7.3 Fall 2024 Carbon Budget

November 13, 2024 Fall budget Meeting City Hall

roup 9

Climate Transitions Cohort

Session 4: Community engagement

Instructions - Please use a sticky note to answer the following question:

What challenges and opportunities do you see for engaging your community around advancing a just and equitable climate transition?

Challenge: Takes a lot of resources, knowledge, and expertise

Pandemic makes equitable engagment challenging when you can't do it in person

People have other priorities

Distrust around surveys from both the community and Council - not relationship-building

Different groups have such different priorities; limited funding & resources overall

Climate change is still a concern for vulnerable populations facing other barriers e.g. impacted by extreme weather

Opportunities: Engage at neighbourhood-level with local ambassadors

Opportunity: reframe question! Are we asking the right questions?

Challenge: how do you prioritize items based on limited resources? Decisions are often driven by funding but this does not necessarily have the most impact.

Hard to contact some identified vulnerable populations

Relying on surveys when couldn't engage in person, but surveys not ideal for engagement

How do we have a conversation that is inclusive of and co-led by First Nations populations?

What is a content expert? What is a context expert?

Opportunity: a local gov. can invite community organizations to host engagements

People need to be brought together for relationship building

Opportunity: start from a different place e.g. building trust and relationships

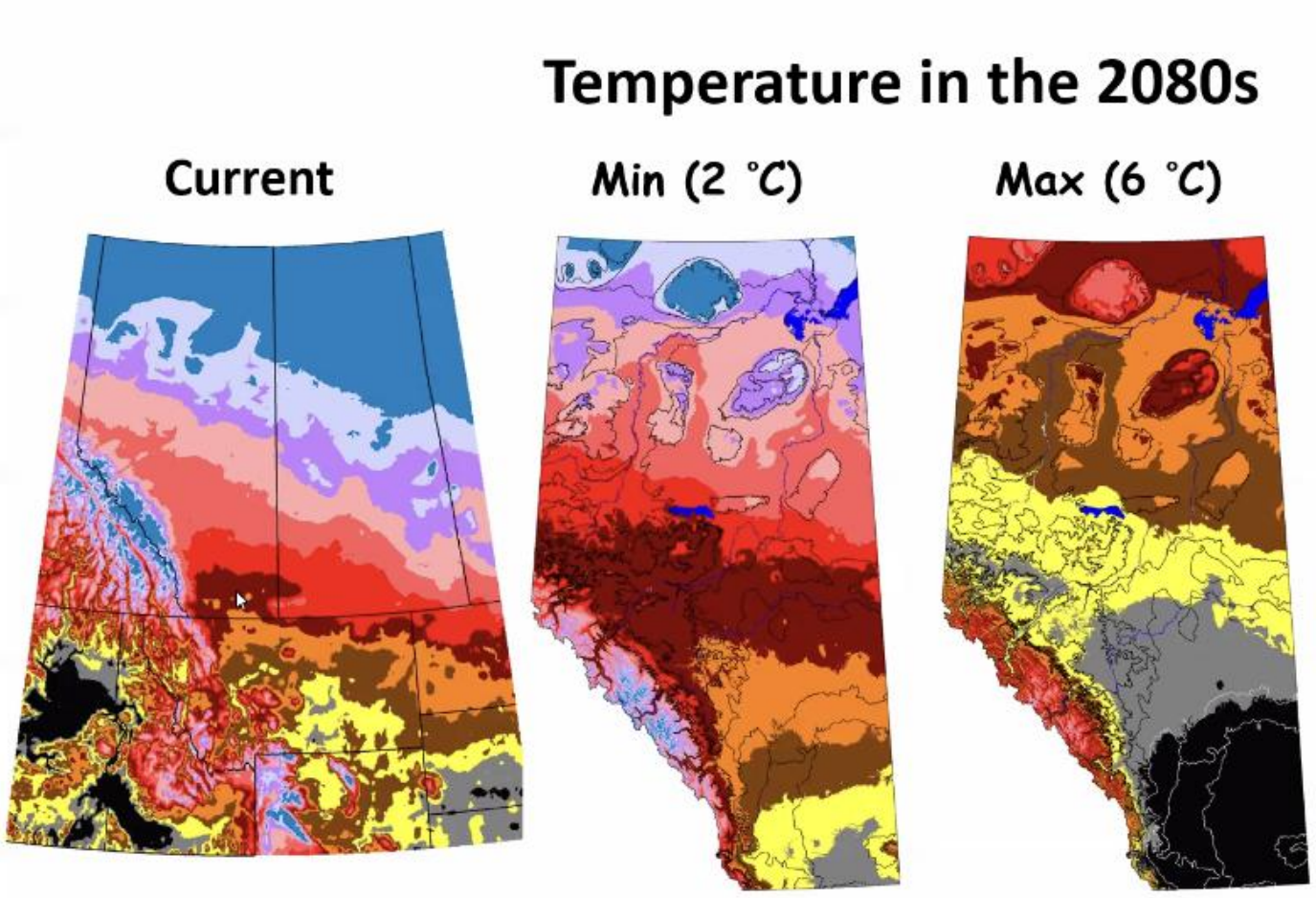
Local gov. challenge: contract consultants for reports who aren't an expert in community engagment, but engagement is such a

