



2021 PSO Climate Change Accountability Report

School District No. 67 (Okanagan Skaha)



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Declaration Statement

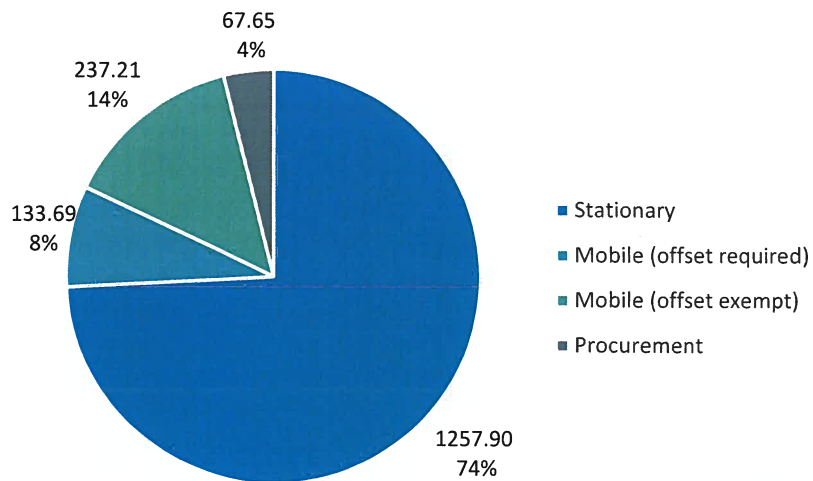
This PSO Climate Change Accountability Report for the period January 1, 2021 to December 31, 2021 summarizes our greenhouse gas (GHG) emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2021 to reduce our GHG emissions, and our plans to continue reducing emissions in 2022 and beyond.

By June 30, 2022, School District No. 67's final 2021 Climate Change Accountability Report will be posted to our website at <https://www.sd67.bc.ca/apps/pages/CCAR>.

