

2016 CARBON NEUTRAL ACTION REPORT

Surrey Schools
LEADERSHIP IN LEARNING

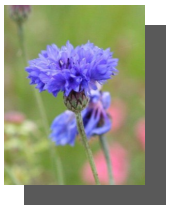


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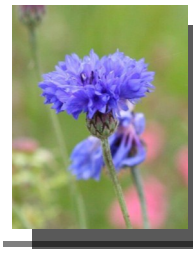
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We chose to incorporate wildflowers into the design of the 2016 Carbon Neutral Action Report to highlight the importance of pollinators. Birds, bats, bees, butterflies, beetles and others that pollinate plants are responsible for bringing us one out of every three bites of food. They also sustain our ecosystems by helping plants reproduce.

Biodiversity is a key element of pollinator conservation. With numbers of pollinators, particularly bats and bees, on the decline, planting local, native wildflowers can help attract more pollinators.



ABOUT THE DESIGN



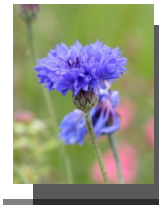
DECLARATION STATEMENT

This Carbon Neutral Action Report for the period January 1st, 2016 to December 31st, 2016 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2016 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2017 and beyond.

By June 30, 2017 Surrey Schools' final Carbon Neutral Action Report will be posted to our website at www.surreyschools.ca.

Surrey Schools has reduced GHG emissions by 20% since 2010.

Our goal is to reduce emissions by 25% from our 2010 baseline by 2020.



EXECUTIVE SUMMARY

On behalf of Surrey Schools, we are pleased to submit our Carbon Neutral Action Report for 2016. As Surrey Schools prepares our learners to think creatively and critically, communicate skilfully, and demonstrate care for self and others, we continue to enhance our focus on sustainability across our organization.

Environmental stewardship is one of the Board of Education's six guiding principles. Our environmental sustainability objectives continue to be advanced by the passion and commitment of staff and students. We are proud to be recognized as one of Canada's Greenest Employers (2017) for the second year running and are committed to continuing to enhance our sustainability program by bringing together our sustainability practices under a comprehensive sustainability strategy.

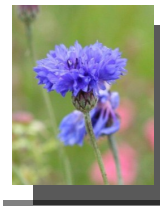
Over the past year, we have continued to work to reduce our greenhouse gas emissions and overall environmental footprint. We continue to focus our efforts on our largest source of greenhouse gas (GHG) emissions: the energy used to heat and power our schools and other buildings. Our commitment to reducing GHG emissions is evident in our results. In 2016 Surrey Schools' annual greenhouse gas emissions were 20% below our 2010 baseline.

We plan to further our efforts to reduce our carbon footprint in 2017 and beyond. We will continue to deliver environmental sustainability educational programs and will continue to make investments in our energy efficiency programs that improve the quality and comfort of the learning environment for students and staff.

Dr. Jordan Tinney
Superintendent of Schools

D. Greg Frank
Secretary Treasurer





ABOUT SURREY SCHOOLS

Surrey School District was formed in 1906 and is the largest of 60 school districts in the province of BC. Surrey School District has over 71,000 students, an annual operating budget of almost $700 million and capital assets approaching $1 billion. One of the fastest growing districts in the province, the Surrey School District is dedicated to their vision of leadership in learning.

With 130 kindergarten to Grade 12 schools serving Surrey, White Rock and Barnston Island, the Surrey School District employs more than 10,000 teachers, administrators, professionals and support staff, all of whom work tirelessly to ensure that children are getting the best start they can, and the preparation to be our leaders of tomorrow.

Surrey Schools Quick Facts

69,100 Students

10,560 Staff including

5,831 teachers

$641 million Operating Budget

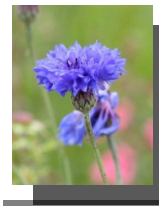
101 Elementary Schools

19 Secondary Schools

5 Learning Centres

4 Adult Education Centres





ACHIEVING CARBON NEUTRALITY

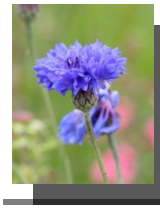
The 2007 Greenhouse Gas Reduction Targets Act established the following emission reduction targets for the B.C. public sector:

- By 2020, B.C. will reduce greenhouse gas emissions (GHG) by 33 per cent, compared to 2007 levels.
- By 2050, GHG emissions will be reduced by at least 80 per cent below 2007 levels.

The act also requires the provincial government, including provincial ministries and agencies, schools, colleges, universities, health authorities and Crown corporations, to be carbon neutral each year starting in 2010 and to make public a report every year detailing actions taken towards reducing greenhouse gas emissions.

Achieving carbon neutrality involves five specific actions: measuring operational GHG emissions, reducing emissions where possible, offsetting the remainder of emissions, reporting on emissions reduction actions and verifying emissions. A carbon offset is a greenhouse gas emissions reduction tool that is used to compensate for emissions. Offsets, measured in terms of carbon dioxide equivalency, represent the net reduction in emissions that occurs when carbon offset payments are invested by the provincial government in emissions-reducing projects.