Challenge: We have to move forward at some point, if we can't bring everyone along how do we

What is engagement accomplishing if we don't have all levels of decision-makers involved and community impacted

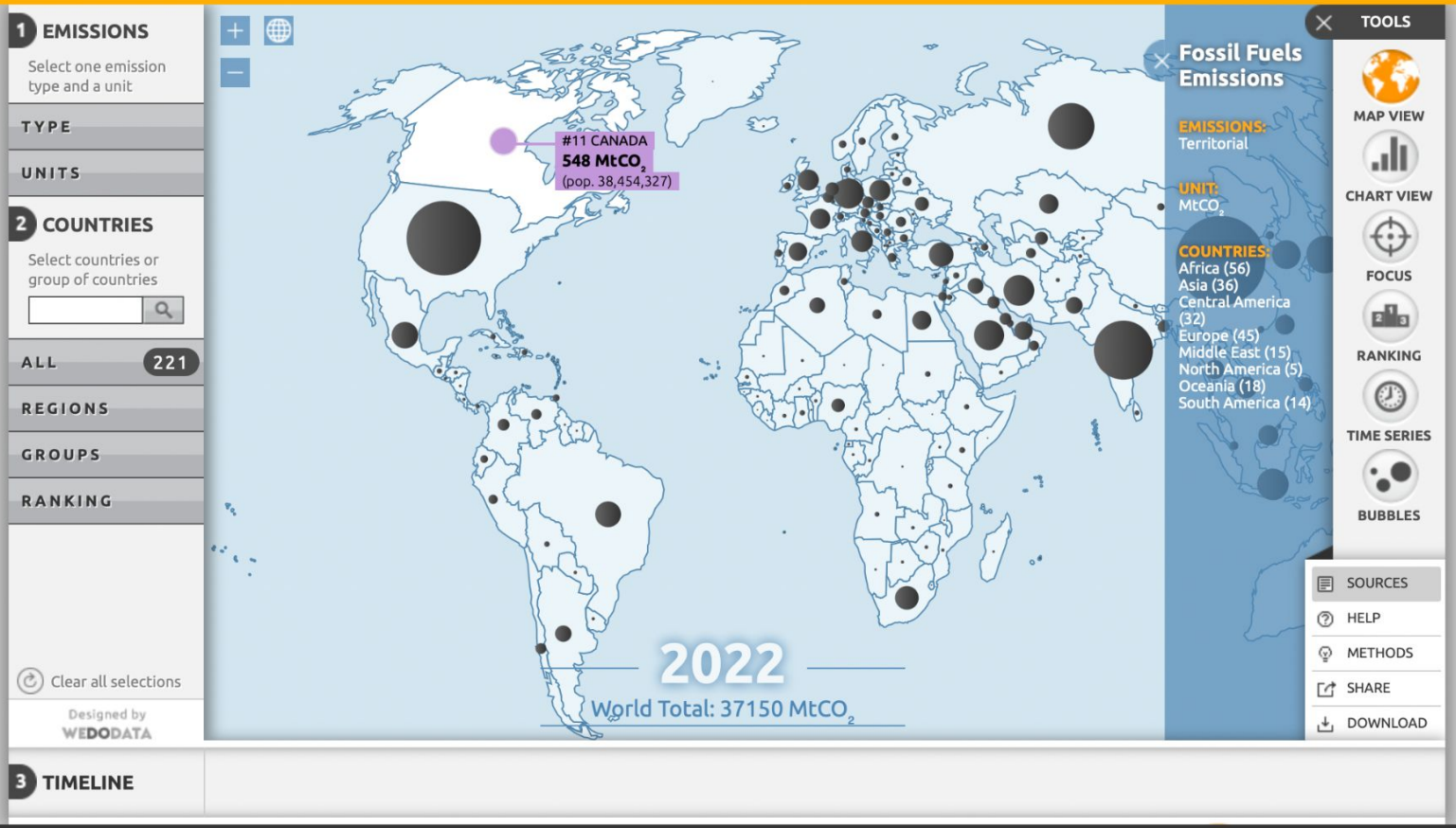
Dominant narrative - something to accomplish, only so many

