Consent Agenda
June 24, 2024

GREENHOUSE GAS EMISSIONS INVENTORY REPORT

Issue
The 2023 Corporate and Community Greenhouse Gas Emissions numbers are provided to Council for information.

Motion Proposed by Administration
That the Greenhouse Gas Emissions report be received as information.

Report, Analysis and Financial Implications
In 2021, the Town of Okotoks outlined a course to take bold action on climate change in "*Resilient Okotoks – Climate Action Plan 2021-2033*" (CAP). The CAP establishes a goal to achieve carbon neutrality by 2050, with objectives to make the community a more resilient and better place to live. In order to achieve this goal, it is forecasted that the Town's corporate and community greenhouse gas emissions need to be reduced by 30 to 60 percent between 2021 and 2031.

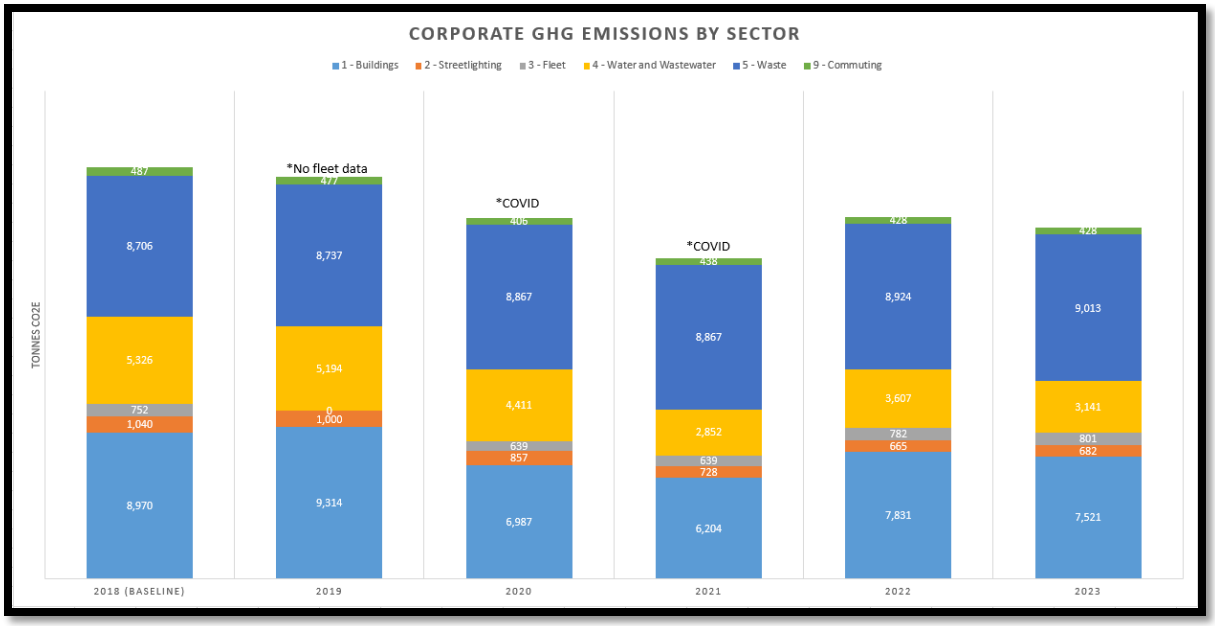
The Town's baseline greenhouse gas emissions levels were calculated in 2018. The inventory includes corporate and community emissions sources. As a result of the 2018 baseline inventory, it was predicted that without quick action and anticipating the Town's growth, emissions would increase steadily over the coming decades, increasing by 51% from 2018 to 2050.

In 2023, the Town's corporate and community emissions equated to approximately 367,515 tonnes of carbon dioxide equivalent (CO_2e). This reflects an overall decrease of 9.5% as compared to 2018, and a decrease of nearly 18% in per capita emissions as the Town grows.