To become carbon neutral for the 2016 calendar year, Surrey Schools applied carbon offsets of 15,945 tonnes of carbon dioxide equivalent (tCO_2e). At a cost of $25/tonne, Surrey Schools' total offset investment for 2016 is $398,625 ($418,556.25 with GST included).



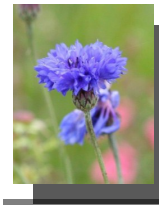
2016 EMISSIONS & OFFSETS SUMMARY

School District #36 (Surrey) GHG Emissions and	
GHG Emissions created in calendar year 2016:	
Total Emissions (tCO2e)	16,206
Total Emissions for Offsets (tCO2e)	15,945
Adjustments to GHG Emissions Reported in Previous Years:	
Total Emissions (tCO2e)	0
Total Emissions for Offsets (tCO2e)	0
Total Emission for Offset for the 2016 Reporting Year (from SMART Tool Homepage):	
Total Offsets (tCO2e)	15,945

Retirement of Offsets:

In accordance with the requirements of the Greenhouse Gas Reduction Targets Act and Carbon Neutral Government Regulation, School District #36 (Surrey) (the Organization) is responsible for arranging for the retirement of the offsets obligation reported above for the 2016 calendar year, together with any adjustments reported for past calendar years. The Organization hereby agrees that, in exchange for the Ministry of Environment ensuring that these offsets are retired on the Organization's behalf, the Organization will pay the associated invoice to be issued by the Ministry in an amount equal to $25 per tonne of offsets retired on its behalf plus GST.

	May 15, 2017
Signature	Date
D. Greg Frank	Secretary Treasurer
Name	Title



2016 GREENHOUSE GAS EMISSIONS

Surrey Schools has calculated our 2016 carbon footprint, in accordance with the Greenhouse Gas Reduction Targets Act, to be 16,206 tonnes of CO2 equivalent. Our emissions a generated from three main sources:

Buildings

GHG emissions from buildings result from the fossil fuels consumed to provide heating and cooling and electricity to schools and other district facilities. These emissions account for 86.4% of our overall emissions.

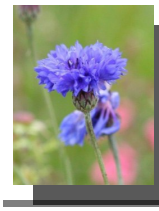
Fleet

Emissions categorized as fleet are direct emissions resulting from the fossil fuels used to power the district's fleet vehicles, including maintenance vehicles and school busses. These emissions make up 7.4% of the district's overall emissions.

Supplies

Emissions categorized as supplies are indirect emissions originating from the district's use of office paper and account for 6.2% of the district's overall GHG emissions.

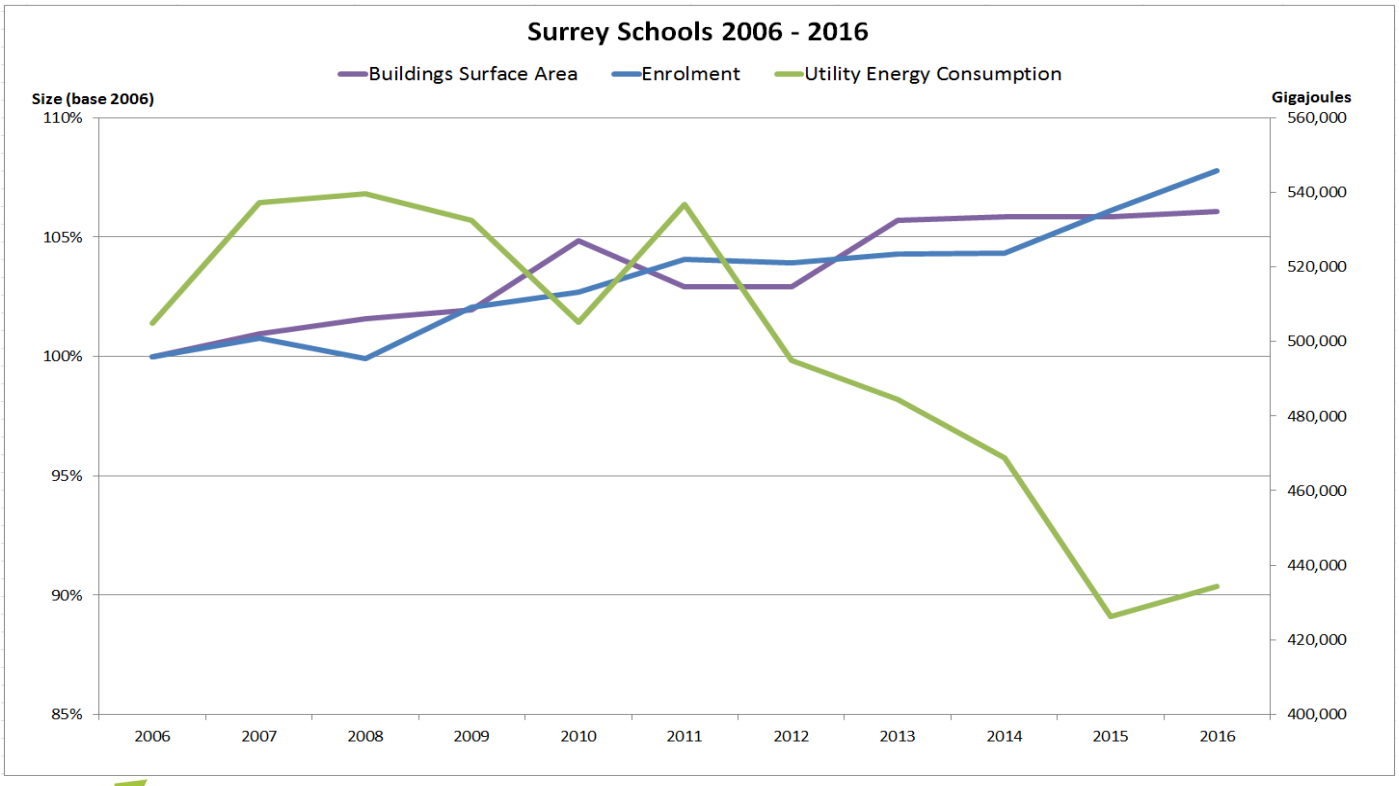
Emission Source	2016 GHG Emissions (Tonnes of CO_2e)	2016 Results Compared to 2015	2016 Results Compared to 2010 Baseline
Buildings	14,006	3% Increase	21% Decrease
Fleet	1202	11% Increase	0.4% Increase
Paper	998	3% Increase	19% Decrease

