

Municipal Climate Action Toolkit

Webinar:

Introduction to Carbon Budgets

**Sustainability
Solutions Group**

March 27

10am PT

Virtual

Speakers:

Naomi Devine

SSG

Jill Hudgins

City of Fredericton

Land acknowledgement



Agenda

01

Welcome!

02

Carbon Budgeting: A Framework

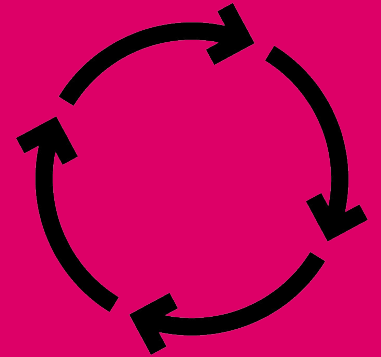
03

City of Fredericton's Carbon Budget

04

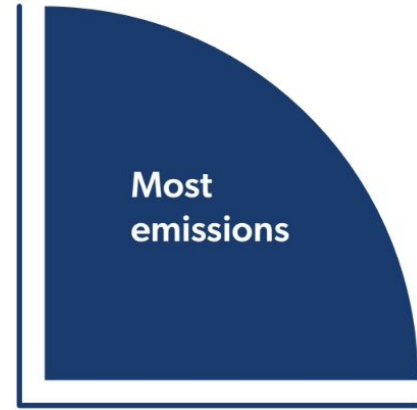
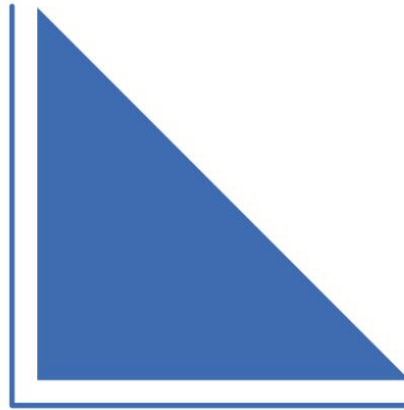
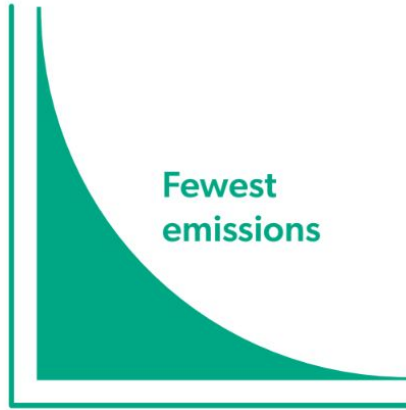
Q&A

Every tonne matters.



