offsets Reporting

In 2010, to meet reporting deadlines, the Surrey School District needed to estimate GHG emissions for the last month of the 2010 calendar year. Following the public release of the Surrey School District's 2010 Carbon Neutral Action Report, it was determined that the total emissions for the 2010 calendar year were over-reported by 19 tonnes CO<sub>2</sub>e and offsets required to become carbon neutral in 2010 were over reported by 207 tonnes CO<sub>2</sub>e.

The surplus of offsets purchased in 2010 has been applied against our 2011 emissions.





# Emissions Reduction Activities

## Actions Taken to Reduce Greenhouse Gas Emissions in 2011

A new 11,650 square metre District Education Centre (DEC) was completed with full occupancy by nearly 500 administrative and support staff, teachers and students. Built to LEED Gold standards, this innovatively designed and constructed community-accessible building significantly reduces the district's carbon footprint.



*The LEED-Gold-designed District Education Centre.*

In July 2011, Surrey Schools initiated a study of computer energy usage. Specifically, data was collected on the current infrastructure environment which included servers, desktops, laptops, tablets and related peripheral equipment including monitors, scanners, printers and multi-function devices.

The energy study was completed in the fall and concluded that the district could achieve significant energy savings from the installation of power management software. As a result, the district decided to begin installation of power management software on more than 13,000 computers.

The 28 largest district buildings, including all 19 secondary schools and the District Education Centre, were enrolled in the BC Hydro Continuous Optimization Program Multi-Building Framework. This agreement enables the district to plan and implement improvements to the operating efficiency of the largest energy consuming buildings over a multi-year time frame. As part of the program, building utility revenue meters have been upgraded, providing access to an Energy Management Information System that analyzes and reports on building energy data. Phase 1 of the multi-building strategic plan began in May 2011 with nine secondary schools and the District Education Centre in the investigation phase.

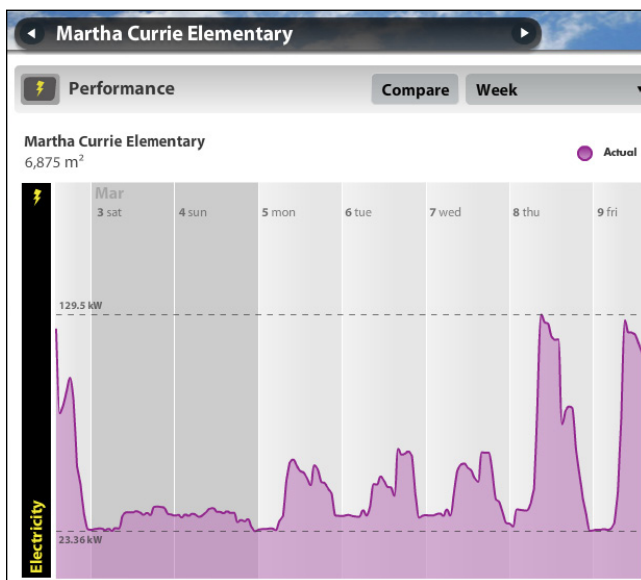




# Emissions Reduction Activities

This phase involves the identification of cost effective retro-commissioning measures at each of 10 sites.

A significant goal of the Continuous Optimization Program is to increase the engagement and awareness of students and staff through coaching and web-based access to a dashboard that displays building energy performance. All 28 sites and two additional elementary schools have access through the dashboard to real-time information about building energy consumption. An energy awareness pilot involving four secondary schools was initiated as a means of introducing students and staff to the functionality of the dashboard and the Energy Management Information System. This project aims to increase student engagement on energy issues through hands-on workshops, knowledge surveys and inter-school competitions in which schools compete to see which school can reduce their energy consumption and greenhouse gas emissions the most, tracking their progress on the online dashboard.



*Online dashboard shows building energy consumption in real time.*

Surrey Schools is participating in BC Hydro's New Construction Program. Energy-efficient lighting design agreements to maximize efficiency and exceed current lighting power density standards have been completed for three elementary schools.



# Emissions Reduction Activities

## Plans to Continue Reducing Greenhouse Gas Emissions 2012-2014

*“The district will continue to develop, support, motivate and promote school sustainability initiatives through robust school, district and partner-led programs, workshops, conferences and environmental showcases.”*

- The district will implement the energy conservation measures identified at the 10 sites involved in phase 1 of the Continuous Optimization Multi-Building Process and initiate the investigation phase for the nine phase 2 sites. Phase 3 sites will begin the investigation phase in July 2013. Training and coaching of operations staff will begin in 2012 and continue through 2016.
- The district will install Power Management Software on more than 13,000 computers and will provide real-time data on computer energy usage.
- The district will expand the New Construction Program to include efficient energy design agreements for planned construction of two secondary school classroom additions and two new elementary schools. Energy efficient lighting designs will be implemented at the three elementary schools identified in 2011.
- The district will install a new ventilation air-heating system, complete with a perforated all-metal exterior wall-mounted panel that uses solar energy as a means to heat outside air, at four secondary schools.