Corporate Emissions – 2023

Inventory and Sector	Baseline Year (2018)	Reporting Year (2023)	Change	Change (%)	PER CAPITA EMISSIONS Baseline | Reporting	
1 - GREENHOUSE GAS EMISSIONS BY SECTOR (tonnes CO_2e)						
Corporate						
1 - Buildings	8,970	7,521	-1,449	-16.2%	0.31	0.24
2- Streetlighting	1,040	682	-358	-34.4%	0.04	0.02
3 - Fleet	752	801	49	6.5%	0.03	0.03
4 - Water and Wastewater	5,326	3,141	-2,184	-41.0%	0.18	0.10
5 - Waste	8,706	9,013	307	3.5%	0.30	0.28
9 - Commuting	487	428	-59	-12.1%	0.02	0.01
Corporate Sub-total	*25,280*	*21,586*	*-3,694*	*-14.6%*	*0.87*	*0.68*

The Town's corporate emissions in 2023 were nearly 15% lower than baseline emissions in 2018 and have shown an overall decrease year over year since 2018, with the exception of the COVID-19 pandemic influence in 2020/2021. On a per capita basis, the Town's corporate emissions were nearly 22% lower in 2023 than 2018.



There has been substantial reductions in emissions from the Town's water and wastewater operations due to plant upgrades and the contribution of a renewable solar energy installation that was brought online in 2020 to supply electricity to the Wastewater Treatment Plant. Decreases in emissions from Town buildings and streetlights result from similar efficiency upgrades and energy conservation practices, the operation of the renewable solar energy installation at the Okotoks Centennial Arenas, and a general decrease in the carbon intensity of Alberta's electrical grid.

A marginal increase in overall fleet emissions can be attributed to the introduction of the Okotoks On-Demand Transit system; however, this increase remains in line with the Town's increasing population, with no increase on a per capita basis for fleet or waste emissions. Emissions resulting from corporate commuting were re-evaluated for 2023 to better reflect habits associated with remote work and modified work schedule options.

<u>Community Emissions – 2023</u>

A community emissions inventory was prepared for the baseline year (2018), three (3) years later in 2021, and then annually since 2021. Completing this inventory annually will reflect the Town's growth and economic conditions year over year. Over the last three (3) years, total community emissions increased by approximately 6% to 345,929 tonnes CO_2e in 2023, but remain 9.1% lower than baseline community emissions reported in 2018.

The population of Okotoks has increased by >10% in the five years since the baseline inventory was completed. Community emissions on a per capita basis have decreased for all tallied emissions sources based on the available data, with the exception of aviation fuel, which has a relatively negligible influence on community emissions totals.