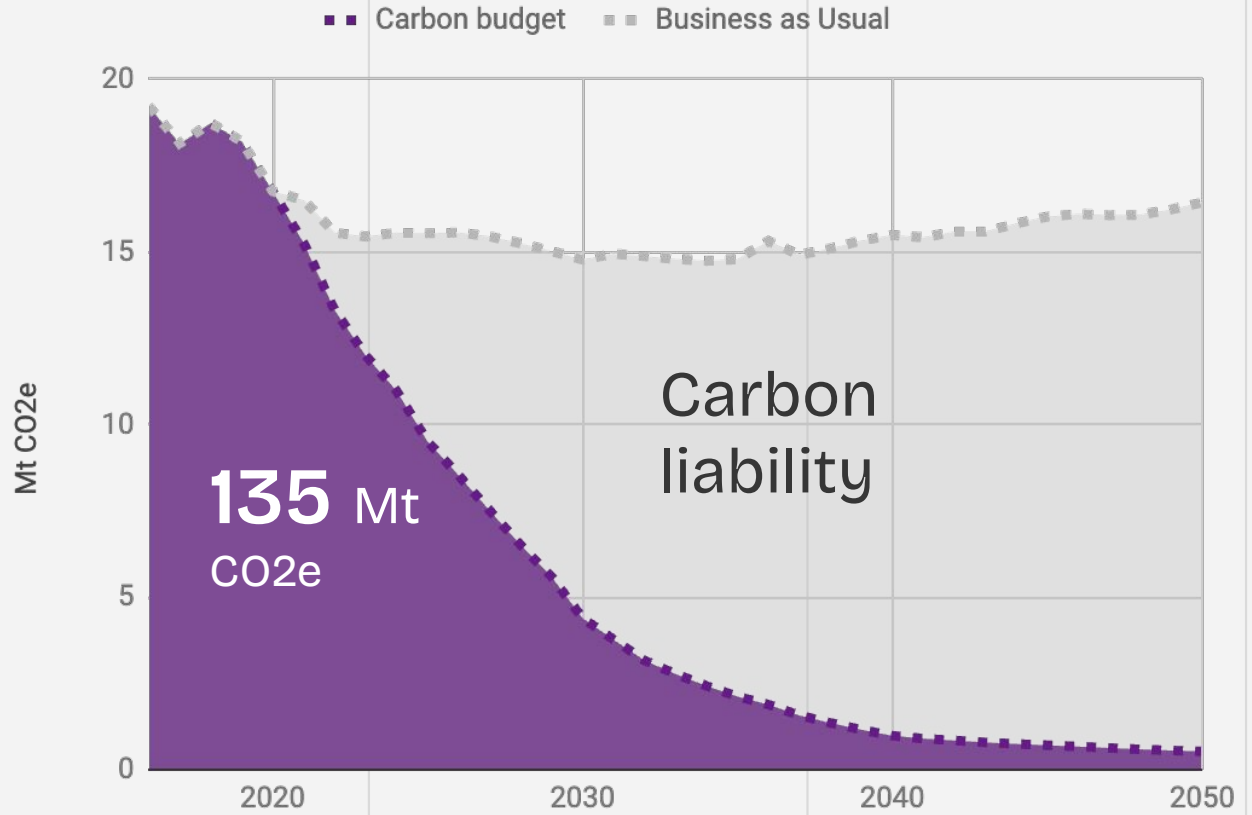
The Right Targets

The wrong strategy



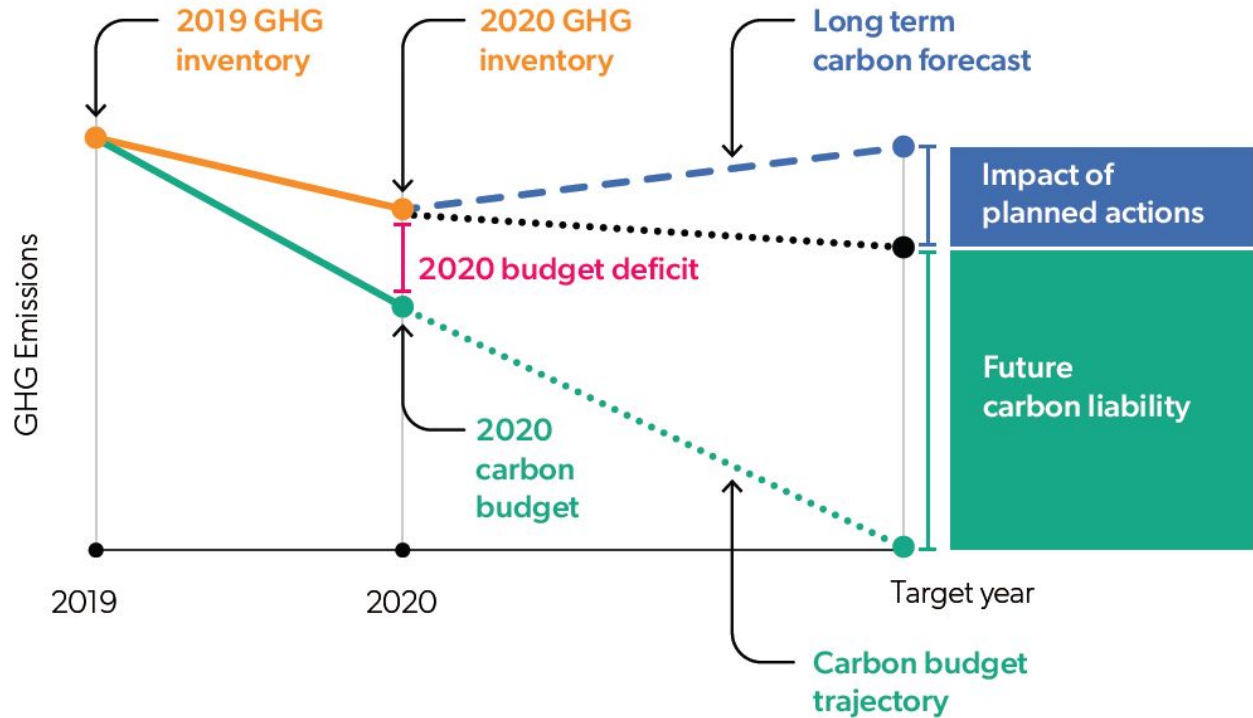
Sample Carbon Budget

Showing a downward trajectory and also the BAU if no low-carbon intervention takes place.



Sample Carbon Budget

Showing a downward trajectory and also the BAU if no low-carbon intervention takes place.



PART 1

Carbon Budget is a Management System

How do we spend the limited carbon?