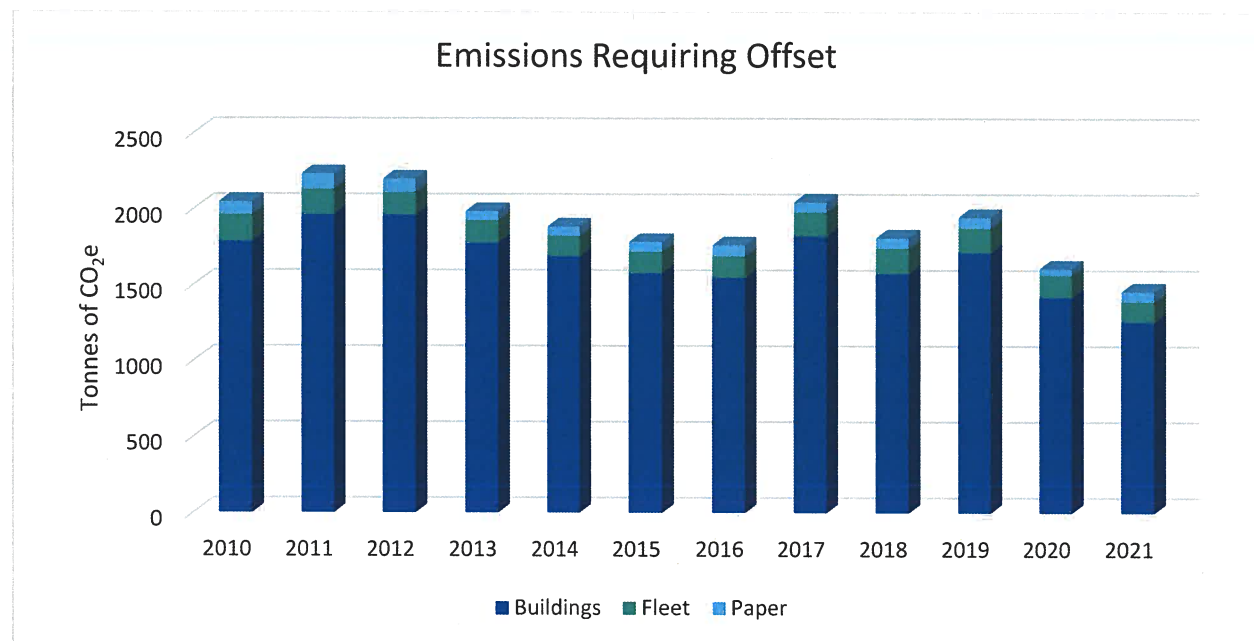
Emission Reductions: Actions & Plans

From January 1, 2021 to December 31, 2021, School District No. 67 (Okanagan Skaha) produced a total of 1,696 carbon dioxide equivalent tonnes (CO₂e) of emissions. 1,258 tonnes of CO₂e, came from stationary energy, such as heating, air conditioning, and lighting. 371 tonnes of CO₂e were derived from mobile energy, such as maintenance vehicles, grounds equipment, and school buses. 68 tonnes of CO₂e came from paper supplies.

The total emissions include our school bus fleet which produced 232 tonnes of CO₂e; however, those emissions do not require offset. Five tonnes of CO₂e were derived from the combustion of biogenic sources therefore they are also offset exempt. With this, the total requiring purchase of offset came to 1,459 tonnes of CO₂e.



Our target, established by the Ministry of Environment and Climate Change Strategy, is to reduce annual greenhouse gas emissions in comparison to the 2010 baseline year. Public sector organizations aim to reduce emissions from stationary sources by 50% and fleet sources by 40% by 2030. Overall, School District No. 67 has seen a downward trend in all categories since 2010.

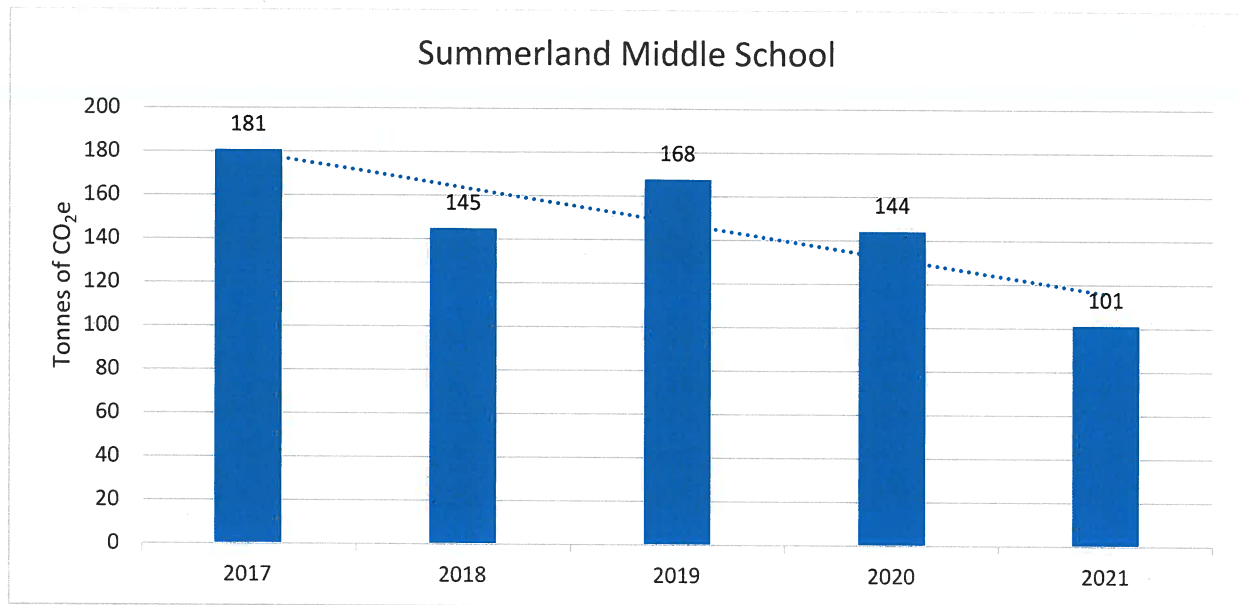


Source of Emissions Requiring Offset	Emissions Requiring Offset	% of Total Offsets in 2021	Compared to 2010 Baseline
Buildings	1,257.90	86%	30% decrease
Fleet	133.69	9%	24% decrease
Paper	67.65	5%	20% decrease
Total Requiring Offset	1459.24	-	28% decrease