# Emissions Reduction Activities

- The district will implement a Workplace Conservation Awareness Program at all schools and sites over a multi-year timeline. A comprehensive plan was developed in 2011 and temporarily postponed. Prior to postponement, 15 schools were represented and participated in the planning.
- The district will evaluate options to reduce energy consumption and greenhouse gas emissions from existing thermal energy systems used for heating and cooling district buildings.
- The district will continue to develop, support, motivate and promote school sustainability initiatives through robust school, district and partner-led programs, workshops, conferences, and environmental showcases.
- The district will establish an interactive energy conservation presence on the district's Unified Communications website.

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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 12/31/11)	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							
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	95	% of vehicles are fuel- efficient models	Purchase as required vehicles identified by manufacturer's specifications as fuel efficient	Continue replacement plan and purchase of fuel efficient vehicles	2006	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	55	% of vehicles down-sized since start year indicated	Policy of minimizing fleet through purchase of multi-functional vehicles	Continue policy of minimizing vehicle assets, reducing capital investment, and improving fuel efficiency while meeting operational demands	2006	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	Ongoing annual fleet maintenance	Ongoing annual fleet maintenance	2005	No End Date (Continuous)
Replace small maintenance vehicles with more fuel-efficient models	Ongoing/In Progress	55	% of small maintenance vehicles are fuel-efficient	Replacement of vehicles according to vehicle replacement plan with a focus on better fuel efficiency	Continue purchase of small vehicles identified by manufacturer's specifications as fuel efficient	2006	No End Date (Continuous)
Behaviour change program							
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	10	% of current drivers are trained	Training provided	Provide ongoing training	2010	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Ongoing/In Progress			Encourage alternatives to fleet vehicle travel through varied district communications	Implement workplace awareness program; encourage alternatives to fleet vehicle travel through varied district communications	2005	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)	Ongoing/In Progress			Site meter upgrades, Energy Management Information System installed at 30 sites, baseline data collection; investigation phase at 10 Phase 1 sites.	Implement energy saings measures identified in investigation phase at Phase 1 sites. Phase 2 sites enter investigation period, baseline data collection at Phase 3 sites	2011	No End Date (Continuous)
Reduce office space (square meters) per employee	Completed in 2011	1.01	is the current average rentable square meters per employee	Consolidation of 27 different departments from 7 different sites in the new District Education Center.		2008	2011
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	25	% of buildings have a real time metering system installed	Real time metering installed at 30 sites.	Implement energy saings measures identified in investigation phase at Phase 1 sites. Phase 2 sites enter investigation period.	2011	No End Date (Continuous)
Owned buildings							
Establish energy performance baseline for owned buildings	Ongoing/In Progress	25	% of owned buildings have an established energy performance baseline	Baseline data collection at 28 largest sites.	Implement energy saings measures identified in investigation phase at Phase 1 sites. Phase 2 sites enter investigation period.	2011	No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress	0	% of owned buildings are certified LEED NC Gold or LEED NC Platinum	Applied for gold or silver certification for the DEC building, Woodward Hill Elementary and Adams Road Elementary	Third Party Review underway for LEED certification on the 3 identified projects	2008	2013

