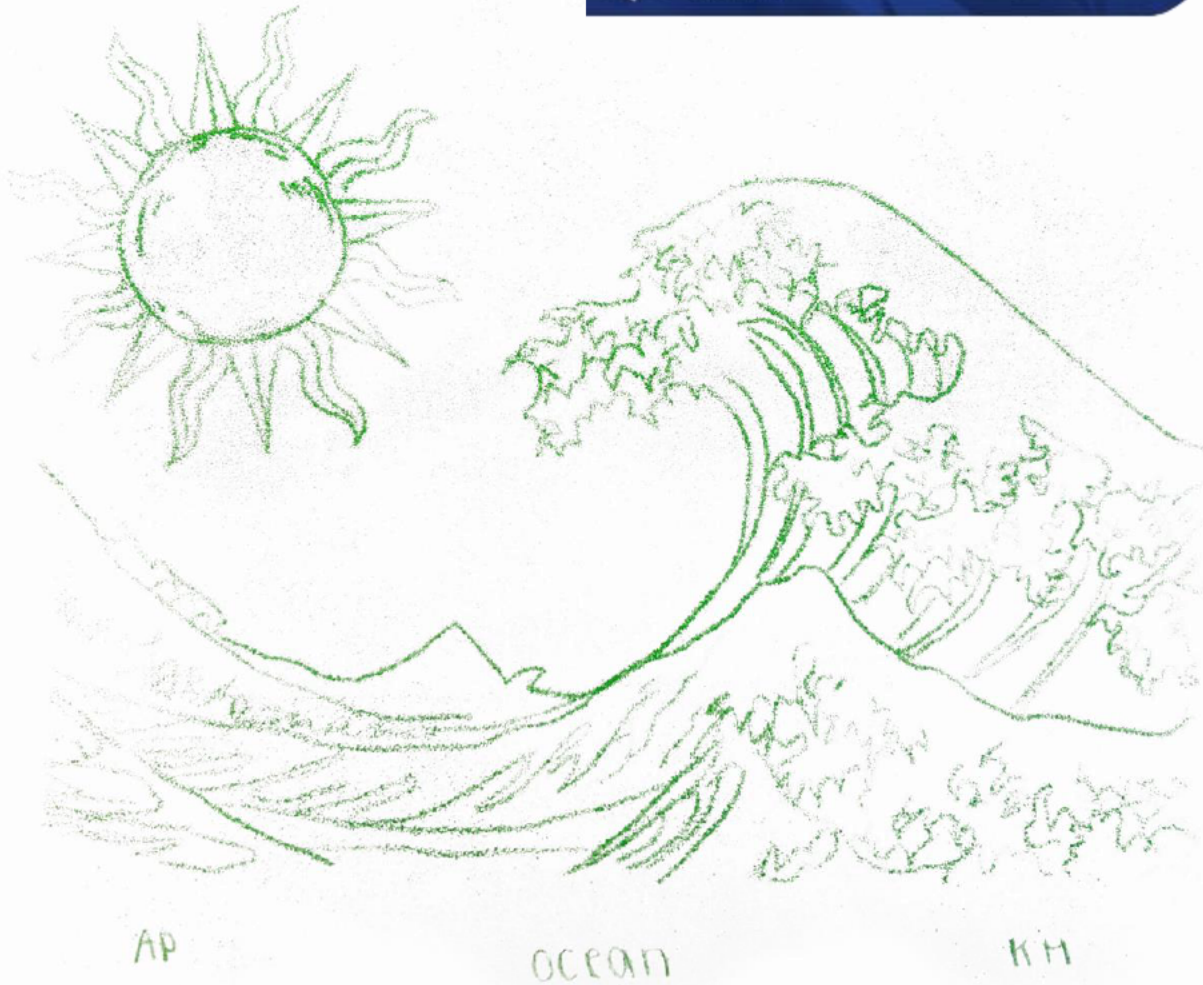


# 2020 Climate Change Accountability Report



One *Learning* Community



Picture By: Kate Montgomery

Grade 9: Mount Douglas Secondary

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## Declaration Statement:

This Climate Change Accountability Report for the period January 1, 2020 to December 31, 2020 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2020 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2021 and beyond.