What are the most important values to the groups you're working with?



The Global Carbon Budget (2024) was just released at COP 29 provides critical insights into global carbon emissions and their implications for climate change. These are the current temperatures and for an increase in 2◦ C we can expect greater CO_2 in the atmosphere.

120 Scientists proof that Global Carbon Budget “fossil fuels have reached a record high”



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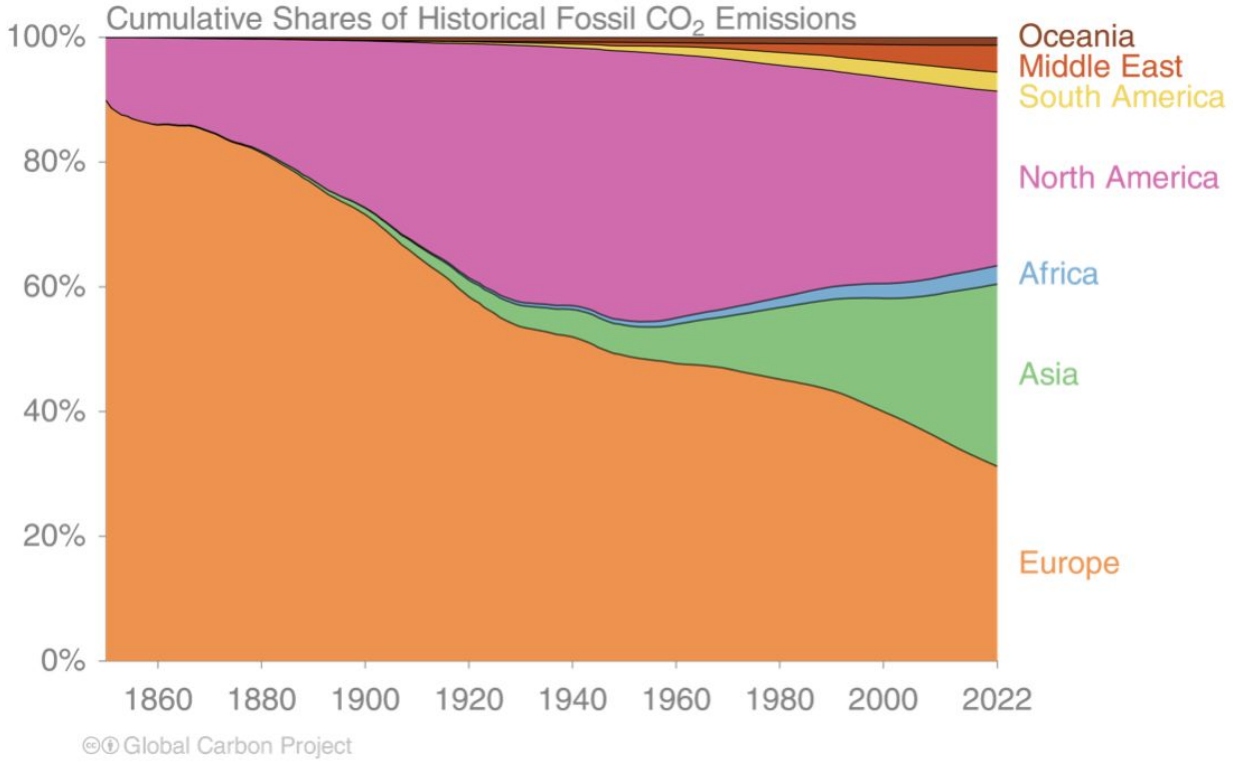
GLOBAL CARBON

