



**TOWNSHIP OF MELANCTHON - ELECTRONIC MEETING  
ENVIRONMENTAL SUSTAINABILITY COMMITTEE  
FRIDAY, NOVEMBER 5, 2021 - 10:30 A.M.**

Join Zoom Meeting

<https://us02web.zoom.us/j/81298002468?pwd=cWoxUWJHM1BFWjNzWDUvd0hDYk1ZZz09>

Meeting ID: 812 9800 2468

Passcode: 254264

One tap mobile

+12042727920,,81298002468#,,,,\*254264# Canada

+14388097799,,81298002468#,,,,\*254264# Canada

Dial by your location

+1 204 272 7920 Canada

+1 438 809 7799 Canada

+1 587 328 1099 Canada

+1 647 374 4685 Canada

+1 647 558 0588 Canada

+1 778 907 2071 Canada

Meeting ID: 812 9800 2468

Passcode: 254264

**AGENDA**

- 1. Call Meeting to Order**
- 2. Land Acknowledgement Statement:**

We would like to begin by acknowledging that Melancthon Township recognizes the ancestral lands and treaty territories of the Tionontati (Petun/Wyandot(te)), Haudenosaunee (Six Nations), and Anishinaabe Peoples. The Township of Melancthon resides within the lands named under the Haldimand Deed of 1784 and the Lake Simcoe-Nottawasaga Treaty (Treaty 18).

These territories upon which we live and learn, are steeped in rich Indigenous history and traditions. It is with this statement that we declare to honour and respect the past and present connection of Indigenous peoples with this land, its waterways and resources.

- 3. Additions/Deletions/Approval of Agenda**  
Motion - Moved by \_\_\_\_\_, Seconded by \_\_\_\_\_ that the Agenda be approved/amended. Carried.
- 4. Declaration of Pecuniary Interest or Conflict of Interest**

**5. Approval of Draft Minutes – October 1, 2021**

Motion - Moved by \_\_\_\_\_ Seconded by \_\_\_\_\_ the minutes of the Environmental Sustainability Committee held on October 1, 2021 be approved as circulated. Carried.

**6. Business Arising from the Minutes**

**7. General Business**

1. Report from Sarah Culshaw, Treasurer – A Sustainable Communities Conference
2. Cedar Tree Fundraising
3. Other/Addition(s)

**8. Delegations**

1. **10:35 a.m** – Louise Heyming, Supervisor of Conservation Outreach, GRCA
2. **11:00 a.m.** – Sara Wicks, Manager of Climate and Energy/Public Works Department, County of Dufferin

**9. Confirmation of Meeting**

Motion - Moved by \_\_\_\_\_ Seconded by \_\_\_\_\_, that all actions of the Members and Officers of the Environmental Sustainability Committee with respect to every matter addressed and/or adopted by the Committee on the above date be hereby adopted, ratified and confirmed; and each motion, resolution and other actions taken by the Committee Members and Officers at the meeting held on the above date are hereby adopted, ratified and confirmed. Carried.

**10. Adjournment and Date of Next Meeting**

Motion - Moved by \_\_\_\_\_ Seconded by \_\_\_\_\_, that we adjourn the Environmental Sustainability Committee at \_\_\_\_:\_\_\_\_am to meet again on \_\_\_\_\_, 2021 at \_\_\_\_:\_\_\_\_ or at the call of the Chair. Carried.



**The Corporation of the  
TOWNSHIP OF MELANCTHON**

**157101 Highway 10, Melancthon, Ontario, L9V 2E6**

**STAFF REPORT**

**TO:** Environmental Sustainability Committee  
**FROM:** Sarah Culshaw, Treasurer/Deputy Clerk  
**DATE:** November 1, 2021  
**SUBJECT:** Sustainable Communities Conference

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**Sustainable Communities Conference**

**Below please find a summary and take away from the workshops that I attended for the Sustainable Communities Conference:**

**Opening Ceremony**

Indigenous welcome and ceremonial tobacco offering by Elder Verna McGregor

Keynote speaker - Dr. Deborah McGregor spoke of indigenous culture and its relationship to mother earth and the importance of respecting the environment.

Discussions ensued regarding Indigenous leadership being an essential part of achieving climate justice in Canada. Involvement of Indigenous people on rights, governance, knowledges, justice, legal traditions and coexistence with nature. Discussions must continue as to how these items generate a path forward for planetary health.

**Transforming Homes**

Goals for this program are to have Municipalities help drive greenhouse gas (GHG) reductions across Canada by offering local financing programs for home energy upgrades. These innovative programs offer financing and other services for residents to make their homes more energy-efficient, comfortable, and affordable.

**Net-Zero Community Design**

Blatchford, Edmonton created one of the worlds largest sustainable communities which include strong leadership and strong vision. This land was previously an airport that had been shut down. The goal was to use 100% renewable energy, to be carbon neutral and to encourage residents to live sustainable lifestyles. One of the key initiatives was to make walking and biking convenient. To do this they created quality attractive streets, made water fountains available, and have plenty of bike racks and bike lanes in the community. They also have strict zoning bylaws that include large setbacks.

### **Climate Change Small Municipalities**

A workshop that showed a pathway for small and rural municipalities to advance greenhouse gas (GHG) reductions in their facilities. An overview on creating an asset management inventory for understanding energy use and to highlight GHG reduction. GMF's Community Buildings Retrofit (CBR) initiative and Infrastructure Canada's Green and Inclusive Buildings program (GIBC) can help drive deeper reductions in buildings energy use.

Small rural municipalities are encouraged to take leadership and action on managing their recreational facilities and integrate climate change of these buildings' retrofits. Careful consideration should take place in current and future capital projects to ensure that greenhouse gas reductions is part of the decision making.

### **Climate Consideration Asset**

This workshop discussed how Municipalities deliver essential services and infrastructure that support Canadians' way of living. Highlighting on how good road and bridge conditions are essential to keep people moving safely. Local governments goals should be to provide reliable services. Municipalities are responsible for adopting asset management practices. It is importance that part of those practices help recognize the impacts of climate change and integrate this in their planning and decision-making process.

### **Keynote speaker: Dr. Lena Chan regarding Singapore Transformation**

Dr. Lena Chan shared her experience in transforming Singapore into a City in Nature. This work involved a major change towards nature-based solutions and is the primary response to overcome biodiversity loss, climate change, and COVID-19. Dr. Chan also shared how Singapore, and cities like Montreal and Edmonton, have applied a City Biodiversity Index (CBI), also called the Singapore Index on Cities' Biodiversity (SI), to evaluate and monitor biodiversity conservation efforts at the city level.

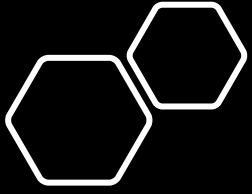
Dr. Chan stated that municipal goals should include how to achieve a low-carbon future. Using GMF's Municipal Energy Roadmap, municipalities can find cost-effective ways to reduce greenhouse gas (GHG) emissions in their buildings while maximizing benefits like job creation and community well-being.

Included with this report are some presentation slides for some of these sessions.

Respectfully submitted:

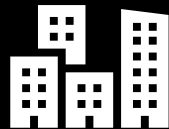
Sarah Culshaw  
Treasurer/Deputy-Clerk





# Taking action to reduce energy and GHGs in buildings

Craig Stephens



Energy & Environment

# Climate Change is **ALREADY** Happening in Caledon



**Caledon Ice Storm (2013)**



**Bolton flooding (2019)**

Windstorm causes power outages across the region

A video player interface showing a photograph of a downed power line. The line is sagging and broken, with a play button icon in the center. The CTV NEWS GO logo is in the top left corner.

CTV Barrie: Hydro lines down

Aug 02, 2015 | [Vote](#) 0 0

## Storm knocks down trees across Caledon

Jul 21, 2011 | [Vote](#) 0 0

## UPDATED: Heat rocks Caledon, half-century old record shattered

May 16, 2012 | [Vote](#) 0 0

Caledon apple crops decimated by erratic weather, huge losses expected



**Caledon Village flooding**

Contributed photos

Flooding has been reported in Caledon Village as water

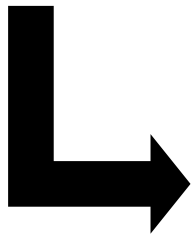


# Council Commitment

## Caledon's council declares climate change emergency

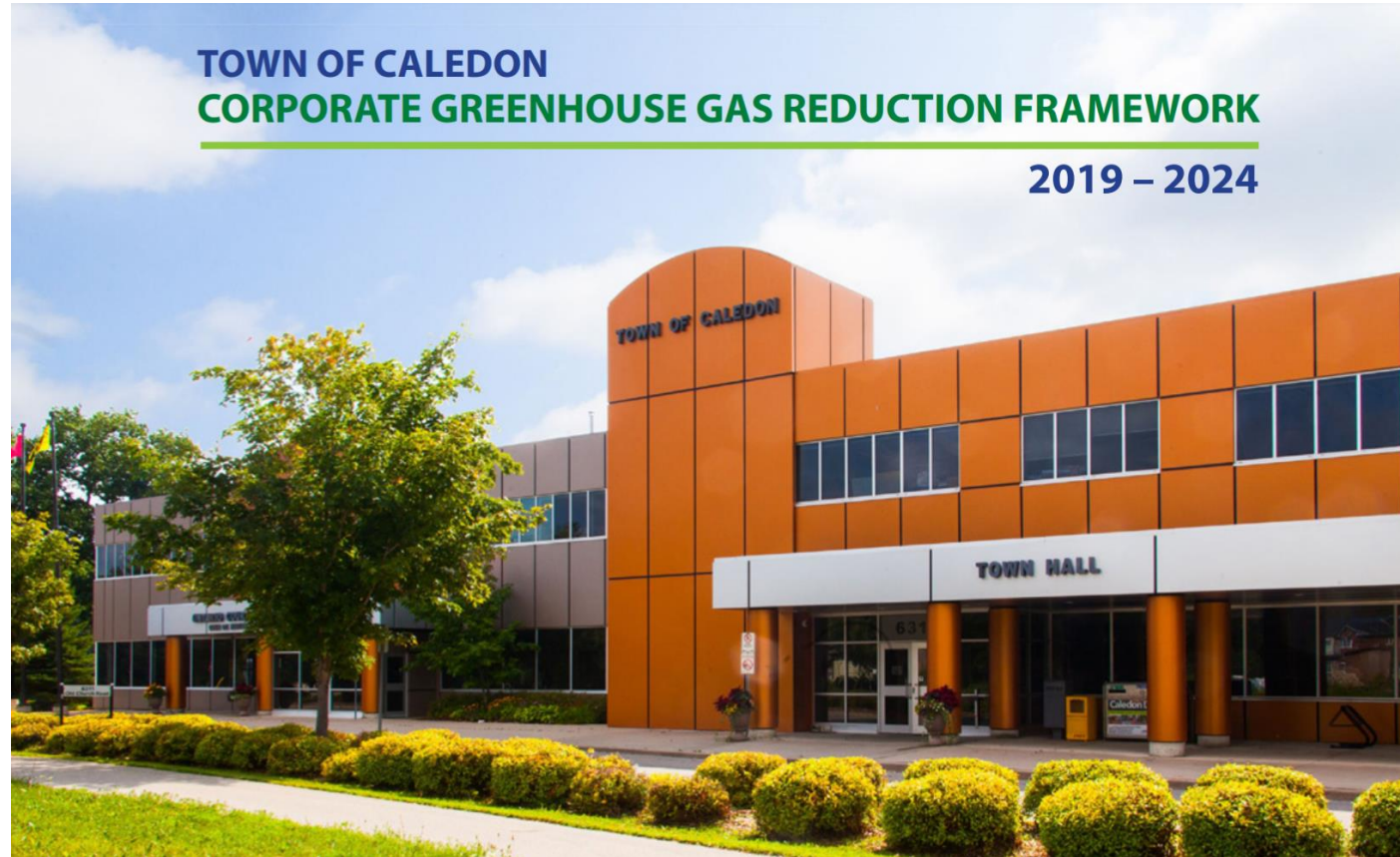
With support of EcoCaledon, council says time for action is now