By June 30, 2021 the Greater Victoria School District 61 final 2020 Climate Change Accountability Report will be posted to our website at <https://www.sd61.bc.ca/news-events/climate-action-initiatives/>

## Executive Summary

On behalf of the Greater Victoria School District, I am pleased to submit our Carbon Neutral Action Report for 2020.

This year will be forever defined by the emergence of the global pandemic known as COVID19. The pandemic has remained at the forefront of our thoughts and conversations throughout this period and continues to do so well into 2021. In spite of such an unprecedented event, we have continued to push forward in its midst, working towards meeting provincial greenhouse gas reduction goals.

Our board remains committed to the reduction of greenhouse gases and has not lost perspective regarding the climate emergency that we are currently facing. Funding for boiler and window upgrades, as well as the hiring of an energy manager at the conclusion of the year, have demonstrated that efforts continue now and into the future.

Our principle effort is one of conservation, and is primarily focused on our buildings. Buildings are by far our largest source of our GHG emissions and present the greatest opportunity to further GHG reduction. Conservation presents the most cost effective way to achieve our goals and therefore indirectly makes more funds available for alternative efforts in the future, including electrification and zero emission generation.

Our conservation efforts are demonstrated through a variety of projects throughout the district. Projects tend to take advantage of end of life opportunities, greatest return on investment, available incentives and rebate programs, as well as overall need.

2020 Projects are highlighted by:

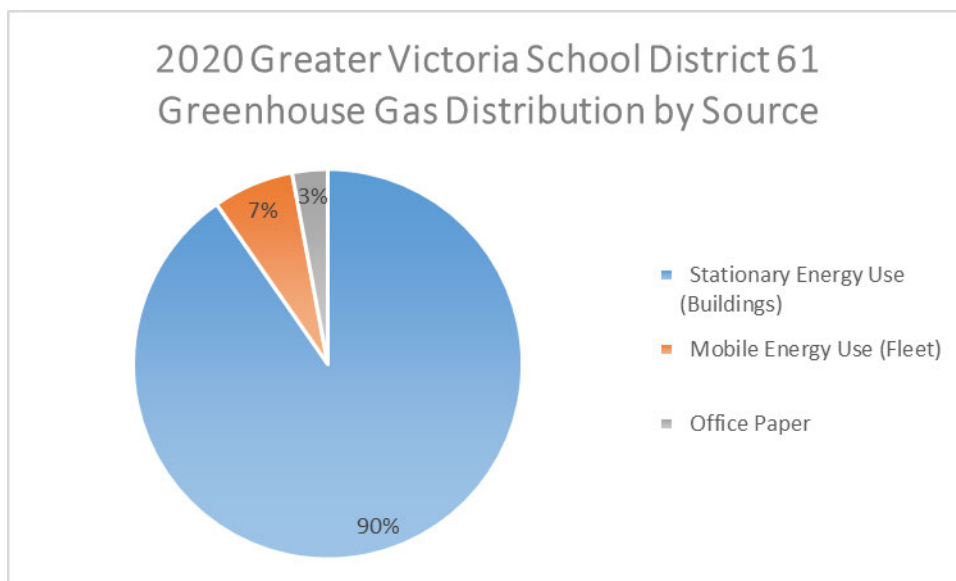
- Replacement of two oil fueled boilers at the SJ Willis building with cleaner and more efficient natural gas
- Installation of a high efficiency condensing boiler at Victoria Secondary School
- Window upgrades at Mount Douglas Secondary School (phase 3)
- Joining together of portables at Campus view to reduce overall exposure and improve building envelope in addition to programmable thermostats, Heat recovery ventilation, and roof upgrades.
- Additional roofing improvements at Quadra building, Spectrum Gym, and Braefoot Elementary
- Complete LED lighting and controls upgrades of over 13 schools in 2020 alone

Conservation efforts have been challenged this year by COVID19. There is a need for increased ventilation, both through increased fresh air intake in our ventilation systems as well as open windows and doors throughout the heating season. As a result, this year's conservation efforts will not be fully recognized with measureable results until some level of normalcy prevails.