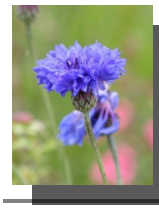


2016 GREENHOUSE GAS EMISSIONS

Surrey Schools plans strategically to lower its carbon footprint through a three-pronged strategy of sustainable building design, energy efficient building operations and engagement of staff and students in our conservation initiatives.

Surrey Schools continues to grow and expand services to an increasing student population. Over the past decade Surrey Schools useable facility space has increased by 6 per cent and student enrollment has increased by 8 per cent. Keeping pace with this growth has required ongoing construction of new schools, building additions, major renovations to existing facilities, and the use of over 300 portables as instructional spaces. Yet, in spite of increased energy demands, energy conservation and efficiency measures have effectively reduced energy consumption and greenhouse gas emissions, with both seeing significant declines from 2011 to 2015. Growth combined with a cooler December in 2016 have resulted in the district's first increase in emissions in the past five years.



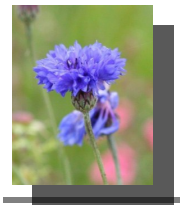


2016 GREENHOUSE GAS EMISSIONS

Surrey Schools has met the challenges of rising costs and increased demands on building capacity through integrated and strategic planning across multiple departments, working with conservation partners and government agencies.