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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
Incorporate integrated design process into new construction or during renovations of owned buildings	Completed in 2011	10	% of buildings built or renovated since start year indicated used the integrated design process	1 out of 10 new building projects used integrated design process	Don't anticipate using the integrated design process on projects in the near future	2008	2011
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	40	% of owned buildings have undergone energy retrofits since start year indicated	Continuous Optimization Program at 28 sites. 10 Phase 1 sites in investigation phase.	Continuous Optimization Phase 1 in implementation phase in 2012; Continuous Optimization Phase 2 in implementation phase in 2013; Continuous Optimization Phase 3 in implementation phase in 2014	2004	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	20	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	Boiler retrofits to high efficiency boilers	5 mechanical system upgrades identified in Capital Plan	2004	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	95	% of retrofits since start year indicated had lighting systems upgrades	Lighting fixture, ballast and bulbs retrofitted to higher efficiency	Ongoing lighting fixture upgrades as funding allows	2004	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	100	% of retrofits since start year indicated had control system upgrades or adjustments	Adjustments to boiler controls, fan setting, temperature set points	Additional control system upgrades to Continuous Optimization sites	2004	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	100	% of retrofits since start year indicated had insulation improvements	Building envelope upgrade at Johnston Heights Secondary completed	25 building envelope upgrades identified in Capital Plan	2005	No End Date (Continuous)
Install an on-site renewable energy demonstration project	Ongoing/In Progress	5	% of retrofits since start year indicated had on-site renewable energy components	Planning for solar air installation on south facing gym walls at 4 secondary schools.	Installation of solar air panels on south facing gym walls at 4 secondary schools.	2011	2012
IT power management							
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	0	% of computers shut down automatically outside of regular business hours	Green IT Energy Study completed. Planning for installation of power management software on district computers.	Enterprise wide deployment of power management software to district owned computers in 2012.	2011	No End Date (Continuous)
Implement server virtualization	Ongoing/In Progress	95	% of servers have been virtualized since start year indicated	Relocation of data center to DEC and additional server virtualization	Complete server virtualization	2008	2012
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress	80	% reduction in printers, copiers, and/or fax machines since start year indicated	Installation of multi-function devices at DEC complete	Continue installation of multi-function devices at district schools	2007	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	99	% of computers are ENERGY STAR rated	Continued replacing computers with Energy Star models	Continue replacing computers with Energy Star models during upgrades	Started before 1995	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	In 3rd year of replacing refrigerators with Energy Star models	Continue replacement on an as required basis	2008	No End Date (Continuous)



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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
Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress			New/replacement appliances purchased in 2011 are Energy Star rated	Continue practice of purchasing Energy Star rated appliances	2005	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			Only CFL bulbs purchased	Continue purchasing CFL bulbs and introduce LED lighting	2010	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			Energy Policy circulated to all staff; education campaigns at schools	Implement multi - year Workplace Conservation Awareness Program; startup delayed due to job action	2002	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress			Energy Policy circulated to all staff; education campaigns at schools	Implement multi - year Workplace Conservation Awareness Program	2000	No End Date (Continuous)
Encourage use of stairs instead of elevators	Ongoing/In Progress			Healthy Active Living programs in schools; fitness classes at DEC	Continue Active Living programs at all sites	Started before 1995	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			Reminder stickers on light switches, education programs and campaigns at schools	Continue student education programs, introduce employee awareness program, communicate energy savings messages, promote events such as Earth Day, provide resources	2005	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress			Hot water conservation was the focus of some school energy campaigns	Implement as part of district-wide Workplace Conservation Awareness Program	2011	No End Date (Continuous)
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	69	% of total paper purchased contains 30% recycled content	Purchasing catalogue offers only 30% recycled paper	Planning and analysis to expand this initiative as part of a paper reduction strategy.	2009	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Ongoing/In Progress	5	% of total paper purchased contains 100% recycled content	Offer as an alternative to 30% to recycled paper	Continue to offer as an alternative; currently cost prohibitive to move to offering only 100% recycled content	2011	No End Date (Continuous)
Printer/document settings							
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	40	% of network printers or photocopiers are set to automatic double-sided	All MFDs purchased since 2010 have default set to automatic double sided	Continue MFD strategy - plan for network printers in schools in development	2010	No End Date (Continuous)
Apply "print and hold" settings to networked printers to eliminate unclaimed print jobs	Ongoing/In Progress	15	% of network printers have 'print and hold' settings applied	Print and hold settings applied to multifunction devices at DEC	Planning for possible district - wide application	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	25	% of staff workstations with software installed	Implementation of Sharepoint in planning and development	Enterprise - wide implementation of Sharepoint 2010 functionalities and install software to enable instant messaging, video conferencing, voice conferencing, file transfers, and integration with mobile devices	2008	2014
Post materials online that were previously printed	Ongoing/In Progress			Planning for Sharepoint as part of a Unified Communications Strategy	Implement a phased rollout of SharePoint to district sites	2004	No End Date (Continuous)