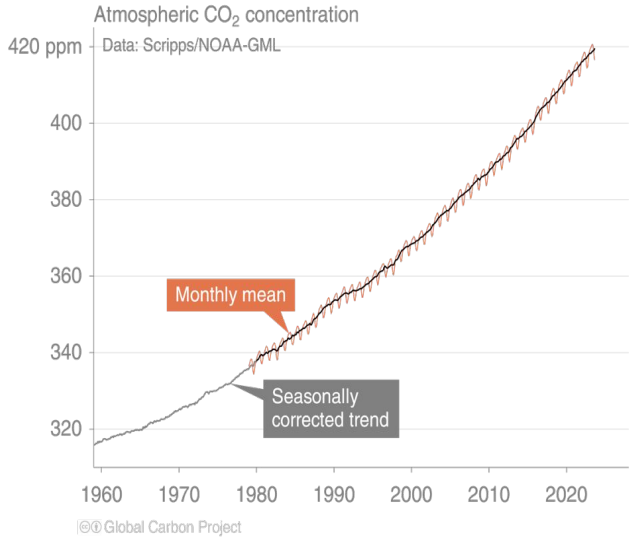
Historical cumulative emissions by continent

Cumulative fossil CO_2 emissions (1850–2022). North America and Europe have contributed the most cumulative emissions, but Asia is growing fast



Atmospheric CO_2 concentration

The global CO_2 concentration increased from ~277 ppm in 1750 to 419.3 ppm in 2023 (up 51%)