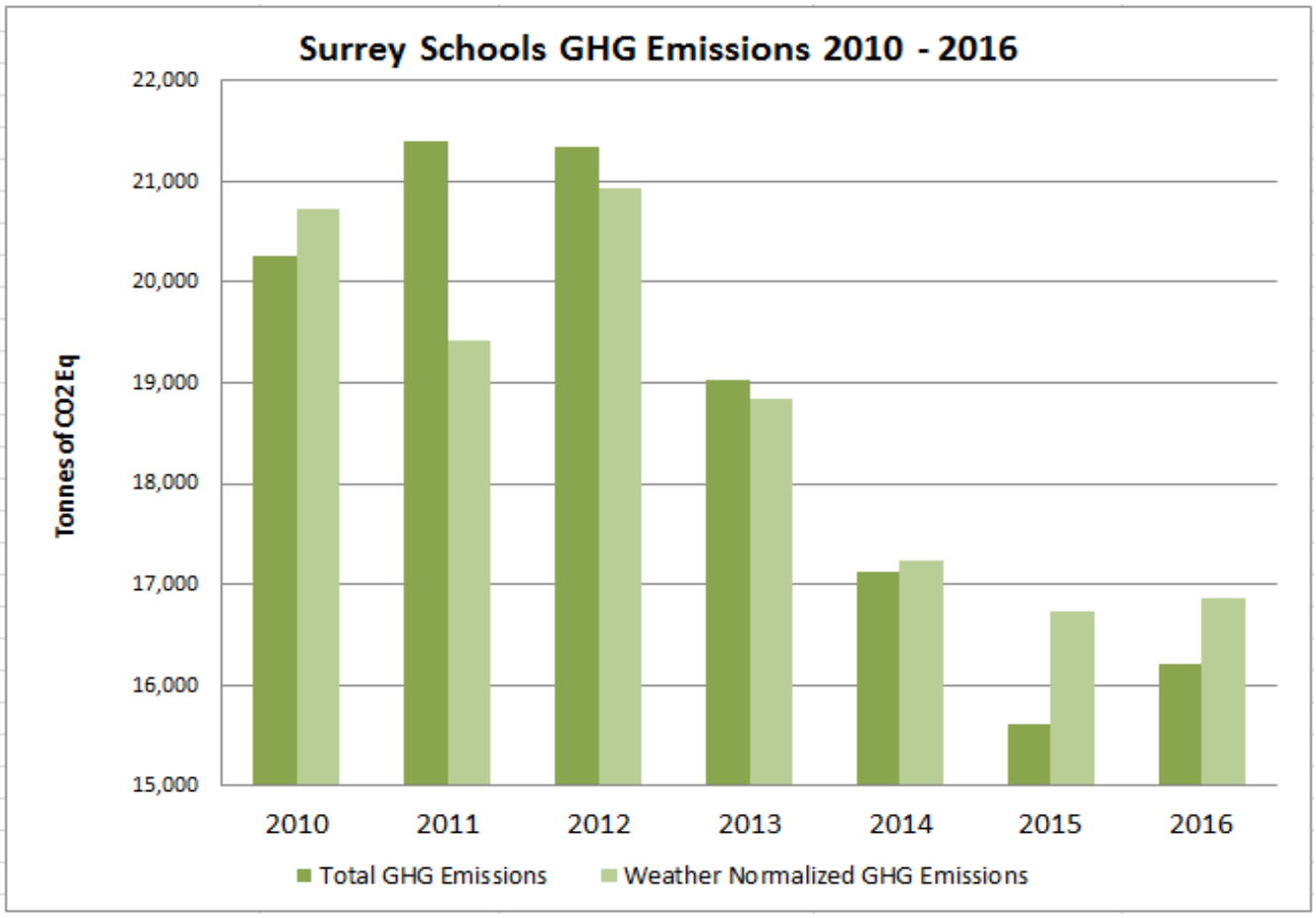
Executive support has also been a critical component of the district's energy management success. In 2011, the Surrey Board of Education established an Energy Management and Conservation policy and in 2014 the Board reaffirmed the district's commitment to maintaining and enhancing conservation initiatives by once again identifying to environmental stewardship as one of the district's six guiding principles. Senior management has played an active role in energy and emissions planning and assessment with BC Hydro and other key conservation partners. Surrey Schools was proud to be recognized as one of Canada's Greenest Employers in 2016.

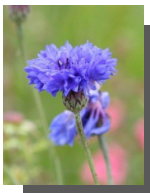
2016 CANADA'S GREENEST EMPLOYERS



2016 GREENHOUSE GAS EMISSIONS

In the face of continued growth, sustained emissions reductions are challenging to achieve. In 2016 Surrey Schools did experience a 3.8 % increase in total emissions. The increase is largely due to increases in paper consumption, a larger fleet and a cooler-than-average December which increased natural gas required for heating. Weather-normalized emissions are up by less than 1% compared to 2015. In spite of the increases in both number of students and total facility space, it should be noted that the district did reduce electricity consumption by an additional 1.8% in 2016 for a total reduction of 12% since 2010. 2016 total emissions are also 20% lower in 2016 than our 2010 baseline.





ACTION TAKEN TO REDUCE GREEN-HOUSE GAS EMISSIONS IN 2016

BUILDINGS

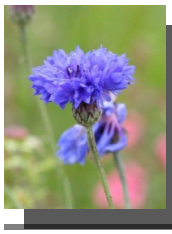
Energy used to heat, cool and power our schools and other buildings continues to be the largest source of emissions for Surrey Schools (86.4% in 2016). Consequently, energy management is our primary strategy for reducing our greenhouse gas emissions. Energy Management is strategically integrated with key departments in the implementation of technical energy efficiency projects. Across the organization, several departments have played a critical role in implementing projects that have resulted in strong energy savings in 2016:

- The District Facilities Centre oversaw numerous energy efficiency projects including:
  - Boiler replacement and accompanying mechanical system upgrades at 4 secondary schools
  - Lighting upgrades at three schools;
  - Installation of energy efficient domestic hot water systems at two schools;
  - Furnaces upgraded to energy efficient models in 51 portables
  - Recommissioning of the building automation system at the District Education Centre.

- Business Management Services completed energy modeling with at Salish Secondary School the aid of the BC Hydro New Construction Program. Construction of Salish Secondary began in 2016 and the school is slated to open in 2018. As a result of the energy efficient building design, Salish Secondary will be 26% more efficiency than a typical secondary school. In 2016 Business Management Services also initiated energy modeling of two additional new schools slated for future development.