Stationary Sources

The District is continuing its efforts to reduce carbon emissions by upgrading its mechanical and electrical systems. In December 2021, the District completed Phase I of a mechanical upgrade at Summerland Middle School. This school has been our highest emitter over the past few years, equating to 10% of the District's stationary carbon production. A noticeable reduction in

emissions was apparent in the latter half of 2021, with natural gas consumption slowing considerably. In the previous four years, this school averaged 160 tonnes of CO₂e annually, whereas 2021 generated only 101 tonnes of CO₂e.



Phase II at Summerland Middle School includes the construction of a geo-field and is planned to commence in the fall of 2022. By the end of the 2022, we expect to see a significant reduction in emissions and an increase in occupant comfort at this location.

The District plans to continuing reducing stationary emissions in coming years with a number of upgrades. A mechanical upgrade for Summerland Secondary began in January of 2022 and is expected to be complete in September 2022. This upgrade will be the final step in reducing emissions at this location, following the construction of a geo-exchange system. In addition, KVR Middle School is being considered for a three-phase mechanical upgrade that focuses on boilers, heat pumps, and chillers. Each of these projects will support the District in lowering costs and moving towards its carbon neutral goal. Attention in coming years will focus on retrofitting old equipment and finding more efficient alternative heat sources, starting with the highest emitters.

Mobile Sources

The first electric school bus was added to the District's Summerland fleet in May of 2021. Between June and December of that year, approximately 2,500 L of fuel was saved using the electric bus. A second EV bus is expected to arrive in the spring of 2022 which is scheduled to service the Penticton area. The District also participated in a bus route optimization project over the last four years that aims to reduce unnecessary school bus travel.



In order to continue reducing emissions, the District will be looking into electric fleet vehicles as options for work trucks and utility vans become available. We have currently installed one charging station at our Summerland bus yards and will be setting up a second within the District in 2022. In the future, the District plans to conduct a feasibility study and bring in an engineer to prepare for further charging infrastructure at its Maintenance Shop.

Paper Consumption

As we move through the digital age, students and staff are increasingly spending time on computers. As a result, many departments have moved away from paper files and transitioned to digital records. This has created a downward trend of paper consumption in our District. Since

2010, we've seen a 20% decrease in paper use. In coming years, we will be exploring the viability of purchasing recycled paper for our schools.

The District has also introduced a book recycling program through Planet Earth Recycling. While this project does not affect our reported offsets, it reduces emissions and contributes to environmental sustainability.

Climate Risk Management

School District No. 67 has felt the effects of climate change over the past number of years, with 2021 displaying noticeable impacts. Substantial incidents that lead to the evaluation of operational procedures included:

- An extreme heat wave in June that saw temperatures up to 45°C.
- Major flooding in November that caused highways to close for an extended time.
- Forest fires across the South Okanagan and throughout the province.
- Extreme cold and heavy snowfall in December and January.

Extreme temperatures have raised many concerns across the District in 2021 as additional costs were incurred to maintain comfort in buildings and fix HVAC units that could not keep up. During the heat dome in June, multiple air conditioning units were not functional due to these aberrant temperatures.

As wildfires become a routine occurrence in the summers, we see increased requests to use gymnasiums and fields as staging areas for fire crews and evacuations centres for displaced families. In 2020, a wildfire in the Wiltse area came within a concerning distance of our Maintenance Shop. Staff moved all work vehicles to a secondary location to reduce pressure in the event of evacuation. We expect to see more of these types of events as climate change ensues.