Although ventilation demands have produced an uptick in district wide GHG production, we can take some solace in current forecasted projections that show that we are on a pace to reach provincial guidelines for 2025 and ultimately 2030. The key to remaining on this course will be continued funding and commitment at the same level or above that which we have demonstrated since 2010.

# Greenhouse Gas Emissions

## Distribution:



The primary source for greenhouse gas emissions within the district has always been from buildings, and continues to be. Within our buildings, heating during the winter season accounts for the vast majority of our total emissions and consequently presents the largest opportunity for conservation as well.

Heating system upgrades, and improvement of building envelopes remain at the forefront of our efforts to reduce overall emissions. High initial investment costs are the biggest obstacle we face in this area.

While difficult to measure, programs that create behavioral change, awareness, and accountability will also be important as we continue to work towards achieving our goals. Unlike other mechanical improvements to buildings, these approaches can exist with very little capital investment. This is why we are currently working to develop policies and programs that will foster participation from all staff and students. Participation in the provincial Energy-wise network, and further development of green teams lead the way in 2020 and 2021.

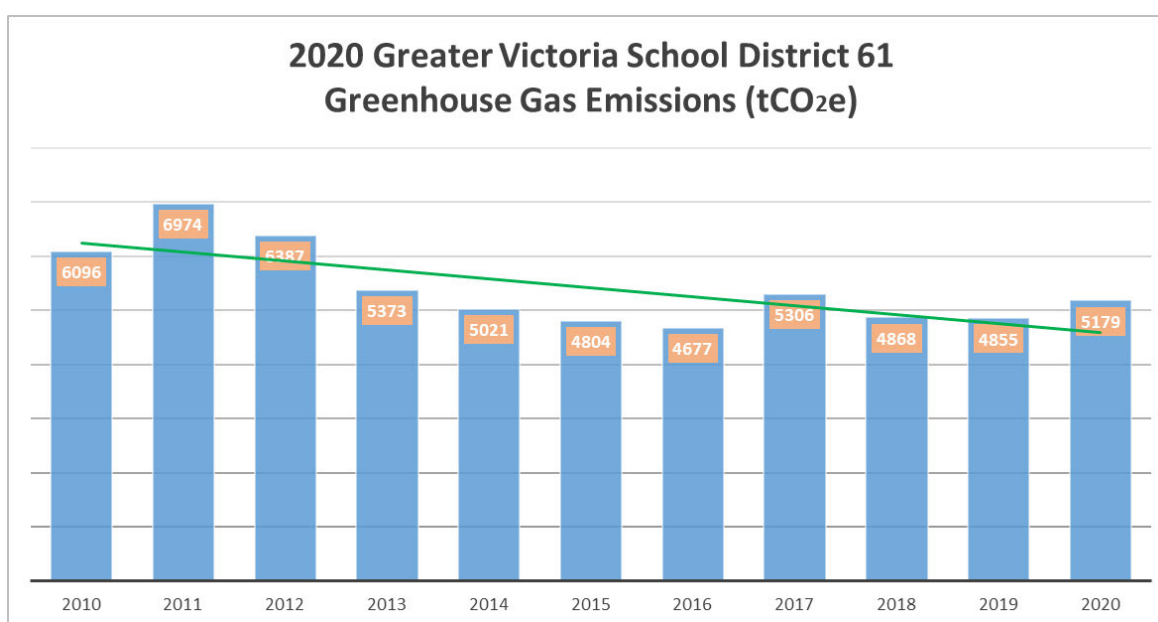
Mobile energy use and paper consumption account for just 10% of our emissions profile, but will not be ignored. 2021 will see continued development towards electrification of our fleet and EV charging infrastructure. Our policies call for use of 100% recycled paper whenever possible.