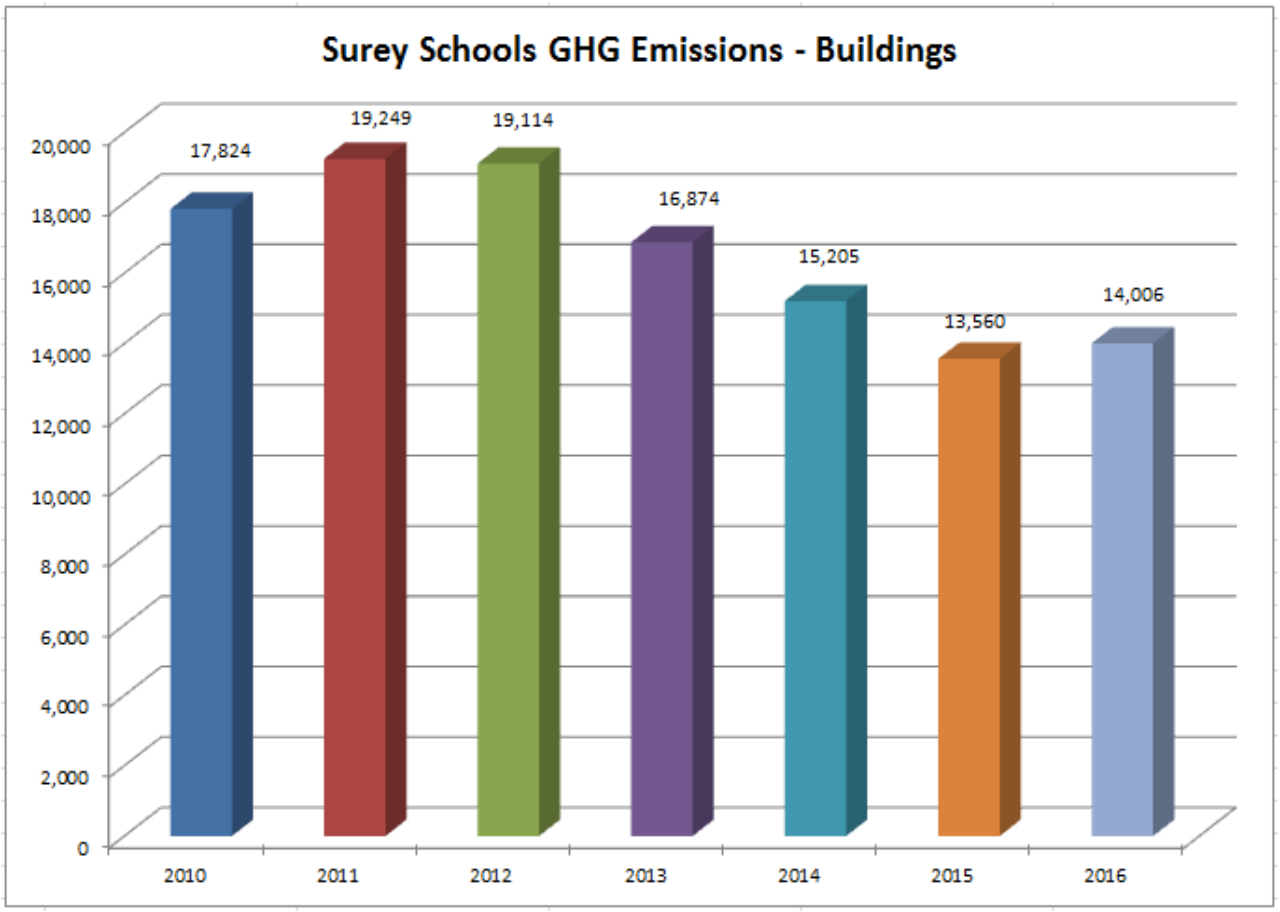
- Information Management Services upgraded over 2000 computing devices to more energy efficient models and manages computer power management software on an ongoing basis.

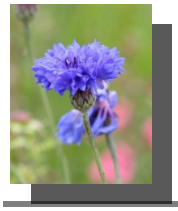
- Corporate Services continued to purchase Energy Star appliances where replacements were needed.



ACTION TAKEN TO REDUCE GREEN-HOUSE GAS EMISSIONS IN 2016

In 2016 Surrey Schools made significant investments in energy efficiency through the capital budget, annual facilities grant, and the support of over $600,000 in incentive funding for from the Carbon Neutral Capital Program and our conservation partners BC Hydro and FortisBC. A combination of multiple energy efficiency projects, along with the efforts of staff and students in conserving energy on a daily basis have resulted in electricity savings of 1.8% in 2016; a reduction of 806,200 kWh. Natural gas consumption increased by 3.6%, largely due to a colder December in 2016, which resulted in an increase of 3.3% in emissions from buildings. When weather-normalized, emissions from buildings increased by less than 1% in 2016. Overall emissions from buildings were 20% less in 2016 compared to our 2010 baseline.