November rain brought floods and mudslides that damaged a majority of the main highways in British Columbia. This event left the province in a state of emergency by destroying infrastructure and cutting off key supply chains to our area.

In December and January, we saw the highest number of school bus cancellations to-date due to heavy snowfall in short periods of time. A week in December also saw temperatures reaching -25°C, again making it difficult for heating units to keep up. Staff overtime hours also increased over this period to ensure snow was clear from parking lots and walkways. These events have spurred many conversations around emergency plans and operational procedures.

Other Sustainability Initiatives

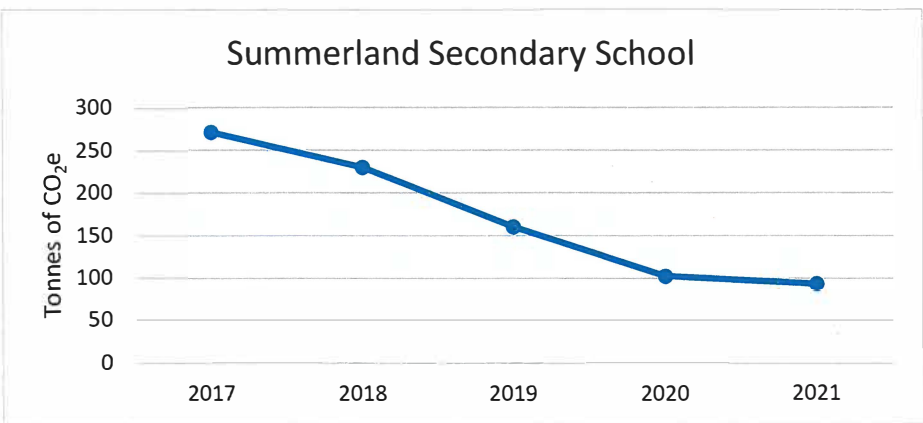
The District has multiple additional initiatives in place that support sustainability. Some of these programs within our schools include:

- Battery recycling.
- Paper recycling.
- Beverage container recycling.

Success Stories

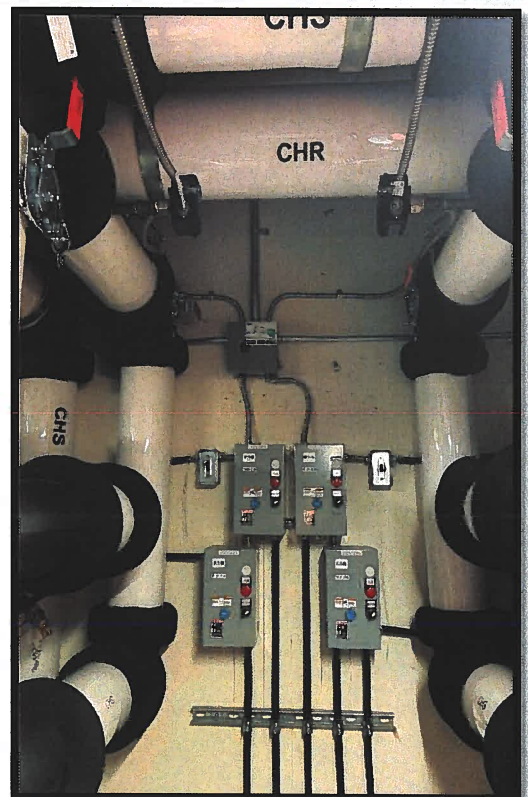
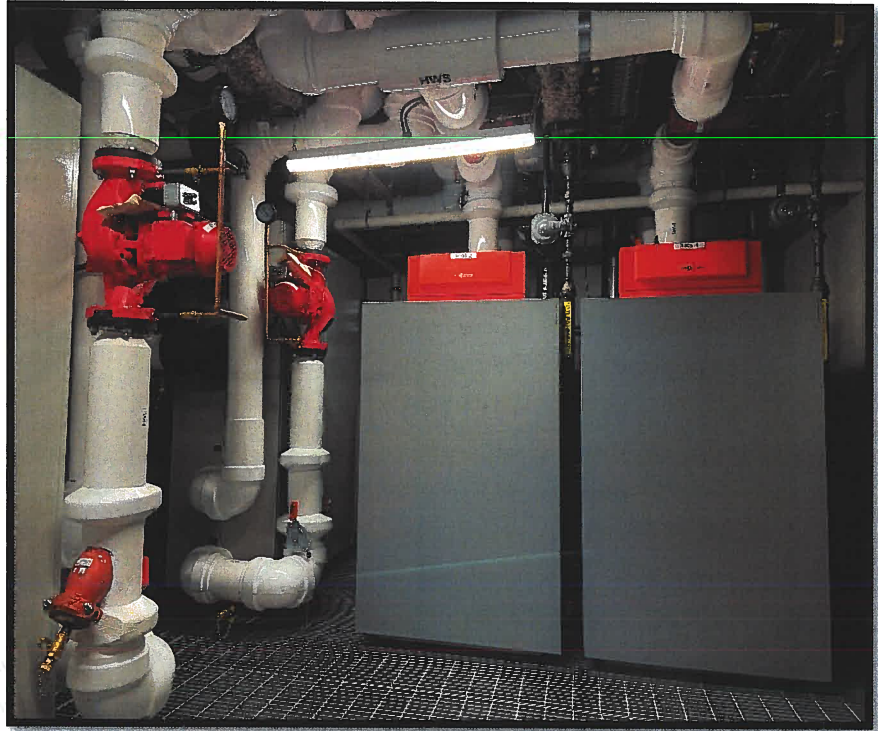
Summerland Secondary School, previously the District’s highest emitter, has quickly become our biggest success.

