

CALGARY CLIMATE HUB

CITY OF CALGARY
RECEIVED
IN COUNCIL CHAMBER
MAY 31 2022
ITEM: 7.1 CD2022-0465
Distrib-Presentation
CLERK'S DEPARTMENT

Clean Connected Protected Communities

Community Development Committee meeting on the Climate Strategy

May 31, 2022



Agenda

- Angela
 - Calgary Climate Hub Introduction
 - Clean Connected Protected Communities Overview
- Rob T
 - Clean - Include commitment to net-zero by 2035 electricity
- Sabrina
 - Connected - Include commitment to Green Line and other transit projects
- Rob M
 - Protected - Include infrastructure for shelter from extreme heat and cold
- Alex
 - Communities - All Affordable Housing to be retrofitted to net-zero standard
- Joe
 - Conclusion

DISCUSSION - 2024-01-15
11:00-11:30 AM

Calgary Climate Hub

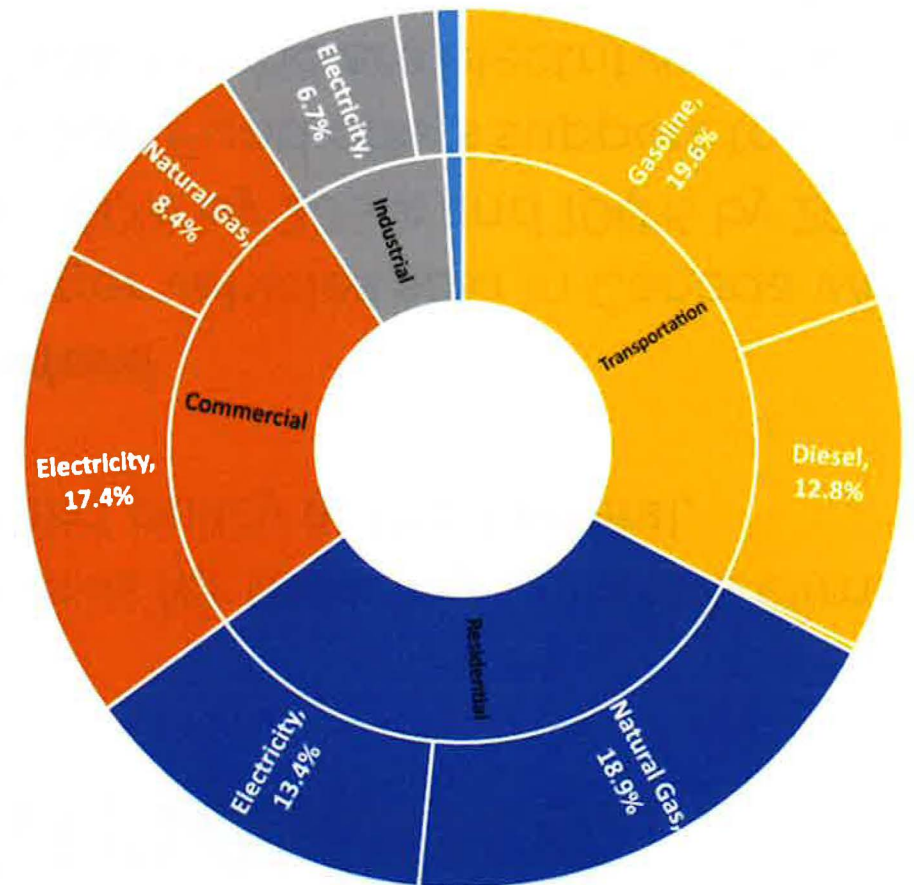
- The Calgary Climate Hub is a volunteer-led, non-profit
 - Unites Calgarians behind meaningful local climate action
- Represent 1000 members, donors and volunteers
- Partnerships with Arusha, Calgary Alliance for the Common Good, Solar Alberta, Sustainable Calgary, Bike Calgary, Fair Calgary Community Voices, the Women's Centre of Calgary and Action Dignity
- Thank You to the sitting Council for
 - Declaring a Emergency
 - Support for Climate Solutions
 - Establishing a Climate Advisory Committee

Climate Strategy Timeline

- November 2021 - Council declares Climate Emergency and commits to net-zero by 2050
- April 2022
 - Council sees Climate Strategy in Strategic Session of Council
- May 2022
 - Community Development Committee
- June 2022
 - Combined Council

Calgary's Carbon Footprint

- Nearly all emissions come from
 - Buildings - 67%
 - Vehicles - 32%
- Powered by
 - Fossil Electricity - 38%
 - Gasoline/Diesel - 32%
 - Natural Gas - 29%
- Net zero means these emissions need to get as close to zero as possible



Federal Net-Zero Framework

- The Federal Government has set clear frameworks for meeting Canada's climate ambitions, which provide the foundation to build policy at the Federal, Provincial and Municipal levels:
 - **Net Zero by 2035 Clean Electricity Standard**
 - **ZEV Mandate:** at least 20% of new passenger vehicles sold in Canada will be zero-emission vehicles by 2026; at least 60% by 2030; and 100% by 2035.
 - **Zero Emission Transit Fund:** The \$2.75 billion Fund offers support to public transit and school bus operators across Canada who are electrifying their fleets; it will also deliver on the federal government's commitment to help purchase 5,000 zero emission buses over the next five years.
 - **Climate-Resilient Buildings and Core Public Infrastructure Initiative:** Updating Canada's building codes for climate resilience

Council Net-Zero Commitments

- Notice of Motion - Declaration of Climate Emergency and Call to Action
 - Calgary to meet net-zero by 2050
 - Civic partners and subsidiaries to align with net-zero by 2050
 - We view this as including ENMAX, Calgary Transit and Calgary Housing
- Notice of Motion - Building Accountability into the Declaration of a Climate Emergency and Call to Action
 - Retrofit all City owned assets with clean energy infrastructure
 - Civic partners and subsidiaries to align with interim emissions reduction targets

Getting on a Path to Net-Zero

- We need to switch to decarbonized energy sources and create vehicles and buildings able to run on that decarbonized energy
- “Electrify Everything” is the consensus path follows this strategy
 - Create 100% clean electricity supply
 - Create and retrofit vehicles and buildings that run on electricity
- Energy Efficiency makes everything easier by decreasing the energy needed
- In Calgary, we need to create Clean, Connected, Protected Communities

Clean, Connected, Protected Communities

- **Clean** - The Climate Strategy will explicitly require net-zero by 2035 electricity, including from ENMAX
- **Connected** - The Climate Strategy will include the completion of the Green Line, Airport Line and Electrification of the Bus Fleet as key priorities
- **Protected** - The Climate Strategy will include specific actions to protect the health of people from extreme temperature, precipitation and air quality events, including providing cooling and heating spaces throughout the city.
- **Communities** - The Climate Strategy will require all municipally-owned affordable housing be retrofitted to a net-zero standard as soon as possible.

