The Corporation of the District of Central Saanich

REGULAR COUNCIL REPORT

For the Regular Council meeting on Monday, July 14, 2025

Re: 2024 Corporate Energy and Emission Reporting

PURPOSE

The purpose of this report is to present the latest corporate energy and emissions reporting (2024) and emissions reduction path forward to 2030.

BACKGROUND

The District's Climate Leadership Plan has a goal to reduce greenhouse gas (GHG) emissions by 100% by 2050 at both the community and municipal scales with an interim target of 45% by 2030. The Plan also outlines a second goal for the community's energy source to be 100% renewable energy by 2050.
The Plan identified this possible scenario to reach municipal operations goals:

1. Convert 100% of light duty fleet to electric by 2030 (where technology is available)
2. Convert remaining fleet to natural gas or biodiesel by 2035; and to all renewable fuels by 2050
3. 100% conversion of heating and hot water systems to zero emissions systems (i.e., electric)

On June 18, 2022, an Updated 5-year Fleet Vehicle Capital Plan and Accelerated Electrification Strategy which proposed an increase in EVs from 4 to 15 was endorsed by Council.

On February 27, 2023, Council directed staff to develop a corporate energy and emissions strategy focusing on reducing emissions in fleet and for some key municipal buildings. Two energy and emissions studies were completed for key municipal buildings and fleet in 2024. A separate report has been prepared which includes recommendations from the studies for Council's consideration.

DISCUSSION

2024 Corporate Energy and Emissions Reporting

The District currently operates over 100 vehicles and unlicensed equipment, and owns and manages 31 buildings, which include halls, concession stands, public washrooms, cultural centre and public works yard. The District also manages the community's lighting (e.g., streetlights, traffic lights) and water and wastewater services (e.g., pump stations). The District annually monitors energy consumption and emissions under these four corporate asset classes. Fleet-related fuel consumption and emissions data excludes Police Services[1], as the police service function isn't considered in-scope for provincial Local

[1] Electricity use by the Police services function at the Municipal Hall site is however included with corporate emissions as this service was present in 2007 and is not considerable.

Government Climate Action Program (LGCAP) reporting. Police services-related vehicle fuel consumption is however tracked separately.

The District's total GHG emissions for its latest inventory in 2024 is 249 Tonnes CO_2e. (see Table 1). **Compared to the baseline year (2007), building-related emissions have dropped 83 Tonnes or by 25%, and 17 tonnes (or by 6.4%) from 2023.** This drop in emissions from the baseline year is partly attributed to a decrease in the emissions intensity factor (for electrical generation) in 2021[2].

Table 1. Energy consumption and GHG emissions by asset class for baseline year (2007), 2023, and 2024

Asset class	Energy Type/Unit	Sector Total CO_2e(T)	Consumption	CO_2e (T)	Sector Total CO_2e(T)	Consumption	CO_2e (T)	Sector Total CO_2e(T)		Overall % Change GHGs
		2007	2023			2024				2007 - 2024
Buildings	Elect (kWH)	67	904,116	10	25	919,937	9	18	25	
	Nat Gas (GJ)		302	15		172	9			
	Propane (L)		0	0		0	0			
Outdoor Lighting	Elect (kWh)		423,572	5	5	425,181	4	4		-62.7%
Water & Wastewater	Elect (KWh)		319,853	4	4	332,969	3	3		
Vehicle Fleet	Diesel (L)	265	32,709	83	232	39,908	102	223		-15.7%
	Gasoline (L)		67,799	149		58,224	122			
Total GHGs		332	266			249				-25.1%

Municipal Buildings Asset Class

Building-related emissions represent a small portion of the District's corporate emissions (10%) at 18 tonnes CO_2eT for 2024 and has shown a decrease by 7 tonnes over the last year (see Table 1). Building-related electrical consumption has increased by 15,821 kWh over the last year which seems mostly related to increased electrical use at Fire Hall #1. A drop in natural gas consumption and associated emissions (6 CO_2e T) was noted at the Fire Hall, which could mean that the HVAC system has been better at operating to design (i.e., predominately using electricity).

It should also be noted that the building-related data is not normalized to climate conditions therefore variability in natural gas and electrical consumption (and associated emissions) for air space heating may occur from year to year depending on weather conditions. Given 2024 had slightly more heating degree days than in 2023[3], this would result in greater heating energy requirements in 2024, than in 2023.

Outdoor Lighting Asset Class

Consumption of electricity by outdoor street lighting increased slightly from 2023 (by 1,609 kWh) and had a slight decrease in emissions (1 Tonne) (Table 1).

Water and Wastewater Asset Class

[2]In a hydroelectric-based power system, GHG emissions from electricity generation can vary significantly from year to year. The Province updated the methodology for determining the electricity emission intensity factors in 2021 to more accurately reflect the carbon intensity of electricity consumed in B.C. A slight reduction in emissions intensity was observed from 2023 to 2024 (from 11.3 to 9.9 tCO_2e/GWh).

[3] https://victoria.weatherstats.ca/metrics/hdd.html

Consumption of electricity for this asset class increased between 2023 and 2024 by 13,116 kWh (Table 1), however there was a slight reduction of emissions of 1 Tonne GHGs, likely because of the emission factor decreasing. Factors such as weather conditions can also contribute to annual variation in energy consumed for this asset class

Fleet & Equipment Asset Class

The District's Fleet asset class represents the largest portion of corporate emissions (90%) at 223 T CO_2e. in 2024. Although the fleet has grown slightly over the years, emissions have shown a notable decrease since the baseline year, and by 17 Tonnes over the last year. The drop since 2023, is likely related to the gradual conversion of the District's combustion powered vehicles (and equipment) to electric and to less consumption of gasoline (i.e., down by 11,575 L). Factors such as weather conditions can also contribute to annual variation in fuel consumption. For instance, years having more snow events lead to increased use of road maintenance vehicles.