Since the project began in 2018, emissions at this location have continued to drop significantly. With the completion of the geo-



exchange upgrade, carbon emissions were reduced 65% in the last five years. As mechanical upgrades continue through 2022, we expect emissions to drop even further.

The Summerland Middle School mechanical and geothermal upgrades are expected to field similar results to Summerland Secondary School. In 2017, old mechanical equipment at Summerland Middle School started to fail and natural gas consumption rose as a result. It became the highest emitter in both 2019 and 2020, making it the District's leading project in 2021. By the time Phase I concluded, natural gas consumption dropped 40% compared to the previous year. When Phase II is complete in December 2022, we are expecting to



reduce natural gas consumption by 3,325 GJ and electrical consumption by 176,700 kWh annually. This equates to approximately 168 tonnes of CO₂e, \$4,200 in offset investments, \$48,000 is natural gas use, and \$31,000 in electricity use.

2021 GHG Emissions and Offsets Summary

School District No. 67 (Okanagan Skaha) 2021 GHG Emissions and Offsets Summary	
GHG Emissions created in Calendar Year 2021	
Total Emissions (tCO ₂ e)	1,696
Total BioCO ₂	15
Total Offsets (tCO ₂ e)	1459
Adjustments to Offset Required GHG Emissions Reported in Prior Years	
Total Offsets Adjustment (tCO ₂ e)	45
Grand Total Offsets for the 2021 Reporting Year	
Grand Total Offsets (tCO ₂ e) to be Retired for 2021 Reporting Year	1,504
Offset Investment (\$25 per tCO ₂ e)	\$37,600

Note: BioCO₂ is included in Total Emissions but not Total Offsets. For K-12 and Post-Secondary organizations, and BC Transit, Total Offsets will not equal Total Emissions minus Total BioCO₂ because offset exempt emissions for buses are included within Total Emissions.

Retirement of Offsets:

In accordance with the requirements of the *Climate Change Accountability Act* and Carbon Neutral Government Regulation, *School District No. 67 (Okanagan Skaha)* (**the Organization**) is responsible for arranging for the retirement of the offsets obligation reported above for the 2021 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:



Signature

Nicole Bittante

Name (please print)

May 16, 2022.

Date

Secretary-Treasurer

Title



Signature

Todd Manuel

Name (please print)

May 16, 2022

Date

Superintendent of Schools

Title