NEWS Feb 03, 2020 by [Matthew Strader](#) ✓ Caledon Enterprise

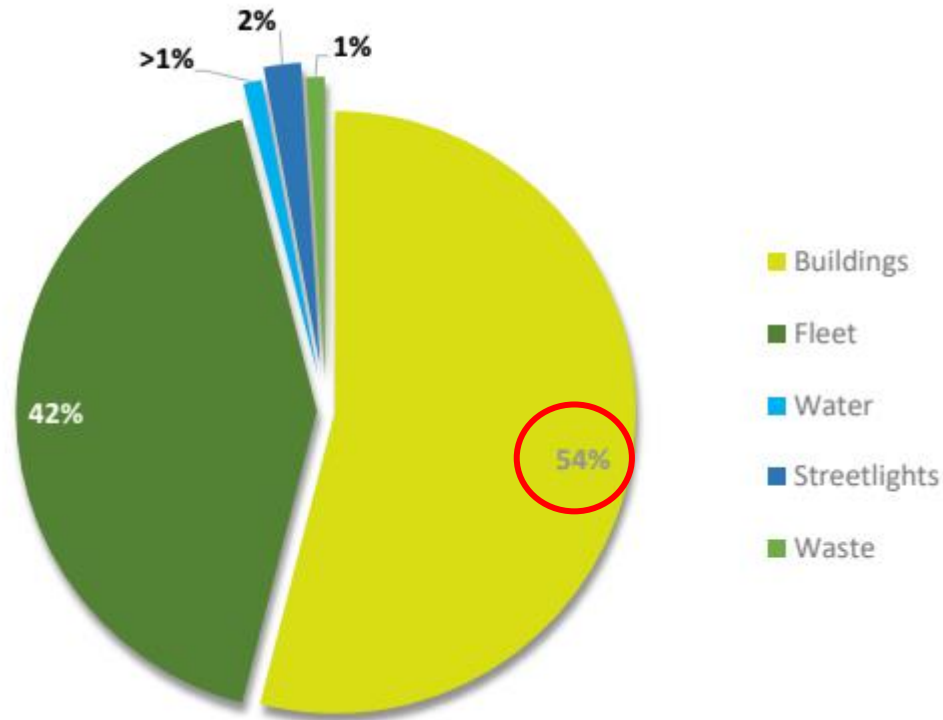


GHG emissions reduction target:  
**Net Zero by 2050**

# Corporate Energy Approach



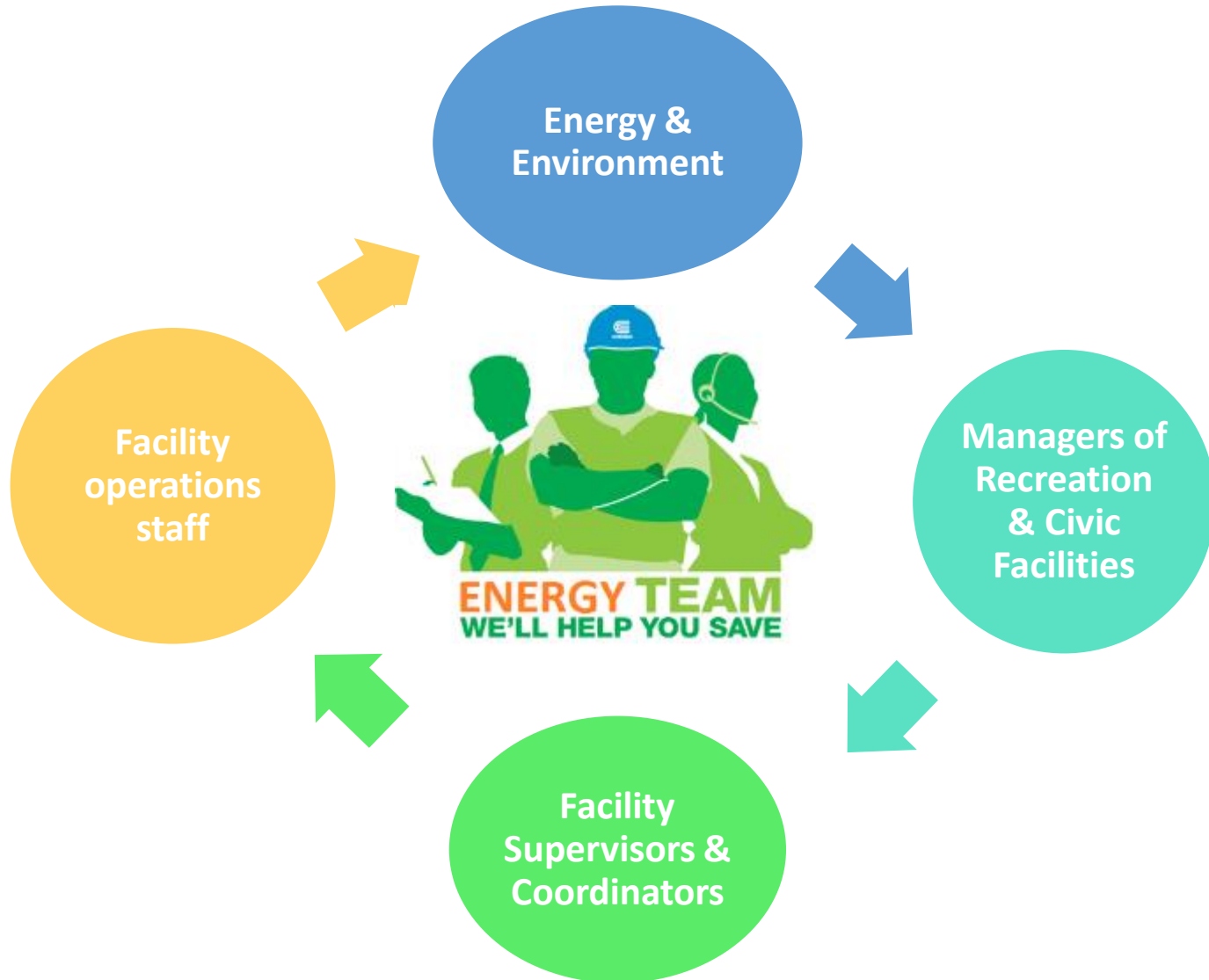
# Corporate GHG Emissions



## 2024 Reduction Targets:

- **Energy 15%** (2,306,555 ekWh)
- **Waste 30%** (divert 81,421 kg of recycling and compost)
- **Water 6%** (6,224,640L)
- **Fleet 30%** (456 tCO<sub>2</sub>e)

# Corporate Energy Team



- ✓ Governing body of corporate energy goals and targets
- ✓ Responsible for energy conservation within facilities
- ✓ Formalize strategic energy management
- ✓ Recognized for excellence in energy management





# Benefits and Lessons Learned



Independent funding source for the Corporate Energy Team



Value-add to the Corporate Energy Team



Embedding strategic energy management into the Corporation



Aligning Facility priorities with E&E priorities



Career and skill development



Staff buy-in and motivation



Communicate success back to Council and Senior Leadership



**Recognition is important!!**





# Energy Revolving Fund



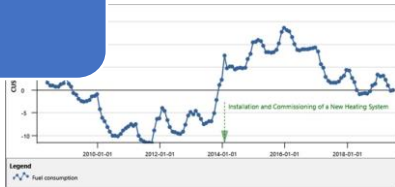
Revolving  
Fund Base

PART D: PROJECT COST			
Cost Item Description	Unit Cost	Quantity (if applicable)	Total Cost (if applicable)
Product			
MicroFIT System	\$55,196.00	1	\$55,196.00
Installation/ labour (if applicable)			\$0.00
Permitting			\$0.00
Design (if applicable)			\$0.00
Other items			\$0.00
Total Project Cost			\$55,196.00

PART E: BUSINESS CASE			
Metric	Estimated Savings	Estimated Total Energy Savings (\$)	Simple Payback
MicroFIT System	\$55,196.00	\$55,196.00	1.00
Installation/ labour (if applicable)			
Permitting			
Design (if applicable)			
Other items			
Total Project Cost			

Business Case



Annual utility  
savings



Energy  
Retrofit

Simple payback  
& Utility  
Incentives

- ✓ Endorsed by Council in 2015
- ✓ Provides capital for energy retrofits independent of tax base
- ✓ Base funding through 3 solar microFIT sites

\$ \$385,500 disbursed

⚡ 632,685 kWh saved

💰 \$70,296 annual savings

# Lessons Learned

- ✓ The Revolving Fund can provide an alternative source of funding separate from the tax base
- ✓ The financing and project experience provide an educational opportunity for staff
- ✓ Looking at facility Energy Audits to propose ideas
- ✓ Create an easy-to-use business case tool
- ✓ Building Operator's knowledge is essential
- ✓ Buy in from all levels (occupant-operator-management)
- ✓ **Recognition is important!!**

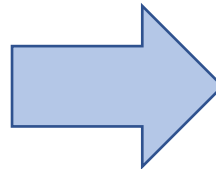


# Corporate Green Building Standard



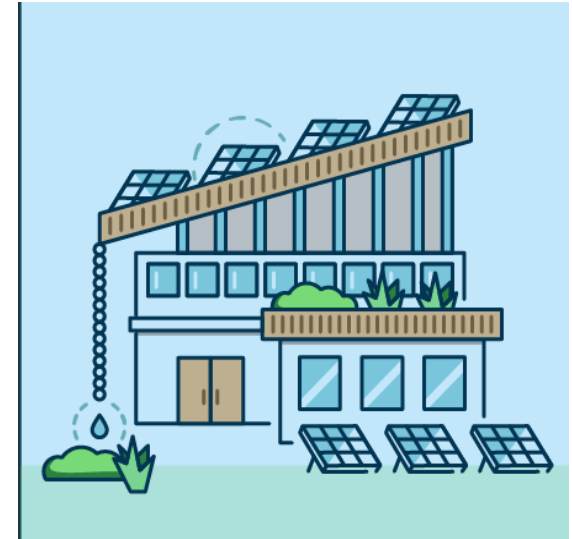
## Old Standard (2012):

- ✓ New builds & large retrofits
- ✓ LEED Silver certification
- ✓ Minimal energy savings

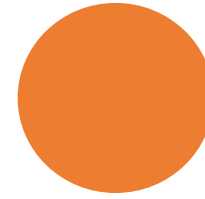


## New Standard (2022):

- ✓ New builds & large retrofits
- ✓ Performance Targets
  - ✓ EUI
  - ✓ GHGI
  - ✓ TEDI
- ✓ Prescriptive best practice requirements

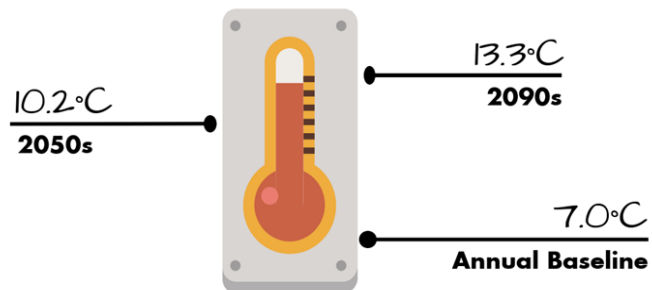


# Building Condition Assessments



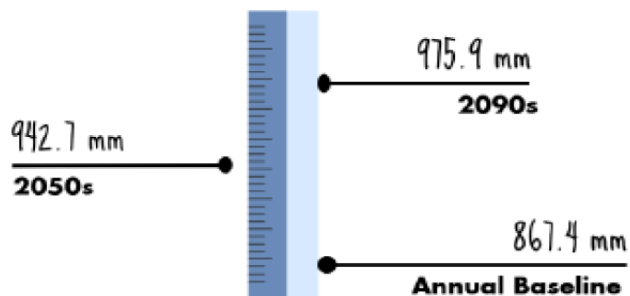
- ✓ Adding a green lens
- ✓ Avoiding “like-for-like” at end of lifecycle
- ✓ Futureproofing asset management towards net zero

# Climate Change in Caledon



## ANNUAL MEAN TEMPERATURES

Mean, minimum & maximum daily temperatures are projected to significantly increase in every season.



## MEAN PRECIPITATION

Winter and Spring are projected to get significantly wetter.



Max 1-day: 37mm  
Max 5-day total: 59.2mm



Max 1-day total: 40.6mm  
Max 5-day total: 63.4mm

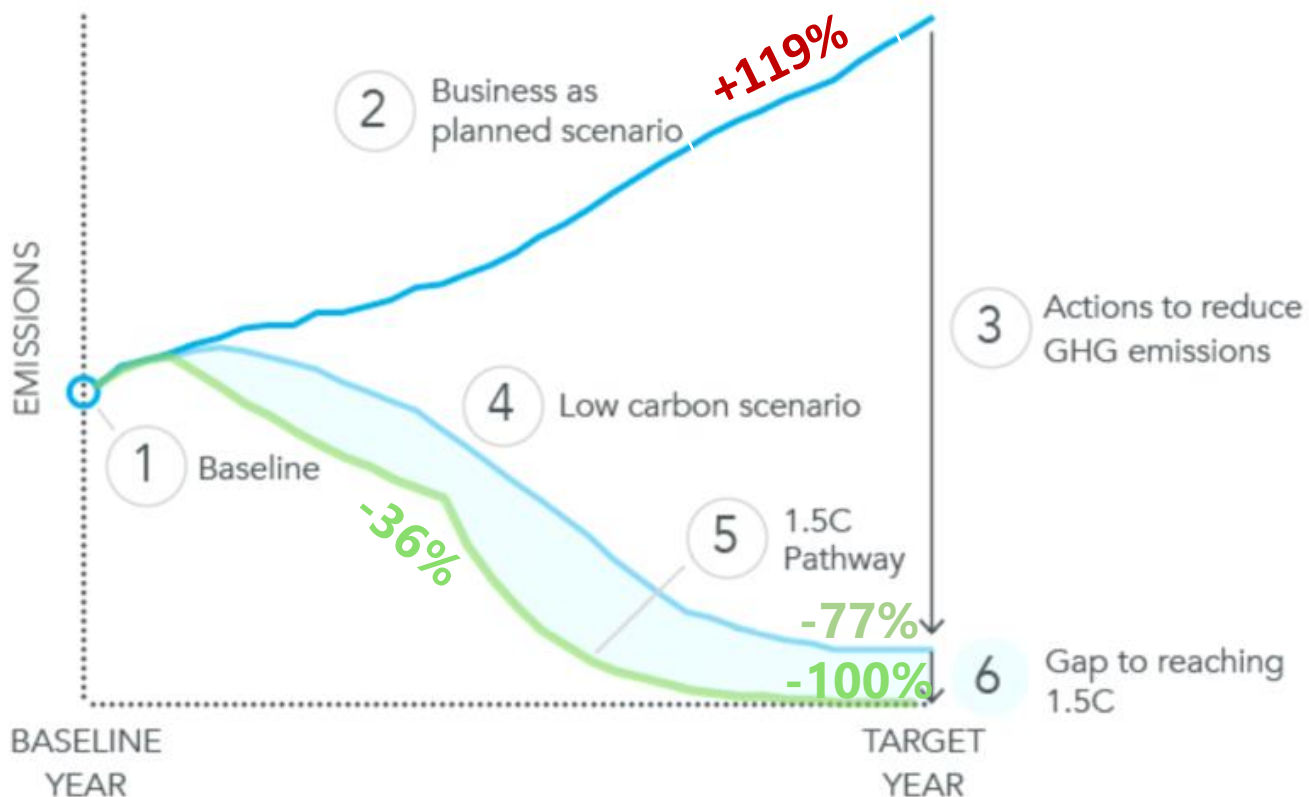


Max 1-day total: 44.1mm  
Max 5-day total: 70mm

## PRECIPITATION EVENTS

Precipitation events in general are projected to become more intense and extreme.

## Community-wide GHG Emissions and Targets







# SMART GROWTH

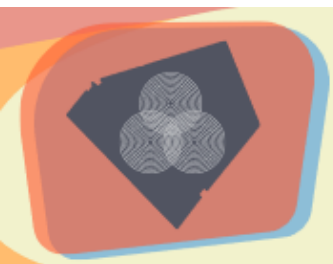
*As Caledon grows, ensure new communities are energy efficient, walkable and resilient to climate change impacts*

## Key Actions:

- Integrate climate change into the Official Plan
- Create a community-wide Green Development Standard







# SUSTAINABLE COMMUNITIES

*Build capacity among Caledon residents and businesses to reduce GHG emissions and increase preparedness for climate impacts*

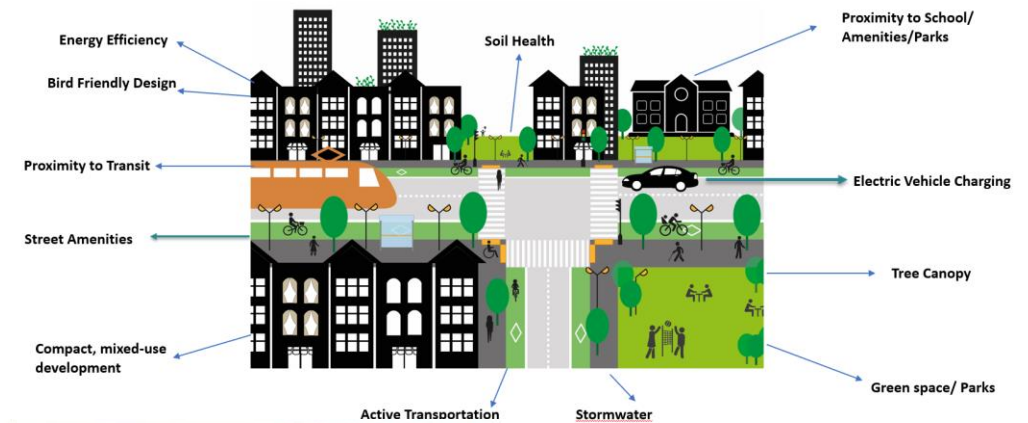
## Key Actions:

- Develop a home retrofit program
- Enhance emergency preparedness and response
- Expand existing Town grant programs, including the CIP and Green Fund



# Community Energy Initiatives

- **Green Development Standard** – expected Q1 2023
- **Home Retrofit Program** – awarded joint grant funds (FCM) with the Cities of Brampton and Mississauga; expected 2023
- **Sustainable Residential Home Strategy** – all homes in the Mayfield West development area agreed to build to better than OBC for energy efficiency and water conservation
- **West Bolton SNAP** – Green Home Program & Home Retrofit Program (FCM Funding)



Alyssa & Christopher with their new smart thermostat raffle prize!



Marilyn with her newly installed rain barrel!



