



2019 CARBON NEUTRAL ACTION REPORT



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For this year's report we chose to focus on the theme of local birds. Birds are one of the most common forms of wildlife seen and heard in urban areas and provide Surrey residents with a regular connection to nature. Diverse in form and habit, the health of the local bird population depends on having sufficient habitat. Education helps engender appreciation and in the case of wildlife, conservation. Many students have increased their environmental awareness and knowledge by participating in Surrey Schools' outdoor education programs.





DECLARATION STATEMENT

This Carbon Neutral Action Report for the period January 1st, 2019 to December 31st, 2019 summarizes our actions and GHG emissions but due to COVID-19 impacts, the provincial government has directed organizations to submit an interim report using their 2018 GHG emissions values for carbon offsets with final reporting of 2019 values due by October 2020. Aside from the 2018 emissions profile, this report contains information related to the actions taken in 2019 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2020 and beyond.

By June 30, 2020 Surrey Schools' final Carbon Neutral Action Report will be posted to our website at www.surreyschools.ca

***Despite continual growth, Surrey
Schools has reduced emissions by 15%***





EXECUTIVE SUMMARY

On behalf of Surrey Schools, we are pleased to submit our Carbon Neutral Action Report for 2019. We continue to enhance our focus on sustainability across our organization, both in our operations and through integration in the curriculum. Surrey Schools' Board of Education has adopted an environmental sustainability policy that recognizes the importance of the natural environment in building a healthy and sustainable future and acknowledges our responsibility to conduct business in an environmentally responsible manner.

Surrey Schools is committed to continuing to enhance our sustainability and is undertaking projects and efforts in key impact areas identified in a draft environmental vision and framework that were created as part of the process that will contribute to the development of a sustainability strategy. The culture of sustainability in our schools is the result of the actions and commitments by both students and staff.

Over the past year, we have continued our efforts to reduce our greenhouse gas emissions and overall environmental footprint. Our primary focus is on our largest source of greenhouse gas (GHG) emissions, the energy used to heat and power our schools and other buildings. 2019 saw successful completion of a number of energy efficiency projects as part of our comprehensive strategic energy management program.

Surrey Schools has achieved significant progress in reducing our GHG emissions and energy use over the past decade; since our 2010 baseline, we have been able to reduce emissions by 15% in spite of continual growth in facility space and student enrollment over this time period.

The scientific evidence shows that our climate is changing at an unprecedented pace. Provincial public sector emissions targets are ambitious but Surrey Schools is committed to doing our part to further reduce greenhouse gas emissions. In 2020 and beyond we will continue to deliver environmental sustainability educational programs and make investments in creating energy efficient and low carbon schools that provide comfortable learning spaces and protect the future of our students and staff.

Dr. Jordan Tinney
Superintendent of Schools

D. Greg Frank
Secretary -Treasurer





ABOUT SURREY SCHOOLS

The Surrey School District was formed in 1906 and is the largest of 60 school districts in the province of British Columbia. Surrey Schools is governed by an elected board of seven trustees representing the cities of Surrey and White Rock.

One of the fastest growing districts in the province, the Surrey School District is dedicated to the vision of leadership in learning.

The Surrey School District runs 133 buildings to support kindergarten to Grade 12 students in Surrey, White Rock, and Barnston Island and employs more than 11,000 teachers, administrators, professionals and support staff, all of whom work tirelessly to ensure that children are getting the best start they can and preparation to be the leaders of tomorrow.

Surrey Schools Quick Facts

72,996 K-12 Students

11,731 Staff including

6,255 Teachers

\$725 million Operating Budget

101 Elementary Schools

20 Secondary Schools

5 Learning Centres

4 Adult Education Centres

3 Administration Buildings

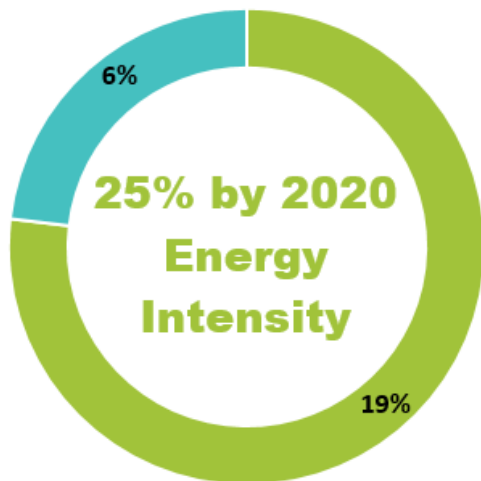
School populations ranging from **80 to 1,902 students**