Oslo

Climate budget 2020

Chapter 2, Oslo City Government's budget proposal 2020 with appendices



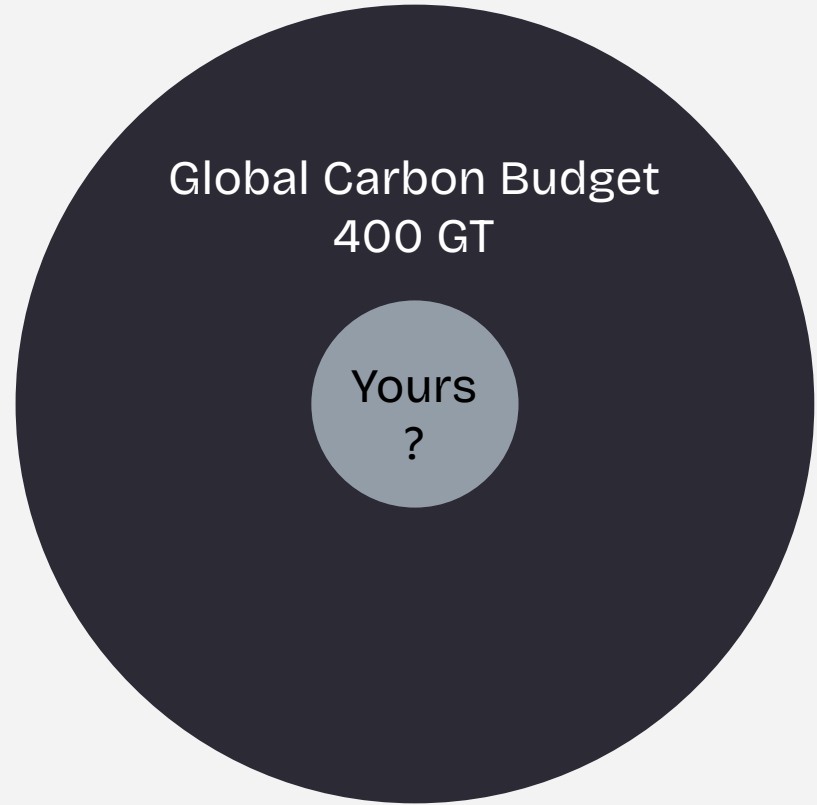
Oslo

Oslo Climate Strategy and budget towards 2030 – the story

Heidi Sørensen
Head of the Agency for Climate

Fair Share Carbon Budget

To avoid warming the earth more than 1.5 C, the atmosphere can absorb no more than 400 gigatonnes of carbon dioxide from the beginning of 2020.



How are we going to spend it?

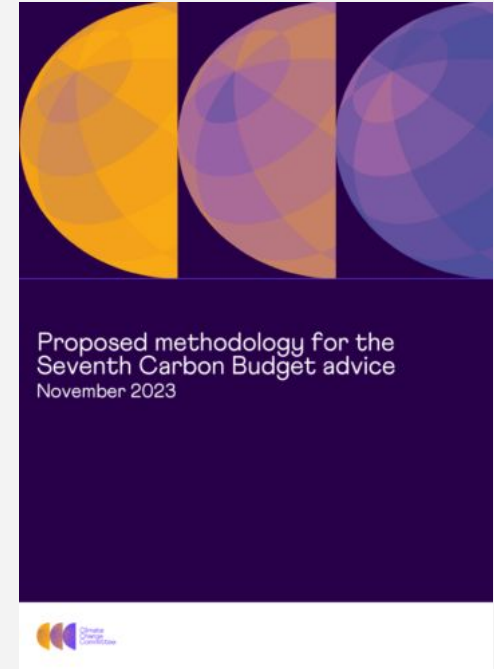
Carbon budget as a management system

UK's carbon budget

The UK introduced their first carbon budget in 2008.

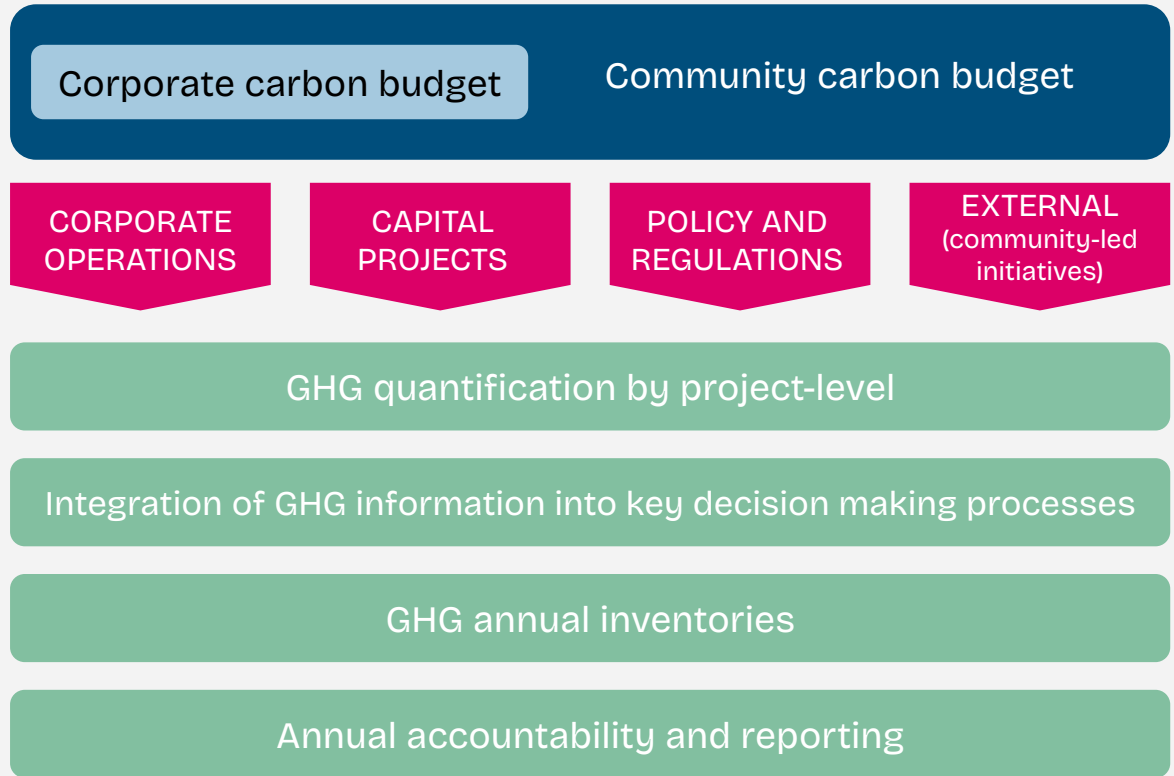
The carbon budget is a five-year, **statutory cap** on total GHG emissions.