# Successes so far



22 EV  
Charging  
Stations

Corporate Green  
Building Standard  
LEED Silver  
Certification



Purchase of 6 plug  
in hybrid vehicles  
and 2 fully electric  
vehicles

5 renewable  
energy  
projects



187,000 trees sold  
through the Tree  
Seedling Program



Almost \$300,000  
Green Funds  
disbursed to schools  
and community  
groups

Over \$450,000 in  
grants received



Upwards of  
\$400,000 in  
energy revolving  
projects

# **Transforming homes across Canada through local financing programs**

## **Transformer le secteur résidentiel au Canada grâce à des programmes de financement**

October 19, 2021 | le 19 octobre 2021

# Agenda

- Introduction (FCM)
  - Why develop a financing program?
  - How do these programs work?
- Municipal spotlights
  - **City of Saskatoon**
  - **City of Kingston**
- Getting started on your program
  - FCM's Community Efficiency Financing initiative



# Share your ideas!

*Is your community or organization helping residents improve the energy performance and quality of their homes? If so, how?*

[Go to whiteboard](#)

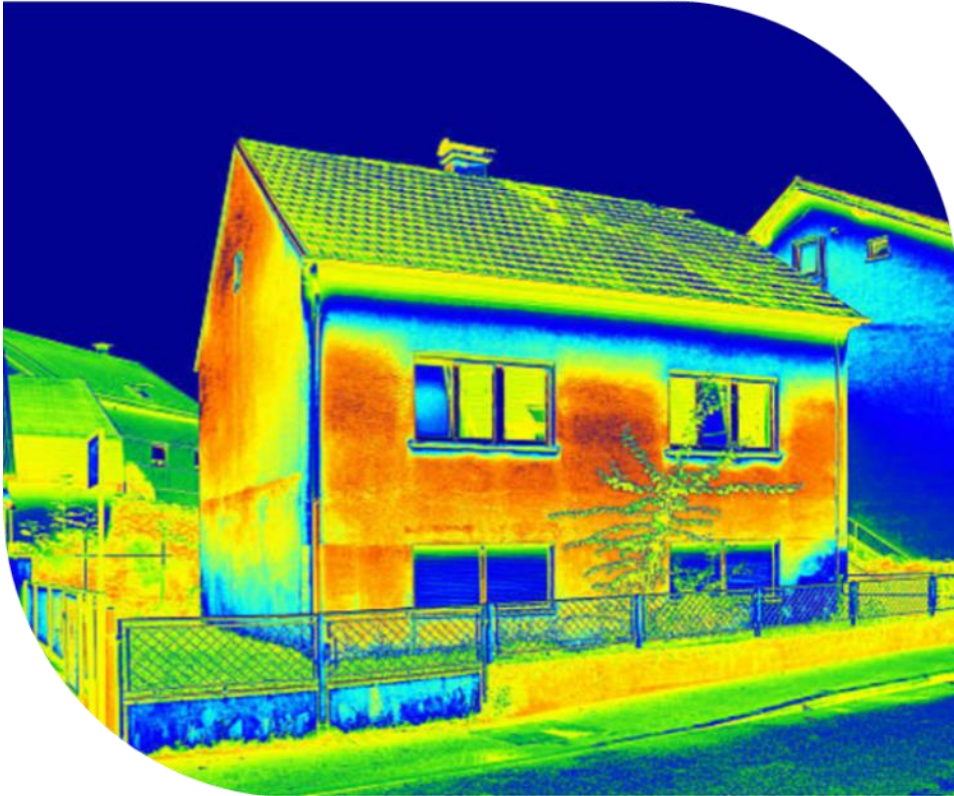
*Votre collectivité ou votre organisation aide-t-elle les habitants à améliorer le rendement énergétique et la qualité de leur maison ? Si c'est le cas, comment ?*



**Why develop a  
financing program?**



# Opportunity for energy and cost savings in homes



The average Canadian home consumes about **20% more energy** than new homes built today.

This costs residents, on average, **\$300 per year** more on their utility bills.<sup>1</sup>

<sup>1</sup> [Natural Resources Canada, 2020](#)



# Common barriers for homeowners



Upfront  
costs



Process  
complexity



Information  
gaps



# What is a local financing program?

**Financing programs for home energy upgrades** are designed to offer financing and services to residents so they can improve the energy performance of their homes.





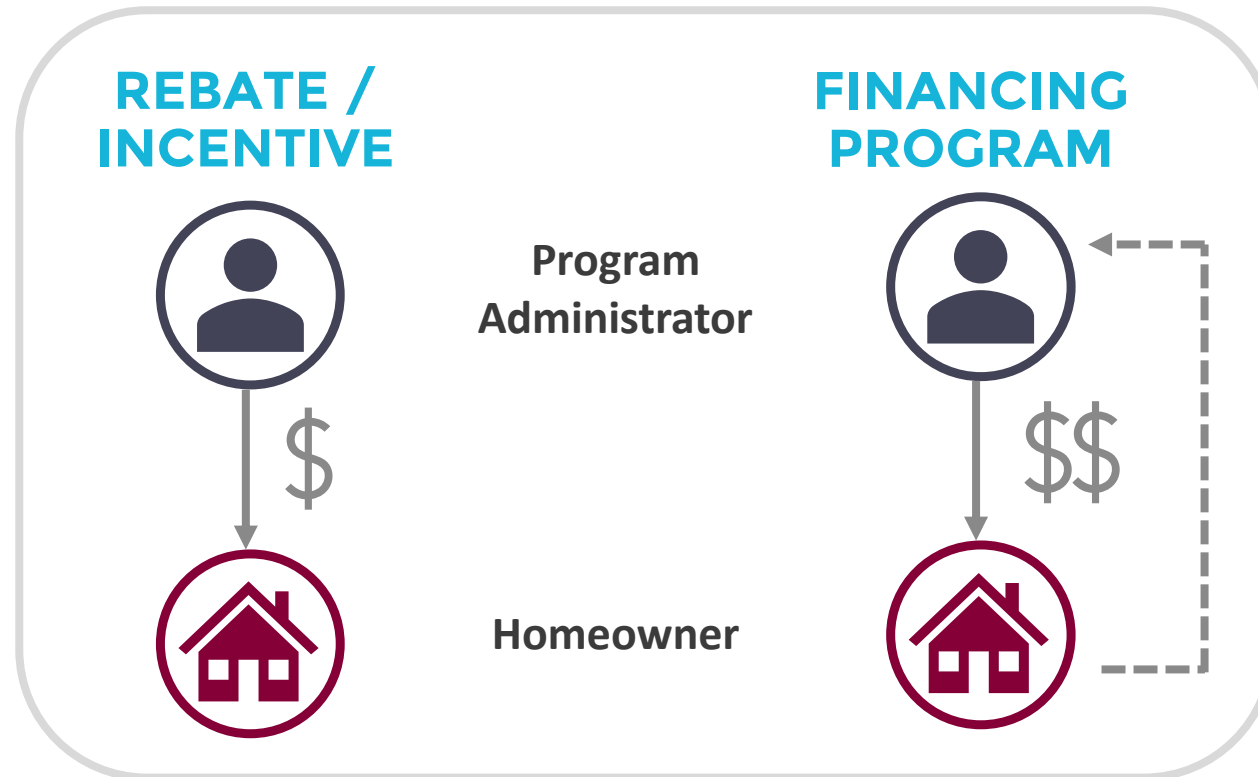
# What is a local financing program?

**Financing programs for home energy upgrades** are designed to offer financing and services to residents so they can improve the energy performance of their homes.

## 1. ACCESS TO FINANCING



Upfront costs



# What is a local financing program?

**Financing programs for home energy upgrades** are designed to offer financing and services to residents so they can improve the energy performance of their homes.

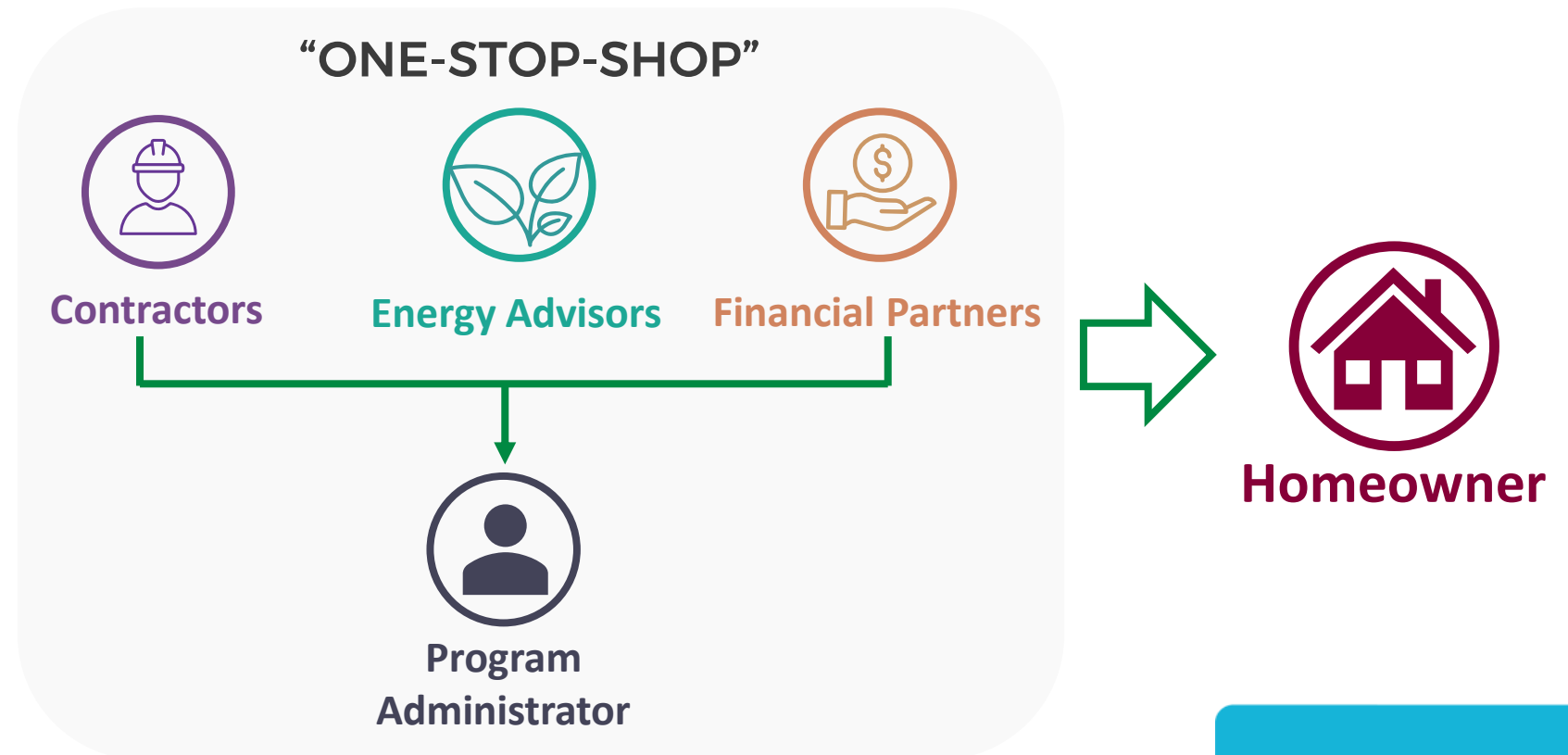
## 2. SIMPLIFIED PROCESS



Process  
complexity



Information  
gaps



**How do financing  
programs work?**



# Main homeowner **services**

## ACTORS



**Contractors**



**Energy  
Advisors**



**Financial  
Partners**



**Program  
Administrator**

## ROLE

Renovations

EnerGuide  
Energy coaching

Attractive  
financing

Concierge  
services

## RESOURCES

Vetted list  
for quality  
assurance

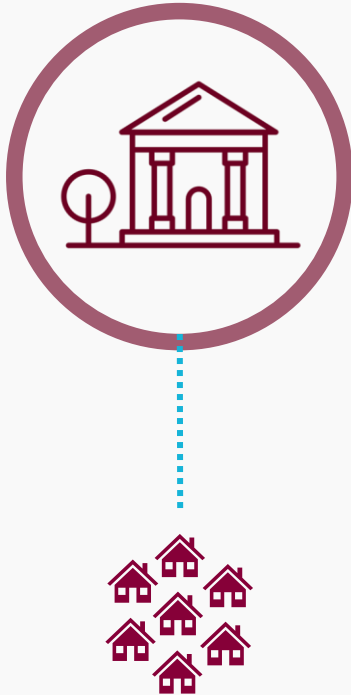
Training  
programs to  
increase  
capacity

Consumer  
protection  
measures

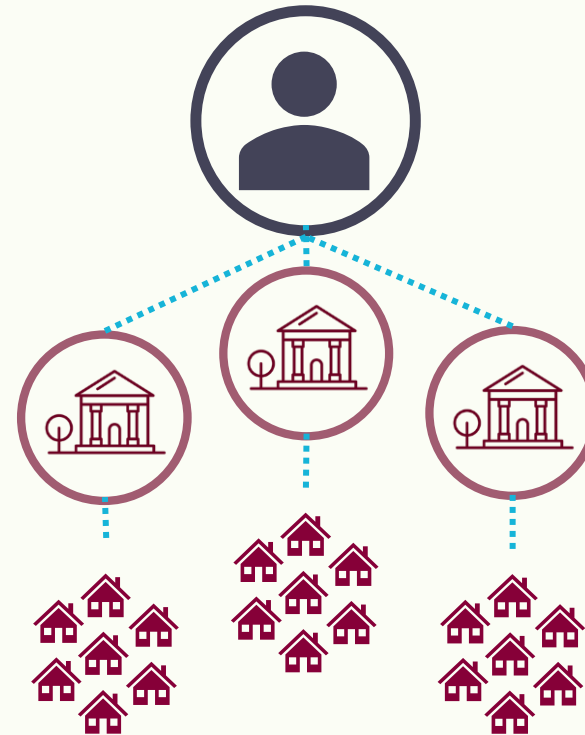
Funds for staffing,  
marketing,  
incentives