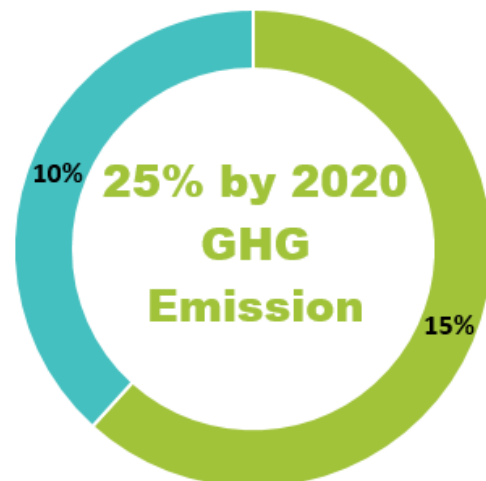


GREENHOUSE GAS TARGETS

In 2015 Surrey Schools established a five-year reduction target of 25% by 2020 for both greenhouse gas emissions energy intensity with the latter being weather normalized. The targets reference a 2010 baseline and we have made steady progress in reducing emissions. We will continue to work on reducing GHG emissions each year and will be updating our five-year target through to 2025.



■ Reduction Achieved ■ Remaining to Goal



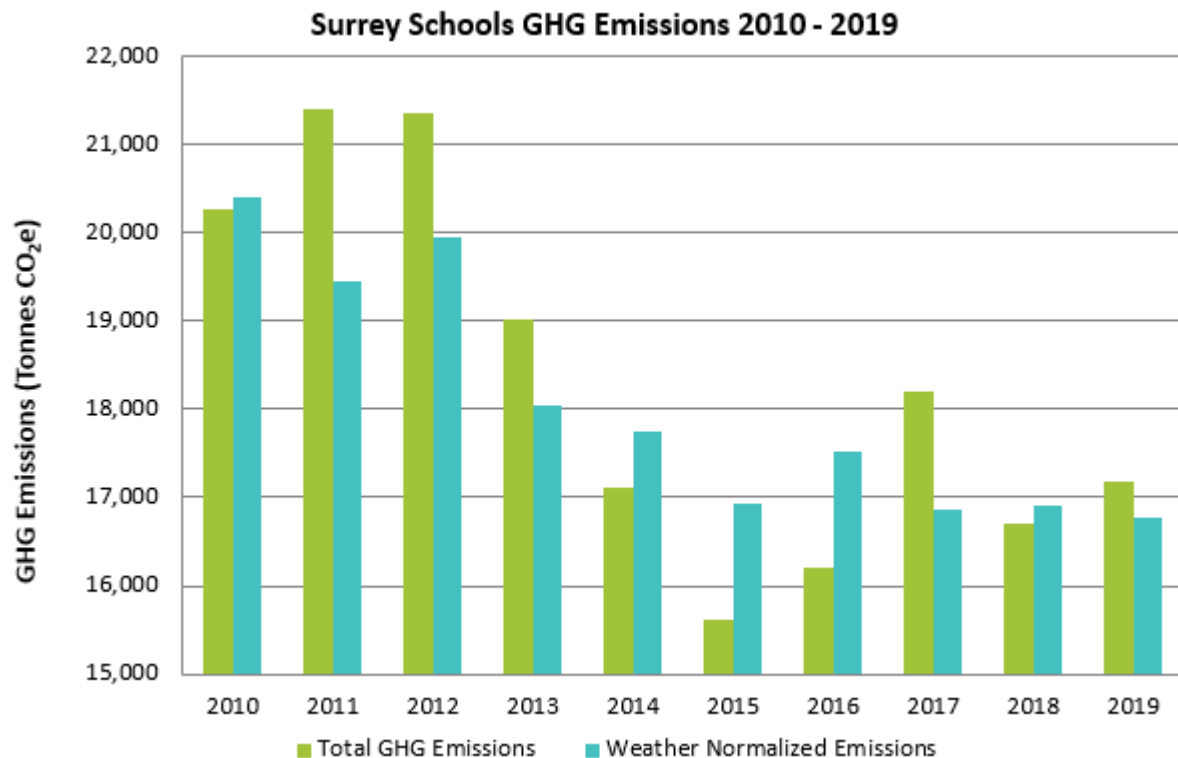
■ Reduction Achieved ■ Remaining to Goal





