



# **CARBON NEUTRAL ACTION REPORT 2012**



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### ABOUT THE DESIGN

*We chose to incorporate the monarch butterfly into the design of the Carbon Neutral Action Report 2012 because this striking insect is a symbolic measurement of our environmental stewardship.*

*The monarch's stunning western migration between Canada and Mexico spans three to four generations of the species and 4,000 kilometres. But the monarch is vulnerable to human activity, and recently sustained a 59 per cent drop in population – the lowest since monitoring began 20 years ago. Scientists believe the reduction in monarch butterflies is due to a decline in their primary food source, climate change in their breeding and wintering grounds and certain logging and agricultural practices.*

*Efforts to classify the monarch as a protected species are underway.*



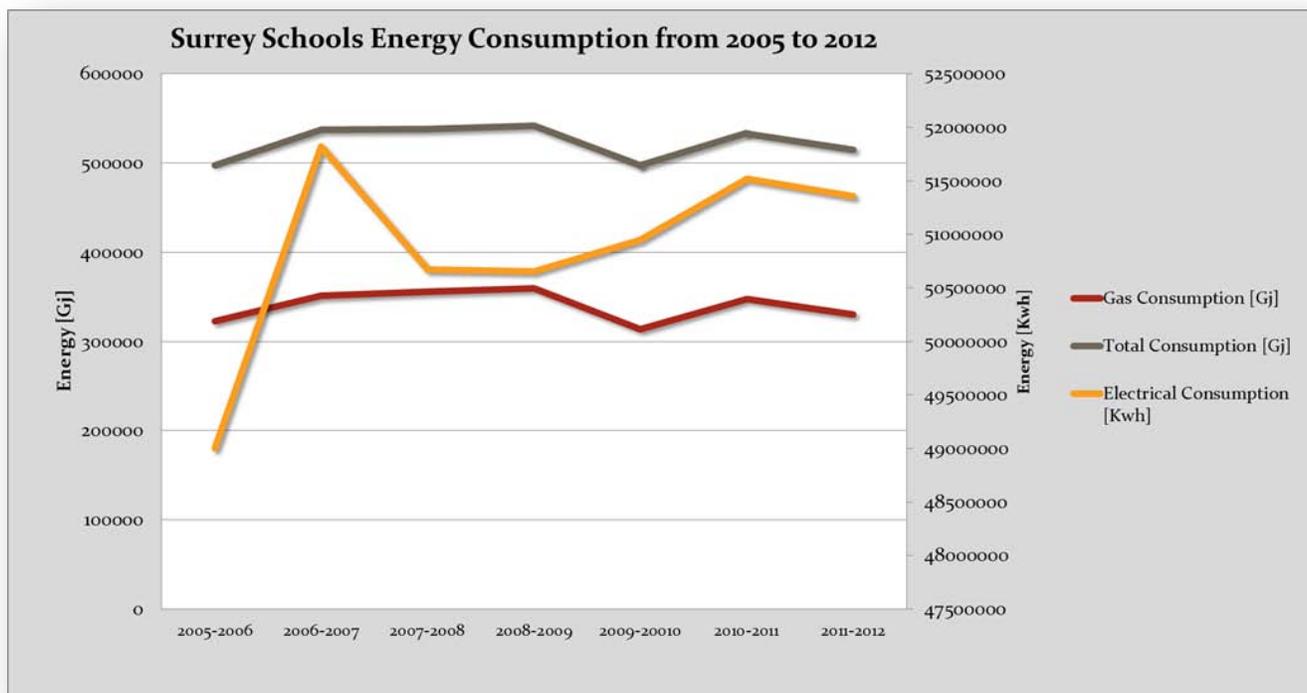


## EXECUTIVE SUMMARY

Surrey Schools was named a winner at the 2012 Power Smart Excellence Awards in the Power Smart Leader category. As a result, the district's energy conservation accomplishments were recognized in local and regional media outlets, including the *Globe and Mail*, the *Vancouver Sun* and *Business in Vancouver*.