CALGARY CLIMATE HUB

Clean

Community Development Committee meeting on the Climate Strategy

May 31, 2022



Clean

- We need clean electricity to power Calgary
 - Electric Vehicles
 - Electric Bikes
 - Electrified Transit
 - Electrified Homes
 - Induction Stoves
 - Heat Pumps/Air Conditioners
- **The Climate Strategy should clearly and explicitly include that all electricity in Calgary must be net-zero by 2035**
 - **Including electricity generated by ENMAX**

Clean

- Society-wide net-zero by 2050 is the bare minimum to limit global warming to 1.5°C
- Council has committed to overall net-zero by 2050
- Modelling from the International Energy Agency has found net-zero by 2035 electricity is required for overall net-zero by 2050
- ENMAX generates and retails a substantial amount electricity used in Calgary
 - The City of Calgary owns ENMAX
 - 91% of ENMAX's electricity is generated from fossil fuels
 - ENMAX represents 5% of all Canadian emissions from electricity, as of 2019

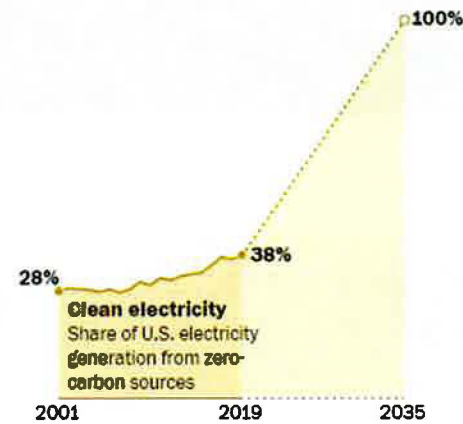
Clean - What are others doing?

Climate & Environment

Biden calls for 100 percent clean electricity by 2035. Here's how far we have to go.

States such as New York, California and Maine already have ambitious goals, while Ohio and West Virginia have weakened theirs

By **John Muyskens** and **Juliet Elperin** July 30, 2020



Clean - What are others doing?

 GOV.UK

▼ Topics

[Home](#) > [Environment](#) > [Climate change and energy](#) > [Climate change adaptation](#)

Press release

Plans unveiled to decarbonise UK power system by 2035

The plans will focus on building a secure, home-grown energy sector that reduces reliance on fossil fuels and exposure to volatile global wholesale energy prices.

Clean - What are others doing?

DIVE BRIEF

LA approves 100% clean energy by 2035 target, a decade ahead of prior goal

Published Sept. 2, 2021

By Jason Plautz
Contributor



Mario Tama via Getty Images

Clean - What are others doing?

Los Angeles directs utility to aim for net-zero emissions by 2035



Smog obscures the Los Angeles skyline. The Los Angeles Department of Water and Power is to develop a long-term plan that will remove carbon-emitting sources from its power generation mix by 2035.

Source: Getty Images/trekandshoot

A Los Angeles City Council motion declaring that all of the city's electricity come from zero-carbon sources by 2035 will prompt the city-owned utility, the Los Angeles Department of Water and Power, to drastically remake its power generation portfolio.

Clean - What are others doing?

Austin Energy's 2030 Plan, With Zero Carbon by 2035, Gets Initial Approval

March 12, 2020



By Cyrus Reed and Shane Johnson

After meeting for several hours on March 9 in a special joint meeting, members of the City of Austin's Electric Utility Commission (EUC) and Resource Management Commission (RMC) recommended approval of a revised and improved Austin Energy Resource,

Clean - What are others doing?



Government
of Canada

Gouvernement
du Canada

[Français](#)

Search ECCC



MENU ▾

[Canada.ca](#) > [Environment and Climate Change Canada](#)

Canada launches consultations on a Clean Electricity Standard to achieve a net-zero emissions grid by 2035

From: [Environment and Climate Change Canada](#)

News release

March 15, 2022 - Gatineau, Quebec

From our homes to our businesses to our workplaces, electricity powers our lives. So as we fight climate change, create good jobs, and build a strong, sustainable economy, clean electricity must be a key part of the solution.

Today, the Minister of Environment and Climate Change, the Honourable Steven Guilbeault, launched consultations to develop Canada's Clean Electricity Standard (CES) and drive progress towards a net-zero electricity grid by 2035. Work on clean electricity will also be key to reaching Canada's ambitious and achievable emissions reduction target of 40 to 45 percent below 2005 levels by 2030 and net-zero emissions by 2050.

Clean - What are others doing?



Clean Electricity Standard Stakeholder Feedback Submission

Intro

The Calgary Climate Hub is a volunteer-led, non-profit organization that unites a diverse group of Calgarians committed to working together to support meaningful local action on climate change. We represent a variety of communities, industries, cultures and causes. We believe that a broad and diverse range of Calgarians and organizations need to be engaged on the climate crisis to develop impactful solutions that fit our unique political and economic circumstances.

Clean - What are others doing?



< Market

Market and system reporting ▾

Understanding the market

Joining the energy market

Energy Trading System tools

Net-Zero Emissions Pathways

Introduction

Alberta's power sector is undergoing significant change. This change is being driven by multiple factors within the power system and beyond. New technologies, carbon policy, broad electrification and a societal desire for cleaner forms of energy are creating substantial and rapid change across the electricity value chain, from production to consumption.

The AESO's Pathways report will describe potential decarbonization pathways that can lead to a net-zero emissions electricity sector in Alberta by 2035. The report will include evaluation of supply-and-demand scenarios, which can result in decarbonization of the electricity system, and electrification of other emissions-intensive sectors. The initial report will review potential supply mix, market, supply adequacy and high-level cost implications. The report will not examine the full range of all potential operational impacts and related mitigation measures, the specific impact to consumers or provide quantitative analysis of all identified pathways. Subsequent analysis and reporting may focus on these more detailed metrics.