# Main **delivery** models

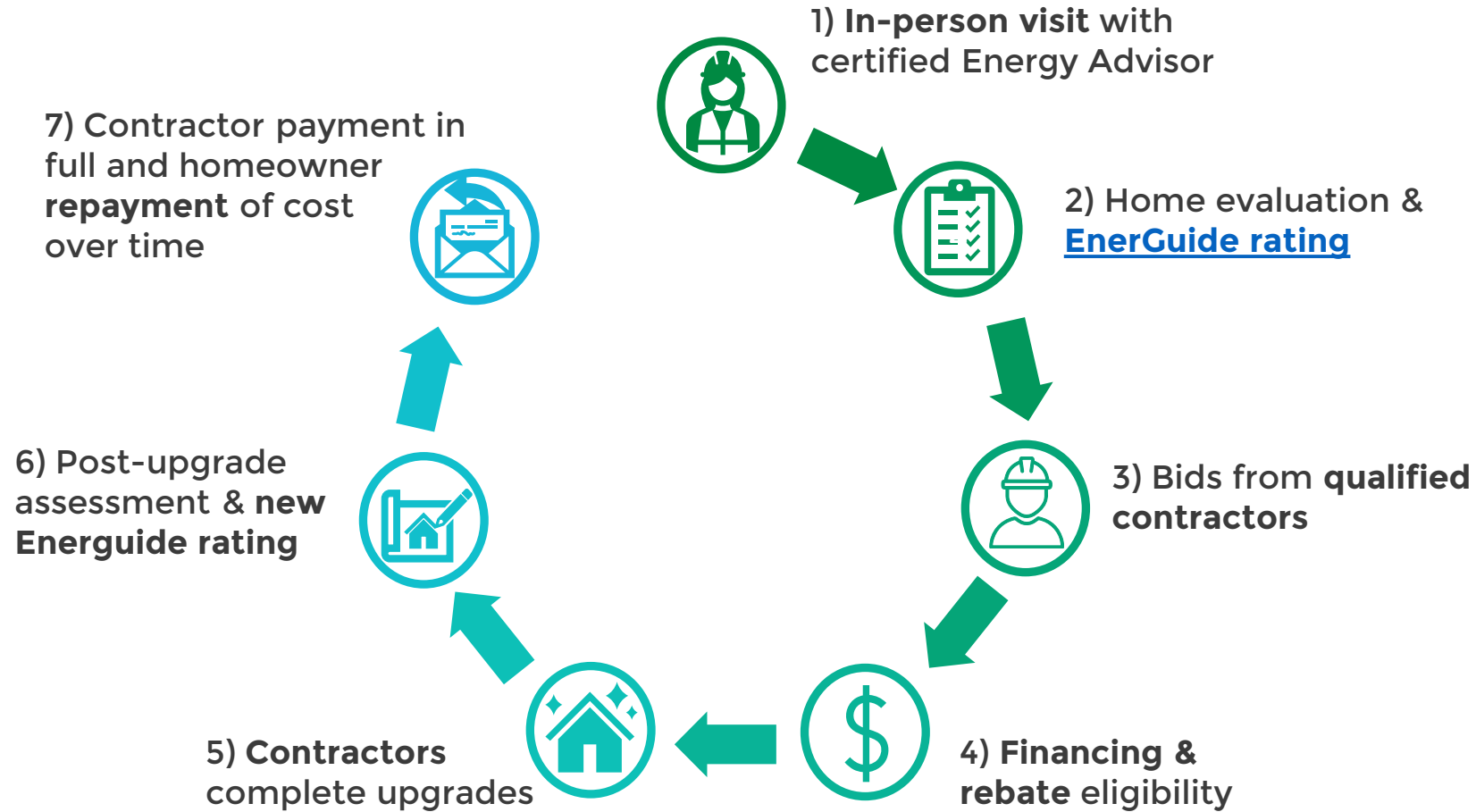
## IN-HOUSE



## THIRD PARTY ADMINISTRATOR



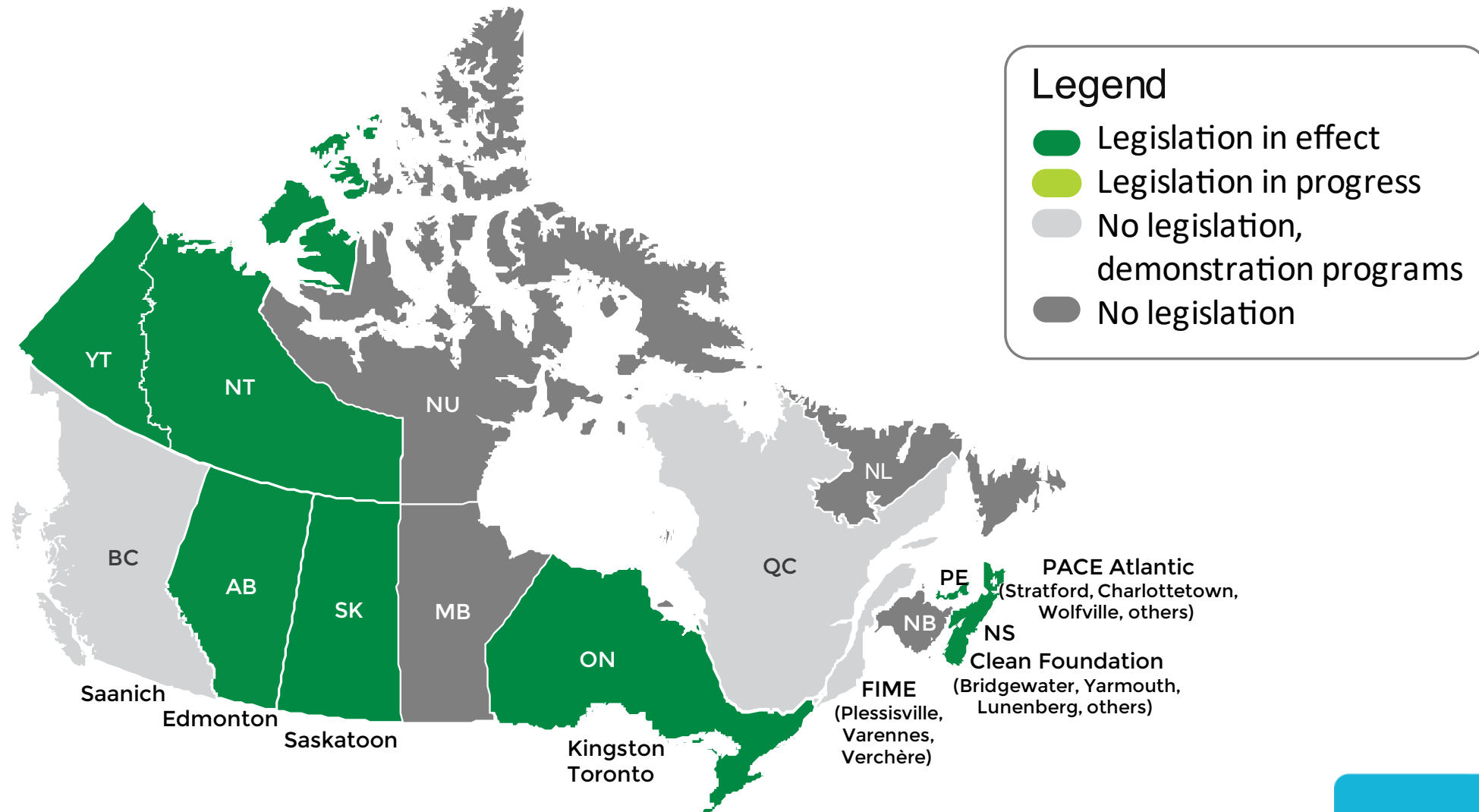
# Overall homeowner **journey**



# Main **financing** models

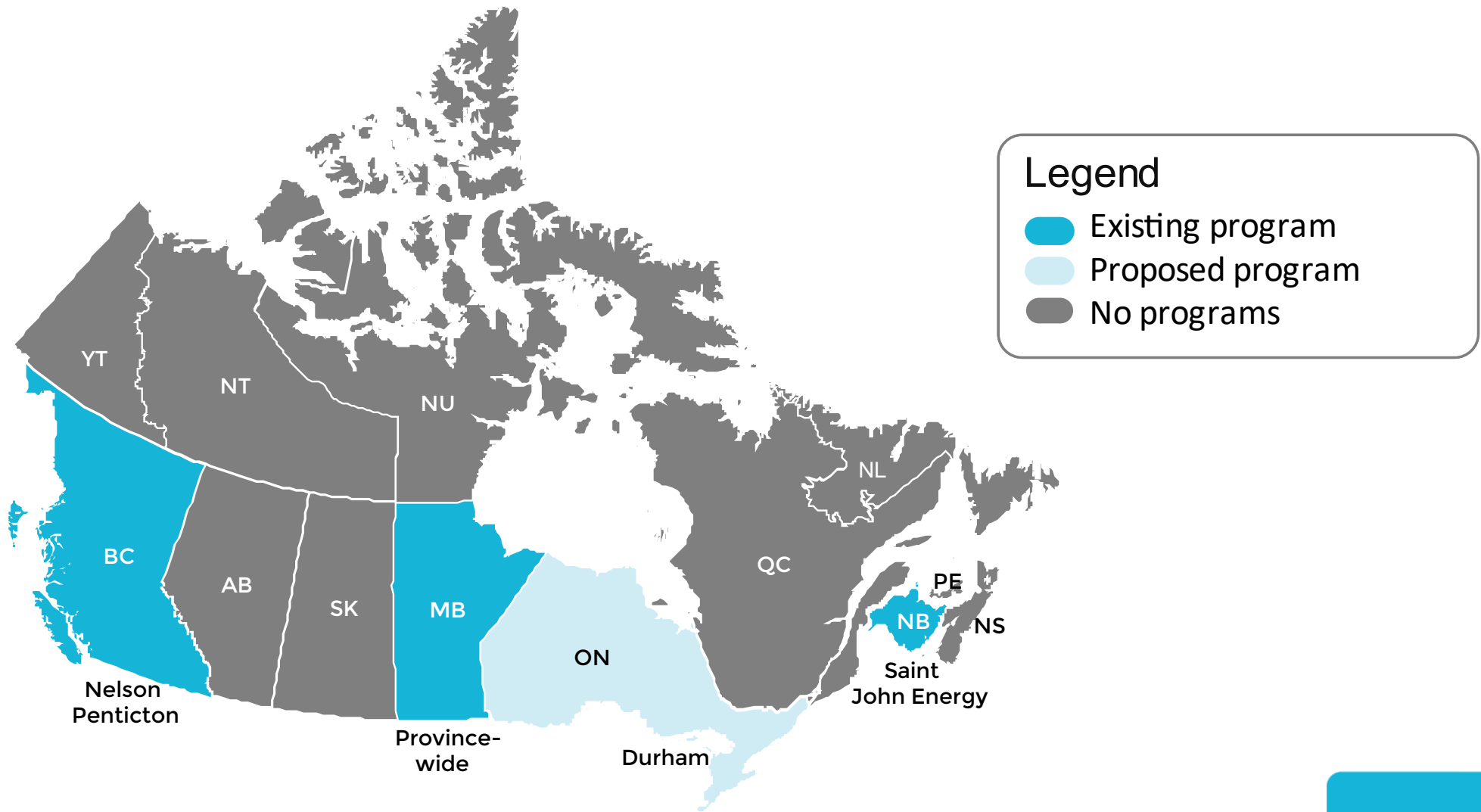
	PACE / LIC	Utility on-bill financing	Direct lending
<b>FINANCING</b>	Municipal / Private	Utility / Private	Private
<b>REPAYMENT</b>	Property tax assessment	Utility bill	Unsecured loan
<b>MAIN ADVANTAGE</b>	Charge tied to property = ease of transfer to new owner	Simple repayment	Alignment with existing processes and consumer behaviours

# PACE programs in Canada





# Alternatives to PACE programs





[Link to the summary video](#)

# Municipal spotlights



# City of **Saskatoon**, SK



## Home Energy Loan Program (HELP)



**Hilary Carlson**  
GHG Controls Specialist  
Saskatoon, SK



# City of **Kingston**, ON



## Kingston Home Energy Retrofit Program



**Julie Salter-Keane**  
Manager,  
Climate Leadership  
Kingston, ON



# GMF's CEF Initiative

Funding and resources





# CEF applicant eligibility

## ✓ Eligible Applicants



**Municipal government**



**Municipal partner** (entity applying in partnership with a municipality)

Examples:

- Municipal corporation
- Non-profit organization
- Municipal utility

## ✗ Excluded Recipients



**Homeowners**  
(However, they are beneficiaries of CEF-supported initiatives)



**Provincial, territorial, and federal governments**, or any corporation owned or controlled by the aforementioned



# CEF program eligibility

## Retrofits



**Multi-measure** energy upgrades, combined with other improvements

## Housing



Focus on **existing**, low-rise housing stock



## Financing

Utilizes a **financing** mechanism like PACE or third-party financing



# CEF funding opportunities

PROJECT STAGE		FUNDING OFFER*
STUDY	FEASIBILITY	<ul style="list-style-type: none"><li>• Grant up to \$175,000</li></ul>
	PROGRAM DESIGN	<ul style="list-style-type: none"><li>• Grant up to \$175,000</li></ul>
CAPITAL	PILOT PROGRAM	<ul style="list-style-type: none"><li>• Grant up to \$500,000</li></ul>
	LOAN	<ul style="list-style-type: none"><li>• Financing up to \$10 million</li><li>• Grant up to 50% of loan</li></ul>
	CREDIT ENHANCEMENT (MINIMUM 5:1 LEVERAGE RATIO)	<ul style="list-style-type: none"><li>• Credit enhancement up to \$2 million</li><li>• 5:1 ratio (private capital: credit enhancement)</li><li>• Grant up to \$5 million</li></ul>
STUDY	EVALUATION	<ul style="list-style-type: none"><li>• Grant up to \$175,000</li></ul>

*\*CEF's total funding can cover up to 80% of eligible costs, with the exception of pilots, for which GMF funding may cover up to 50% of eligible costs*



# CEF support & resources

## LEARN

### Online resource library

Curated collection of useful guides, tools and templates



### Case study examples

Practical examples of success from existing programs across Canada



## ASK

### GMF Outreach support

Support to prepare your application and access relevant resources



### Online learning sessions

Access to technical experts to help with successful implementation



## CONNECT

### Community of practice

Funded recipients participate in meetings to exchange and collaborate



### National recognition

Connecting stakeholders and sharing best practices



## ***Before you go...***

We want to hear from you! Please take a moment to complete the post-session survey

### **For more information:**

**Contact us:**  
**gmfinfo@fcm.ca**  
**1-877-417-0550**

**Program information:**  
**[fcm.ca/communityefficiency](http://fcm.ca/communityefficiencyfinancing)**  
**[financing](http://fcm.ca/communityefficiencyfinancing)**

**Weekly newsletter:**  
**[fcm.ca/fcmconnect](http://fcm.ca/fcmconnect)**

# **Thank you!**



GREEN  
MUNICIPAL  
FUND

FONDS  
MUNICIPAL  
VERT

## Post-workshop survey/*Sondage post-atelier*

Please go the link below and take 2 minutes to complete the post session survey:

*Veillez cliquer sur le lien ci-dessous et prendre 2 minutes pour répondre au sondage post-atelier.*

[https://www.surveymonkey.com/r/SCC-CCD\\_2021](https://www.surveymonkey.com/r/SCC-CCD_2021)

By completing this survey, you will/ En complétant ce sondage, vous:

1. Provide us with relevant feedback to improve the SCC event moving forward/ *Nous fournirez des commentaires pertinents pour améliorer l'évènement CCD à l'avenir.*
2. Have the opportunity to win a GMF mug!/ *Aurez la chance de gagner une tasse GMF !*



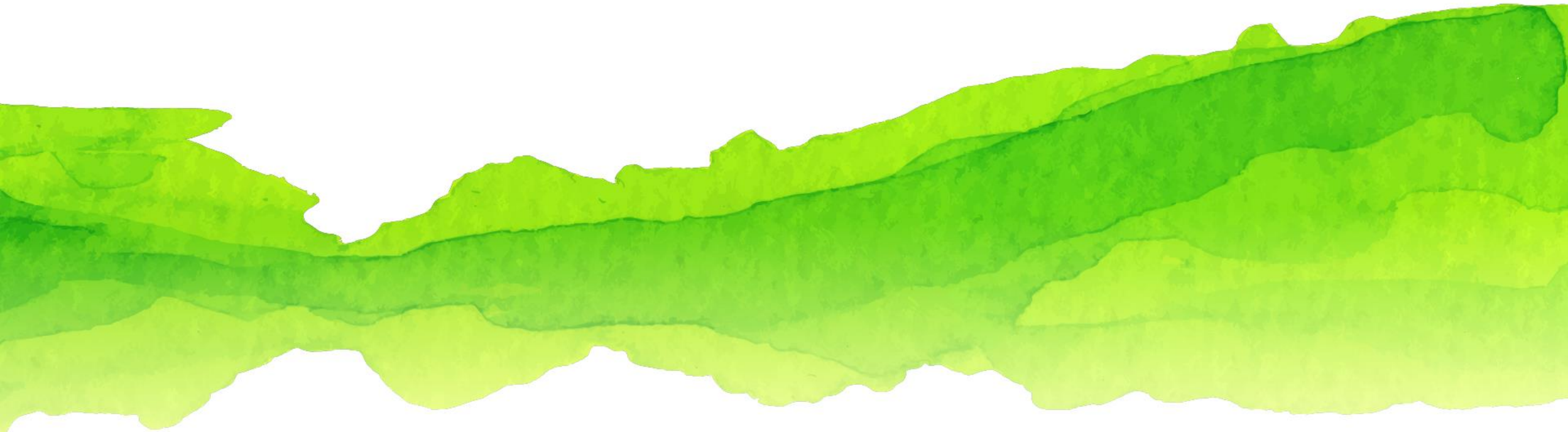
A program of

**FCM**



# **Kingston's Home Energy Retrofit Program**

**Demonstrating Leadership on Climate action**



# Presentation Outline

- Kingston's Strategic Plan (Council Priorities)
- Goals / Objectives of our Home Energy Retrofit program
- Overview of our program development process
  - Research used to assess feasibility and design program
- Stakeholder consultation and key roles in program implementation

# Kingston Strategic Plan 2019 - 2022



**Demonstrate**  
Leadership on  
Climate action



**Increase**  
housing  
affordability



**Improve** walkability,  
roads and  
transportation



**Foster** healthy  
citizens and  
Vibrant spaces



**Strengthen** economic  
development  
opportunities

# City Council Climate Actions: Strategic Plan 2019 - 2022

- Establish carbon neutral GHG reduction targets
- Continue transition to Electric Vehicles in City Fleet
- Develop low carbon new City facilities
- Net Zero incentive program for new residential and commercial construction
- Community energy retrofit program for existing homes
- Establish a charitable climate action fund to support local projects

# Overview of Council Direction

## from Kingston Strategic Plan 2019 - 2022

- Council's GHG Reduction Targets:
  - 15% below 2018 emission levels by 2022
  - Carbon neutral by 2040
- Develop and promote incentives for residents to reduce their energy use and become part of city-wide solutions to meet Kingston's carbon neutral target.