Surrey Schools has the largest student enrolment in British Columbia and is one of few school districts in the province with consistent enrolment growth. In spite of the challenges posed by significant growth, energy consumption has been relatively stable and recently in a trend of modest decline.

Surrey Schools takes a strategic approach to energy management and conservation, planning and budgeting technical and behavioural energy conservation measures over a multi-year time frame.



In 2012, Surrey Schools implemented power management software district-wide on more than 13,000 computers.

With funding support from the Public Sector Energy Conservation Agreement, solar walls were installed on south facing gymnasium walls at four secondary schools.



As part of the BC Hydro Continuous Optimization Program, measures to improve building operations were identified at phase one sites, including nine secondary schools and the District Education Centre.

Other significant energy conservation initiatives included various lighting retrofits and replacing boilers at eight schools.

Surrey Schools received \$764,908 from the Carbon Neutral Capital Plan to support ongoing operational improvements to various schools. As well, significant incentive funding was provided through partnerships with BC Hydro and FortisBC Energy Incorporated.

With funding for the position made available from FortisBC, Surrey Schools increased the resources dedicated to energy conservation by hiring an energy specialist.

In addition to technical projects, the district continued to strengthen and expand a diverse range of behavioural projects designed to raise employee and student awareness about energy conservation. Active green teams at schools and the District Education Centre plus district-initiated behavioural change programs involved students and staff at multiple sites.

Wayne Noye  
Secretary Treasurer,  
Surrey Schools

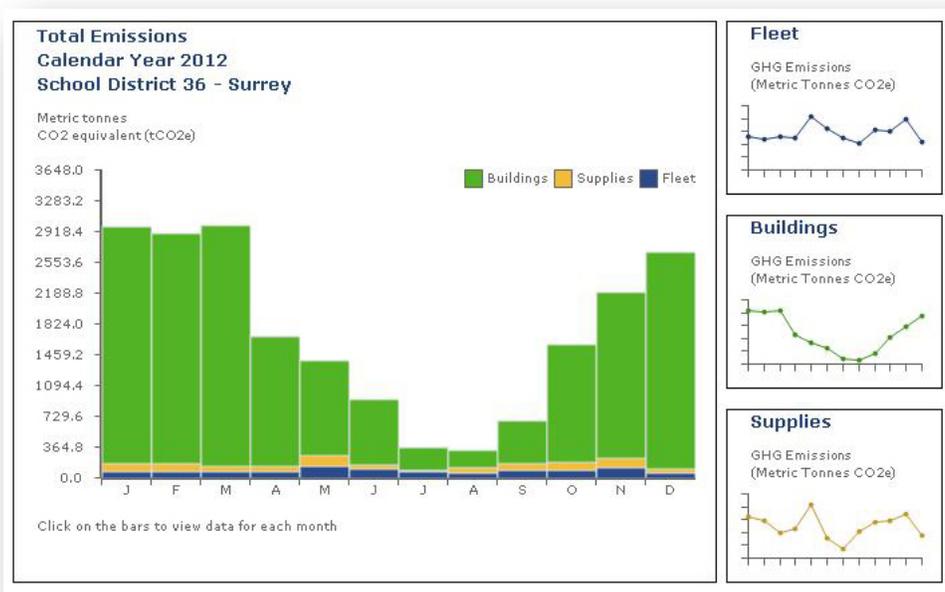




## 2012 GREENHOUSE GAS EMISSIONS

The total greenhouse gas emissions from all sources covered by the Greenhouse Gas Reduction Targets Act (as reported by SMARTTool) are 21,162 tonnes CO<sub>2</sub>e (carbon dioxide emissions).

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 2012

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In order to become carbon neutral for 2012, the Surrey Board of Education purchased carbon offsets for 20,925 tonnes of CO<sub>2</sub>e from the Pacific Carbon Trust at a total cost of \$523,125.