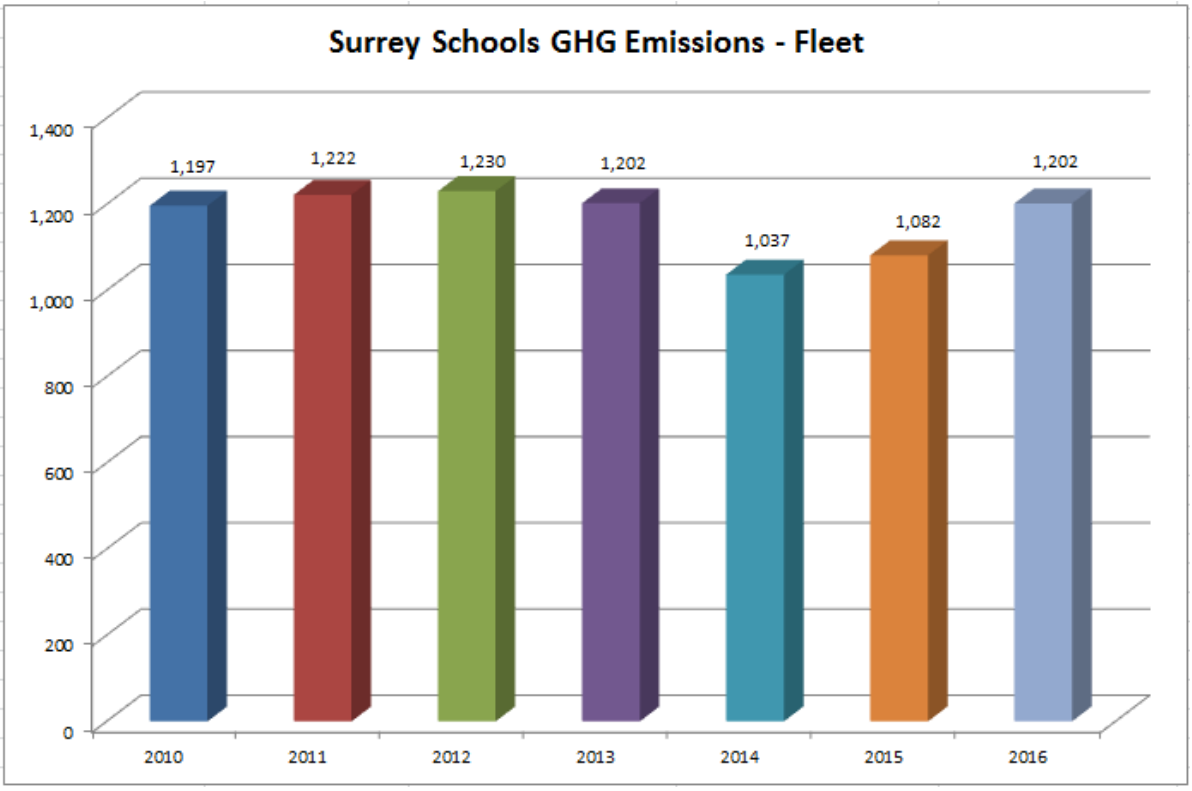
ACTION TAKEN TO REDUCE GREEN-HOUSE GAS EMISSIONS IN 2016

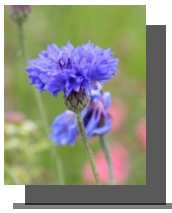
FLEET

In 2016 Surrey Schools' emissions from fleet vehicles accounted for 7.4% of the district's overall greenhouse gas emissions. Emissions from fleet as a percentage of total emissions has increased since 2010 (5.9%) due to an increase in the number of fleet vehicles combined with a sharp decrease in emissions from buildings.

Total greenhouse gas emissions from fleet in 2016 were 1202 tonnes of CO_2 equivalent (tCO_2e), including 260 tCO_2e from school buses, which are not required to be offset.

In 2016, efforts to reduce greenhouse gas emissions included replacing five fleet vehicles with more fuel efficient models, ensuring quarterly vehicle maintenance for optimal driving performance, and reminders of the district's anti-idling procedure. In spite of these measures, overall emissions from fleet increased by 11% due primarily to the addition of one new van and one school bus to the fleet and increasing traffic congestion in the City of Surrey.