Clean - What are others doing?

Stakeholder Comment Matrix – Dec. 16, 2021



Net-Zero Emissions Pathways | Analysis Scope and Inputs

Comment period:	Dec. 16, 2021 to Jan. 31, 2022	Contact:	Robert Tremblay Dr. Joe Vipond
Comments from:	Calgary Climate Hub	Phone:	1-403-903-6234 1-403-510-9236
Date:	2022/01/31	Email:	rob.tremblay@hotmail.ca jvipondmd@gmail.com

Instructions

Clean - What are others doing?

- Federal government is going to regulate net-zero by 2035 electricity via a Clean Electricity Standard
 - Will use electricity carbon intensity portion of Canadian Environmental Protection Act
 - Carbon pricing on electricity related emissions will likely also increase
- ENMAX is not ready to comply with clean electricity targets or feel a stronger carbon price
 - This will put the dividend at risk if allowed to continue

Clean - What are others doing?

- Other jurisdictions are planning for net-zero 2035 electricity
- Federal Government is planning to regulate all Canadian electricity be net-zero by 2035
- Alberta Electric System Operator is planning for net-zero 2035 electricity
- Calgary is not currently planning for net-zero 2035 electricity
- ENMAX is not ready to comply with net-zero 2035 electricity
- Calgary and ENMAX are vulnerable to being told what to do instead of charting our own course

Clean - What are we doing?

- ENMAX only mentioned once in the Strategy

The screenshot shows a document viewer interface. At the top, there is a search bar containing the text "ENMAX|". To the left of the search bar, the page number "40 / 99" and a zoom level of "100%" are visible. Below the search bar, the document text reads: "E1.1 Work with **Enmax** and other electric utilities to support the transition to zero carbon electricity, particularly to implement grid and service upgrades to enable electrification." To the right of the text is a timeline diagram. It features a horizontal axis with a yellow arrow pointing right, labeled "LONG TERM". Below this arrow, a grey arrow points right, labeled "IN DEVELOPMENT". To the right of the timeline, there is a green box containing a dollar sign "\$" and the word "LOW".

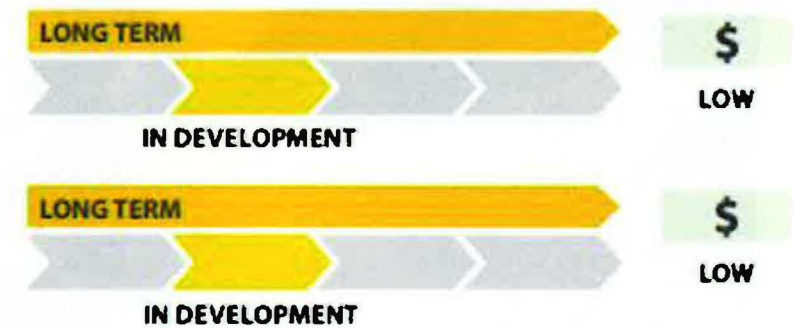
- ENMAX is not only here to “support” energy transition
 - ENMAX **IS** the generator of electricity and therefore the means of transition
- Are there any other targets for ENMAX in the Strategy?
 - No

Clean - What are we doing?

- The Climate Strategy calls for provincial advocacy

E3.1 Advocate to the provincial and federal governments to support low carbon electricity, low carbon heating fuels, demand side management, energy storage and expanded energy data access.

E3.2 Advocate to the Alberta Utilities Commission to support low carbon electricity, low carbon heating fuels, demand side management, energy storage and expanded energy data access.



- This is great but...
- That starts with this strategy
 - **We need stronger clean electricity targets or else we will have nothing to advocate for**

Clean - Why should we?

- Protect ENMAX's value and ability to produce a dividend
 - 15\$ carbon price
 - Get ahead of risk of accelerated climate policy
 - ENMAX can pursue decarbonization intentionally or have it



Clean - Why should we?

- Investors want clean energy
 - Google
 - Microsoft
 - Amazon

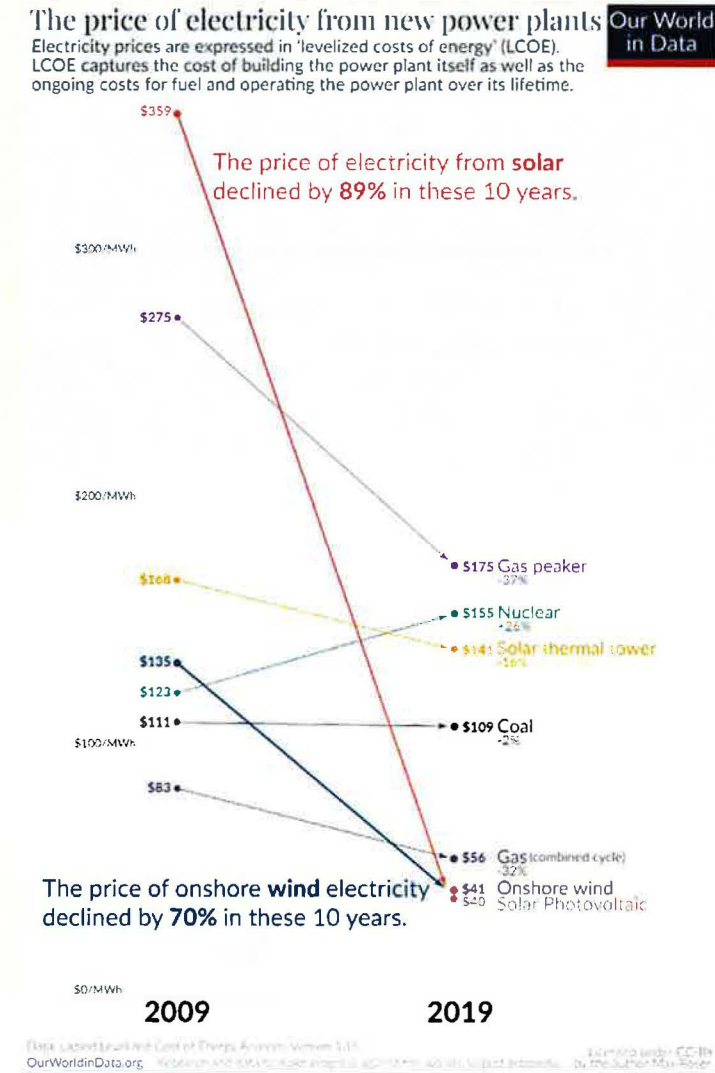


Clean - Why should we?