The CO2 has increased in the atmosphere and total emissions in 2023 to 419.3 PPM

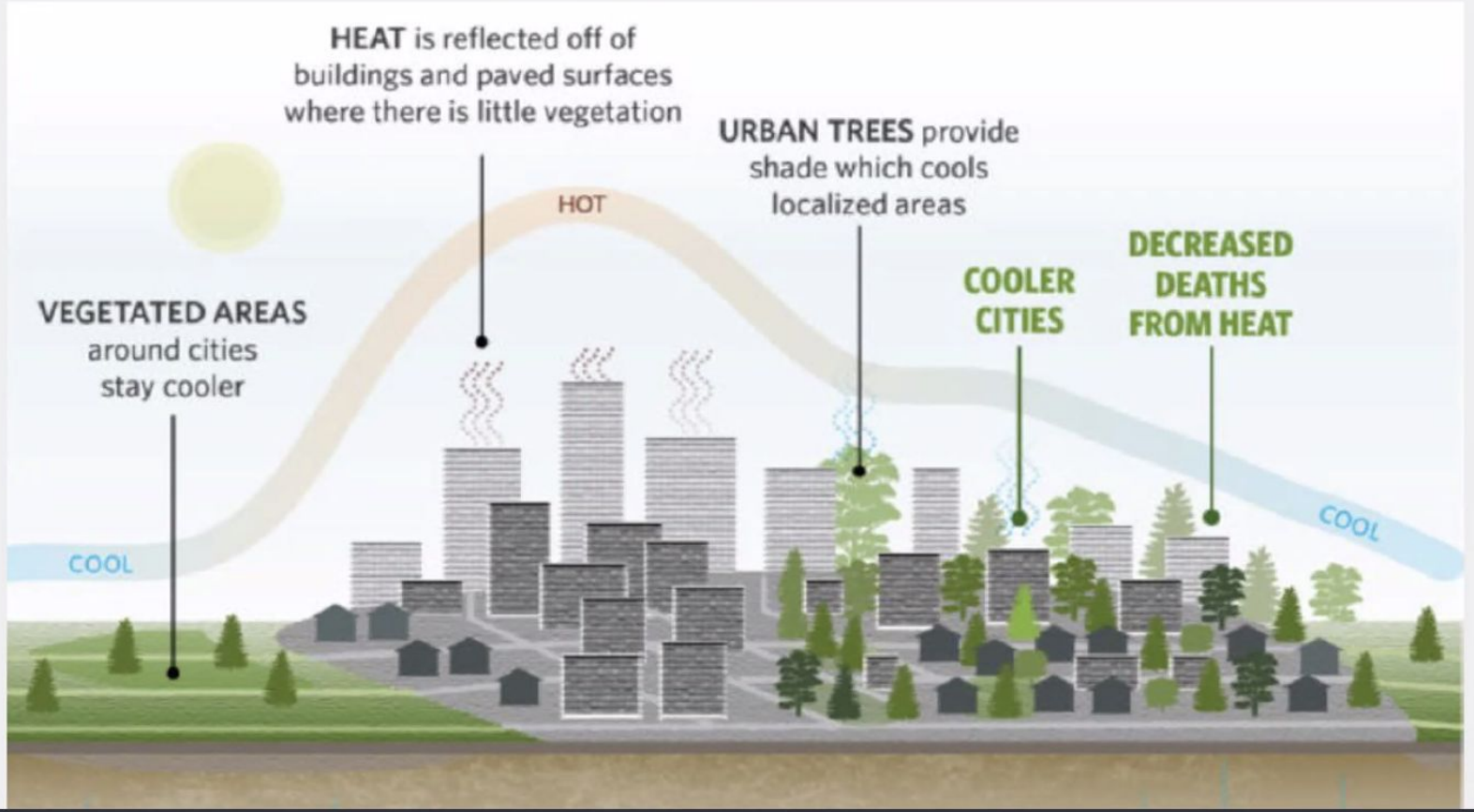
https://globalcarbonbudget.org/gcb-2024/

Budget Cycle

The following table lists new funding approved aligned with the Energy Transition Strategy in the 2023-2026 operating and capital budget cycle.

	Action Area	Operating / Capital	2023 - 2026 Approved ($000)
1	Renewable Energy Solutions (Gas)	Operating	$0
	Renewable Energy Solutions (Electricity)	Operating	$0
	District Energy Strategy	Operating	$0
	Street & Park Light Replacement	Operating	$3,000
	Maintenance of Solar Systems	Operating	$1,400
	District Energy Strategy	Capital	$34,500
	PATHWAY 1 (RENEWABLE & RESILIENT ENERGY TRANSITION) SUBTOTAL		**$38,900**
2	Climate Competency	Operating	$0
	Emission Offsets	Operating	$0
	Affordable Housing Transition Initiatives	Operating	$0
	Emission Neutral Buildings	Operating	$0
	City Facility Retrofits	Capital	$53,000
	PATHWAY 2 (EMISSIONS NEUTRAL BUILDINGS) SUBTOTAL		**$53,000**
3	City Light/Heavy Duty Fleet & Equipment	Operating	$0
	Active Transportation Network Implementation	Operating	$4,383
	Mass Transit	Operating	$59,262
	Metered Park Lights / Security Lights	Capital	$0
	City Light/Heavy Duty Fleet & Equipment	Capital	$11,200
	City Bus Fleet Infrastructure	Capital	$0
	City Bus Fleet	Capital	$40,800
	Active Transportation Network Implementation	Capital	$100,000
	Mass Transit	Capital	$8,000
	PATHWAY 3 (LOW CARBON CITY AND TRANSPORTATION) SUBTOTAL		**$223,645**
4	Urban Trees	Operating	$0
	Community Activation	Operating	$21,500
	Nature Based Solutions	Capital	$6,500
	Urban Trees	Capital	$32,441
	PATHWAY 4 (CARBON CAPTURE & NATURE BASED SOLUTIONS) SUBTOTAL		**$60,441**

Trees and Temperature



McEvoy, D. (2013).