GREENHOUSE GAS TRACKING

As of 2019, Surrey Schools' efforts to reduce emissions have resulted in an absolute decrease of 15% and weather adjusted decrease of 17% compared to our 2010 baseline. This was achieved despite growth in the number of staff, facility space, and fleet size to accommodate increasing student enrollment. However, after adjusting for annual temperature weather fluctuations, 2019 emissions were in fact lower than 2018.

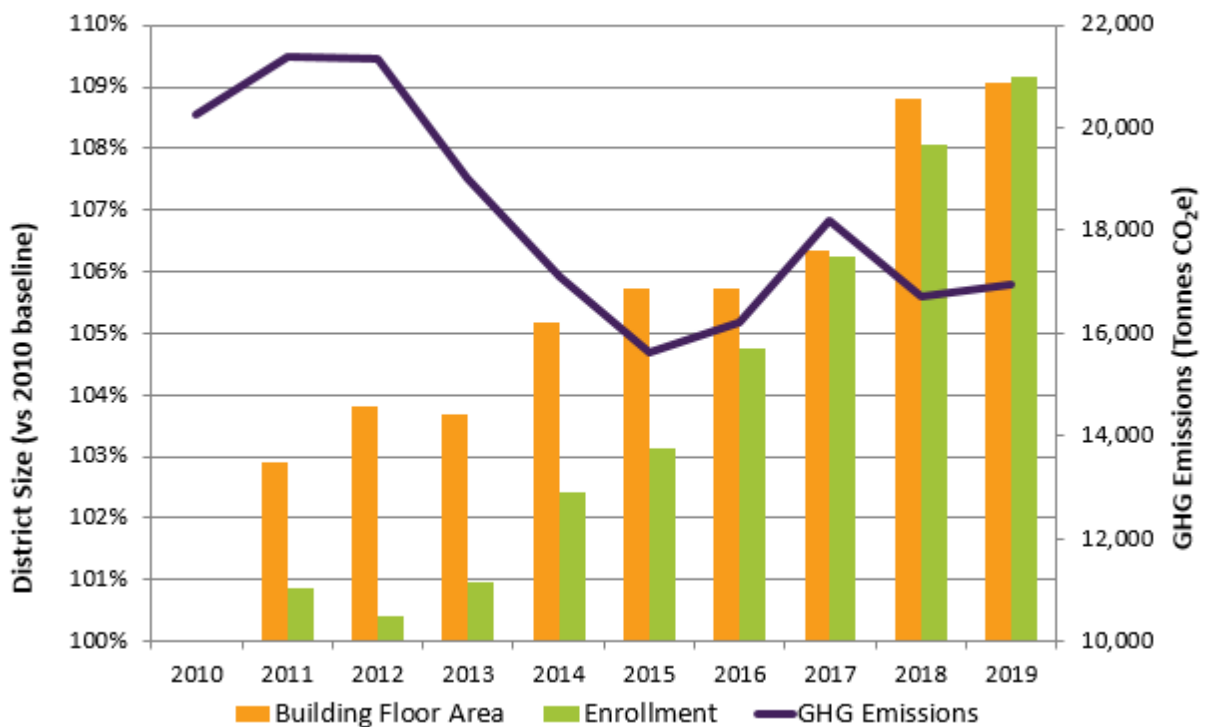




GREENHOUSE GAS EMISSIONS

Surrey Schools continues to grow and expand services to an increasing student population. Since our 2010 emissions baseline, Surrey Schools' useable facility space has increased by nine per cent and student enrollment has increased by nine 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 360 portables as instructional spaces. Yet, in spite of these demands, energy conservation efforts have reduced energy consumption and greenhouse gas emissions from the 2010 baseline.