- Solar and Wind are cheap!
 - Save ENMAX costs
 - Save ratepayers costs

"Not only is it cheaper to build renewables now than build a fossil fuel power plant, it's actually cheaper to build and generate renewables than it is to run existing power plants."

- Blake Shaffer, Assistant Professor Economics, U of C



Clean

1. Council had committed to overall net-zero by 2050
2. There is no path to net-zero by 2050 without net-zero by 2035 electricity
3. There is no path to net-zero by 2050 without ENMAX achieving net-zero by 2035
4. So, the Climate Strategy must include net-zero by 2035 targets for clean electricity, including from ENMAX

Clean - What do we need to do?

- **The Climate Strategy should clearly and explicitly include that all electricity in Calgary must be net-zero by 2035, including from ENMAX**
 - Revise E1.1 to
 - “Instruct ENMAX to provide 100% non-emitting electricity no later than 2035 and implement grid and service upgrades to enable electrification”
 - Revise E3.1
 - “Advocate to the provincial and federal governments to mandate 100% non-emitting electricity no later than 2035, as well as support low carbon heating fuels...”

CALGARY CLIMATE HUB

Connected

Community Development Committee meeting on the Climate Strategy

May 31, 2022



Connected

- Calgarians need clean ways to get around Calgary
- **The Climate Strategy must explicitly name the Green Line, Airport Line and electrification of the bus fleet as key priorities and we must work on these as priorities to be funded by our Federal and Provincial partners**

Connected

- ICE Vehicles make up 32% of Calgary's GHG emissions
- ICE Vehicles are significant sources of air and noise pollution
 - Linked to premature deaths, decreased sleep quality and high blood pressure

CALGARY | News

Frustrated residents continue to call for change to 17th Avenue S.W. noise pollution



Tyson Fedor
CTV News Calgary Video
Journalist

[Follow](#) | [Contact](#)

CALGARY - It's one of the busiest stretches of roadways in the city and area residents are once again saying not enough is being done to limit the noise from vehicles along 17th Avenue S.W.

"It's really frustrating and has gotten worse over the last couple of years," said Kevin Morrison, who has lived near 17th Avenue, off 11th Street S.W., for more than a decade.

Connected

- Calgary has over 1M gas/diesel vehicles on the road
 - Net Zero means these have to be replaced with use of transit, cycling, walking or electric vehicles
- Federal Government planning to 20%, 60% and 100% of vehicle sales be electric by 2026, 2030 and 2035 respectively

Connected

- How do we use, change or leverage public systems to initiate mode shift
 - Emphasizing other modes than private vehicles will ease the transition to electric vehicles
 - Transit needs to be expanded and decarbonized to support higher ridership
 - Dense Transit Oriented Development is key to high ridership

Connected

- Expand
 - Complete the remaining 57% of the Green Line
 - Shepard to Seton in the Southeast
 - 16th Ave to Stoney Trail in the North
 - Complete the Airport Line between the Green Line and the Blue Line

Connected

- Decarbonize
 - Ensure all electricity used by Calgary Transit is still covered by renewables
 - Electrify the bus fleet

Connected - Examples from Other Cities

- LRT Expansion
 - Hamilton
 - Will build new 14km LRT funded completely by provincial and federal governments
 - Ottawa Transit
 - From 2019 to 2025 will expand O-Train from 8km to 64.5km

Connected - Examples from Other Cities

- Electric Busses
 - Saskatoon Transit
 - Internal study finds electrification of full 140 bus fleet would save City of Saskatoon \$3.6M annually
 - Ottawa Transit
 - 100% electric bus fleet by 2036

Connected

- We recognize transit expansion is capital intensive
- Put vision into Climate Strategy and use as basis for increased provincial and federal investment
- Advocate for larger share of existing programs
 - Zero Emissions Transit Fund
- Calgary has farther to go than other cities on decarbonization and deserves investment proportional to this challenge

Connected

- Calgarians need clean ways to get around Calgary
- Calgary has over 1 million gas/diesel vehicles on the road
 - All of these have to be replaced with use of transit, cycling, walking or electric vehicles
- Transit use needs to be expanded and decarbonized
- **The Climate Strategy must explicitly name the Green Line, Airport Line and electrification of the bus fleet as key priorities**
- Significant funding sources exist from the federal government
 - Zero Emissions Transit Fund
 - Calgary has farther to go than other cities on decarbonization and deserves more funding