Police Fleet

In 2024, police services vehicles consumed 31,144 L of gasoline, with an associated emissions of 65 T CO_2e. The District's overall fleet carbon footprint including police services is 288 T CO_2e. Although police services fuel emissions are considered out-of-scope, the District takes steps to reduce emissions from this sector. Several replacement vehicles have recently been downsized or converted to hybrid or all-electric, depending on usage, which should show a reduction of emissions in upcoming years.

Updated 5-year Fleet Vehicle Capital Plan and Accelerated Electrification Strategy

Several replacement vehicles have been downsized or converted to hybrid or all-electric, depending on usage. As per Table 1 below, the District is on track to increasing the number of EVs in its municipal fleet to 15 by the end of 2026, as per goal of the 5-year Fleet Vehicle Capital Plan and Accelerated Electrification Strategy (2022). These replacements will continue to show reduced fossil fuel use and a reduction of emissions in upcoming years.

Table 1. Annual electric vehicles purchased for municipal fleet including Police vehicles.

Year	No. electric vehicles purchased
2019	3
2020	1
2021	1
2022	0
2023	3
2024	4
Total	**12**

Actual and Projected GHG Emissions Reduction Outcomes

Figure 1 below illustrates an actual and projected GHG reduction future outcome from 2007 (baseline year) to 2030. To reach the 45% GHG reduction by 2030 (target) corporate carbon footprint of 183 T CO_2e, the District will have to reduce emissions by a further 66 tonnes.

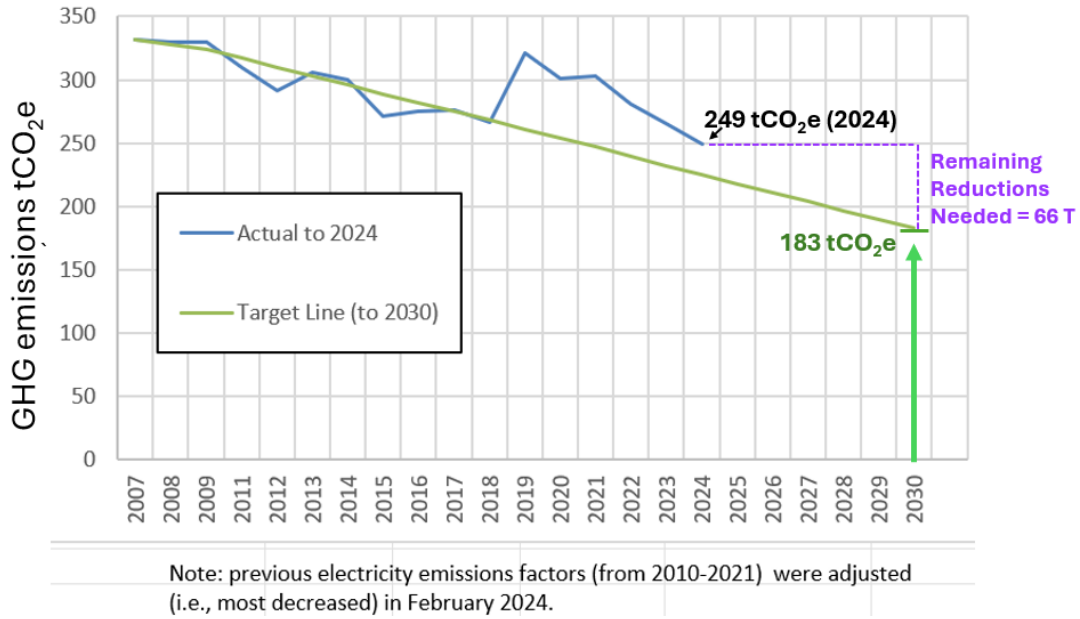

Figure 1. Corporate Carbon Footprint: Actual and Projected emissions reduction, 2007-2030.

Next Steps

The District will continue to monitor progress and convert its light-duty fleet vehicles to electric as per endorsed 5-year electrification plan in order to make progress towards the 2030 emissions target. Staff will review recommendations from the two recent energy and emissions studies (provided in a separate report to Council) and consider these as part of the annual budget and workplan process.

IMPLICATIONS

Strategic

Monitoring emissions annually and developing municipal operations energy and emission measures/strategies supports Council's 2024 – 2027 Strategic Plan priority to "Champion Climate Adaptation, Mitigation, and Preparedness" and continue to demonstrate climate leadership. Updates on progress will be reported in the District's Annual Plan.

Financial/ Resource

Implementing projects to reduce emissions and energy use by municipal assets will reduce fuel and electricity costs to the District.

CONCLUSION

An updated corporate emission inventory and outcome scenario is presented in this report which shows steady progress being made towards the 2030 corporate emissions reduction target. The District's 2024 GHG emissions total 249 tonnes CO2e (see Table 1). Building-related emissions have decreased by 25%) since 2007, and by 6.4% since 2023. This reduction is partly due to a lower emissions intensity factor for electricity generation in 2021. Given the current trend, the 2030 carbon footprint (reduction) target might be reached, but to ensure this, the District will consider the recommendations of two 2024 corporate energy and emissions studies and continue to annually monitor and report emissions.

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