## Our goals:

At the Greater Victoria School district our goals for reduction of GHG emissions align with the goals of the province:

- 30% by 2025
- 40% by 2030 (fleet)
- 50% by 2030 (buildings)
- 60% by 2040

## Current Progress:



The above chart shows combined greenhouse gas emissions generated by our district for each year since 2010.

The trend-line (green) indicates the average trend across 2010 to 2020. The decreasing trend is the product of our efforts and investments since 2010. It represents green choices and an overall effort from everyone at the district.

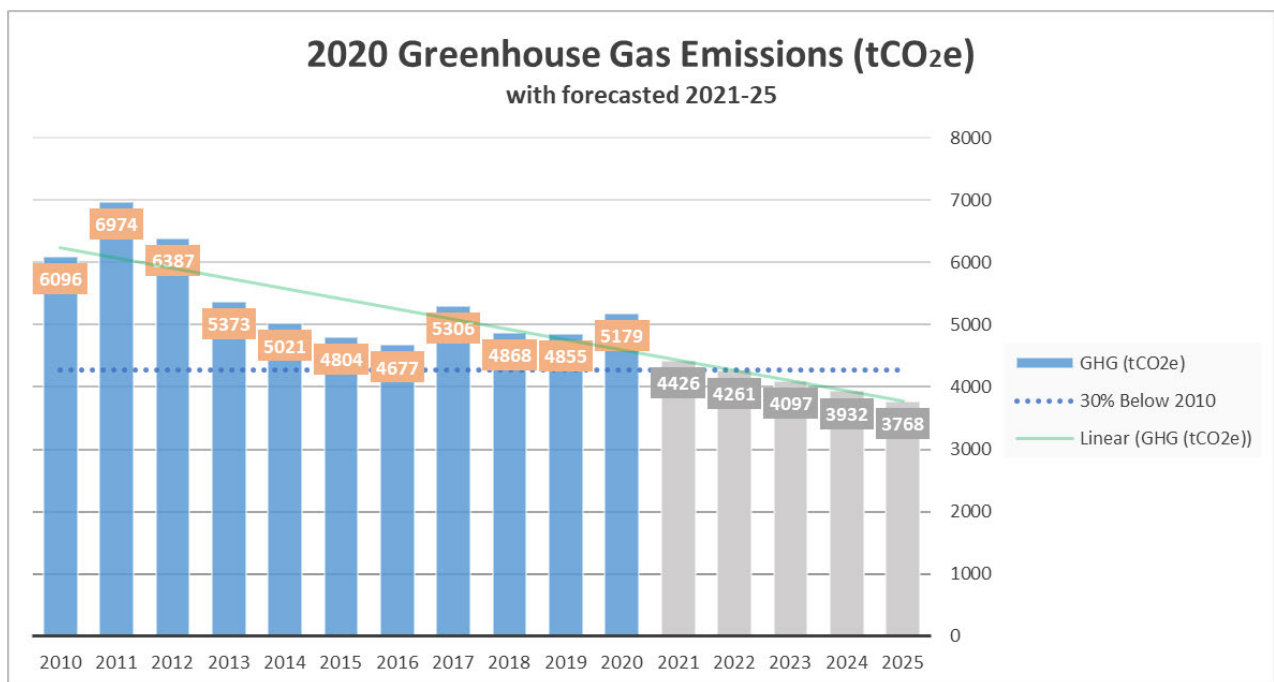
The uptick in 2017 reflects a year with a relatively high amount of heating degree days, as well as the beginning of adopting smaller class sizes. This uptick is common throughout the province. The uptick in 2020 is a reflection of increased ventilation during the heating season, in order to ensure a safer workplace during COVID.