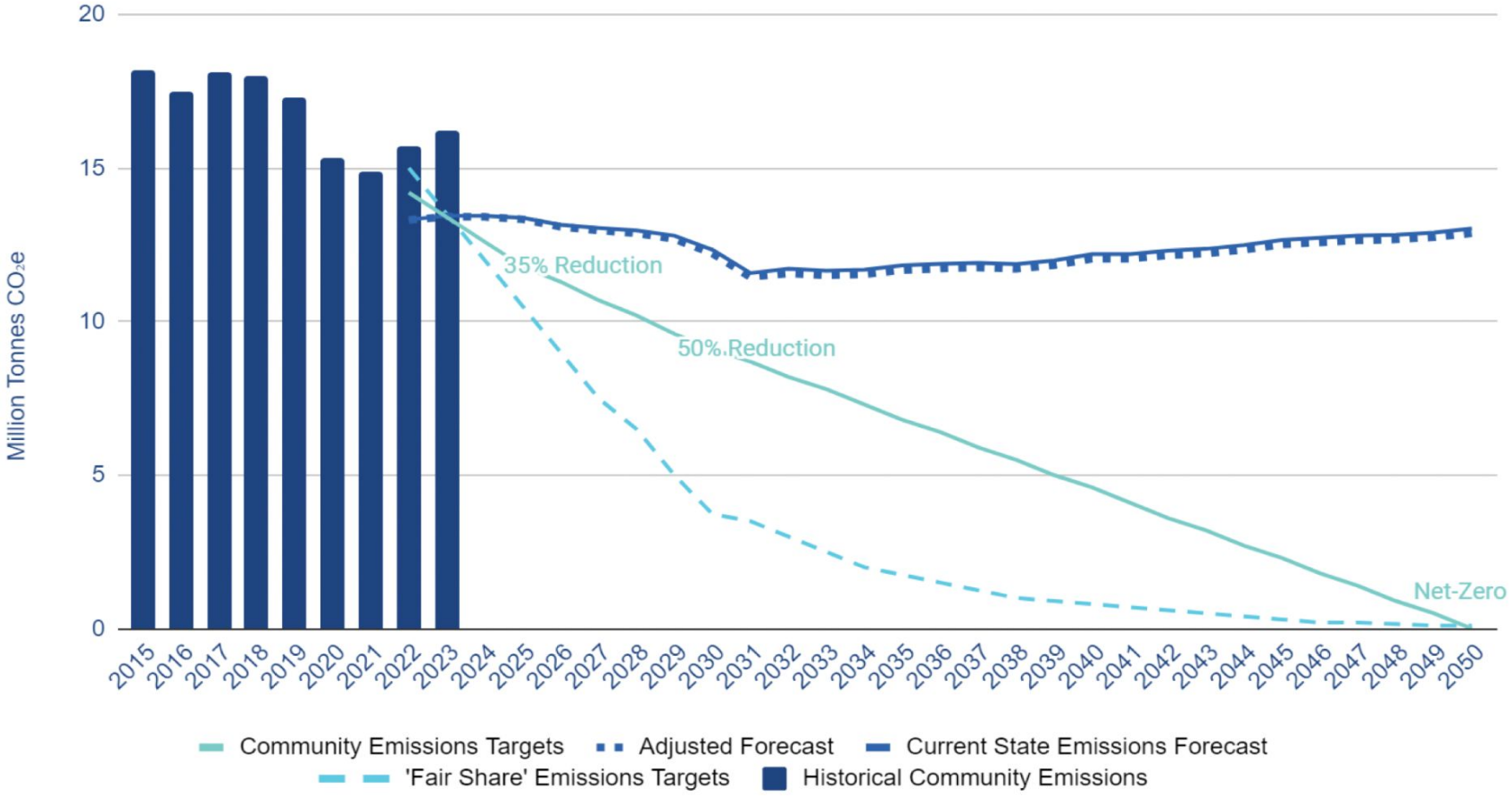
Table 5: Community Carbon Deficit

Annual tonnes CO2e	2025	2030	2050
2023-2026 Carbon Budget Deficit (A)	1,530,000	3,120,000	12,880,000
2023 and 2024 Budget Updates (B)	1,200	1,400	1,400**
2024 Updated Carbon Deficit (C) = (A + B)	1,530,000*	3,120,000*	12,880,000*