CALGARY CLIMATE HUB

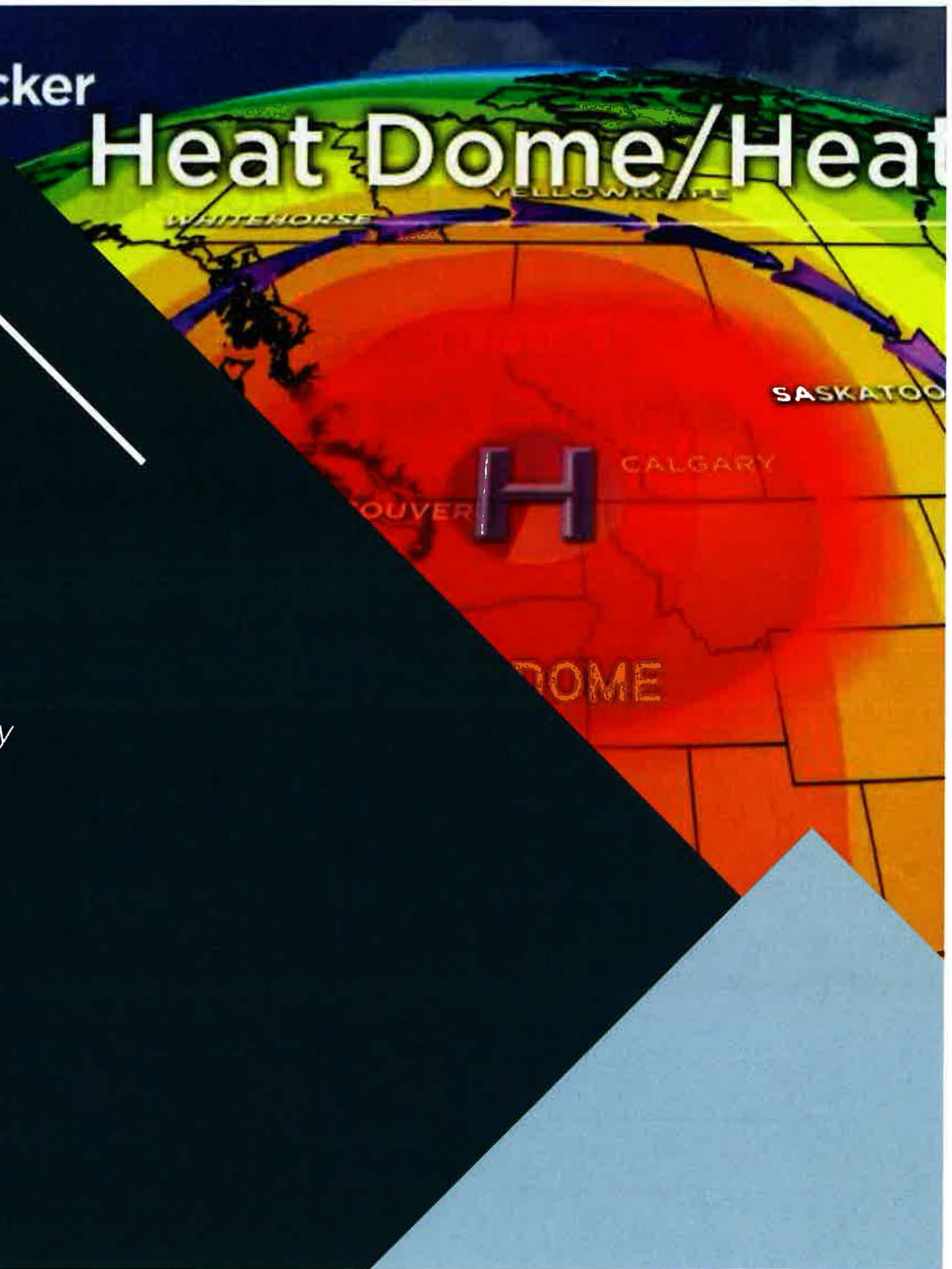
Protected

Community Development Committee meeting on the Climate Strategy

May 31, 2022

Tracker

Heat Dome/Heat



Protected

- **The Climate Strategy will include specific actions to protect the health of people from extreme temperature, precipitation and air quality events, including providing cooling and heating spaces throughout the city.**

Nature Based Solutions (Urban Forests)



- **Cooling, improvements to air quality, protection from extreme temperatures and precipitation**
- **Planting new forests while protecting and regenerating existing natural areas (forests, grasslands, wetlands, riparian zones)**

Urban Forest Benefits

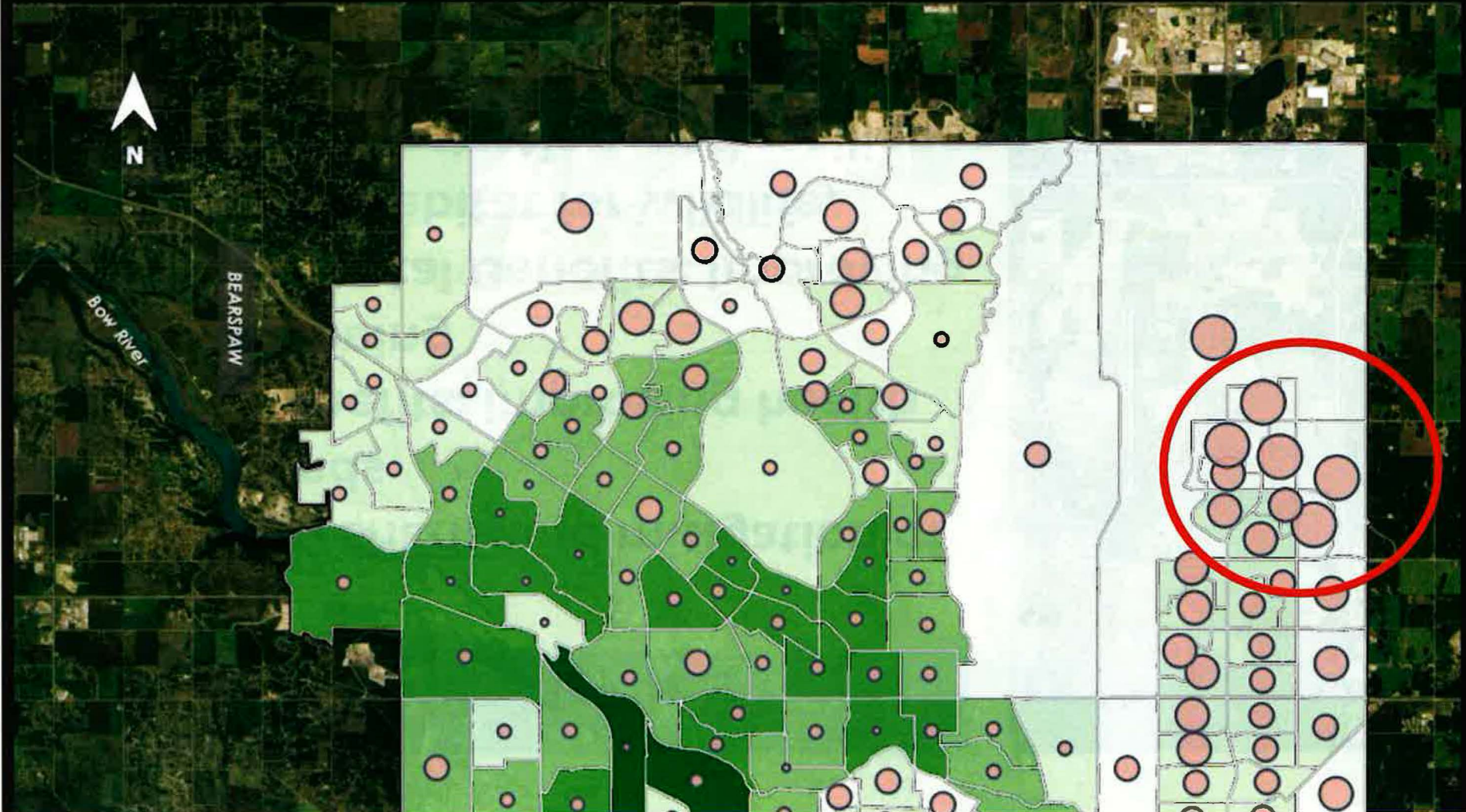
- **Providing shade and mitigation of heat islands**
- **Social Benefits: Improving health and well being**
- **Environmental Benefits: Improving air quality, habitat for wildlife, carbon sequestration, and resilience**
- **Economic Benefits: Ecosystem services (\$20 to 30M/yr), attractive business districts, improving visitor perceptions, better space for recreation, increasing property values**