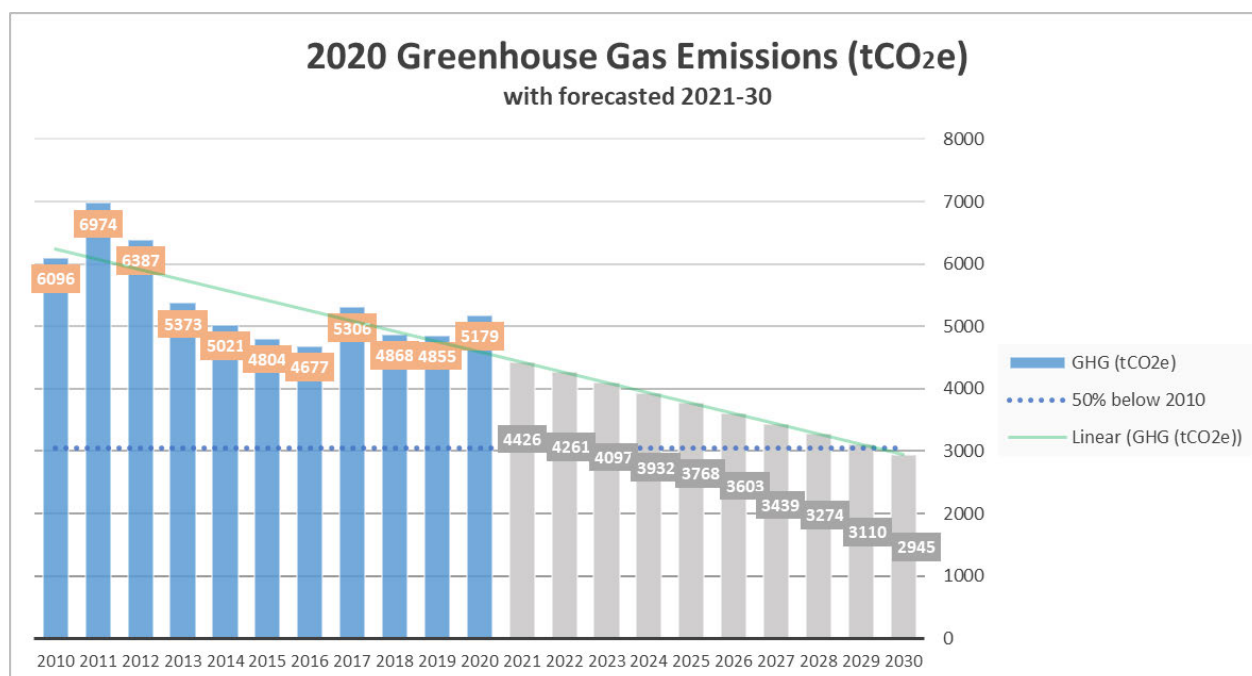
## Achieving our goals:

Looking ahead to 2025, we are excited to see that we are on pace to exceed the our first goal of 30% GHG emission reduction and are in a great position to further achieve 50% reduction by 2030.

While this chart is validation for our investments so far, it must not be mistaken for victory. We cannot simply coast across the finish line at this point.

In order to meet the 2030 projections, our investments and efforts must continue at our current pace. We will embrace new technologies, and move forward with new funding for additional GHG reducing projects. We must continue to hold ourselves accountable for waste and educate each other on best practices in our everyday activities.





## Actions Taken in 2020 to Reduce GHG

### Campus View Project:

Six portable classrooms were docked together under one insulated roof. The resulting structure has a far superior envelope with significantly less outside wall exposure and far less heating requirements.

Programmable thermostats, LED lighting, occupancy sensors, and heat recovery ventilation (HRV) were all added to further reduce energy consumption.

