

FALL 2023 CARBON BUDGET UPDATE

2023-2026 Carbon Budget

Recommendation

That the November 7, 2023, Financial and Corporate Services report FCS02055, be received for information.

Requested Action

Information only

ConnectEdmonton's Guiding Principle

ConnectEdmonton Strategic Goals

CONNECTED

This unifies our work to achieve our strategic goals.

Climate Resilience

City Plan Values

PRESERVE

City Plan Big City Move(s)

Greener as we grow

Relationship to Council's Strategic Priorities

Climate adaptation and energy transition

Corporate Business Plan

Managing the corporation

Council Policy, Program or Project Relationships

- City Policy C567 Green Building
- City Policy C594 Open Space Policy
- City Policy C627 Climate Resilience and related procedures
- Community Energy Transition Strategy
- Climate Resilient Edmonton: Adaptation Strategy and Action Plan

Related Council Discussions

- UPE01816 Climate Strategies Update, Executive Committee, November 1, 2023
- FCS01782, Dedicated Climate Fund, Executive Committee, November 1, 2023
- FCS01478, 2023-2026 Carbon Budget, City Council, November 14, 2022

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Executive Summary

- On November 14, 2022, Council was presented with the City of Edmonton's first carbon budget for the 2023-2026 budget cycle. The Fall Carbon Budget Update provides an annual update to the 2022-2023 Carbon Budget.
- The Fall Carbon Budget Update includes qualitative and, when possible, quantitative evaluations of the greenhouse gas (GHG) emissions impacts for each budget request within the proposed 2023 fall supplemental capital, operating and utilities budget adjustments and can be used to inform financial investment decisions. The carbon budget is presented for information to augment capital and operating budget decisions.
- The majority of significant climate initiatives that were funded in the 2023-2026 budget cycle remain in the carbon budget and are not impacted significantly by the budget adjustments being submitted this fall.
- As reported in the November 1, 2023 Urban Planning and Economy report UPE01816 Climate Strategies Update, the community emissions for Edmonton in 2022 were calculated to be 16.1 million tCO₂e (14.8 tonnes per person). Based on this adjusted forecast, both the community and corporate carbon budgets are forecasted to be depleted one year earlier than predicted in the 2023-2026 Carbon Budget: the community budget in 2036 and the corporate budget in 2032.
- This budget update also includes scoring methodology improvements to better reflect the impact to achieving overall carbon reduction targets.

REPORT

In fall 2022, Administration presented the 2023-2026 Carbon Budget along with the proposed capital and operating budgets, to inform and augment Council's financial decisions by providing qualitative and when possible quantitative assessments for the greenhouse gas (GHG) emissions impacts for each budget request within the proposed 2023-2026 operating and capital budgets.

The carbon budget helps guide decision-making and actions by providing additional carbon emissions information. GHG emissions impacts for each budget request within the 2023-2026 capital, operating and utility budgets were used to inform financial decisions throughout the budget deliberation process. The carbon budget is not the same as a capital or operating budget, in that it is not deliberated or approved, rather it is presented for information to augment capital and operating budget decisions.

As part of the City's multi-year approach to the Carbon Budgeting and Accounting Framework, the 2023 Fall Carbon Budget Update provides the annual update to the 2023-2026 Carbon Budget. Following the same cycle as the capital and operating budget adjustments, the carbon budget will be presented every four years with an annual update in the fall with the supplemental operating (SOBA) and capital (SCBA) budget adjustments. This fall update also includes assessments for the capital budget adjustments approved by Council in spring 2023. For next year, the spring SCBA will include an attachment with an assessment of potential GHG impacts of profiles being presented to Council.

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2023 Fall Carbon Budget Update

The 2023-2026 Carbon Budget makes it clear that further action is needed to achieve community and corporate carbon emissions targets. Overall, the results of the proposed fall 2023 capital, operating and utility budget adjustments are not significantly improving nor contributing to current greenhouse gas (GHG) emissions levels. There are unfunded capital and operating budget requests to support the purchase of hydrogen buses that would support transit service growth without increasing emissions.

Based on annual emission reduction targets, Edmonton's community emissions were targeted to be 14.2 million tonnes of carbon dioxide equivalent (CO₂e) or less in 2022. This target was not met, as 2022 community emissions in Edmonton were calculated to be 16.1 million tCO₂e (14.8 tonnes per person). Based on this adjusted forecast, the year when the community carbon budget is forecasted to be depleted is now 2036, one year earlier than forecasted in the 2023-2026 Carbon Budget. The accelerated timeline also applies to the corporate carbon budget, which is now forecasted to be depleted in 2032 instead of 2033.