Riley Park

Equity and Heat Islands

The Distribution of the Urban Forest and Black, Indigenous and People of Colour (BIPOC) Population in Calgary Census Tracts

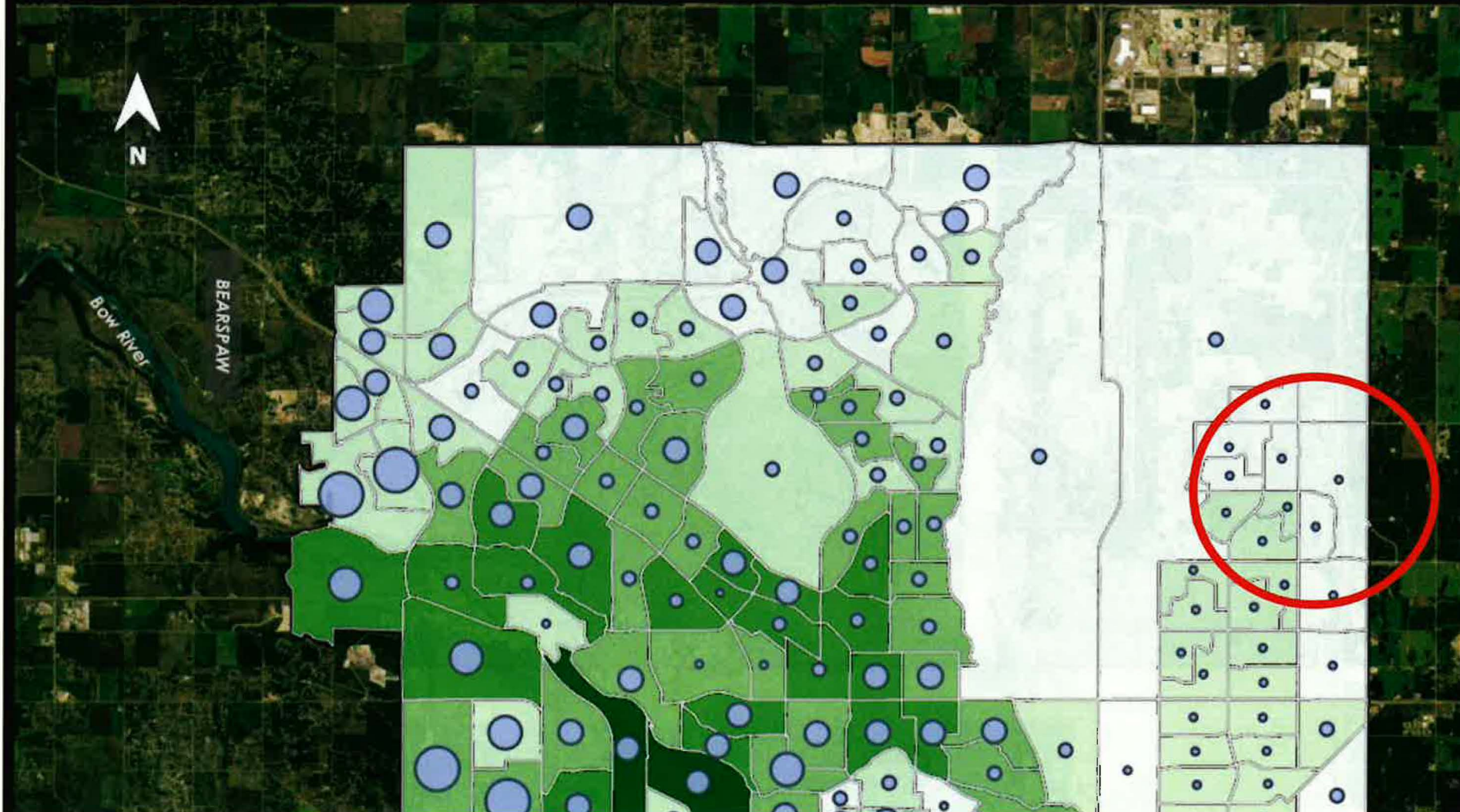


Taradale
0-6% Canopy

McKenzie Lake
18-25% Canopy

Equity and Heat Islands

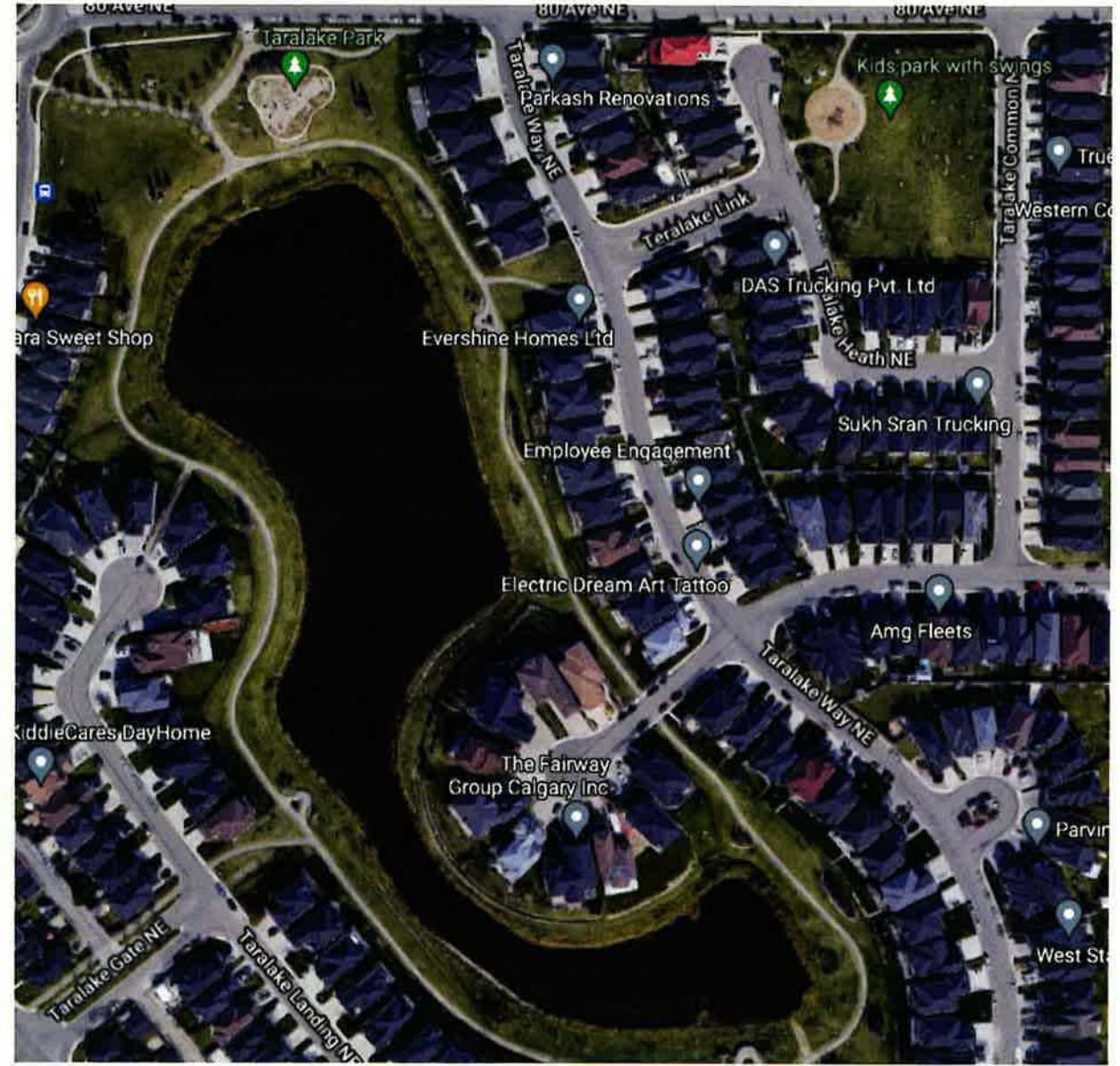
The Distribution of the Urban Forest and Median Individual Income in Calgary Census Tracts



Taradale
0-6% Canopy

Dark Green
25-30% Canopy

Equity and Heat Islands



Climate Strategy

- **Goal of 16% tree canopy by 2030**
- **Target neighbourhoods with low tree equity**
- **Parks Calgary to increase partnerships: Businesses & community associations to increase capacity for 2 Billion Trees Program**
- **Develop new methods of supplying water (rain/stormwater)**