Forty tonnes of CO<sub>2</sub>e from the combustion of biomass and biomass-based fuels were reported as part of our greenhouse gas emissions profile in 2012. 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, 197.44 tonnes of CO<sub>2</sub>e resulting from the operation of school buses were reported as part of our greenhouse gas emissions profile in 2012. However, they were not offset as they are out-of-scope under section 4(2) (c) of the Carbon Neutral Government Regulation.





## **CHANGES TO GREENHOUSE GAS EMISSIONS AND OFFSETS REPORTING FROM PREVIOUS YEARS**

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There are no changes to greenhouse gas emissions and offsets reporting from previous years. As a result of adjustments, Surrey School District has a credit of 292 tonnes of CO<sub>2</sub>e. The surplus of offsets purchased has been applied against our 2012 emissions.





## EMISSIONS REDUCTION ACTIVITIES

### Actions taken to reduce greenhouse gas emissions in 2012

- Power Management software was installed district-wide on 13,000 computers resulting in significant energy savings.
- Investigation reports were completed for the District Education Centre and nine secondary schools enrolled in the BC Hydro Continuous Optimization for Commercial Buildings Program. The objective of the investigation phase is to identify deficiencies and improvements in the operation of mechanical equipment, lighting, and related controls, and determine opportunities for corrective action that reduce energy consumption and preserve the indoor environmental quality. While the investigation phase focuses on low-cost improvements with short paybacks, major capital improvement opportunities were also identified.
- Nine schools in the second phase of the Power Smart Continuous Optimization Multi Building Agreement entered into a nine -month baseline data and investigation phase so that baseline electrical consumption can be determined.
- Solar wall installations (pictured) were completed at four secondary schools to capture and utilize solar energy and reduce fossil fuel consumption, overall building energy use and greenhouse gas emissions created by operation of the facilities.
- Surrey Schools continued to participate in the BC Hydro New Construction Program. Energy efficient lighting design agreements to exceed current lighting power density standards have been completed for five elementary schools and two secondary school additions. Two of the elementary school energy-efficient lighting design projects were completed in 2012.
- Electrical projects, including fluorescent light and lighting control replacements, were completed at nine schools.
- Boiler projects involving upgrade, replacement or the installation of energy-efficient hybridizing models were completed at three secondary schools and six elementary schools.
- High efficiency hot water on-demand systems were installed at five schools.
- Surrey Schools renewed a commitment as a BC Hydro Power Smart Partner to strategically implement energy conservation measures using a multi-year Strategic Energy Management Plan.





- The district further strengthened its conservation partnerships by entering into an Energy Specialist Funding Agreement with FortisBC to retain the services of an energy specialist to identify and enhance energy efficiency opportunities and support the development of a conservation culture.
- Surrey Schools has a goal of reducing district-wide electrical energy consumption by 10,000,000 kWh by 2015. A key component in meeting the district's energy reduction target is student and staff engagement and building energy awareness. In 2012, four Surrey secondary schools took part in an innovative energy awareness project which involved hands-on workshops, energy audits and inter-school competitions. LA Matheson Secondary school went on to win the Energy Conservation Cup competition by reducing electrical energy consumption by 18.2 per cent over a five-day week. An expanded Energy Conservation Cup involving all district secondary schools was developed in preparation for competition in February 2013.
- With support and partial funding from BC Hydro, Surrey Schools also offered the Energy Ambassadors program, an awareness, action and leadership initiative about energy sustainability for secondary school students. The program includes two student workshops, ongoing support and online resources, empowering students to lead real changes.
- IDEAS 36, a secondary student leadership program involving representatives from all 19 secondary schools, met regularly to plan and implement ongoing district and community initiatives. These included advising the Surrey Board of Education on a variety of issues and volunteering for the City of Surrey's Earth Hour, Community Energy and Emissions Plan and environmental activities to protect salmon and trout in Surrey's streams and creeks.
- Incentives and resources such as checklists, posters, banners, monthly electrical intensity reports, social media, newsletters and a shared website were developed to support green teams at schools and the District Education Centre.