# Program Goals and Objectives

## Goal

**Retrofit 25% - 50% of Kingston's existing single-family homes by 2040 achieving an average GHG reduction impact of 30%.**

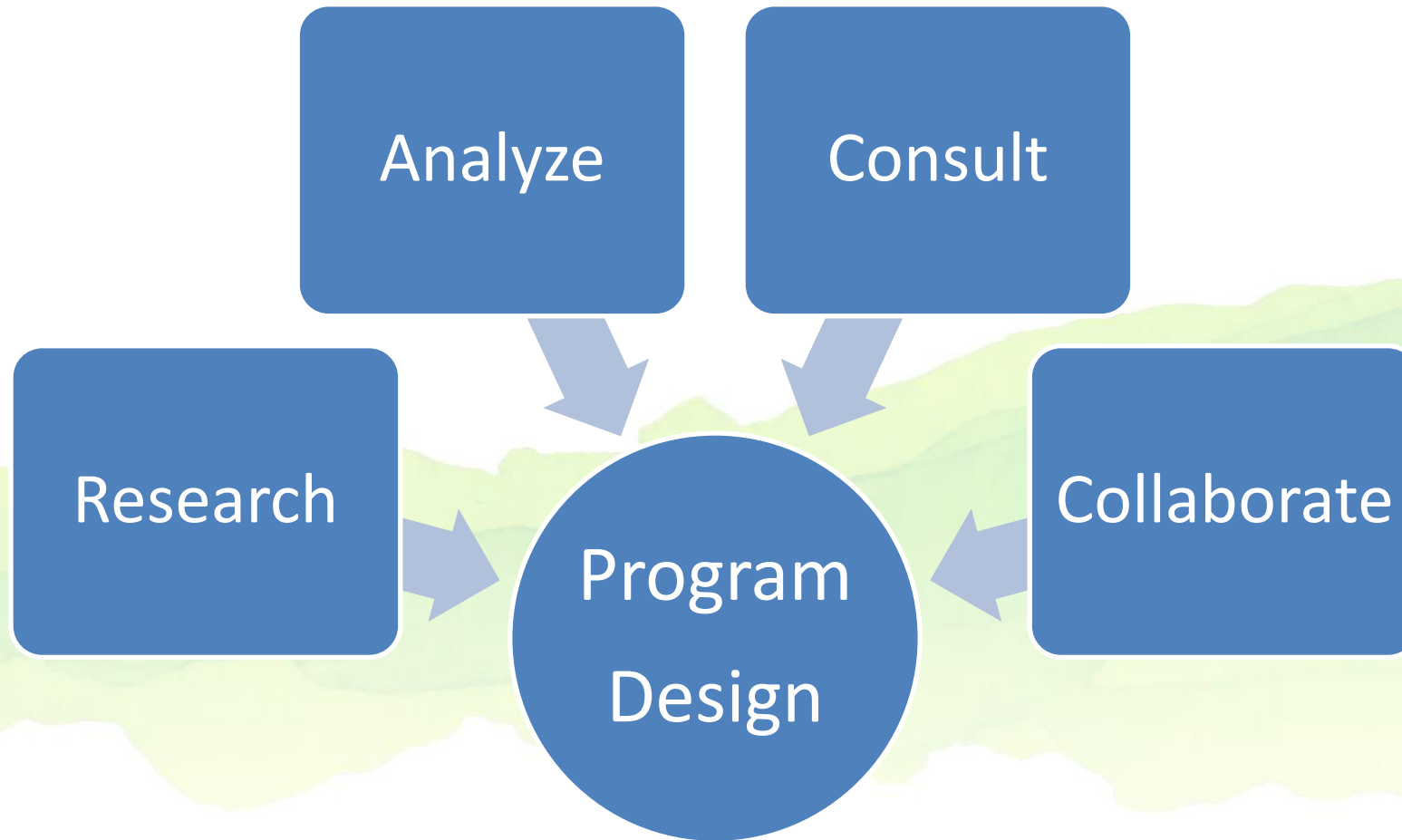
### Summary Objectives:

1. Enable homeowners to contribute to achieving Kingston's GHG reduction targets.
2. Provide homeowners with a user-friendly retrofit program that enables them to reduce energy, emissions and potentially utility bills.
3. Support homeowners participation with access to expertise, financing and incentives.
4. Stimulate opportunities for local investment, job creation and increase disposal income through reductions in utility costs

# Retrofit Program Outcomes and Impacts

- Short-term (Q4 2021 – Q3 2025):
  - At least 500 homes retrofitted
  - 200 - 375 jobs created (based on \$12.5M in loans invested)
  - 10% to 50% energy cost savings each year for homeowners
- Long-term (2021 – 2035):
  - Annual GHG reductions >18,000 tonnes and \$6M in energy savings
  - Sustained retrofit market, lead by 3<sup>rd</sup> party financing and program delivery that could include expanding to MURBs

# Evidence-Based Program Development Process



# Research / Feasibility analysis influencing Program Design

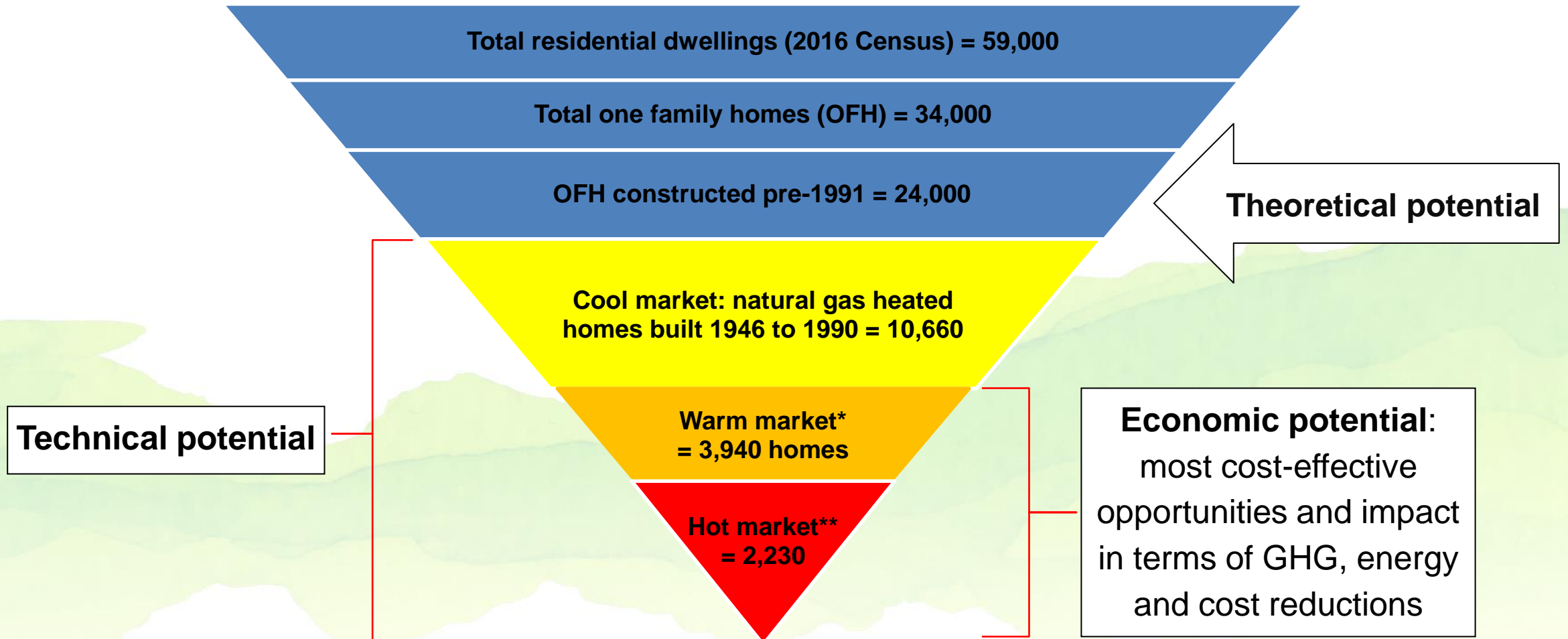
- Review of what other communities have done (Canada, U.S., UK)
- Compilation of Stats Canada data on local housing stock
- Survey of Kingston residents – helped identify market segments
- Energy poverty data analysis (Cdn. Urban Sustainability project)
- Compile local electricity and natural gas consumption data
- Assessment of local energy audit data (summary form)
- Market behaviour analysis of residents regarding home ownership and improvement
- Home energy / emission profiles - Archetype analysis

# Target Markets

- Older homes built before 1991
- Homeowners considering renovations and those due for equipment replacement (e.g. furnaces)
- Homes using fossil fuels for heating (e.g. oil and propane, natural gas)
- Households with a high energy cost burden; and,
- Homeowners who have identified they want to lower their carbon footprint (from local surveys).



# Archetypes: Market Potential for Home Retrofit Program



\*\* Hot market (red): represents unaudited single-family homes with oil or propane heating which provide the best opportunity for reductions in GHG emissions, energy and costs.

\*Warm market (orange): represents the oldest unaudited single-family homes that are heated with electricity or natural gas that provide an opportunity for moderate reductions in energy, costs and GHG emissions

# Long-term Targets: Number of Home retrofits

Low, Moderate and High implementation scenarios

Scenario	Total # of Home Retrofits	Duration in years	Average retrofits per year	% of pre-1991 one-family homes
Low	3,200	8 - 10	320 - 400	13%
<b>Moderate</b>	<b>6,100</b>	<b>12 - 15</b>	<b>406 - 508</b>	<b>25%</b>
High	8,400 – 12,200	20	420 - 610	35% - 50%
Technical potential	16,800	25 - 30	560 - 672	70%



## Home Retrofit Market Analysis

### Archetypes Uptake Potential

I, J, K, L ■ Hot Market

A, F, G ■ Warm Market

B and C ■ Cool Market

### GHG Reduction potential by Archetype (% per home)

● 80% to 90% Archetypes I, J, K, L

● 12% to 30% Archetypes A, F, G

● 20% Archetype B and C

### Market Dwelling Count by FSA

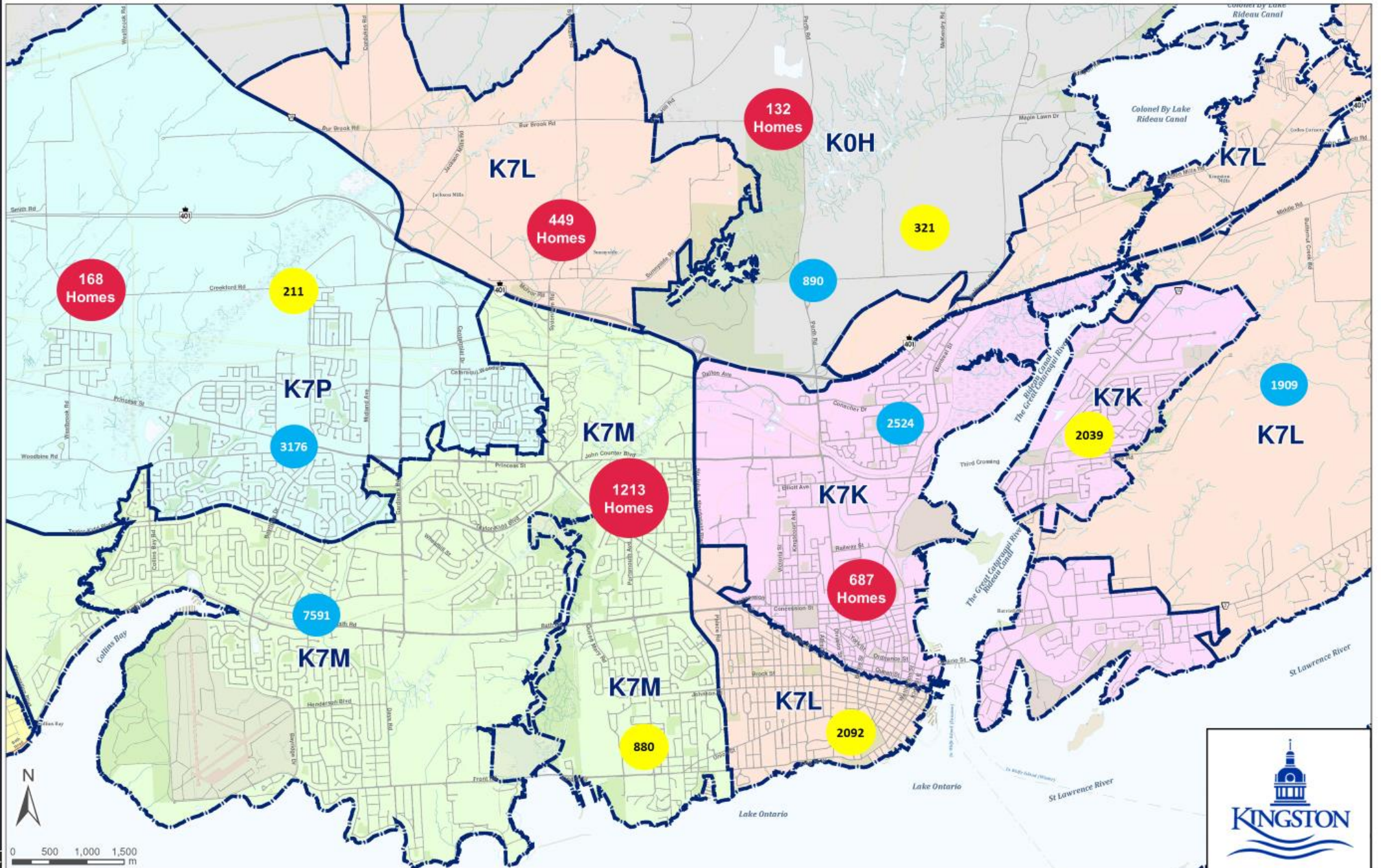
K7K ● ● ●  
687 2039 2524

K7L ● ● ●  
449 2092 1909

K7M ● ● ●  
1213 880 7591

K7P ● ● ●  
168 211 3176

K0H ● ● ●  
132 321 890



0 500 1,000 1,500 m



# Stakeholders Consultation Activities

- Bi-monthly meetings with electrical and natural gas utilities
- Meetings with potential training partners
- Discussions with various ENGOs and Energy Efficiency oriented agencies
- Consultations with trades contractors and Registered Energy Advisor active in the Kingston area
- Sandbox sessions with other municipalities developing programs
- Public meeting on draft design and online opportunities to provide feedback