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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
Behaviour change program							
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress	5	% of staff currently have received collaborative software training	DEC staff trained on Microsoft Exchange	Train staff in concert with the implementation of SharePoint and other collaborative software	2008	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	In Development				Train staff in concert with the implementation of SharePoint and other collaborative software	2008	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress			Green Team action plans at various schools	Incorporate paper reduction strategy as part of the Workplace Conservation Awareness Program	1995	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 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Business Travel							
Policy and budgeting							
Create a low-carbon travel policy or travel reduction goal	Ongoing/In Progress			Consolidation of district staff at DEC	Consider district-wide travel reduction goal	2010	No End Date (Continuous)
Virtual meeting technology							
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Ongoing/In Progress	67	% of computers have web-conferencing software installed	Identification and removal of older computers with unsupported software	Purchasing of new computers with the capacity for collaborative software installation	2008	No End Date (Continuous)
Make desktop web-cameras available to staff	In Development	5	% of staff have access to a desktop web-camera		Enterprise-wide implementation of collaborative software	2011	No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Ongoing/In Progress	1	% of meeting rooms have access to video-conferencing equipment	Video conferencing infrastructure in place at DEC; testing of video conferencing equipment at DEC	Implementing of web conferenceing in conjunction with implementation of SharePoint 2010 and collaborative software	2011	No End Date (Continuous)
Behaviour change program							
Train staff in web-conferencing	In Development	10	% of staff are trained web-conferencing		Continue planning	2011	No End Date (Continuous)
Train staff in video-conferencing or provide technical support for video-conferencing set-up	In Development	10	% of staff are trained in video-conferencing or have access to technical support		Provide training and technical support in concert with implementation of collaborative software	2011	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress			Encourage virtual attendance	Plan expansion of virtual conferences part of SharePoint 2010 implementation	2007	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress			Ride-Share widget on district website; dedicated carpool parking at DEC	Continue work with TravelSmart; increase promotion of carpooling to district staff	2010	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress			Ongoing encouragement for staff to use alternative means of transportation; expand awareness of SD 36 Ride-Share website	Projects with TravelSmart to expand awareness of sustainable transportation solutions	2008	No End Date (Continuous)
Education, Awareness, and Engagement							
Team-building							
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	Ongoing/In Progress			Energy Policy and targets endorsed by Board of Education. 5 year project list and budget in place. TravelSmart Pilot with 3 secondary schools. Energy Management Information System pilot with 4 secondary schools. Planning for BCH Workplace Conservation Awareness Program at multiple sites.	Re-establishment of Climate Action and Energy Ambassadors Teams at secondary schools. District coordination and support of Green Teams. Re-establishment of BCH education programs for schools. Implementation of Workplace Conservation Awareness Program at multiple sites. Ongoing training of personnel to ensure appropriate operations and maintenance procedures.	2005	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress			To date, district commitment to ECMs is approximately \$2,000,000	Continue to identify and implement energy conservation projects which support the Energy Policy and reduction target.	2010	No End Date (Continuous)