Surrey Schools Growth vs Emissions 2010 - 2019





ACHIEVING CARBON NEUTRALITY

B.C.'s Climate Change Accountability Act (CCAA, formerly: Greenhouse Gas Reduction Targets Act, GGRTA) updated legislated targets for reducing greenhouse gas emissions:

- ♦ By 2030 GHG emissions are to be reduced by at least 40 per cent below 2007 levels;
- ♦ By 2040 GHG emissions are to be reduced by at least 60 per cent below 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.

Surrey Schools continues to implement projects that reduce GHG emissions but in order to achieve annual carbon neutrality, it is necessary to purchase carbon offsets which allow an organization to balance out its annual GHG emissions. The amount of carbon offsets purchased are equivalent to the calculated, annual number of tonnes of GHG emissions that were emitted. The money collected by the provincial government for carbon offsets is invested in quantified, emissions-reducing projects.

Owing to the impacts of COVID-19, the province directed Surrey Schools to re-submit its 2018 GHG emission number of 16,488 tonnes of carbon dioxide equivalent (tCO₂e) as the interim value for 2019 offsets with financial adjustments to be made the following year. At a cost of \$25/tonne, Surrey Schools' total offset investment for 2019 is \$412,200 plus tax.





INTERIM 2019 REPORTED EMISSIONS & OFFSET SUMMARY*

School District #36 (Surrey) GHG Emissions and Offset for 2018 (tCO ₂ e)	
GHG Emissions created in calendar year 2018:	
Total Emissions (tCO ₂ e)	16,708
Total BioCO ₂	38.26
Total Offsets (tCO ₂ e)	16,488
Adjustments to GHG Emissions Reported in Previous Years:	
Total Emissions (tCO ₂ e)	0
Total Offsets (tCO ₂ e)	0
Grand Total Offsets for the 2018 Reporting Year :	
Grand Total Offsets Required (tCO ₂ e)	16,488
Total Offset Investment	\$412,200

* the summary numbers are interim values from the 2018 CNAR reporting. An updated report with 2019 numbers will be re-issued.

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 2019 calendar year, together with any adjustments reported for past calendar years. The Organization hereby agrees that, in exchange for the Ministry of Environment and Climate Change Strategy ensuring that these offsets are retired on the Organization's behalf, the Organization will pay within 30 days, 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 29, 2020

Signature

Date

D. Greg Frank

Secretary -Treasurer

Name

Title





2019 GREENHOUSE GAS EMISSIONS SOURCES

The following data are for 2019 emissions. Surrey Schools' GHG emissions are comprised of three main sources:

Buildings

GHG emissions from buildings result from the energy consumed to provide heating, cooling, ventilation and power to schools and other district facilities. These emissions account for 88% of our overall 2019 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 6% of the overall emissions.

Office Paper

Emissions categorized as supplies are indirect emissions originating from the district's use of office paper and account for 6% of the overall GHG emissions.

Emission Source	2019 GHG Emissions (tonnes of CO ₂ e)	2019 Results Compared to 2018	2019 Results Compared to 2010 Baseline
Buildings	14,976	3.1 % Increase	16 % Decrease
Fleet	1,212*	1.2 % Increase	0 % Increase
Paper	997	1.0 % Increase	19 % Decrease

*246 t of these emissions are from school bus fuel and exempted from payment of carbon offsets