# Stakeholder Roles – Program Delivery

## City of Kingston

- Program design
- Secure start-up financing
- Develop partnerships
- Assess eligibility of applications
- Approve LIC loans and repayment procedures
- Monitor and report progress including program evaluation

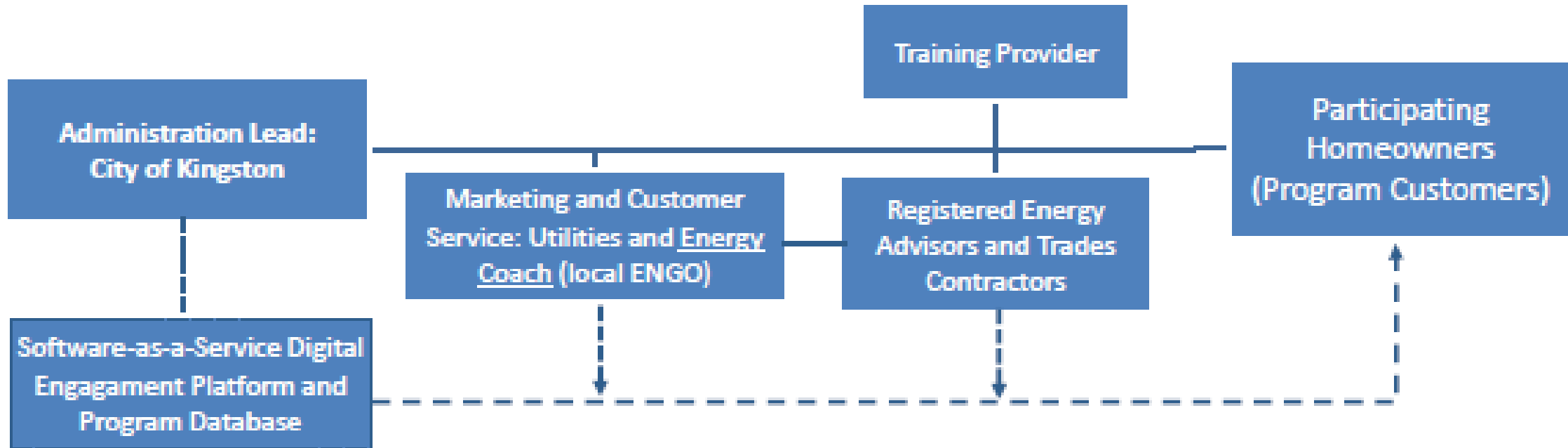
## Utilities & Energy Coach Service

- Primary program promotion and marketing activities
- Assist with arranging energy audits and trades contractors
- Provide on-bill financing, equipment rental and incentives where applicable

## Trades & Channel Partners

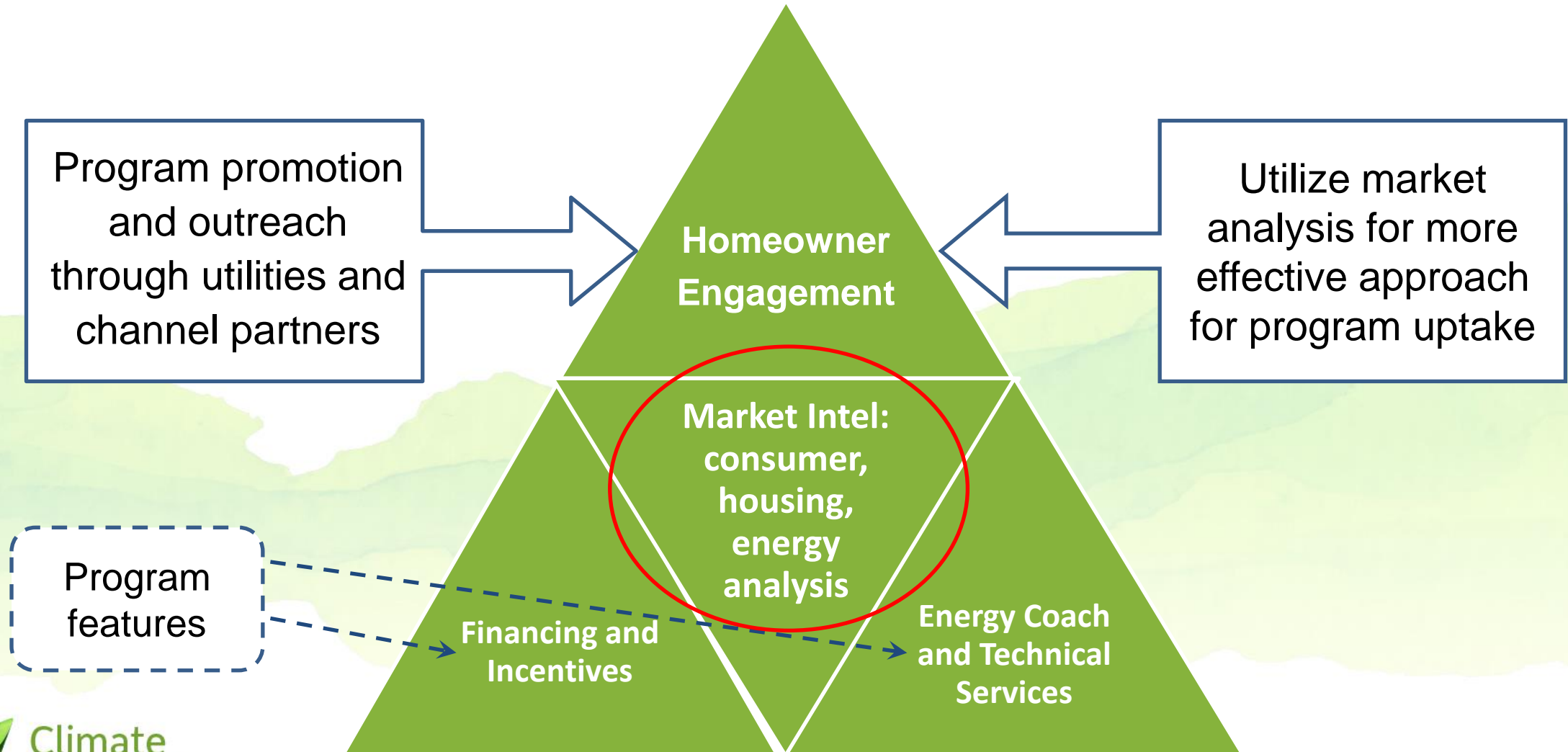
- Support workforce engagement and training
- Provide relevant products and services to participating homeowners in a timely manner
- Co-promotion opportunities

# Program Implementation





# Summary of Program Design Features



# Questions or comments?



Thank you for your attention and interest.

Julie Salter-Keane: [jsalter-keane@cityofkingston.ca](mailto:jsalter-keane@cityofkingston.ca)



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# Net-zero community design

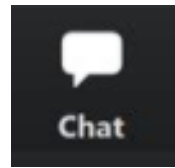
Sustainable Communities Conference workshop

October 19, 2021 | le 19 octobre 2021

*A program of*  
**FCM**

# Housekeeping / Bienséance

- Simultaneous interpretation is available to listen in French or English
- We will be using the chat box to guide our questions throughout the workshop. Please post your questions at anytime throughout the presentations.
- Keep microphones off during presentations



- Rappel: l'interprétation simultanée est disponible pour écouter en français ou en anglais
- Nous utiliserons la boîte de discussion pour guider nos questions tout au long de l'atelier. Veuillez poser vos questions à tout moment pendant les présentations.
- Désactivez le microphone pendant les présentations







# Today's agenda

- ✓ What is people-first design and its role in helping build a walkable, attractive and safe neighbourhood.
- ✓ How Blatchford is using conservation, efficiency, and renewables to reach its carbon neutral goals.
- ✓ How FCM can support you on the road towards net-zero community design.





# Chat box activity



Introduce yourself and your community



Include a line on your interest on advancing net-zero community design



# About Blatchford



## What makes Blatchford a “one in a lifetime” opportunity?

- Size of land. 536 acres.
- Ownership. Solely owned by the City of Edmonton.
- Location. Close to downtown, healthcare centres, post-secondary schools and a transit line.
- Public input. Desire for a sustainable, transformative community.



# About the guidebook: towards a net-zero community: 10 lessons from Blatchford Edmonton



## This guidebook includes:

- Background information about the Blatchford development.
- 10 lessons learned that can apply to developing land in your community.



**Anjali Varghese**

Manager of Planning and  
Infrastructure of the Blatchford  
Redevelopment



**Christian Felske**

Director of Renewable Energy  
Systems at the City of Edmonton







Blatchford



A vertical bar on the left side of the slide, composed of several colored segments: purple, green, orange, yellow, blue, and grey.

A tale of two grocery stores...









8 Ave SW





# The opportunity...





# Sustainable Transportation

## Mixed Land Use



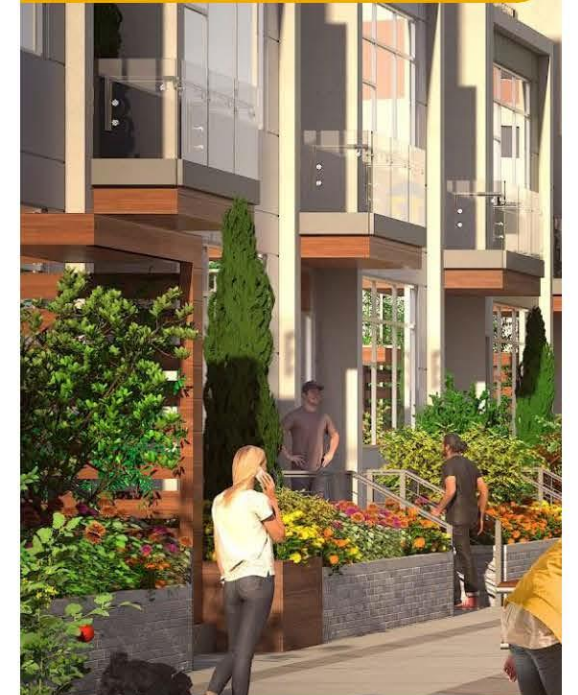
## Multi-modal Networks



## Streets for People



## Street-Oriented Buildings





# Land Use Destinations | Diversity | Density





# Networks Intentional | Integrated





# Streets   Public space | Prioritize people





# Buildings | Scale | Streetwall | Active Frontages







A tale of two possibilities...



AVAILABLE  
**Enclave**  
Townhomes  
Call Mike 780.520.5416  
www.mikehomes.com

2700











**Blatchford**





Blatchford  
Renewable  
Energy





An aerial photograph of a city, likely Edmonton, showing a large green field in the foreground, possibly a sports field or park, and residential areas with houses and streets in the background. The text is overlaid on the image.

# Blatchford's Vision:

*"Blatchford will be home to up to 30,000 Edmontonians living, working and learning in a sustainable community that uses **100% renewable energy, is carbon neutral**, significantly reduces its ecological footprint, and empowers residents to pursue a range of sustainable lifestyle choices."*









# Finding a Solution:

- Blatchford site context
- Financial implications
- Edmonton climate



# Blatchford Community Energy Strategy

---



## CONSERVATION

High Performance  
Buildings

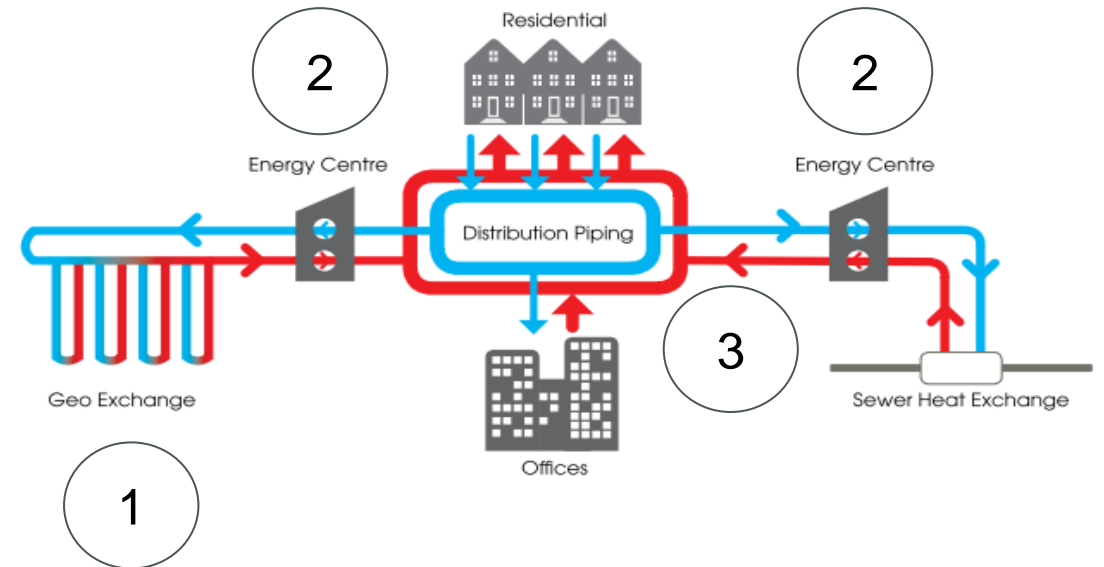
## EFFICIENCY

District Energy Sharing  
System

## RENEWABLES

Geoxchange  
Sewer Heat Exchange  
Solar PV

# District Energy Sharing with Geo-Exchange





**Blatchford  
Renewable  
Energy**

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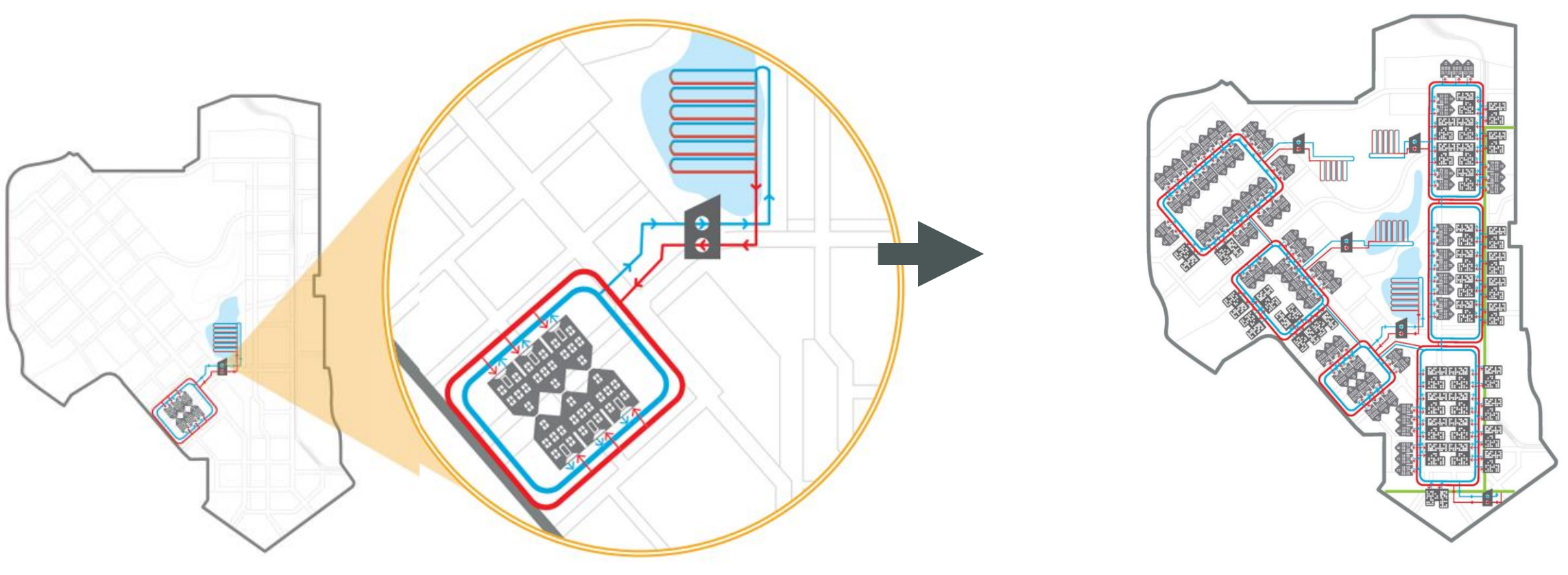
BLATCHFORD SHX

BLATCHFORD RD

BLATCHFORD RD



# Further Down the Road



# THANK YOU

Questions?