The UK cut its GHG emissions by 50% between 1990 and 2022, while growing its economy by 79%



Carbon budget and accounting framework

Proposed framework with key elements

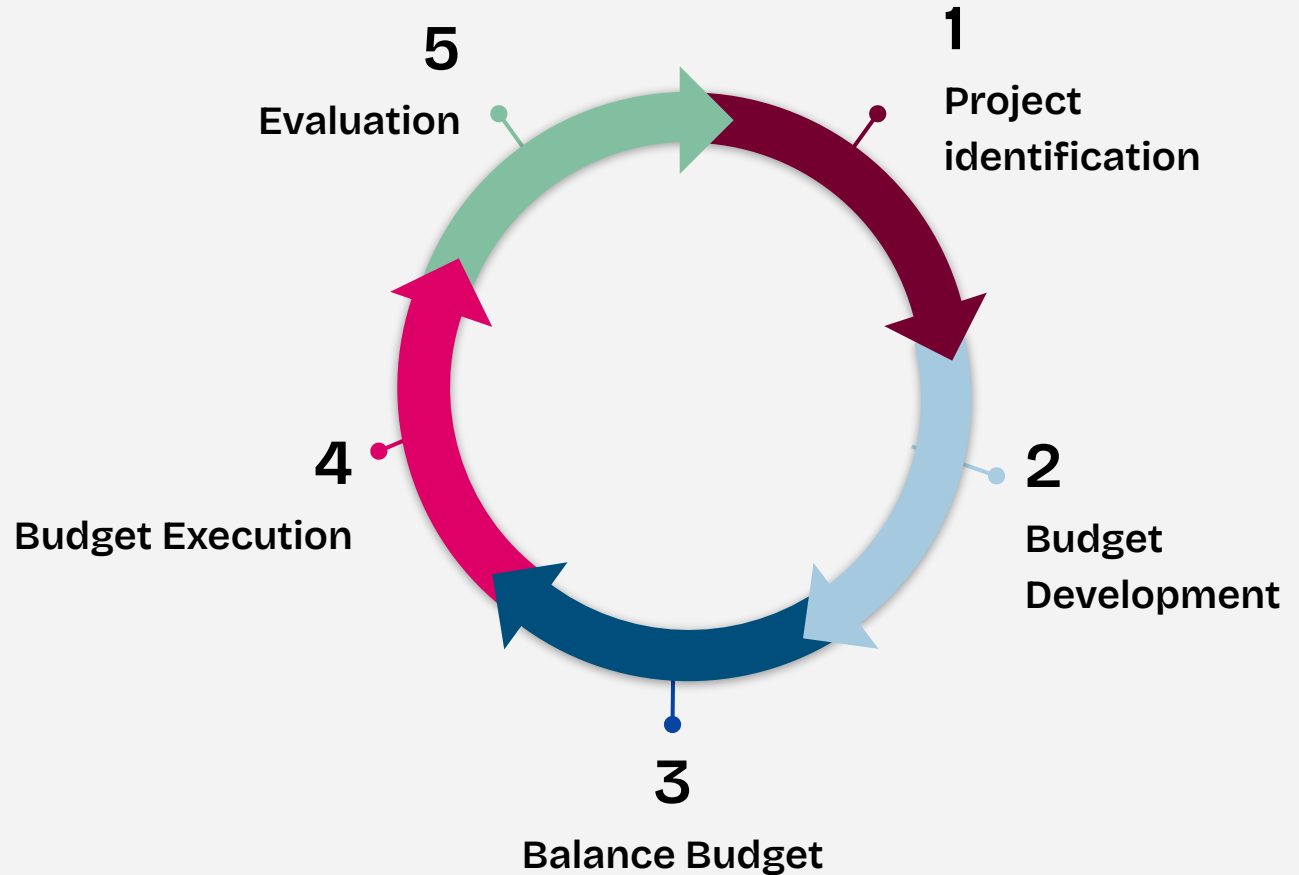


PART 2

Ingredient 1: Alignment with Financial Systems

Carbon Budget Workflow

Alignment with financial systems



Two Types of Projects

1

Capital forecasts,
asset management



**What the City was
going to do anyway**



Minimise or eliminate
emissions

2

Climate action plan



**What the City needs to
do reduce emissions**



Reduce emissions



PART 3

Ingredient 2: Policies & Tools

Impact on Staff

Tool to calculate project-level emissions



The screenshot displays the GHG Calculator software interface. The main window is a spreadsheet titled 'Neighbourhood Project Summary'. The spreadsheet is organized into several sections, each with a summary table and a detailed data table. The sections include:

- Project Data:** Includes fields for Project Name, Location, Project Type, and Project Lead.
- Project Contact Information:** Includes Name, Email, Title, and Department.
- All Emissions Summary:** A table with columns for Scope 1, Scope 2, and Total emissions across various years (2020-2024).
- Projected Emissions Summary:** A table with columns for Scope 1, Scope 2, and Total emissions across various years (2020-2024).
- Pre-2019 Data Summary:** A table with columns for Scope 1, Scope 2, and Total emissions across various years (2019-2024).
- BAU Emissions Summary:** A table with columns for Scope 1, Scope 2, and Total emissions across various years (2020-2024).
- Projected Energy Summary:** A table with columns for Scope 1, Scope 2, and Total energy across various years (2020-2024).
- Energy Delta Summary:** A table with columns for Scope 1, Scope 2, and Total energy across various years (2020-2024).

The right sidebar contains an 'Action' menu with buttons for 'Save', 'Print', 'Share', and 'Calculate'. Below the menu, there are sections for 'Action Name', 'Description', 'Form', 'Building', 'Transportation & Transit Infra...', 'Floor & CV Infrastructure', 'Water and wastewater infra...', 'Waste', and 'Energy & Renewables'.

Impact on Council

Tool for
decision-making

Climate Lens

Project
Parameters



CLIMATE LENS

Mitigation Screening

Where in this project/action will fossil fuels (gasoline, diesel, oil, natural gas) be used?
(Place an x or a brief description in the applicable cells below)

X	Construction (shipment or manufacturing of materials, construction equipment)
	Operations (operational equipment, use of facility/building, heating)
	Maintenance (maintenance equipment, shipment of replacement parts)

How will Greenhouse Gas (GHG) emissions be reduced in this project?
(Place an 'x' in any applicable square; refer to the Climate Lens Glossary [page 1 top] for definitions)

Method →	Engage / Educate	Corporate: NG, RNG	Corporate: Renewables	Community: NG, RNG	Community: Renewables	Strategy / Policy	Research	Sequestration
Transformation ↓								
Buildings	X		X					
Transportation								
Energy								
Natural Environment								
Industry								

NG: Natural Gas RNG: Renewable Natural Gas

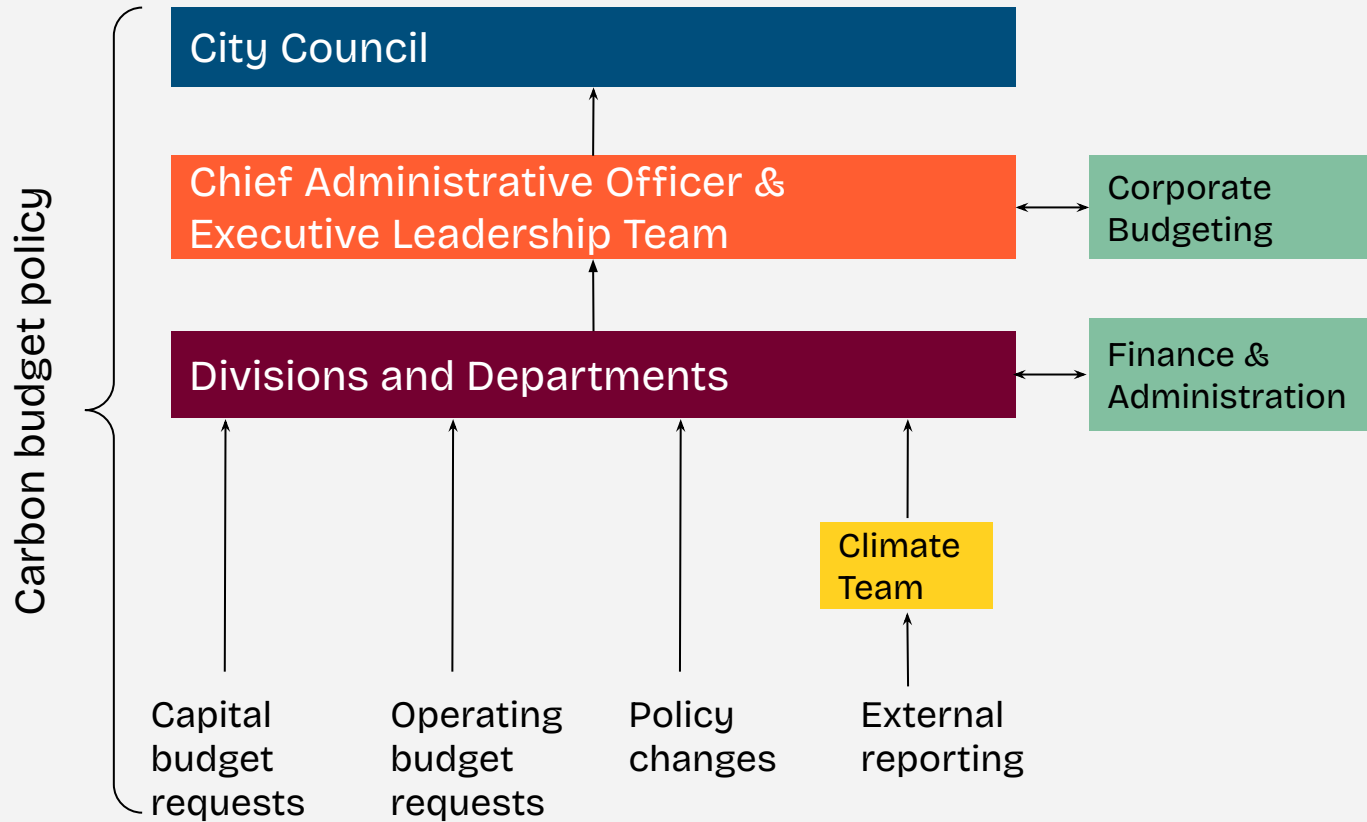
Check this box off if mitigation screening is not applicable to the project