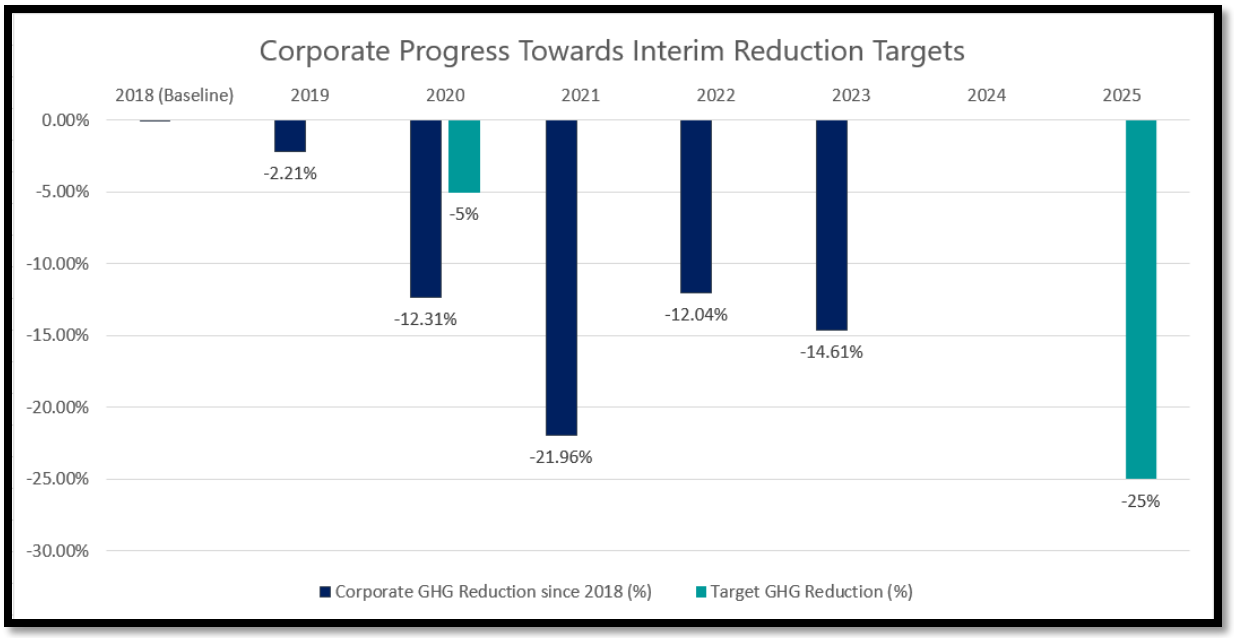
2 - GREENHOUSE GAS EMISSIONS BY SOURCE (tonnes CO_2e)							
Inventory and Sector	Baseline Year (2018)	Reporting Year (2023)	Change	Change (%)	PER CAPITA EMISSIONS Baseline | Reporting	
Community						
Electricity	114,342	87,382	-26,960	-23.6%	3.94	2.73
Natural Gas	83,928	75,746	-8,183	-9.7%	2.89	2.37
Gasoline	155,916	157,391	1,475	0.9%	5.38	4.92
Diesel	26,703	25,326	-1,377	-5.2%	0.92	0.79
Aviation Gasoline	23	84	61	262.7%	0.00	0.00
Community Sub-total	*380,913*	*345,929*	*-34,984*	*-9.2%*	*13.13*	*10.82*

As reported during previous years, a substantial decrease in emissions from electrical consumption on a community level was reported; this change is representative of the decreasing emissions intensity of the Alberta electrical grid. Consumption of electricity on a community level increased between 2018 and 2023 by 10-13% for residential and business users, which is consistent with the Town's population growth.

Community transportation emissions decreased on a per capita basis since 2018 based on gasoline and diesel sales records, potentially due to increased fuel prices, changes in commuting habits, and available transit options. Transportation emissions remain the highest contributor to the Town's total greenhouse gas emissions, with gasoline and diesel vehicles contributing approximately 50%.

Looking Ahead

Our nearest interim target is to achieve a 25% reduction in emissions by 2025, as compared to 2018 baseline conditions, on the way to a 30%+ reduction by 2030. Despite increases to the Town's population, the addition of municipal buildings to our portfolio, and with the introduction of the On-Demand Transit service, the Town is making progress towards this goal corporately. Ongoing reductions in the carbon intensity of the electrical grid are expected to continue to assist in this trend, as well as ongoing energy efficiency upgrades and improvements to building and fleet management practices by Administration. Waste diversion efforts and renewable energy projects will continue to offset emissions moving forward.



At the community level, incentives and support programs to promote increased energy efficiency of new construction and homeowner retrofits are expected to play a significant role to influence private energy consumption. A focus on enhancing active transportation routes, electric vehicle charging availability, and accessible public transit options is intended to help reduce the greenhouse gas emissions generated by transportation in our community.

Strategic Plan Goals

☐	Responsibly Managed Growth	☒	Demonstrated Environmental Leadership
☐	Strong Local Economy	☐	Enhanced Culture & Community Health
☐	Organizational Excellence		

Equity/Diversity/Inclusivity Impacts and Strategy
n/a

Environmental Impacts
As above, the reduction of greenhouse gas emissions in the community is desired to offset the increased energy consumption that comes with growth and to demonstrate stewardship of our environment.

Public Participation Strategy
n/a

Alternatives for Consideration
n/a

CAO Comments

While progress has been made, there are still significant improvements required to achieve the plan targets. The 2025 target is an interim target and the projects on the books currently will likely not achieve a 25% reduction. The biggest impact we can have on emission reductions is the recreation centre renovation, which will not occur until 2027.

Attachment(s)

n/a

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June 05, 2024