## EMISSIONS REDUCTION ACTIVITIES

### Plans to continue reducing greenhouse gas emissions 2013-2015

- 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 complete the investigation phase for the nine phase 2 sites. Phase 3 sites will begin the investigation phase in July 2013.
- As part of the Continuous Optimization Program, training and coaching of operations staff will begin in 2013 and continue through 2016.
- The district will expand the New Construction Program to include efficient energy design agreements for new construction and complete the installation of energy-efficient lighting at three elementary schools and two secondary schools.
- The district will utilize funding from SolarBC to install solar panels on the roof of Princess Margaret Secondary school.
- Boiler upgrades or replacements will be completed at nine schools.
- To date, a lighting retrofit is scheduled for one elementary school and a lighting control project is scheduled for one secondary school.
- The Workplace Conservation Program will continue into its second year and the number of participating schools will be increased.
- The Energy Ambassadors Program and other BC Hydro Education Programs such as Energy Campaigns will continue to be offered to schools.
- The Energy Conservation Cup competition will continue to be offered to all secondary schools.
- IDEAS 36 will continue as the umbrella organization for Surrey Schools' secondary student leadership.



## School District 36 Surrey - 2012 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	Steps Taken	Steps Planned	Start Year	End Year
<b>Mobile Fuel Combustion (Fleet and other)</b>					
<b>Behaviour change program</b>					
Provide fleet driver training to reduce fuel use	Not Yet Evaluated				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	Incorporated into operational procedures	Regularly include anti idling awareness for fleet drivers as an agenda item at transportation staff departmental meetings	2008	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress	Work orders are grouped to minimize travel and trade persons carpool where appropriate	Continue to support carpooling in fleet vehicles where appropriate	2008	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Not Yet Evaluated				No End Date (Continuous)
<b>Vehicle fuel efficiency</b>					
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	Purchase as required vehicles identified by manufacturer's specifications as fuel efficient	Continue 10 year replacement plan and purchase of 7 more fuel efficient vehicles to replace older models	2008	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	Replaced 5 legacy vehicles with new more fuel efficient vehicles  Need vehicles sized to meet demands of jobs	Continue practice of minimizing fleet through purchase of smaller vehicles	2008	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	Ongoing annual fleet maintenance - 4 months?  All vehicles are on a 3 month interval preventative maintenance program	Ongoing annual fleet maintenance	2008	No End Date (Continuous)
<b>Stationary Fuel Combustion, Electricity</b>					
<b>Behaviour change program</b>					
Help staff reduce personal energy use through ""workstation tune-ups""	Ongoing/In Progress	Standard image for district computers continued and workstation assessments provided on request	Standard image for district computers continued and workstation assessments provided on request	2008	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress	Extensive behavioral programs at 40 sites with emphasis on unplugging electrical equipment: BC Hydro sponsored Workplace Conservation Awareness Program at 15 sites with individual site plans organized around reducing plug load; BC Hydro sponsored Energy Ambassadors Program at 11 secondary schools, Energy	Expand participation in the Workplace Conservation Awareness Program and other behavioral programs and continue unplugged theme in district newsletters	2008	No End Date (Continuous)