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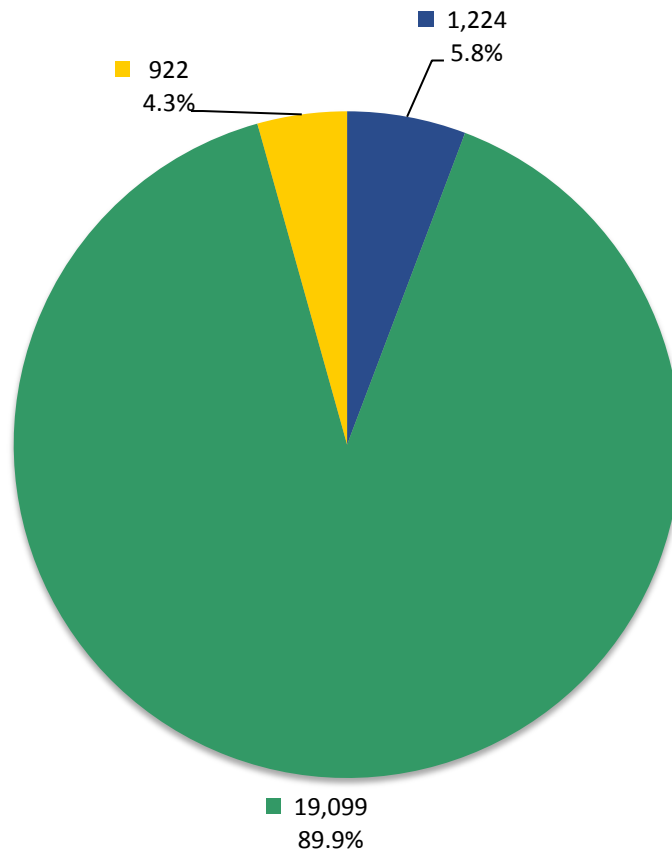
Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress			Two presentations to Board of Education by Climate Action and Energy Ambassadors secondary school teams. Other actions as noted above.	Continue expansion of education programs and implement Workplace Awareness Program	2010	No End Date (Continuous)
Awards/Recognition							
Establish a sustainability/green awards or recognition program	Ongoing/In Progress			Green Team recognition at Board Meetings	Implement sustainability/green awards recognition program	2011	No End Date (Continuous)
Staff Professional Development							
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress			Workplace Conservation Awareness Program Plan in place; postponed due to job action	Expand opportunities for green professional development	2005	No End Date (Continuous)
Staff awareness/education							
Provide education to staff about the science of climate change	Ongoing/In Progress			Workplace Conservation Awareness Program Plan developed; postponed due to job action	Implement Workplace Conservation Awareness Program	2011	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress			Workplace Conservation Awareness Program Plan developed; postponed due to job action	Implement Workplace Conservation Awareness Program	2011	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress			Planning for district energy conservation website	Implement energy conservation website as part of the district roll out of SharePoint and Unified Communications	2005	No End Date (Continuous)
Provide sustainability education during new staff orientation	Ongoing/In Progress			New staff orientation includes information on scent - aware policies	Consider expanding sustainability education	2010	No End Date (Continuous)
Client/public awareness/education							
Provide education to clients/public about the science of climate change	Ongoing/In Progress			Energy Matters Presentations, BCH Education Programs, district support of school based green team presentations, and other initiatives and programs	Continue expansion of programs and services that support climate change education	2005	No End Date (Continuous)
Provide education to clients/public about the conservation of water, energy, and raw materials	Ongoing/In Progress			Diversity of learning opportunities offered	Continue to co-ordinate and promote energy conservation educational opportunities with multiple partners and stakeholders	2005	No End Date (Continuous)
Provide green tips on client/public website or in newsletters	Ongoing/In Progress			Green tips provided in a number of district communication formats including school and staff newsletters	Incorporate green tips in new district energy conservation SharePoint site	2005	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			1 elementary addition built with water efficient fixtures	Future new schools to have water efficient fixtures	2003	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			All irrigated fields are centrally controlled and irrigation is applied as required or by evapotranspiration	New sports fields will continue to have centrally controlled irrigation	2007	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			Composting pilot projects at 2 elementary schools	Consider expansion on composting project to additional sites	2010	No End Date (Continuous)

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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
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress			Program in place for disposal of hazardous waste	Consideration of a reduction strategy	2000	No End Date (Continuous)
Procurement (non-paper supplies)							
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress			Green cleaning products purchased and used; piloting compostable bags at 2 elementary schools	Ongoing review of new versions of sustainable cleaning products	2008	No End Date (Continuous)
Building construction, renovation, and leasing							
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	Ongoing/In Progress			Ongoing LEED Gold target for new construction	Consider formalizing in policy	2005	No End Date (Continuous)
Incorporate lifecycle costing into new construction or renovations	Ongoing/In Progress	100	% of business cases incorporating lifecycle costing since start year indicated	Feasibility studies required for new construction	Ongoing feasibility studies incorporate lifecycle costing	2003	No End Date (Continuous)
Indoor air quality							
Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.)	Ongoing/In Progress			Scent-aware policies in place at DEC and many school sites; signage posted at DEC and most school sites; included in HR documentation for new staff	Consider development of a scent-free policy	2011	2013
Incorporate low volatile organic compounds (VOCs) standards into procurement policy for products such as paints, carpets, and furniture	Ongoing/In Progress			Low VOCs standards incorporated into LEED Gold standards for new construction and practice followed by maintenance (with the exception of urethane for wood flooring)	Consider adoption of a Sustainable Purchasing Policy	2005	No End Date (Continuous)
Commuting to and from home							
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress			SD36 website includes link to dedicated Ride-Share site; preferred carpool parking at DEC	TravelSmart pilot at 3 secondary schools; inter school energy reduction competitions using EMIS dashboard at 4 secondary schools	2002	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Ongoing/In Progress			Showers and lockers available at DEC	Showers and lockers included in new secondary school construction	Started before 1995	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In Progress			Secure bicycle storage at DEC and some schools	Support the provision of secure bicycle storage at secondary schools as funding and resources allow	2005	No End Date (Continuous)



**School District 36 - Surrey**  
**Greenhouse Gas Emissions by Source**  
**for the 2011 Calendar Year (tCO<sub>2</sub>e\*)**



**Total Emissions: 21,244**

- 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 12:05 PM)**

Total offsets required: **21,008**. Total offset investment: **\$525,200**. Emissions which do not require offsets: **236** \*\*

\*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.