PART 4

Ingredient 3: Governance Structure

Governance Structure

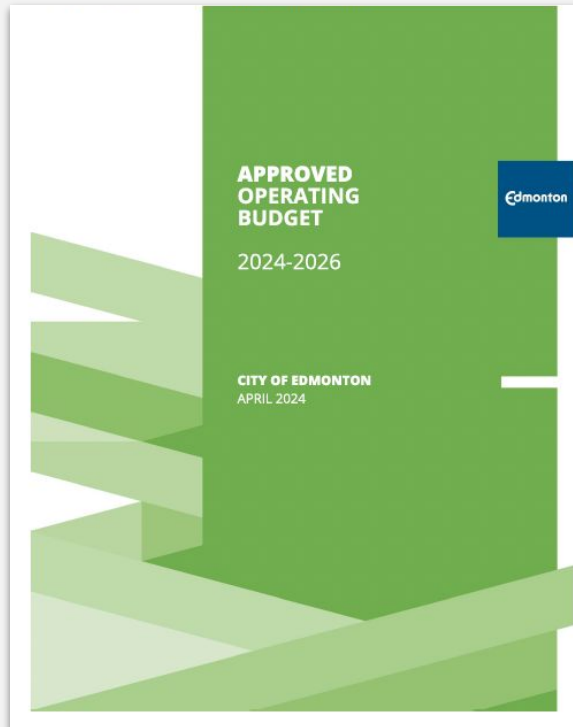
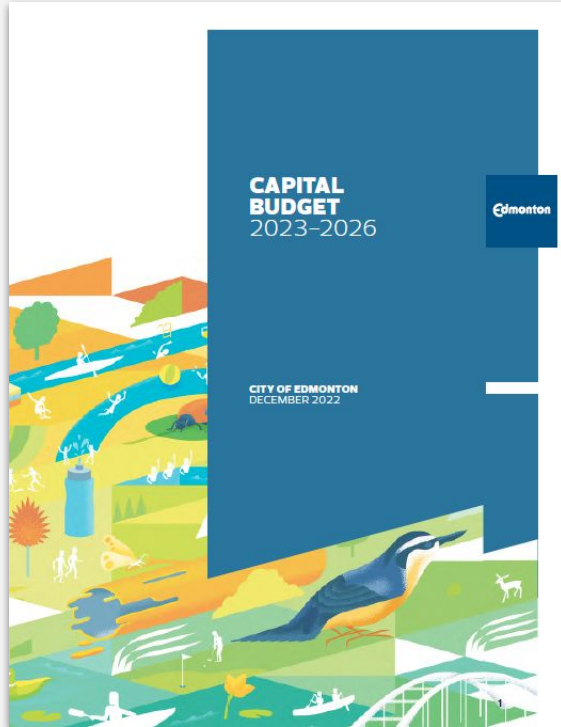
Integrate into existing budget structure



PART 5

Ingredient 4: Reporting

Impact on Budget Reporting



Impact on Community

Reporting mechanism



Edmonton fails to meet climate targets 2 years after launching carbon budget

City as a whole missed the mark by 2.8M tonnes of carbon dioxide emissions in 2023



[Natasha Riebe](#) · CBC News · Posted: Nov 12, 2024 6:58 PM MST | Last Updated: November 12