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
		Conservation Cup at 19 secondary schools and the District Education Centre, monthly Energy Check reports mailed to 22 schools.			
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress	Unplugged theme in district newsletters and District Education Centre (DEC) Unplugged newsletter. Reducing energy consumption through unplugging and switching off is a focus of green teams in many schools and a centre piece of behavioural programs involving nearly four thousand employees and thirty five thousand students.	Continue district messaging and implement year 2 of the Workplace Conservation Awareness Program	2008	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress	Incorporated in district communications, green team activities, Energy Ambassadors Program, Workplace Conservation Awareness Program and other behavioral programs	Continue variety of behavioral change programs at multiple sites	2008	No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	Not Yet Evaluated				No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Ongoing/In Progress	Nighttime Shut Down checklist developed by Pulse Energy as part of Energy Check reporting distributed to 22 schools participating in pilot.	Continue providing energy saving tips through Energy Check Reports and various district communications	2008	No End Date (Continuous)
Encourage use of stairs instead of elevators	Ongoing/In Progress	Posters in stairwells and elevators and the DEC Unplugged newsletter to employees encourages use of stairs	Continue DEC Green Team campaign to use stairs instead of elevators	2008	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, employee newsletters	Continue student education programs, employee awareness programs, employee newsletter messaging, events such as Earth Day	2008	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress	Hot water conservation is the focus of some school based energy campaigns	Continue supporting initiatives to conserve hot water	2008	No End Date (Continuous)
<b>IT power management</b>					
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	Computer power management software actively deployed to thirteen thousand computers	Complete deployment of power management software to remaining 700 computers	2011	2013
Implement server virtualization	Ongoing/In Progress	Policy to virtualize all software where possible	Continue to virtualize additional requirements	2008	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Completed (in Previous Year)				No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices as part of a print management strategy	Ongoing/In Progress	Energy Study of printers, copiers, fax machines at 20 schools as part of Print Reduction Strategy	Develop and implement a district wide print strategy for the deployment of multi function devices	2008	No End Date (Continuous)
Apply auto-sleep settings on printers, fax machines, and/or multi-function devices	Completed (in Previous Year)				No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	Continued replacing legacy computers with Energy Star models	Continue upgrade of legacy computers with Energy Star models	2008	No End Date (Continuous)
<b>Owned buildings</b>					
Establish energy performance baseline for owned buildings	Ongoing/In Progress	Energy Baseline established for 46 sites in Continuous Optimization Program and/or Pulse Energy Check pilot.	Monitor, maintain and evaluate reporting of energy performance baseline at 46 sites. Refine procedures and protocols for response	2011	No End Date (Continuous)

## School District 36 Surrey - 2012 Carbon Neutral Action Report

<b>Actions Towards Carbon Neutrality</b>					
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	Steps Taken	Steps Planned	Start Year	End Year
			to alerts		
Register for performance labelling/certification for operations and maintenance of owned buildings (e.g., LEED EB:O&M)	Not Yet Evaluated				No End Date (Continuous)
Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI)	Not Yet Evaluated				No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress	LEED Gold achieved for 1 project, 2 others under 3rd party review	Third party review for LEED certification on 2 projects	2008	2013
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	Continuous Optimization Program at 28 largest sites. Investigation Reports completed for 10 sites in phase 1.	Implement identified retrofit measures at 10 sites in phase 1 of Continuous Optimization by June 30, 2014. Complete investigation reports and identify implementation measures for 9 sites in Phase 2 of Continuous Optimization Program	2008	No End Date (Continuous)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Ongoing/In Progress	Incorporated into operational maintenance procedures	Continue reclamation of refrigerant in a reclaim tank and recycling for safe disposal as per established refrigerant management strategy	2008	No End Date (Continuous)
<b>Planning/management</b>					
Reduce office space (square meters) per employee	Completed (in Previous Year)				No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	Monitored, maintained and repaired real time metering system at 46 sites	Monitor and maintain existing sites and expand energy intensity reporting to sites	2008	No End Date (Continuous)
<b>Retrofit details for owned buildings</b>					
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	Boiler upgrades to high efficiency boilers at 8 sites	Boiler upgrades to high efficiency boilers to 9 or more sites	2008	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	Lighting fixtures, ballast and bulbs retrofitted to higher efficiency at 2 sites	Electrical retrofits planned for 3 sites	2008	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	Adjustments to boiler controls, fan settings, temperature set points	Additional control system upgrades to Continuous Optimization Program Phase 1 sites, boiler upgrade projects, and 2 secondary additions	2008	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	Building insulation improvements at 6 sites	Building insulation improvements scheduled for 2 sites	2008	No End Date (Continuous)
<b>Supplies (Paper)</b>					
<b>Behaviour change program</b>					
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress	District supported opportunities for SharePoint training provided for staff at all sites	Continue training staff in SharePoint and other collaborative software	2008	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress	Paper Reduction Strategy developed. Every school and department has internal and external pages for document archiving and sharing.	Implement Paper Reduction Strategy and broaden and widen opportunities for paperless meetings through Sharepoint and other collaborative software	2008	No End Date (Continuous)
<b>Electronic media in place of paper</b>					
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress	SharePoint and other collaborative software deployed to students and staff at all sites	Implement an enterprise records management system and deepen adoption of functionalities	2008	No End Date (Continuous)
Use electronic document library for filing common documents	Ongoing/In Progress	SharePoint deployed to all sites with capacity for document archiving	Continue to expand and support opportunities for document flow and	2011	No End Date

