



**NANAIMO LADYSMITH PUBLIC SCHOOLS  
BUSINESS COMMITTEE  
PUBLIC MEETING  
INFORMATION SHEET**

DATE: June 14, 2023  
TO: Business Committee  
FROM: Mark Walsh, Secretary-Treasurer  
Pete Sabo, Executive Director Planning & Operations  
Mary Zuccaro, Energy Manager  
SUBJECT: Carbon Neutral Reporting

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### Background

In 2008, the Province of BC introduced the Climate Action Plan to identify choices to reduce carbon foot for all public sector organizations (PSO). The Province of BC has operated an emissions offset system since 2009 to attain carbon-neutral government operations. The intent of the offset systems is to encourage PSOs to reduce emissions, advance green technologies and support clean job growth. B.C. has legislated targets for reducing greenhouse gas emissions compared to 2007 levels - *50% below 2010 levels by 2030, 60% by 2040 and 80% by 2050 (as of 2021, now 100%). On the fleet side, PSOs will have 10% of light duty vehicle NEW purchases to zero emission vehicles (ZEV) where available ZEV meet operational needs by 2030.*

The carbon offset is \$25/tonnes of carbon, is paid annually to the Province of BC and is based on the amount of carbon our District emits by burning fossil fuels for space heating and transportation fuel (white fleet only - school busses are exempt). This carbon offset is above and beyond the carbon tax that is charged at the fuel pump or on the Fortis gas bill.

Under B.C.'s Carbon Neutral Government program – legislated under the [Climate Change Accountability Act](#) (CCAA) – all provincial public sector organizations (PSOs) follow a five-step process to achieve carbon neutrality:

1. **Measure** greenhouse gas (GHG) emissions from buildings, vehicles and paper use
2. **Reduce** emissions as much as possible by conserving electricity and fossil fuels
3. **Offset** remaining emissions by purchasing an equivalent amount of high-quality, made-in-B.C. carbon offsets
4. **Report** annually on progress through the PSO Climate Change Accountability Report (PSO CCAR)
5. **Verify** data and emissions

The Energy Management team is responsible for completing all of the 5 steps above annually.

**Discussion**

For 2022, total tonnes of carbon emitted is 4,188 tonnes of carbon and source of the GHG emissions are:

- 82% - burning natural gas/oil/propane to heat the buildings
- 9.8% - mobile energy use (gas & diesel for busses)
- 6% - mobile energy use (gas & diesel for white fleet)
- 2% - electrical usage for all buildings (our electrical grid is not 100% clean)
- 0.2% - paper usage

Historical usages are listed below – note 2021 and 2022 saw increases for Natural Gas usage due to increased ventilation for COVID-19 reasons.

Year	Mobile energy Use Litres	Natural Gas GJ	Propane GJ	Oil GJ	Electricity GJ
2015	397,254	51,033	314	1,573	29,088
2016	318,882	49,013	304	1,641	27,196
2017	269,563	58,016	277	1,523	27,866
2018	298,494	45,965	200	1,044	25,677
2019	303,939	53,568	248	1,222	26,237
2020	176,057	54,369	414	642	23,277
2021	264,959	59,746	357	832	26,460
2022	**275,763	65,923	846	853	27,663
	** 56% diesel 44% gasoline				

Actions taken in 2022 to reduce emissions are:

1. HVAC mechanical upgrades at **six** sites ranging from new boiler plants to adding air-source heat pumps to reduce gas usage and promote electrification (fuel switching)
2. Operated four ZEV busses and saved 20,000 liters of diesel
3. Enrolled all school sites in BC Hydro’s Continuous Optimization Program (COP) – focuses on optimizing building control automation systems to improve efficiency of energy-intensive systems, such as HVAC equipment.

Plans to continue reducing emissions in 2023 consist of:

1. Update and replace building automation system at possibly two sites
2. Continue with COP program
3. Electrification of HVAC system at Brechin
4. Adding more electric vehicles to the fleet

The District continuously strives to reduce GHGs by upgrading gas-fired systems to either more efficient technology or fuel switch (electrification) to meet internal GHG or CleanBC targets for PSOs. Over the last two fiscal years, local capital has been allocated to enhance GHG reducing projects and the District will continue to target synergistic mechanical GHG reduction projects to occur at the same time as minor and major capital projects. In addition, when equipment is at end of life or at failure, District maintenance culture is to look at the most efficient affordable option to reduce GHGs.