- **Track gains and losses of tree canopy and report to council annually**

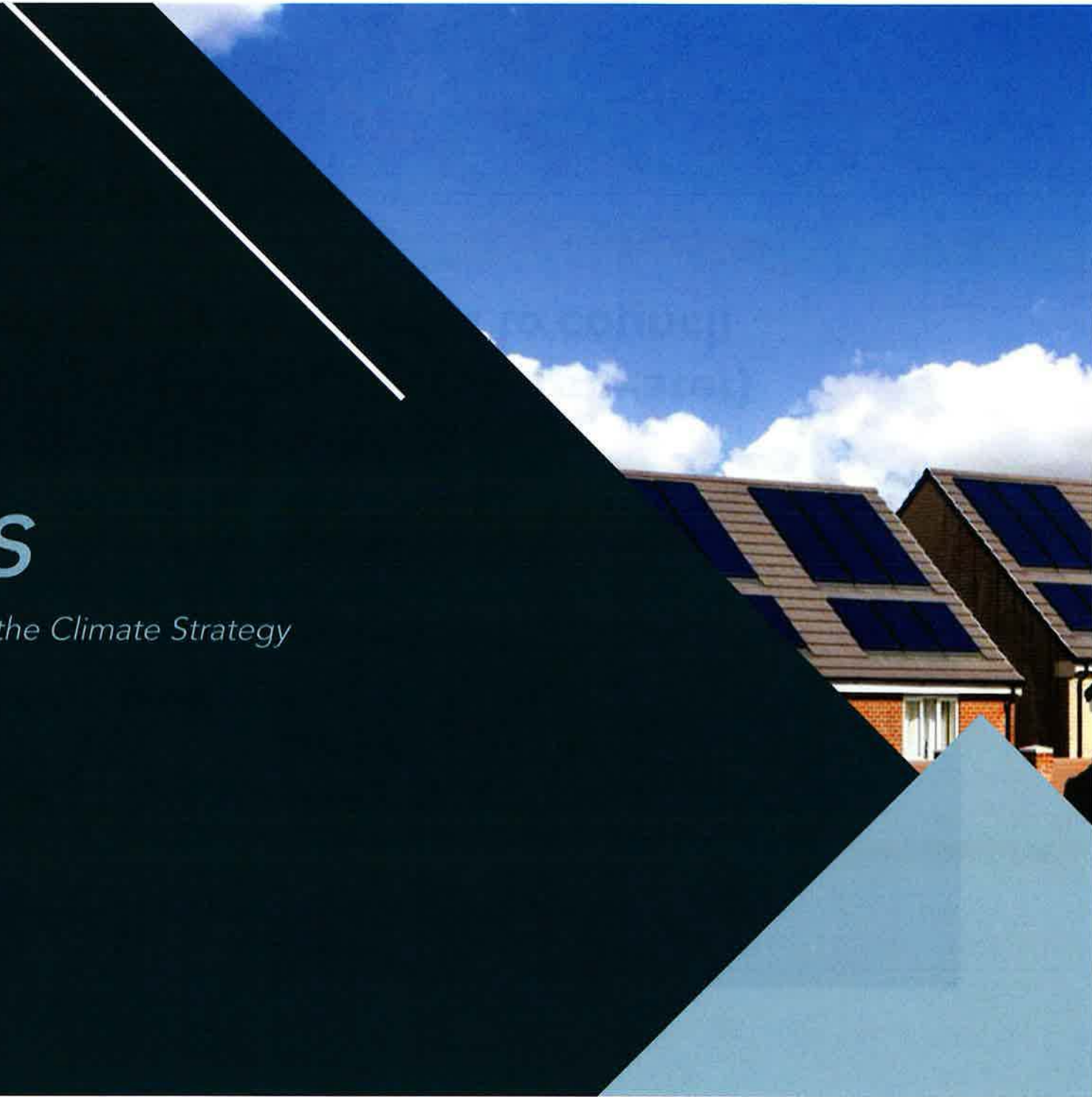


CALGARY CLIMATE HUB

Communities

Community Development Committee meeting on the Climate Strategy

May 31, 2022



Communities

- **The Climate Strategy must require all affordable housing be retrofitted to a net-zero standard as soon as possible**
- About 25,000 Calgarians live in homes managed by the Calgary Housing Company, and CHC is the largest residential landlord in the City.
- Social housing buildings often meet poor energy efficiency standards.
- Where the property manager (either municipality or non-profit housing provider) pays for the energy costs, energy efficiency investments have pay back and far outlast the initial upfront costs of energy improvements.