# Fonds municipal vert | Green Municipal Fund

- Programme de **1,6 milliard de dollars** financé par le gouvernement du Canada et mis en œuvre par la FCM
- **1 360** initiatives / **946 M\$** d'initiatives de développement durable approuvées
- **\$1.6 billion** program financed by the Government of Canada and run by FCM
- **1,360** initiatives / **\$946 m** of approved funding for sustainable development initiatives

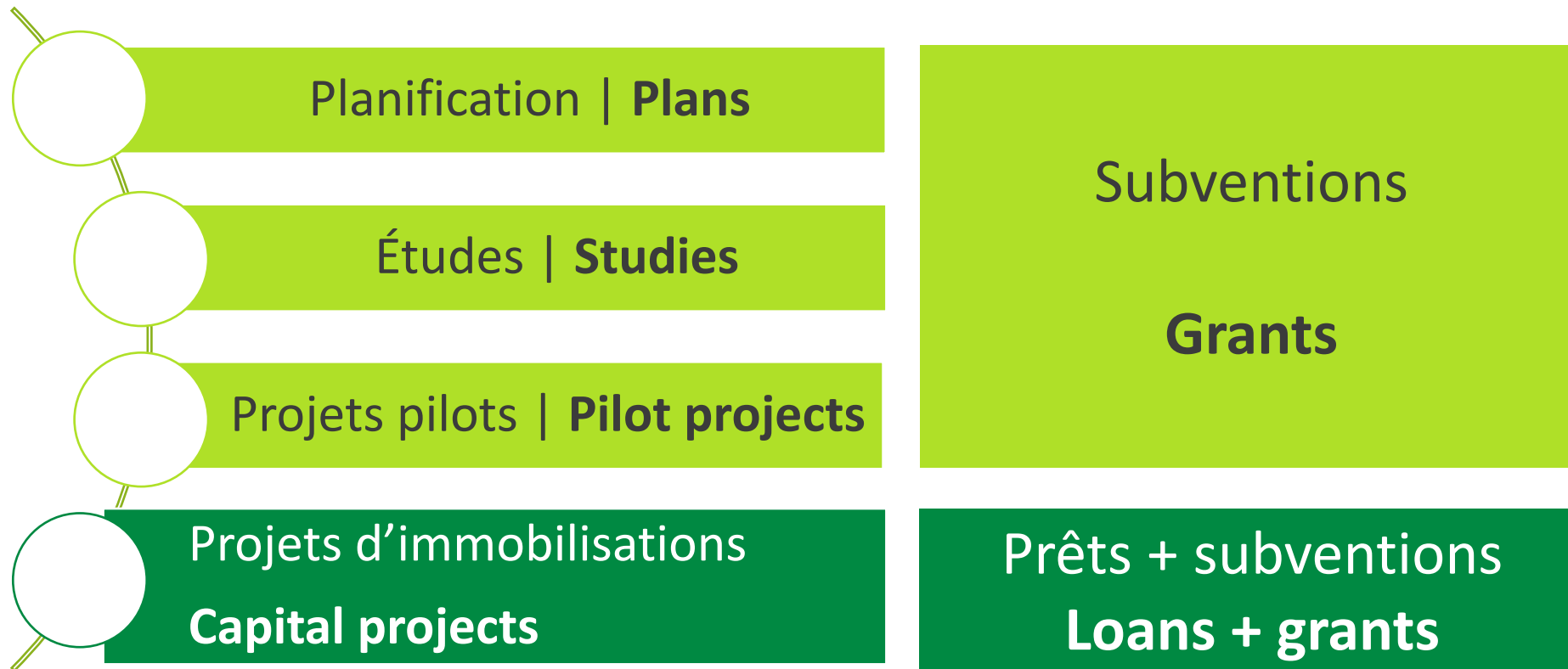




# Occasions de financement | Funding opportunities

Financement pouvant couvrir entre 50 % et 80 % des coûts admissibles.

Funding can cover from 50 % to 80 % of eligible project costs.



# Énergie | Energy

## Programme traditionnel | *Original Offer*



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- Modernisation des installations municipales | **Retrofit of municipal facilities**
- Construction de nouvelles installations municipales net zéro | **New construction of net zero municipal facilities**
- Récupération d'énergie ou système énergétique de quartier | **Energy Recovery or District Energy**



Un programme de la

**FCM**

# Nouvelles offres | New funding offers

Grâce aux 950 millions de dollars du budget fédéral de 2019.  
Thanks to the \$950 million from the Federal Budget 2019.

**Financement de l'efficacité  
Communautaire (FEC)**



**Community Efficiency  
Financing (CEF)**

**Logement abordable  
durable (LAD)**



**Sustainable Affordable  
Housing (SAH)**

**Rénovation de bâtiments  
de loisirs (RBL)**



**Community Buildings  
Retrofit (CBR)**





À chaque étape de votre projet | Every step of the way

**Fcm.ca/fmv**  
Fcm.ca/gmf

gmfinfo@fcm.ca  
1-877-417-0550



# Questions?



# Before you go....



Don't forget to check out Blatchford's guidebook and factsheet!



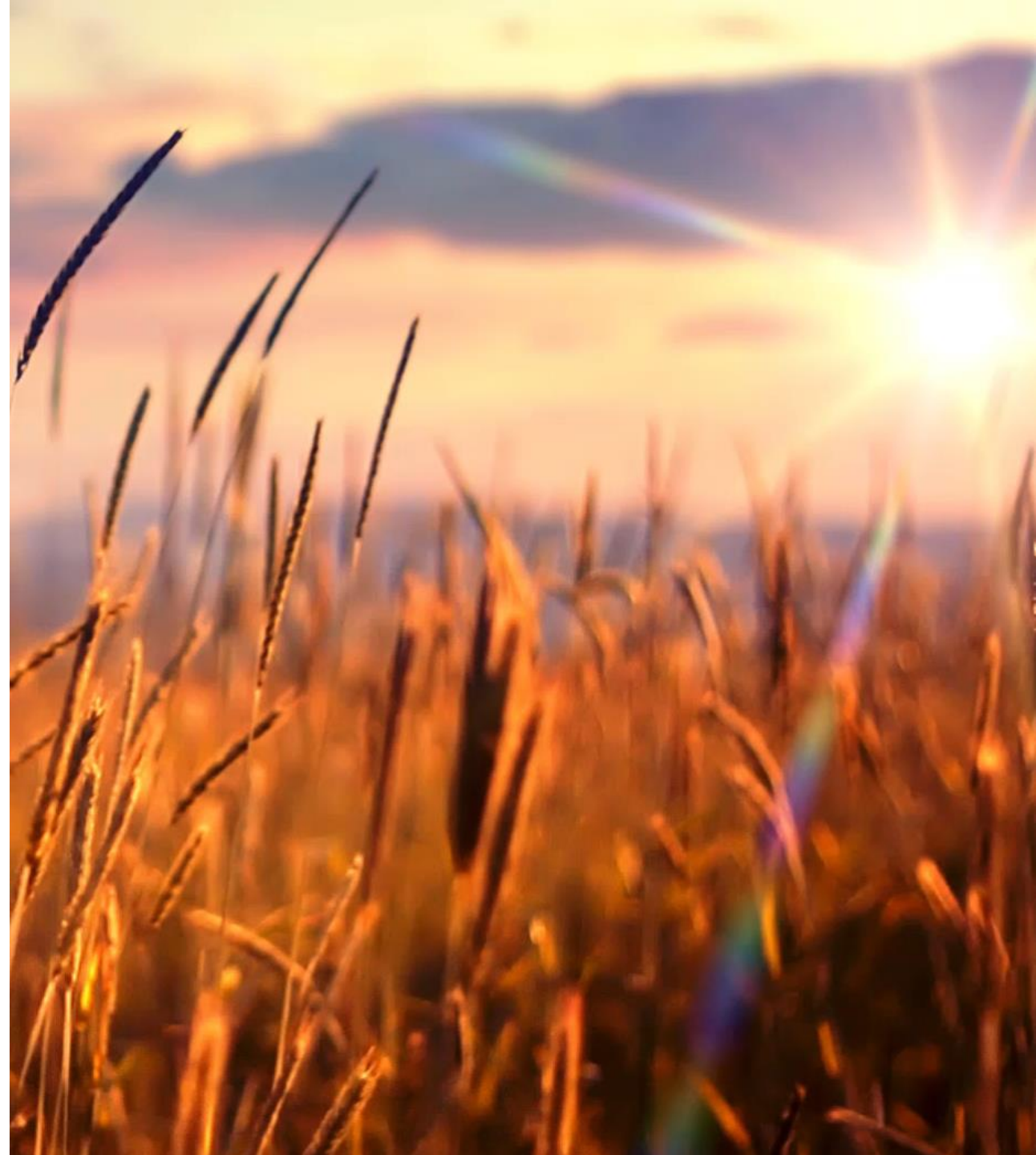
Case studies and TED talks are online



Use the conference platform to connect!



In one word, write what was most important for you from this session in the chat





Thank you!





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# **Climate change and community facilities:** Solutions for small municipalities

## **Changement climatique et bâtiments communautaires:** Solutions pour les petites municipalités

Wednesday, October 20th, 2021

Mercredi 20 Octobre 2021



# FCM's Green Municipal Fund

## Le Fonds Municipal Vert de la FCM

Supports innovative municipal sustainability projects across Canada through funding, resources and training.

Soutient les projets municipaux novateurs en matière de durabilité à travers le Canada par le biais de financement, de ressources et de formation.



Community Efficiency  
Financing

Financement de l'efficacité  
communautaire



Sustainable  
Affordable Housing

Logement  
abordable durable



Community Buildings  
Retrofit

Rénovation de  
bâtiments de loisirs



Low Carbon Cities Canada

Ligue des communautés  
canadiennes sobres en  
carbone





# Today's agenda

## Ordre du jour

Asset management: a compelling way for municipalities to manage their community buildings

La gestion d'actifs : un moyen fiable pour les municipalités de gérer leurs bâtiments communautaires

Example of energy retrofits a small rural municipality can undertake with its community building

Exemple de rénovations énergétiques de bâtiments communautaires d'une petite municipalité rurale

Green and Inclusive Community Buildings Program by Infrastructure Canada

Programme pour les bâtiments communautaires verts et inclusifs d'Infrastructure Canada

Programs offered by the Federation of Canadian Municipalities (FCM)

Programmes offerts par la Fédération Canadienne des Municipalités (FCM)



# Today's speakers

## *Conférenciers aujourd'hui*



**Maéva Ambros, Eng., M. Eng**  
**Centre d'expertise et de recherche  
en infrastructures urbaines (CERIU)**

Project manager  
*Chargée de projets*



**Adeniyi Adeaga, P.Eng.**  
**Foothills County (AB)**  
Municipal Energy Manager

**Comté de Foothills (AB)**  
*Gestionnaire municipal  
de l'énergie*

**Matthew Baird**

**Infrastructure Canada**

Director of Program Policy and  
Engagement Division

*Directeur de la Division de politique  
et de l'engagement*

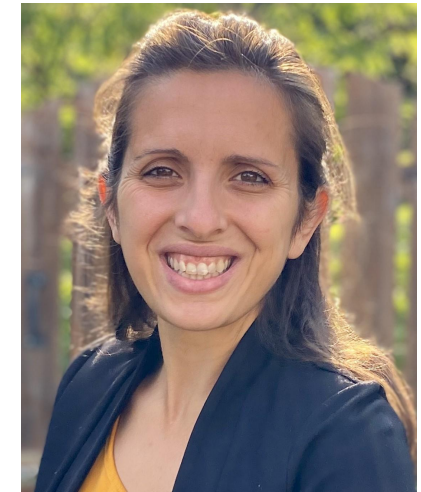


**Émilie Marleau**

**Federation of Canadian Municipalities**

Advisor, programs outreach

**Fédération Canadienne des Municipalités**  
*Conseiller, sensibilisation des projets*





# Asset Management & Municipal Buildings

**Maéva Ambros, Eng., M. Eng**

**Center for Expertise and Research in Urban Infrastructures (CERIU)**

Project manager

Maéva Ambros, Eng., M. Eng., holds a bachelor's degree in civil engineering from the École Polytechnique de Montréal and a master's degree in urban infrastructure management from the École de technologie supérieure. She has been working at the Center for Expertise and Research in Urban Infrastructures (CERIU) for 5 years where she is responsible of the asset management committee. She coordinates the development of numerous projects (guides, training, case studies, etc.) aimed at helping municipal stakeholders in their asset management approach.