## School District 36 Surrey - 2012 Carbon Neutral Action Report

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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	Steps Taken	Steps Planned	Start Year	End Year
	Progress	for students and staff	storage		(Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Completed (in Previous Year)				No End Date (Continuous)
<b>Paper Type</b>					
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	Purchasing catalogue selections limited to 30% recycled paper or as an alternative 100% post consumer recycled paper	Continue practice of purchasing only 30% or 100% recycled paper	2009	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Ongoing/In Progress	Offered in purchasing catalogue as an alternative to 30% recycled paper	Continue to offer 100% recycled paper as an alternative when cost is not prohibitive	2011	No End Date (Continuous)
<b>Printer/document settings</b>					
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	All print devices purchased since 2010 have default set to automatic double sided. Legacy print devices are being replaced.	Continue strategy of overall print reduction, printer reduction, and digital document storage	2010	No End Date (Continuous)

## School District 36 Surrey - 2012 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

Action	Status	Steps Taken	Steps Planned	Start Year	End Year
<b>Business Travel</b>					
<b>Behaviour change program</b>					
Train staff in web-conferencing	Ongoing/In Progress	District support for web-conferencing available for staff at all sites	Continue support for web-conferencing at all sites	2008	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress	Training and technical support in concert with implementation of collaborative software	Continue training opportunities and support for staff at all sites	2008	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress	Ride-Share widget on updated district website, dedicated carpool parking available to more than 400 staff at District Education Centre	Continue to encourage carpooling to meetings where practical and appropriate	2008	No End Date (Continuous)
<b>Policy and budgeting</b>					
Create a low-carbon travel policy or travel reduction goal	Ongoing/In Progress	Created district wide capacity for online meetings through deployment of collaborative software	Consider district wide travel reduction goal	2010	No End Date (Continuous)
<b>Virtual meeting technology</b>					
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Ongoing/In Progress	Web conferencing available district wide. Removal of legacy computers which cannot support web conferencing software	Continue removal of legacy computers with unsupported software	2008	No End Date (Continuous)
Make desktop web-cameras available to staff	Ongoing/In Progress	Staff access to desktop web-cameras is limited. There are 6500 iPads with web-camera capability deployed in schools with approximately half of the iPad deployment occurring in 2012. In addition 5200 Mac computers with web-camera capability are deployed in schools.	Continue deployment of iPads and other hardware with web-camera capability	2011	No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Ongoing/In Progress	Video conferencing infrastructure in place at the District Education Centre. Through SharePoint and other collaborative software all staff and students have access to video conferencing.	Continue implementing district wide capacity for video conferencing	2011	No End Date (Continuous)
<b>Education, Awareness, and Engagement</b>					
<b>Awards/Recognition</b>					
Establish a sustainability/green awards or recognition program	Ongoing/In Progress	Green Team achievements acknowledged at public Board Meeting and in various district communications. Incentive funding provided to schools participating in the Workplace Conservation Awareness Program, the Energy Conservation Cup, the Energy Ambassadors Program, and IDEAS 36.	Expand recognition for schools involved in the Energy Conservation Cup and Workplace Conservation Awareness Program	2008	No End Date (Continuous)
<b>Staff Professional Development</b>					
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress	Extensive workshops and training provided in part through Workplace Conservation Awareness Program, iDEAS 36, Energy Ambassadors Program, and City of Surrey youth leadership opportunities	Expand participation in the Workplace Conservation Awareness Program	2008	No End Date (Continuous)
Include green options in employee performance measurement system	Not Yet Evaluated				No End Date (Continuous)
<b>Staff awareness/education</b>					
Provide education to staff about the science of climate change	Ongoing/In Progress	Science of climate change is a component of Be the Change Earth Alliance curriculum pilot, and is incorporated in the Workplace Conservation Awareness and Energy Ambassadors programs	Encourage support and involvement from Education Services	2008	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress	BC Hydro Education Programs, Energy Check reports to 22 schools, Energy Conservation Cup competition and data dashboard available to secondary schools and District Education Centre	Encourage support and involvement from Education Services	2008	No End Date (Continuous)