2019 GHG ACTIONS - BUILDINGS

BUILDINGS

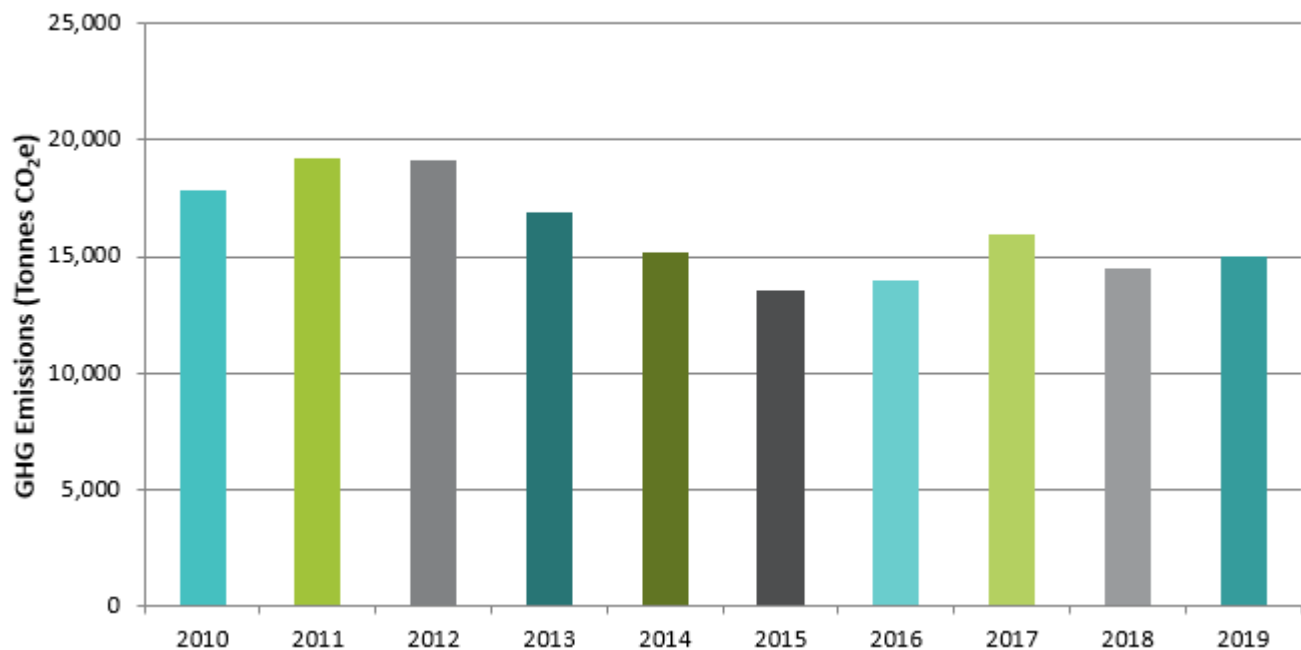
With a large portfolio of buildings, a strategic energy management approach is used to tackle energy use and greenhouse gas emissions. This is supported through integrated planning among key departments. Surrey Schools utilizes a three-pronged strategy to lower its carbon footprint: sustainable building design and retrofits, efficient building operations, and engaging staff and students.

Financing of energy efficiency work comes through the capital budget, the annual facilities grant, the support of our conservation partners BC Hydro and FortisBC, and other external funding where available.

Several energy conservation projects and campaigns were completed including:

- Boiler upgrades at four elementary schools
- LED lighting upgrades at three elementary schools
- Mechanical systems upgrade at one elementary school
- Automated building controls upgrade at one secondary school