This shift is not caused by any of the budgetary decisions made over the past year, but is primarily due to increases in energy use in buildings and the industrial and transportation sectors. These sectors were impacted by the COVID-19 pandemic, and their emissions have increased as pandemic recovery continues.

A majority of the adjustments brought forward within the spring and fall supplemental capital budget adjustment process are for the Project Development and Delivery Model (PDDM) to transfer approved funding between composite and standalone capital profiles; these transfers do not have an impact on the carbon budget unless funding for a project is reduced resulting in scope changes.

The approved 2023 Spring SCBA also has a minimal impact on the carbon budget; however, it included the largest GHG impact in this year's cycle: funding removal of the Kinsmen Sports Centre rehabilitation project previously quantified in the 2023-2026 Carbon Budget. The result of this decision to not proceed with rehabilitation is increased emissions. The associated emissions reduction previously indicated (700 tonnes), has been added back to the forecast in this update. The current state emissions forecast for the corporation is approximately 200,000 annual tonnes CO₂e.

Process Updates

This first update to the 2023-2026 Carbon Budget includes a refined approach to the qualitative assessments.

The scoring methodology has been revised since the 2023-2026 Carbon Budget development. Now, rather than comparing emissions impacts to the prior year, the assessment was updated to reflect the impact to achieving overall carbon reduction targets, acknowledging that the carbon budget is depleted each year, and that a project with "no change to emissions" is not sufficient to meet carbon reduction targets. Scoring was also updated to distinguish when projects are actively contributing to emission increases or decreases, versus not reducing, as well as

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identifying when the project has no impact on a pathway because it does not have related emissions.

The revised scoring adopts a “traffic light” approach, to indicate “green” for decreases in emissions, “yellow” as a warning for instances when emissions are not decreasing, and “red” for when emissions are increasing. Grey indicates that a project does not have the ability to impact emissions. The black question mark indicates there are impacts but they cannot be quantified.

The carbon budget and accounting framework are in the early stages of their implementation at the City. The carbon budgeting process will continue to be improved upon and become more integrated in the day-to-day decision-making at the City.

Community Insight

The 2023 Climate Change and Energy Perception Report found that 74 per cent of respondents agree climate change is a concern, and 73 per cent of respondents agreed that immediate action is needed, and must be considered with all of the competing priorities. These results are stable relative to a year ago, and indeed, relative to five years ago.

Perspectives from Edmontonians regarding the 2023-2026 budget are outlined in the October 31, 2022, Communications and Engagement report CE01489 - Budget 2023-2026 Community Insights. One key theme from this engagement was that participants are concerned about the future and want the City to set long-term plans that take action to improve environmental sustainability and address impacts of climate change.

Additionally, through engagement on The City Plan and to update the Community Energy Transition Strategy, Edmontonians shared their excitement and desires for a low-carbon future. However, there is no clear consensus on actions, approaches and timing.

Administration gathered feedback and input in the development of the carbon budget and accounting framework through discussions with the Energy Transition Climate Resilience Committee. Overall the committee supported the City's direction with the development of the framework and provided valuable insight into further developing the process and their feedback led to some of the process improvements included in this carbon budget update.

GBA+

Finding statements from GBA+ research for the City's Energy Transition Strategy include:

- People and families experiencing low-income are disproportionately impacted by climate change because they lack the financial means to implement mitigation and adaptation measures in their homes and communities.
- Women, Indigenous, black and other marginalized people and groups will experience the impacts of climate change more than non-marginalized people and groups as they may already be subject to socio-economic inequalities, and climate change can cause an increase in exposure and susceptibility to the adverse effects of climate change as well as decrease the ability to cope and recover from damages suffered.

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The University of Alberta completed research¹ to explore community vulnerability and resilience in Edmonton in 2021. Finding statements from this research include:

- Older adults are at higher risk from weather and air pollution events.
- Social deprivation (limited interaction with society) and material deprivation (limited ability to afford goods and services) affect sensitivity to weather events and air pollution.

Actions to address these findings are outlined in the Energy Transition Strategy.

Attachment

1. Fall 2023 Carbon Budget Update

¹ CitiesIPCC. "Climate Change, Older Adults And Immigrants: Exploring Community Vulnerability And Resilience. Final report," August 31, 2021