## School District 36 Surrey - 2012 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

Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Provide green tips on staff website or in newsletters	Ongoing/In Progress	Green tips provided in a number of district communication formats including the district website and the energy management and sustainability subsite <a href="http://www.surrey.schools.ca/programsandservices/EMAS/">www.surrey.schools.ca/programsandservices/EMAS/</a>	Continue the high level of quality and support from the district Communications Dept.	2008	No End Date (Continuous)
Provide sustainability education during new staff orientation	Not Yet Evaluated				No End Date (Continuous)
<b>Team-building</b>					
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	Ongoing/In Progress	Energy Management Conservation Policy and Regulation endorses environmental stewardship. Green Teams are active in most if not all schools and the District Education Centre. Behavioral programs include in part: the BCH Hydro supported Workplace Conservation Awareness Program, the BC Hydro supported Energy Ambassadors Program, the Energy Conservation Cup, IDEAS 36 secondary student leadership program, and the Energy Check pilot. District organized energy conservation initiatives involve approximately 35,000 students and 3,800 employees.	Expand the number of schools involved in Workplace Conservation Awareness Program	2011	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress	Resources and incentives provided by Energy Manager. Energy Specialist hired in December.	Consider providing a helping teacher position to support environmental curriculum initiatives in schools	2010	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress	Extensive behaviour change education and training provided through Workplace Conservation Awareness program, Energy Ambassadors program, IDEAS 36 student leadership program, BC Hydro education programs such as Energy Detectives, and the Energy Conservation Cup competition.	Continue to refine and expand opportunities for behaviour change education and training	2010	No End Date (Continuous)
<b>Other Sustainability Actions</b>					
<b>Adaptation to Climate Change</b>					
Assessed whether extreme weather events and/or long term changes in climate will affect the organization's business areas	In Development	Participated in the City of Surrey Climate Change Adaptation Strategy inter agency workshop	Continue cooperation with the City on the implementation of the Climate Change Adaptation Strategy	2011	2012
Integrated considerations of extreme weather events and/or long term changes in climate into the organization's decision making.	Ongoing/In Progress	Participated in City of Surrey Climate Change Adaptation Strategy Interagency workshop	Continue cooperation with the City on the implementation of the Climate Change Adaptation Strategy	2012	No End Date (Continuous)
<b>Building construction, renovation</b>					
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	Ongoing/In Progress	What goes where is driven by regulatory bodies. Vendors remove to appropriate place based on regulations. Salvage wood and other construction and demolition debris as appropriate.	Within limitations of time and space, continue practice of reusing materials and salvaging construction and demolition debris such as doors, door handles and bathroom stalls	2008	No End Date (Continuous)
Incorporate lifecycle costing into new construction or renovations	Ongoing/In Progress	Feasibility studies required for new construction	Ongoing feasibility studies incorporate lifecycle costing	2008	No End Date (Continuous)
<b>Commuting to and from home</b>					
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress	District website includes link to dedicated Ride-Share site, carpool parking at District Education Centre, Walk to School, Walking School Bus at some schools.	Continue support of alternative transportation campaigns at schools and at the District Education Centre	2008	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Ongoing/In Progress	Shower or locker facilities available at DEC and at secondary schools	Showers and lockers included in new secondary school construction	2008	No End Date (Continuous)