Surrey Schools GHG Emissions - Buildings





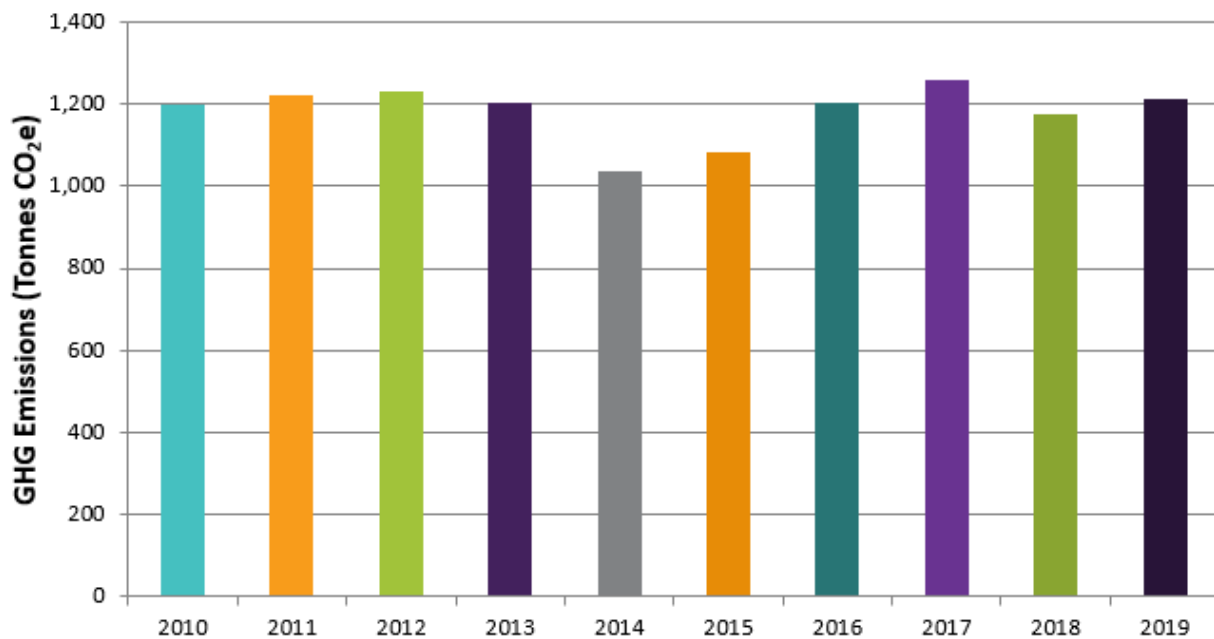
2019 GHG ACTIONS - FLEET

FLEET

In 2019 Surrey Schools' emissions from fuel for fleet vehicles accounted for 6% of the district's overall greenhouse gas emissions. Reported greenhouse gas emissions from the fleet in 2019 were 966 tonnes tCO₂e with the school bus portion, 246 tCO₂e, excluded from carbon offset purchase requirements.

2019 actions to reduce greenhouse gas emissions included replacing nineteen fleet vehicles with more fuel efficient models. 2019 did see an increase in fleet emissions of 3% from 2018 and 1.3% from the 2010 baseline but the delivery of more efficient vehicles may have been spread across the year. Also, a greater number of projects and more snow clearing will increase fuel use in a given year. Due to growth in the school district, the vehicle fleet has also grown to service more schools and to accommodate more students on buses. Owing to new technology in vehicles and the need to reduce fleet GHGs, it is expected that electric vehicles will be incorporated as suitable models become available. A study on electrical vehicle charging stations was completed for our main board office.