** The 2024 budget updates fall below the significance threshold for the community carbon budget, which is 10,000 tonnes. Therefore the resultant carbon deficit remains unchanged from the values reporting in the 2023-2026 Carbon Budget. Emission changes below the significance threshold continue to be tracked internally, such that the cumulative impact of small changes is accounted for in future carbon budget updates.*

***Values presented in the table for GHG impacts of budget updates for 2050 are based on extrapolations and are subject to change.*

Community Carbon Budgeting - 2024 Budget Updates



Canopy Trees

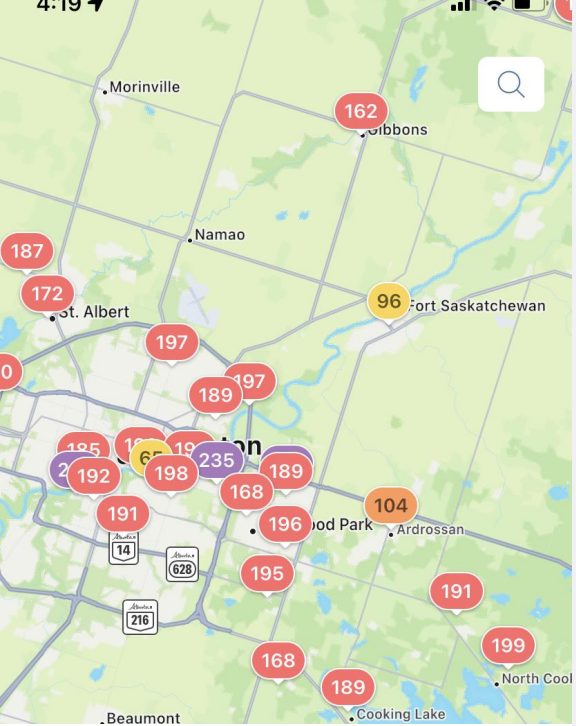
Ash

Linden in fall

Littleleaf Linden

Elm

Deforestation and Changes in Urban Forest (loss of ELMS)



Air Quality Index during 10+ will be more prevalent in the future due to the effects of Climate Change