### Boiler Upgrade: Victoria Secondary

A high efficiency natural gas boiler was added to heat the newer industrial arts portion of Victoria Secondary School. This is phase 1 of the upgrade. Phase 2 will see an additional two high efficiency boilers replacing both remaining out dated boilers.

## Boiler Upgrade: SJ Willis

The district uses SJ Willis as a temporary solution to accommodate schools undergoing seismic upgrades. Built in 1949, SJ Willis' heating system was well past its life expectancy and inefficient. Its existing boilers were the last in the district to use heating oil, and were in dire need of repairs. This project saw two oil fired boilers replaced with a single newer natural gas boiler as well as extensive repairs and replacements of steam traps.

While overall energy use at the site has increased due to populating an entire secondary school in the midst of COVID ventilation protocols, we have successfully avoided a much worse situation.

## Windows: Mount Douglas (Phase 3)

Phase 3 of the Mount Douglas secondary window upgrades completed over the summer in 2020. Replacing single pane windows in East-West wing.

## Roofing Upgrades:

Campus view Elementary, Braefoot Elementary, Spectrum Community (small gym), SJ Willis gym, and Quadra St. Office building all saw upgrade to their roofs. Improving their thermal barrier and reducing heating requirements.

## LED Lighting and Controls upgrade:

Complete LED Lighting and Controls upgrades took place across 13 schools in 2020 alone. These upgrades will conserve an estimated 975,000 kWh per year. BC Hydro electricity is a considerably clean source of energy, however, this decrease in electrical building load and increase in electrical capacity could be considered the first step towards further electrification of heating. Electrification of heating will need to play a significant role in GHG reduction as we move beyond our 30% reduction targets.

## Emissions and Offsets Summary Table

<b>Greater Victoria School District 61 2020 GHG Emissions and Offsets</b>	
<b>GHG Emissions created in Calendar Year 2020</b>	
Total Emissions (tCO <sub>2</sub> e)	5191
Total BioCO <sub>2</sub>	12.5
Total Offsets (tCO <sub>2</sub> e)	5178
<b>Adjustments to Offset Required GHG Emissions Reported in Prior Years</b>	
Total Offsets Adjustment (tCO <sub>2</sub> e)	6
<b>Grand Total Offsets for the 2020 Reporting Year</b>	
Grand Total Offsets (tCO <sub>2</sub> e) to be Retired for 2020 Reporting Year	5184
Offset Investment (\$25 per tCO <sub>2</sub> e) [Grand Total Offsets to be Retired x \$25/tCO <sub>2</sub> e]	\$129,600

## History of Greenhouse Gases and Offsets

Year	Totals	Emissions	Offsets Purchased
2010	6082	6096	\$152,050
2011	6950	6974	\$173,750
2012	6362 + 22	6387	\$159,050
2013	5545 - 172	5373	\$134,325
2014	5041-20	5021	\$125,525
2015	4823-19	4804	\$120,100
2016	4449+228	4677	\$116,925
2017	5290+16	5306	\$132,250
2018	4849 + 19	4868	\$120,566
2019	4856	4856	\$120,566*
2020	5178 + 6	5184	\$129,600

\* Offsets purchased for 2019 were based on 2018 to allow for COVID disruptions.

**Retirement of Offsets:**

In accordance with the requirements of the *Climate Change Accountability Act* and Carbon Neutral Government Regulation, **The Greater Victoria School District 61 (the Organization)** is responsible for arranging for the retirement of the offsets obligation reported above for the 2020 calendar year, together with any adjustments reported for past calendar years (if applicable). The Organization hereby agrees that, in exchange for the Ministry of Environment and Climate Change Strategy (**the Ministry**) 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.

**Executive sign-off:** *[To be signed by a senior official, such as CEO, COO or Superintendent]*

_____ Signature		May 18, 2021 Date	
_____ Shelley Green Name (please print)		_____ Superintendent Title	

Please scan and email the completed form to [Carbon.Neutral@gov.bc.ca](mailto:Carbon.Neutral@gov.bc.ca)