**Alignment with
financial
systems**

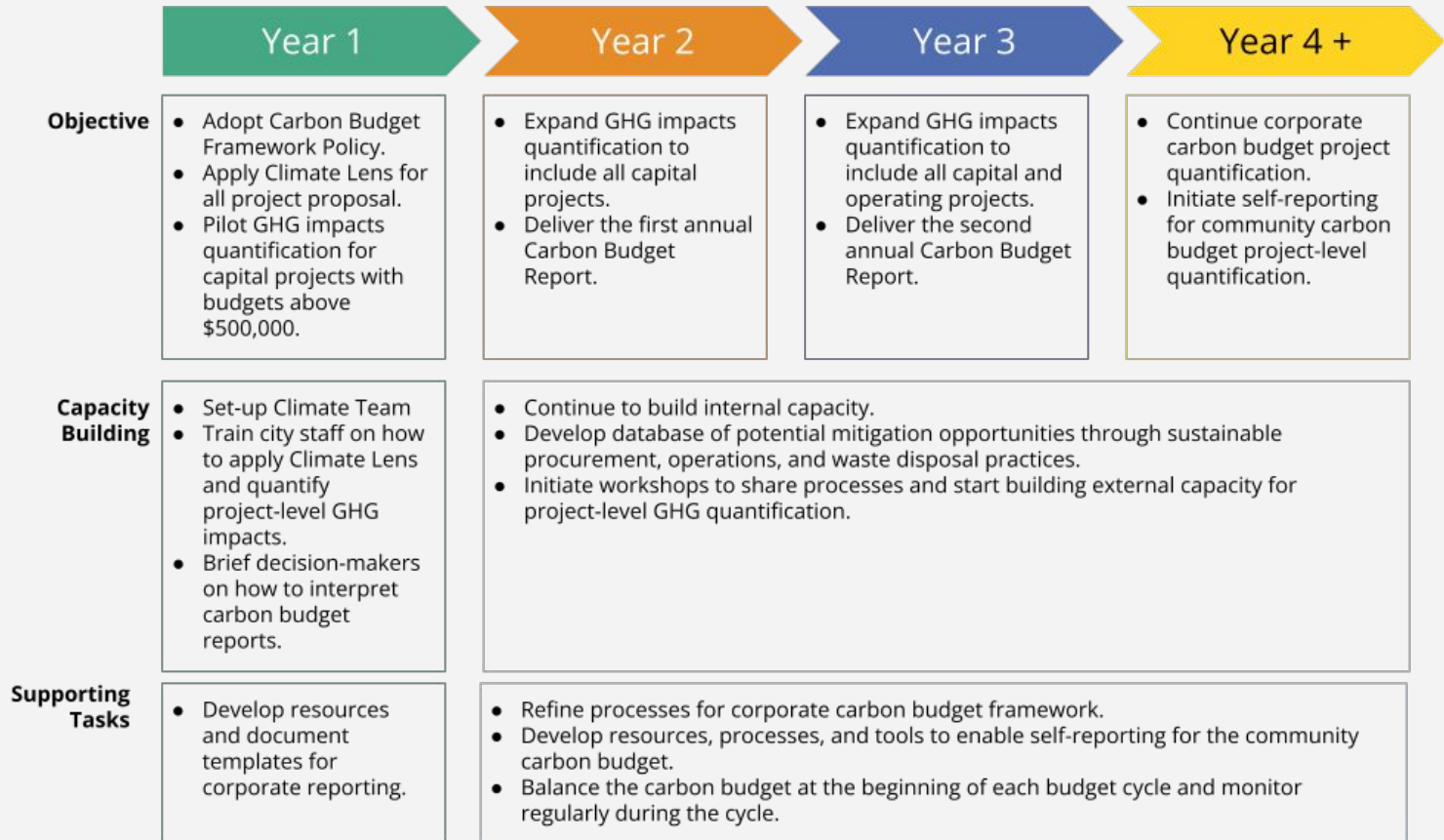
**Enabling
policies and
tools**

+

**Governance
Structure**

**Reporting
mechanism**

Sample corporate roll-out



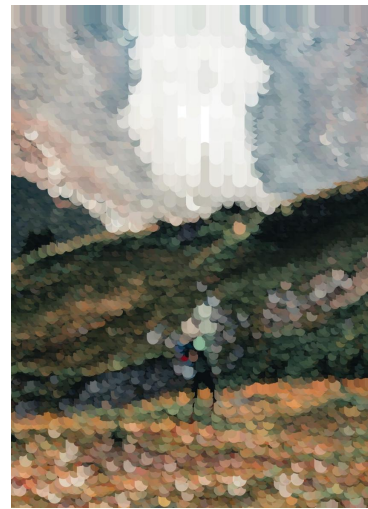
City of Fredericton Carbon Budget

Case Study

Jill Hudgins

Environmental Strategist, Program Manager
City of Fredericton

Sustainability
Solutions Group



Background

- Population ~72,000, growing quickly
- Adopted adaptation & mitigation plans in 20/21
- Increased targets in 2022
- Declared a Climate Emergency in 2023