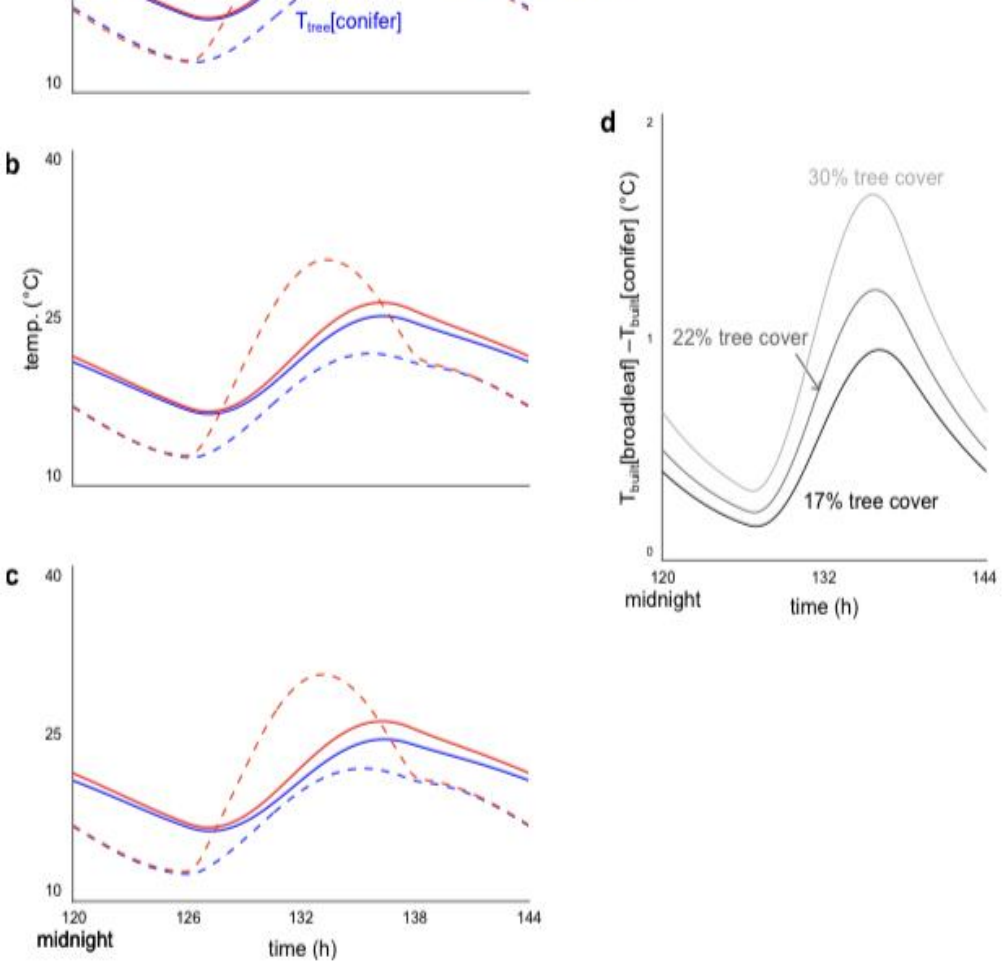


Figure 3. Temperatures of the built environment (T_{built}, solid lines) and urban forests (T_{tree}, dashed lines) in the conifer (blue) and broadleaf tree (red) models when (**a**) 17% of the city is covered by trees, (**b**) 22% of the city is covered by trees, and (**c**) 30% of the city is covered by trees. (**d**) shows the built

This can pose substantial issues for a population of homeowners, as there is a trend of household expenses rising faster than salary and wage increases globally [1] (Wetzstein 2017, 3160) School of Earth and Environment

Therefore a **26% reduction in emissions** [2] would have been a possible goal to reach the annual target but the city has not made these affordable to the community and therefore the evaluations in how we can afford this would fall onto the citizens and those who own their own homes and pay taxes.

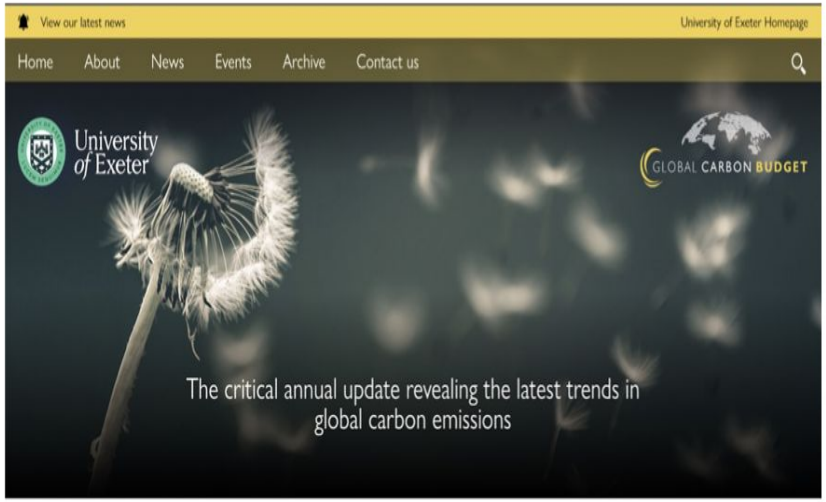
1 https://www.jstor.org/stable/26428376

2https://pub-edmonton.escribemeetings.com/Meeting.aspx?Id=32ba7bc9-21ad-48d7-8845-aa46d94029fa&Agenda=Agenda&lang=English&Item=27&Tab=attachments

This study estimates the remaining “carbon budget” before the 1.5°C target is breached consistently over multiple years, not just for a single year. At the current rate of emissions, the Global Carbon Budget team estimates a 50% chance global warming will exceed **1.5°C consistently in about six years.**

GLOBAL CARBON project

Data Access and Additional Resources



More information, data sources and data files:

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