Communities

- In cases where the tenants pay the energy costs, **there is a significant opportunity to address energy poverty**
- All Calgarians need access to clean energy in their homes, and fossil fuel use in the home exposes Calgarians to carbon pricing
- Climate change impacts folks experiencing energy poverty due to their inability to prepare, withstand, and recover from extreme temperatures and natural disasters

Communities

- **Municipally owned and operated affordable housing is a great place for retrofit demonstration projects.**
- Calgary can lead by example and demonstrate the projects the City is trying to encourage
- This is an opportunity to bring in funding and partnerships from external sources and non-profits
- Provides an opportunity to kickstart a retrofit economy here in Calgary, and for companies to hire and train workers
- Larger projects provide greater purchasing power and economies of scale - consider partnering with other housing providers.

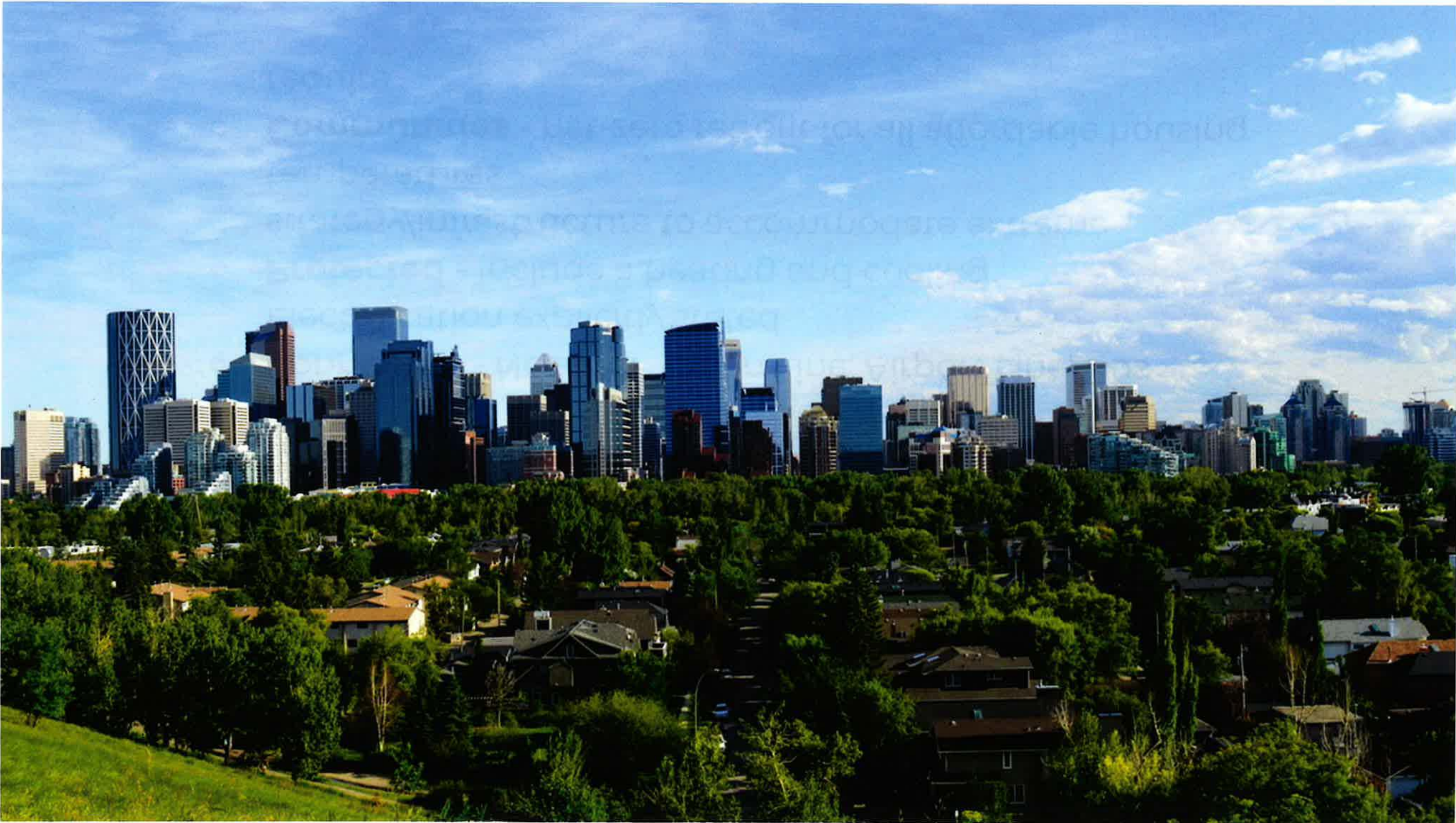
CALGARY CLIMATE HUB

Conclusion

Community Development Committee meeting on the Climate Strategy

May 31, 2022





Ask

- Can we count on you to make sure the Climate Strategy includes Clean Connected Communities?
 - **Clean** - Net-Zero 2035 Electricity (from ENMAX) explicitly stated
 - **Connected** - Need for Green Line, Airport Line, Bus Electrification explicitly stated
 - **Protected** - Include a heating and cooling strategy/infrastructure to accommodate extreme temperatures
 - **Communities** - net-zero retrofit for all affordable housing require

Thank You

<https://www.calgaryclimatehub.ca/>

<https://www.facebook.com/calgaryclimatehub/>

Twitter: @ClimateHubYYC

<https://www.instagram.com/calgaryclimatehub/?hl=en>

Email: director@calgaryclimatehub.ca