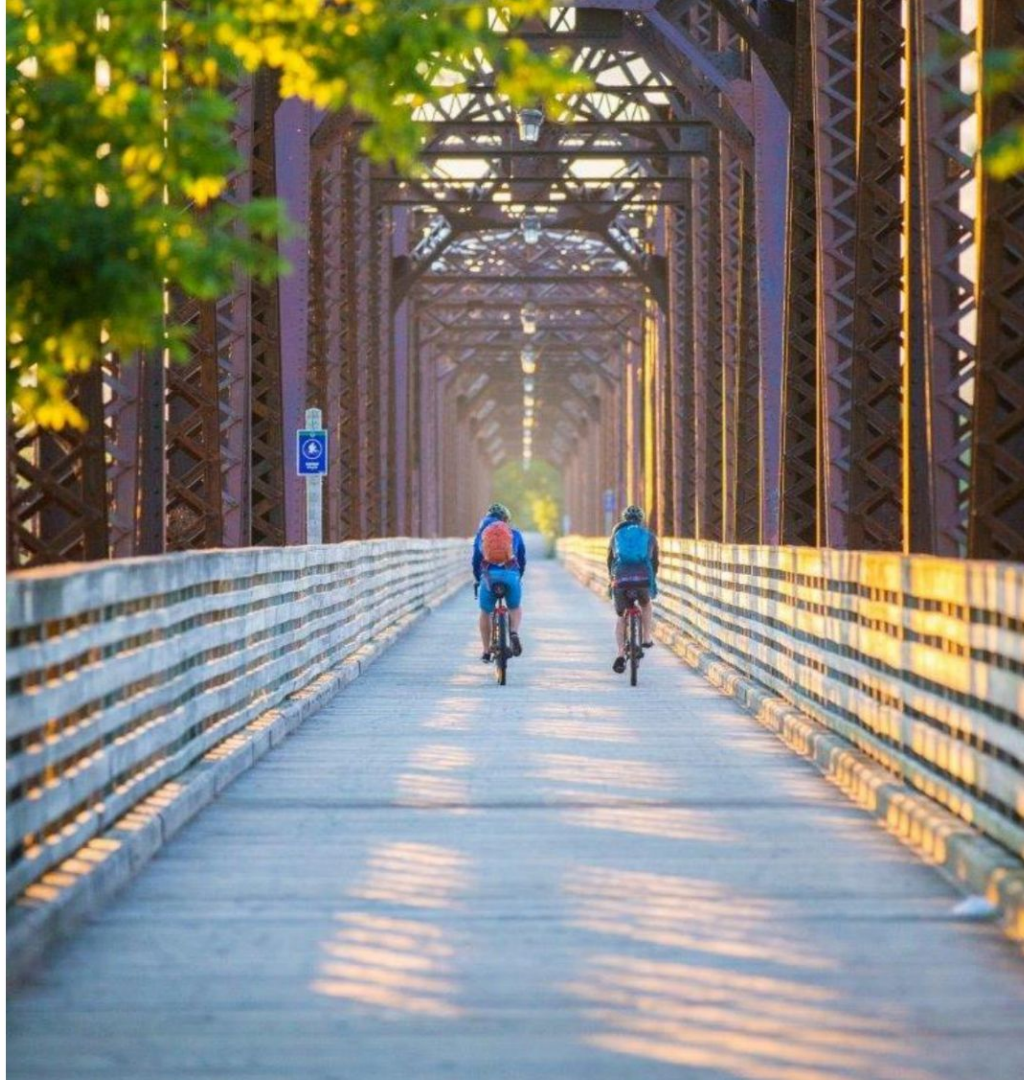
- Progress to date
 - Corporate GHG emissions down 29%
 - Community GHG emission down 3%

- Challenged by population growth, new service demands, lack of financial tools and jurisdictional authority



Step 1: Climate Lens

- Added to our request for decision reports and our capital budget proposals in 2022
- Considers mitigation and adaptation
- Qualitative only
 - Designed to get staff and Council thinking about the impact of projects, initiatives
- Does not apply to Planning reports
- Was accompanied by staff and Council training



Step 2: Summary of Funded Capital Projects

- Started with 2023 budget cycle
- Summary of cost of projects that positively contribute to mitigation and adaptation
- For 2024 cycle, investment was split out per climate hazard and divided between enabling and direct reduction projects
- Information was delivered by the City Treasurer as part of the budget presentation



Step 3: Carbon Accounting Framework and Budget

- Worked with SSG in 2024 to develop framework & calculator
- Early buy-in from Finance team

- 2025 budget: Climate Budget or Climate Lens Phase 2
- Line-by-line analysis of the Capital Budget
 - Each project was evaluated for:
 - Adaptation + hazard(s) addressed
 - GHGs (qualitative or quantitative)
 - Construction
 - Operational
 - Lifecycle
- Provided our City Treasurer with a summary of investments in climate action and quantification of GHGs where possible
 - Did not try to communicate impact on overall carbon budget



Challenges and Lessons Learned from Year 1

- Pre-budget proposals
 - Catching projects early enough
 - Buy-in from staff to look at alternatives
 - Many projects were not mature enough for quantification
 - Quantifying operational impacts remains a ?
- During budget deliberations
 - Communicating the meaning of the budget to Council and the public
 - Communicating the City's role in our community budget – what is the full picture
 - Understanding the value to Councillors



PART 6

Q&A

Municipal Climate Action Toolkit

Webinar:

How to use the GHG Calculator Tool

**Sustainability
Solutions Group**

April 24

11am PT

Virtual



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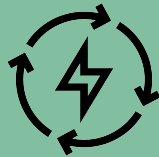
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Thank you