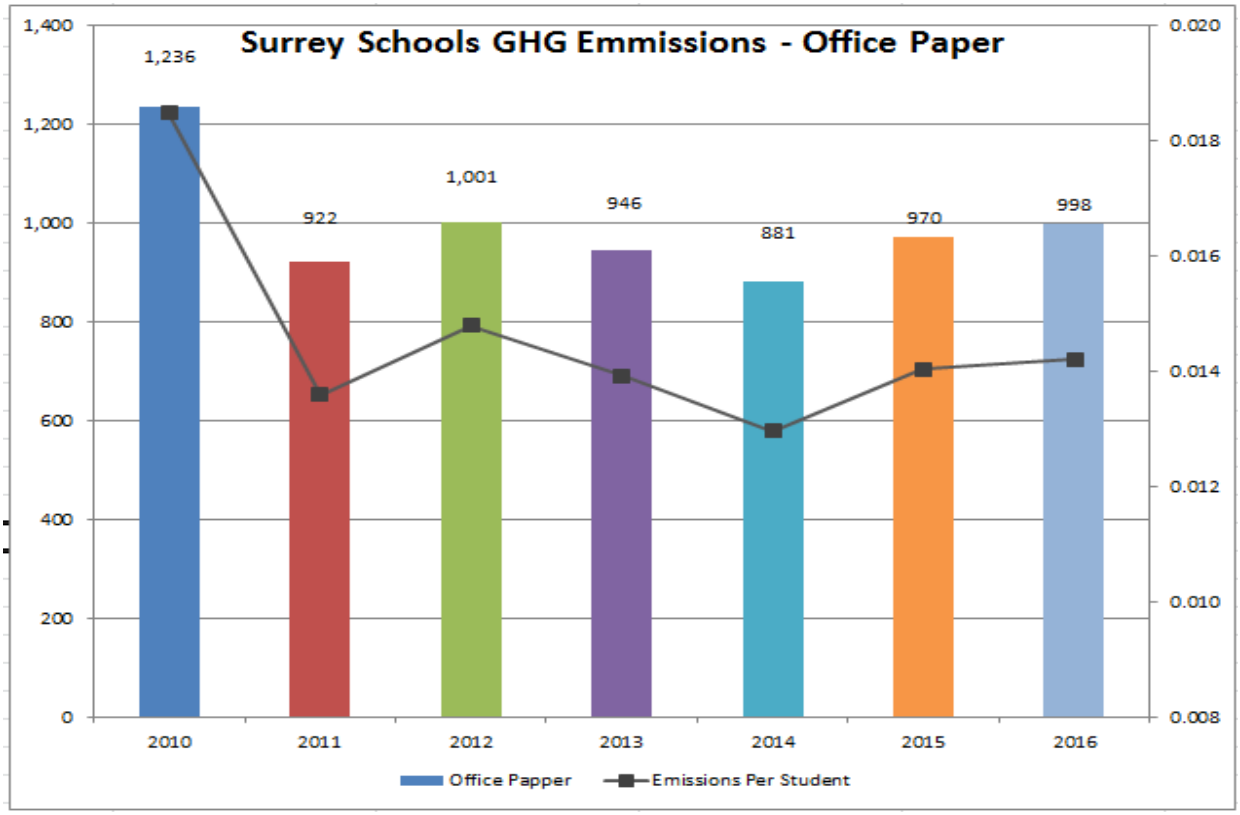


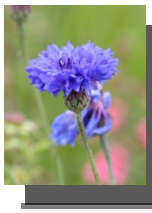
ACTION TAKEN TO REDUCE GREEN-HOUSE GAS EMISSIONS IN 2016

PAPER

In 2016 Surrey Schools' emissions from office paper accounted for 6.2% of the district's overall emissions; a level which has remained relatively constant over the past 6 years. Emissions from paper in 2016 were 998 tCO_2e. Although emissions from paper increased 3% compared to 2015 paper emissions, overall the district has reduced emissions from paper by 19% from the 2010 baseline.

Efforts to reduce emissions from office paper included recommending purchase of paper with a minimum of 30% recycled content. Efforts to reduce paper consumption in 2016 involved creating a paper reduction campaign toolkit for teams participating in the Energy Conservation Cup competition amongst secondary schools and encouraging paperless meetings and reuse of 'good on one side' paper.





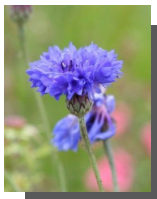
ACTION TAKEN TO REDUCE GREEN-HOUSE GAS EMISSIONS IN 2016

Office Paper—Emissions Per Student

Year	Paper Emissions	Students	Emissions/Student
2010	1,236	66,902	0.018
2011	922	67,792	0.014
2012	1,001	67,699	0.015
2013	946	67,942	0.014
2014	881	67,964	0.013
2015	970	69,136	0.014
2016	998	70,228	0.014

After an initial decrease in emissions in 2011, analysis shows that emissions from paper have remained relatively stable in the past 6 years on an emissions per student basis. While the overall amount of paper purchased in the district increased in 2016 compared to 2015, the increase was only 1.6%. The increase in emissions from office paper of 3% was thus due in part to the purchase of more virgin paper and less paper with 30% or more recycled content. This points to the need for ongoing efforts to communicate the benefits and encourage the purchase of paper with a higher recycled content.





