

2021 Climate Change Accountability Report



One *Learning* Community



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Declaration Statement:

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

By June 30, 2022 the Greater Victoria School District 61 final 2021 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



Our goals:

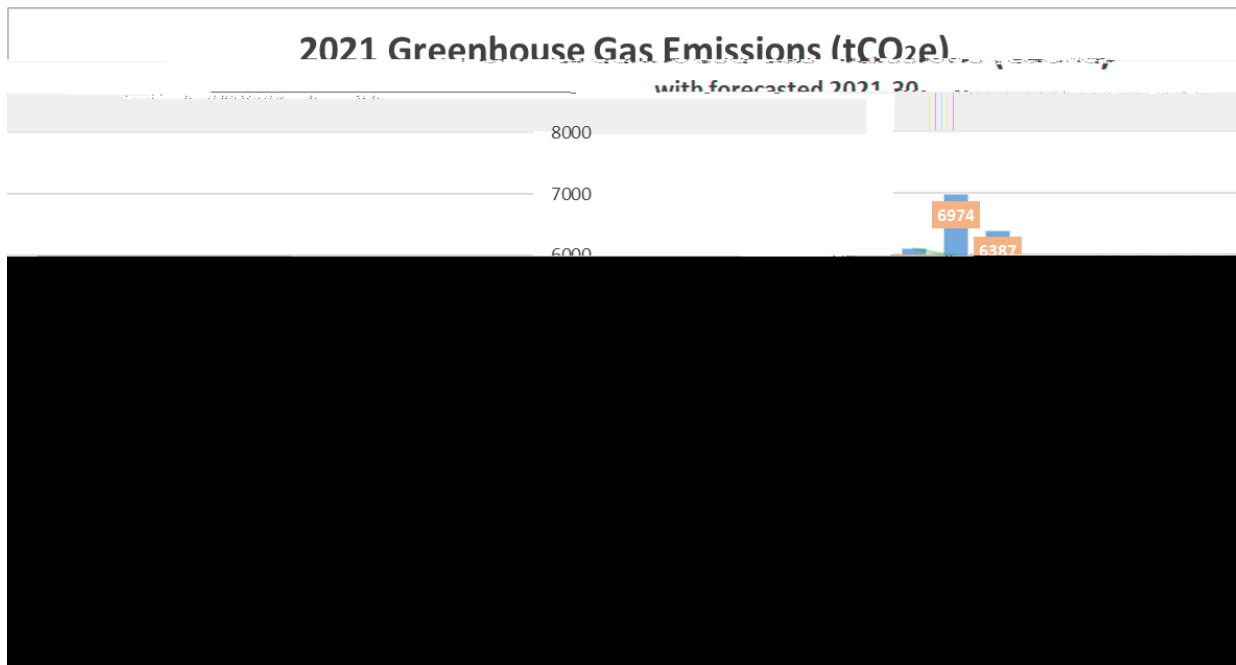
At the Greater Victoria School district our goals for reduction of GHG emissions align with the goals of the province



Achieving our goals:

Looking ahead to 2025, we a





Actions Taken in 2021 to Reduce Emissions

Spectrum Community Secondary School Boiler Upgrade:

This project began in the summer of 2021 and was completed just in time for heating season. It involved the replacement of obsolete and failing natural gas boilers with new and efficient condensing boilers. Heating system controls were also updated in order to integrate the new components.

Results are showing a 25% overall decrease in natural gas consumption across the entire school since the retrofit.

Torquay Elementary Photo Voltaic Install:

A large 24kW photovoltaic installation was completed at Torquay Elementary School. This install went online in May 2021 and will have generated over 20 MWh of clean electricity by the end of its first year of operation.

Energy Efficient Boiler Additives:

Rogers Elementary, Lakehill Elementary and Monterey Middle School were targeted for a new pilot study that will attempt to achieve the same results experienced at other educational facilities.

This pilot study involves the introduction of an additive that facilitates better conduction of heat within the boiler system. Condensing boilers were targeted due to innate advantages to lower operating temperatures. This should result in higher efficiencies overall. Typical results in other studies have shown an average of 8.4% increase in efficiency. We are very excited to see similar results in our own buildings, however we will need to wait until normal ventilation protocols return in order to compare with baseline years.

LED Lighting and Controls Upgrade:

Complete LED lighting and controls upgrades took place across 11 schools in 2021. These upgrades will conserve well over 600 MWh 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.

Plans to Continue Reducing Emissions

Buildings

Heating and Ventilation:

With the vast majority of the district carbon footprint associated with maintaining building temperature and air quality, this will always be a prime focus. Unfortunately major upgrades are expensive and in most cases will only justify their costs when replacing equipment that is at or near end of life. The District is currently preparing for the installation of 2 new high efficiency condensing boilers at Victoria High as well as a second phase of DDC upgrades at Spectrum Community Secondary School. There are also plans for five new projects within the 23/24 capital plan

Building Envelope:

Window and roofing upgrades/repairs are ongoing throughout the district. Mount Douglas Secondary School's upgrade to energy efficient windows is currently underway and now into phase 4.

Boiler Additives:

Pending a review of our existing pilot program, we will look to expand on the use of boiler additives to



Re-commissioning and retro-commissioning of building systems:

Excellent incentive programs exist to investigate and correct issues that prevent buildings from operating the way they were intended. Other findings may bring to light opportunities to incorporate changes in original design that will further enhance performance of older buildings.

Offset Investment (\$25 per tCO ₂ e) [GrandTotal Offsets to be Retired x \$25/tCO ₂ e]	\$138,600
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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		

Retirement of Offsets:

In accordance with the requirements of the Climate Change Accountability Act and Carbon Neutral Government Regulation, The Greater Victoria School District (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:

Executive Sign-off:

Signature Date

Name (please print) Title

[Please email your signed, completed report to Carbon.Neutral@gov.bc.ca by no later than May 31, 2022.]