Surrey Schools GHG Emissions - Fleet



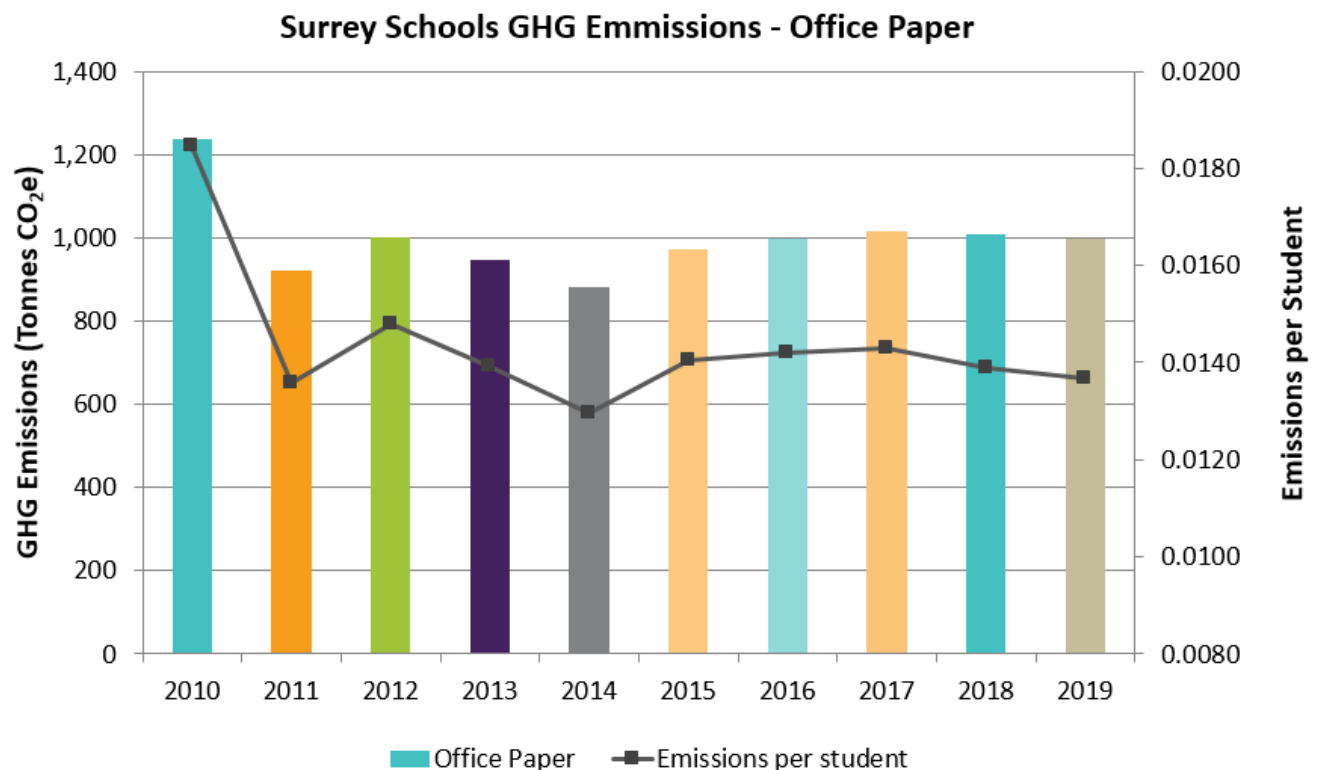


2019 GHG ACTIONS - PAPER

PAPER

In 2019 Surrey Schools' emissions from office paper accounted for 6% of the district's overall emissions, a level that has remained consistent since 2015. Overall the district has reduced emissions from paper by 19% from the 2010 baseline despite an increase in student enrollment by 9%. This translates to an a 26% reduction in paper emissions per student.

Surrey Schools' purchasing standards for office paper specify a minimum of 30% recycled content for office paper.





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 initiatives. In 2019 staff and students at many schools across the district participated in environmental stewardship initiatives and campaigns. School-based green teams and environmental clubs also have a big impact through their own unique, school-based environmental stewardship actions. Moreover, teachers in Surrey are taking a leadership role in making environmental, place-based and outdoor education a priority through networks such as Surrey Environmental Educators of District #36 (SEED36) and the East Kensington Outdoor Learning (EKOLogy) program.

Students and staff at Surrey Schools are creating a culture that makes conservation an everyday activity and proving that with small efforts they can reduce energy and paper consumption and increase waste diversion rates. In 2019 the eighth annual Energy Conservation Cup sustainability competition was held in secondary schools. Across the whole organization vacation-shutdown campaigns were held.



Sullivan Heights Secondary - 2019 Energy Conservation Cup Winner





GREEN BUILDINGS

Surrey Schools' new construction projects are built to a higher level of sustainability and energy efficiency than required in the standard building code and incorporate LED lighting and also low-carbon heat pumps as the primary heating source.

Several schools have been constructed with these standards and Salish Secondary, the most recent, is producing 26% less GHGs and is operating at less than half the energy intensity of other secondary schools in the district.

Constructing energy efficient buildings with fewer emissions requires integrated design and energy modelling early in the planning process.

The four schools listed below are at various stages of construction and will be built with energy efficient and low carbon designs resulting from input from the BC Hydro New Construction Whole Building Design program.

- ◆ Grandview Heights Secondary
- ◆ Maddaugh Road Elementary
- ◆ Douglas Area Elementary
- ◆ Edgewood Drive Elementary



Salish Secondary—Photo credit: DGS Construction Company Ltd.





ONGOING EFFORTS TO REDUCE EMISSIONS

The largest proportion of Surrey Schools' GHG reduction initiatives will continue to be focused on energy efficiency and conservation within our schools and administrative facilities, the largest source of GHG emissions in the district. Surrey Schools is actively pursuing low carbon efficiency in both new construction and retrofit projects and this will be a key strategy in the coming years.

In any large organization planning is essential in reaching targets and goals. 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 greenhouse gas emissions from buildings.

Surrey Schools is continuing to implement the district's comprehensive energy management program and there are number of energy efficiency projects slated for 2020 including:

- LED Lighting retrofits at ten schools
- Upgrades to heating systems (boiler plants) at two elementary schools and
- Replacing natural gas-fired rooftop units with low-carbon heat pumps at one elementary school
- Building controls recommissioning at five schools
- Installation of electric vehicle charging stations at the school board office

Beyond 2020, Surrey Schools will continue to evaluate pathways to achieve the province's public sector emissions reduction targets, set internal GHG targets, and further incorporate sustainability into our operations.