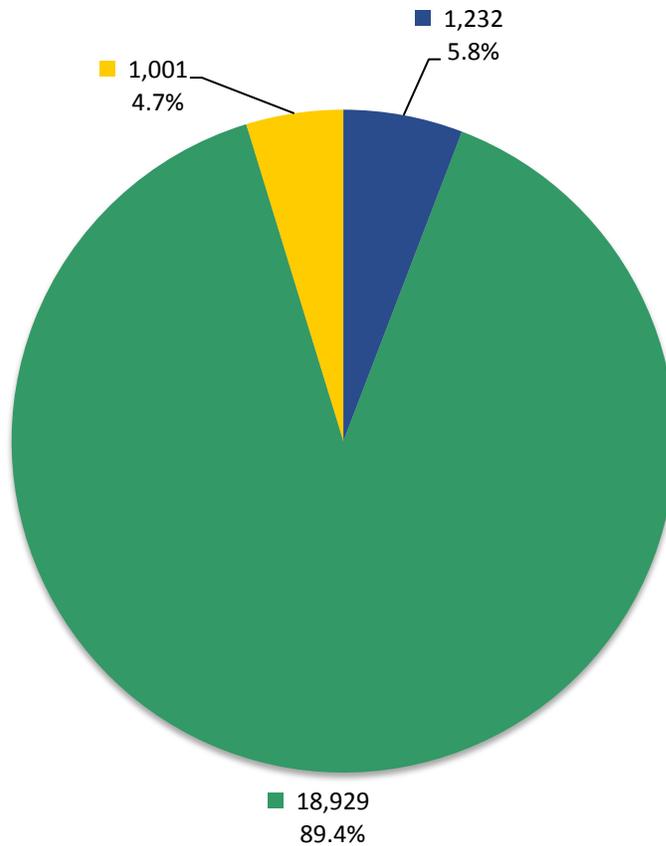
## School District 36 Surrey - 2012 Carbon Neutral Action Report

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Provide secure bicycle storage	Ongoing/In Progress	Secure bicycle storage available available at District Education Centre and some schools.	Support the provision of secure bicycle storage at secondary schools as funding and resources allow	2008	No End Date (Continuous)
<b>Procurement (non-paper supplies)</b>					
Incorporate minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.)	Not Yet Evaluated				No End Date (Continuous)
Establish green standards for goods that are replaced infrequently and/or may require capital funds to purchase (e.g., office furniture, carpeting, etc.)	Not Yet Evaluated				No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress	Green cleaning products purchased and used; piloting compostable trash bags at some schools	On going assessment of new versions of sustainable cleaning products	2008	No End Date (Continuous)
<b>Waste reduction/diversion</b>					
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	Ongoing/In Progress	Recycling and composting pilots at some schools	Monitor and evaluate reduction and diversion pilots	2010	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress	Program in place for disposal of hazardous waste  process - hazardous waste at schools - phone Health & Safety - waste vendor  Facilities - vendor picks up batteries, paint, bulbs, computers  Private contractors - contract	Explore increasing the scope of hazardous waste reduction and disposal	2008	No End Date (Continuous)
<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	5 year water conservation strategy in place including drinking fountains with self closing valves, metered faucets for washroom hand basins, and urinal tanks wired to building DDC controls to control flushing frequency.	As part of 5 year plan, incorporate efficient water fixtures into new construction and ongoing replacement and upgrade of plumbing fixtures	2008	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	Year 1 of a 3 year irrigation efficiency plan in development.	Based on the results of the 3 year plan, develop a strategy to manage the water usage on irrigated fields using computers connected to weather stations to calculate evapotranspiration rates to apply the required water.	2008	No End Date (Continuous)
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	Not Yet Evaluated				No End Date (Continuous)

**School District 36 - Surrey  
Greenhouse Gas Emissions by Source  
for the 2012 Calendar Year (tCO<sub>2</sub>e\*)**



**Total Emissions: 21,162**

- 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 2012 (Generated May 28, 2013 3:44 PM)**

Total offsets required: **20,925**. Total offset investment: **\$523,125**. Emissions which do not require offsets: **237** \*\*

\*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.