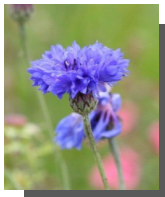
BUILDING A CONSERVATION CULTURE

Surrey schools is working to create a culture of conservation by engaging staff and students in the district's energy and emissions reduction efforts. In 2016 students and staff at many schools across the district participated in environmental stewardship initiatives delivered, coordinated or supported by the Energy Management and Sustainability program while many others had school-based Green Teams and initiated their own school-based environmental stewardship actions.

Students and staff at Surrey Schools are creating a culture that makes energy conservation an everyday activity. Through the district's "Turn it Off Before You Take Off" shut-down campaigns prior to winter, spring and summer breaks, staff and students are proving that with small efforts they can reduce electricity consumption and save money by shutting down equipment when their schools are largely unoccupied.

In 2016 Surrey Schools ran the fifth annual inter-school energy challenge for secondary schools: the Energy Conservation Cup. The schools chose initiatives such as, Ugly Sweater Day, and "unplugged concerts" at lunch and promoted habit-changing actions such as turning off unneeded lights. Fraser Heights Secondary came out on top as the overall 2016 Energy Conservation Cup winner, saving an incredible 5.8% of their average energy use.





GREEN BUILDINGS

Surrey Schools new construction projects are built to a higher level of energy efficiency than the standard building code.

Three building sites are LEED (Leadership in Energy and Environmental Design) certified:

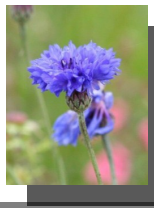
- Woodward Hill Elementary (LEED Gold), 6082 142 Street
- District Education Centre (LEED Gold), 14033 92nd Avenue
- Adams Road Elementary (LEED Silver), 18228 68 Avenue

Six sites have been constructed with Energy Efficient Lighting Design:

- Katzie Elementary, 6887 194A Street
- Sunnyside Elementary, 2828 159 Street
- Goldstone Park Elementary, 6287 146 Street
- Fraser Heights Secondary addition, 16060 108 Avenue
- Panorama Ridge Secondary addition, 13220 64 Avenue
- Resource Education Centre, 14123 92 Avenue

An energy study has been completed for Surrey's new Salish Secondary school in the North Clayton Area under the BC Hydro New Construction Whole Building Design program. Construction on the new energy efficient school began in 2016.





PLANS TO CONTINUE REDUCING EMISSIONS

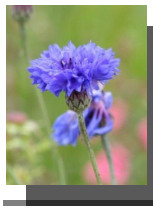
The largest proportion of Surrey Schools' GHG reduction initiatives will continue to be focussed on energy conservation within our schools and administrative facilities, which are the largest source of GHG emissions in the district.

Surrey schools will continue to update the district's Strategic Energy Management Plan, including assessing the energy performance of each school or site in the district and identifying opportunities for future energy efficiency projects that will enhance performance and reduce energy consumption of buildings.

Surrey Schools is continuing to implement the District's comprehensive energy conservation program and there are number of energy efficiency projects slated for 2017 including:

- Lighting retrofits converting from fluorescent to LED lighting at three schools
- Exterior lighting retrofits at three schools
- Upgrades to heating systems (boiler plants) at 2 secondary schools and engineering studies for two future boiler upgrades
- Mechanical system upgrades at two elementary schools
- New energy efficient domestic hot water heater at one secondary schools
- Complete replacement of building automation system at one secondary school
- Building automation system upgrades at three schools
- Energy efficiency modifications to the building automation systems at two elementary schools and the District Education Centre
- Lighting audits at three schools
- Level 2 energy studies at three schools and recommissioning at three schools





OTHER SUSTAINABILITY INITIATIVES

Surrey Schools will continue to access incentive funding from key energy conservation partners and promote and pursue cost effective energy conservation projects. In addition to energy efficiency projects, Surrey Schools will continue to support school energy conservation through energy conservation campaigns, green teams and district-wide energy awareness programs and competitions.

Surrey Schools' commitment to sustainability goes beyond reduction of greenhouse gas emissions and touches on areas such as waste management, procurement, education and engagement, and others. Below are just a few highlights of our work and upcoming plans in those other areas:

- With a comprehensive energy management policy in place, in 2016 Surrey Schools began to formalize the district's commitment to environmental stewardship in an environmental sustainability policy. The policy will be in place in 2017 and work will begin to develop a comprehensive sustainability framework to support full implementation of the policy.

- In support of the district's 'Rethink Waste' strategy, in 2016 4-stream waste stations' were rolled out to all schools to promote higher diversion rates. In 2017 the district will begin to measure and track diversion rates. Many schools are conducting waste audits to assess what items are being sent to landfill that could be recycled. Waste audit results are used to communicate to the school community to promote further waste diversion efforts.

- Surrey Schools plans to track and benchmark additional resources such as water and office paper. Employees will be engaged through social marketing campaigns to encourage conservation of these resources.

- Surrey Schools continues to participate in programs that support active transportation to and from work and school such as Bike to School/Work Week and the City of Surrey sponsored School Travel Planning program.