Centre d'expertise et de recherche  
en infrastructures urbaines



[www.ceriu.qc.ca](http://www.ceriu.qc.ca)

CONFERENCE

## ASSET MANAGEMENT AND MUNICIPAL BUILDINGS

BY

Maéva Ambros, Eng., CERIU

[maeva.ambros@ceriu.qc.ca](mailto:maeva.ambros@ceriu.qc.ca)

Sustainable Communities Conference 2021



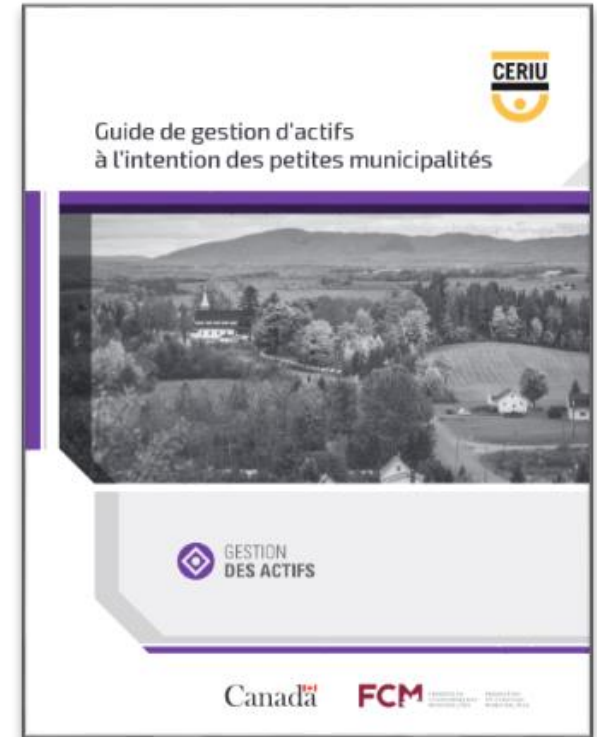
# PRESENTATION

## *Asset Management and Municipal Buildings*

1. Background – The CERIU
2. Asset management: What is it?
3. Municipal building management
4. Other relevant resources

## Centre d'expertise et de recherche en infrastructures urbaines (CERIU)

- ◆ NPO founded in 1994
- ◆ Members: Municipalities, firms, organizations, institutions, etc.
- ◆ Mission: Be THE expertise and referral network endeavouring for the sustainability of municipal infrastructures
- ◆ Objectives: Bring community actors together, create a space to share management experience and develop good practices





### Quick facts

- A set of practices that help with **stringent decision making** based on knowledge of the assets:
  - their condition
  - associated risks
  - costs
- Objective: **Provide services to citizens** in a **safe and sustainable** manner while showing **responsible** management of municipal tax revenues.





## 2. ASSET MANAGEMENT: WHAT IS IT?







- Vehicle fleet
- Computer equipment
- Etc.



## 2. ASSET MANAGEMENT: WHAT IS IT?



### Étape 1

Réaliser l'inventaire des  
actifs



### Étape 2

Identifier et évaluer les  
risques



### Étape 3

Coûts et financement



### Étape 4

Prise de décision



### Étape 5

Suivi de la gestion d'actifs et  
amélioration continue

While there is no single way to implement asset management, here is a methodology from the *Guide de gestion d'actifs à l'intention des petites municipalités* (CERIU, 2018).

### 3. MUNICIPAL BUILDING MANAGEMENT

#### KNOW THE BUILDING STOCK

- Document:

- Electronic spreadsheet
- Internal database
- Asset Management platforms and/or specialized software

Source and update  
date

Keep data up to  
date

- Make categories:

- Administrative (or operations) buildings
- Community and recreation buildings
- Infrastructures

### 3. MUNICIPAL BUILDING MANAGEMENT

#### KNOW THE BUILDING STOCK

ATTRIBUTS D'INFORMATION POUR GÉRER UN PARC D'ACTIFS IMMOBILIERS	IMPORTANCE RELATIVE
Nom de l'immeuble	Essentielle
Adresse de l'immeuble	Essentielle
Superficie	Essentielle
Année de construction d'origine	Essentielle
Usage principal	Essentielle
Classification de l'immeuble ( catégories et sous-catégories, voir page suivante )	Essentielle
Date de la dernière inspection visuelle ou campagne d'audit	Essentielle

Essential  
attributes



### 3. MUNICIPAL BUILDING MANAGEMENT

#### SERVICE LEVEL — MUNICIPAL, CITIZEN, TECHNICAL

- ◆ Municipal: Fundamental values, policies or municipal strategy
  - ◆ E.g.: *Municipal buildings with at least one charging station for electric vehicles including priority parking space.*
- ◆ Citizen: The citizen experience
  - ◆ E.g.: *Every library must have at least one reading space set up with a natural source of lighting.*
- ◆ Technical: Asset performance
  - ◆ E.g.: *All new lighting fixtures installed in a municipal building must be certified by a credible international organization as being energy efficient.*



### 3. MUNICIPAL BUILDING MANAGEMENT

#### DATA COLLECTION

What is the goal?

All buildings?  
The same way?

All components?

Deficiency list or  
component  
inventory?

Visual inspection?

### 3. MUNICIPAL BUILDING MANAGEMENT

#### DATA COLLECTION

Essential  
attributes

NOM DE L'ATTRIBUT	IMPORTANCE RELATIVE
Localisation (local, étage, façade, bloc, bâtiment)	Essentielle
Numéro séquentiel unique	Essentielle
Catégories et sous-catégories UniFormat	Essentielle
Nom de l'actif	Essentielle
Description de l'actif	Essentielle
État	Essentielle
Quantité	Essentielle
Unité de mesure	Essentielle
Année d'installation	Essentielle
Durée de vie utile théorique (DVU)	Essentielle
Âge	Essentielle
Durée de vie résiduelle évaluée (DVR)	Essentielle



### 3. MUNICIPAL BUILDING MANAGEMENT

#### DATA COLLECTION

Desirable  
attributes

NOM DE L'ATTRIBUT	IMPORTANCE RELATIVE
Date de l'évaluation	Souhaitable
Nom de l'évaluateur	Souhaitable
Niveau de criticité	Souhaitable
Fabricant	Souhaitable
Modèle	Souhaitable
Numéro de série	Souhaitable
Capacité	Souhaitable
Photos ( optionnel )	Souhaitable
Codification maison de l'actif ( système de numérotation de la Ville )	Souhaitable

### 3. MUNICIPAL BUILDING MANAGEMENT

#### DATA COLLECTION

Deficiency list

NOM DE L'ATTRIBUT	IMPORTANCE RELATIVE
Nom de la déficience	Essentielle
Numéro séquentiel unique de la déficience	Essentielle
Nom de l'actif associé à la déficience	Essentielle
Numéro unique de l'actif associé à la déficience	Essentielle
Description de la déficience – incluant le quoi et le où	Essentielle
Horizon temporel	Essentielle



**Gestion des actifs**  
municipaux du Québec

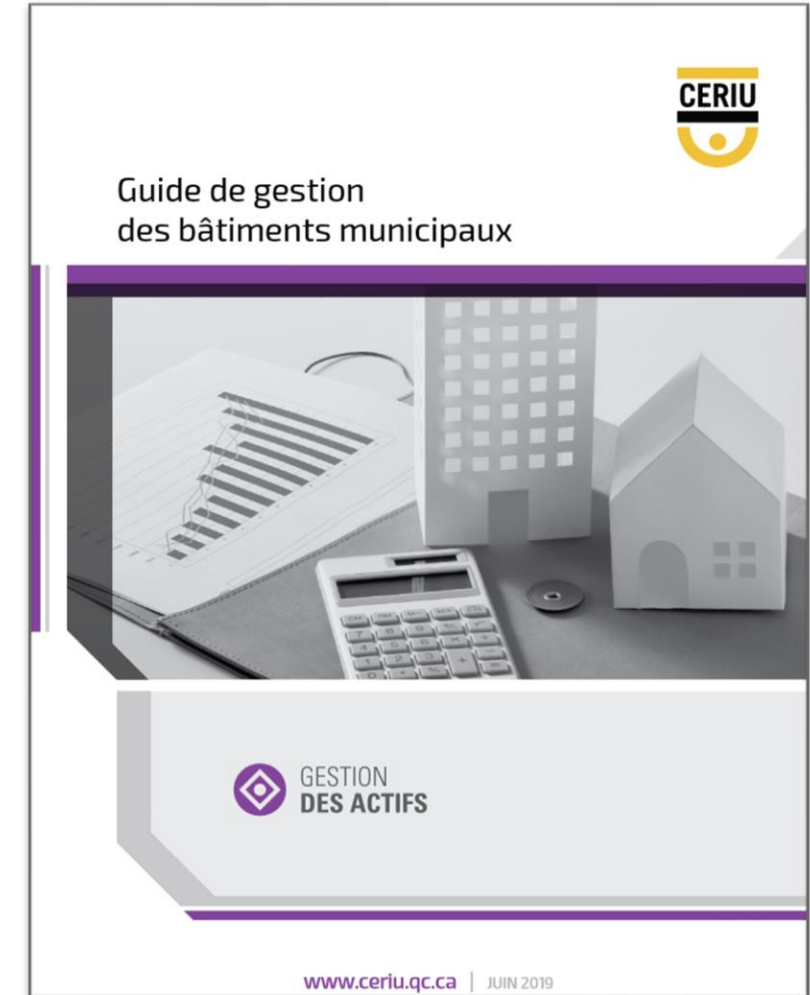
Cost estimate for  
response actions

Information  
management

Prioritizing response  
actions

Risk management

### 3. RELEVANT RESOURCES





FCM's Asset Management Readiness Scale helps local governments measure progress on asset management in **five competency areas**. The document is a guide presenting the five levels of readiness for each of the five competencies and can be a real tool used to track your progress.

<https://data.fcm.ca/documents/resources/mamp/asset-management-readiness-scale-mamp.pdf>

### 3. RELEVANT RESOURCES



- First site dedicated to asset management in Quebec: [www.gamunicipal.ca](http://www.gamunicipal.ca)
- CERIU online library and courses: [www.ceriu.qc.ca](http://www.ceriu.qc.ca)
- FCM's Asset management resource library: <https://fcm.ca/en/resources/mamp/asset-management-resources>
- Canadian Network of Asset Managers: <https://www.cnam.ca/>

### 3. RELEVANT RESOURCES

Thank you for your time!



Visitez-nous au  
**[gamunicipal.ca](http://gamunicipal.ca)**



Centre d'expertise et de recherche  
en infrastructures urbaines



[www.ceriu.qc.ca](http://www.ceriu.qc.ca)

## CONTACT US

### CERIU

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Montreal, Quebec H3B 3W3

[www.ceriu.qc.ca](http://www.ceriu.qc.ca)

[Maeva.ambros@ceriu.qc.ca](mailto:Maeva.ambros@ceriu.qc.ca)







# GHGs and recreational facilities: the Foothills County example

**Adeniyi Adeaga, P.Eng.**

**Foothills County (AB), Municipal Energy Manager**

*Adeniyi currently works as the Municipal Energy Manager (MEM) for Foothills County, a position he has held since January 2020. Prior to joining Foothills County, he worked for the Federation of Calgary Communities as the Energy Efficiency Manager, with a focus on helping non-profit community associations to save money by designing and implementing low-cost or no-cost measures to become efficient in energy and water utilization. Adeniyi is a Professional Engineer (P.Eng.) licensed by the Association of Professional Engineers and Geoscientists of Alberta (APEGA). He holds a Bachelor of Science degree in Chemical Engineering from Obafemi Awolowo University Nigeria, master's degree in Petroleum Engineering from Dalhousie, and another master's degree in Systems & Engineering Management from Texas-Tech University Lubbock USA. He worked as an engineer in the Alberta oil and gas industry for almost six years before venturing into Energy Management. Adeniyi currently volunteers with the Federation of Calgary Communities by providing guidance on Energy Efficiency grant disbursement to Calgary non-profit community associations.*





# **EXEMPLIFYING A SMALL RURAL MUNICIPALITY REDUCING THEIR CARBON FOOTPRINT & RECREATION CENTRE ENERGY CONSUMPTION**

**By: ADENIYI ADEAGA**

**DATE: 20<sup>TH</sup> OCT. 2021**

## ABOUT FOOTHILLS COUNTY

- FOUNDED IN JAN. 1954 AS MD OF SHEEP RIVER NO. 31
- ADOPTED FOOTHILLS COUNTY AS CURRENT NAME IN JAN. 2019
- HAS FOUR TOWNS – OKOTOKS, HIGH RIVER, TURNER VALLEY AND BLACK DIAMOND – AND THE VILLAGE OF LONGVIEW
- EIGHT HAMLETS - ALDERSYDE, BLACKIE, CAYLEY, DE-WINTON, HERITAGE POINTE, MILLARVILLE, PRIDDIS, AND PRIDDIS GREENS
- 2016 POPULATION WAS 22766, A 7.1% INCREASE FROM 2011.
- LAND AREA OF 3636.8KM<sup>2</sup>



## **CARBON FOOTPRINT REDUCTION STRATEGY AT FOOTHILLS COUNTY**

- STAFF ENERGY EFFICIENCY EDUCATION & PARTICIPATION
- RANKING OF FACILITIES BY GHG EMISSIONS.
- GROUPING FACILITIES BY TYPES AND SERVICES PROVIDED.
- ENERGY ASESSEMENT, ENERGY AUDIT, & ENGINEERING STUDY.
- RANKING OF ECMs BY PAYBACK PERIOD & IMPLEMENTATION COST.
- COMPETITIVE CONTRACTOR SELECTION

# CARBON FOOTPRINT REDUCTION STRATEGY AT FOOTHILLS COUNTY

Location	Department	USAGE MEASURED IN kWh		RANK	% of Total
		Location Total	Dept. Total		
Heritage Pointe Fire Hall	Fire - HPFH	112,170.47	221,008.37	5	4.19%
Longview Fire Hall	Fire - Longview	13,721.34		20	0.51%
Priddis Fire -Burby's Brigade	Fire - Priddis	2,881.92		44	0.11%
Priddis Creek Fire Hall	Fire - Priddis	47,652.88		11	1.78%
Cayley Fire Hall/Town Hall	Fire - Cayley	18,785.06		18	0.70%
Blackie Fire hall / Town Shop	Public Works	12,956.80		22	0.48%
Spruce Meadows Fire Hall	Fire - Spruce Meadows	12,839.90		24	0.48%
Aldersyde	EMO	-		67	0.00%
Aldersyde shop	Public Works	269,982.76	315,714.69	2	10.08%
Blackie - Grader Shed	Public Works	2,680.51		46	0.10%
<del>Blackie Town Shop (repeated)</del>	<del>Public Works</del>			67	0.00%
Cayley Grader Garage	Public Works	3,213.68		40	0.12%
Longview Grader Shed	Public Works	1,593.42		52	0.06%
DeWinton Grader Shed	Public Works	1,487.48		54	0.06%
Millarville radio shack	Public Works	2,013.32		50	0.08%
Millarville shop	Public Works	28,708.06		16	1.07%
Millarville Salt shed	Public Works	6,035.46		32	0.23%
DeWinton - Street Lights		297.44	10,036.72	66	0.01%
High River		992.57		57	0.04%
Priddis Creek Street Lights		3,454.59		38	0.13%
Priddis Creek Street Lights		3,454.59		38	0.13%
109 St & 498	stop light?	1,837.53		51	0.07%
Airport Beacon	Airport	12,085.14		26	0.45%
Airport Water Pump	Airport	-		67	0.00%
Aldersyde - Maple Leaf Water	Water	19,828.58	493,263.46	17	0.74%
Aldersyde shop - pump station Water	Water	42,492.93		14	1.59%
Aldersyde - Abilds Booster station Water	Water	60,344.49		7	2.25%
Abilds Lift Station	Water	14,558.07		19	0.54%
Red Deer Lake Pumphouse	Water	12,846.19		23	0.48%
Red Deer Lake Water Well	Water	525.62		62	0.02%
Red Deer Lake Water Well	Water	323.54		65	0.01%
Heritage Pointe School	Water	82,289.23		6	3.07%
Fish Creek WTP	Water	52,746.11		10	1.97%
Water Treatment Plant	Water	46,203.94		13	1.73%
Millarville Crossing	Water	46,894.52		12	1.75%
Millarville Crossing	Water	2,283.83		48	0.09%
Millarville Crossing	Water	3,727.20		36	0.14%
Millarville	Water	-		67	0.00%
Millarville WTP	Water	9,032.41		29	0.34%
Blackie WTP	Water	54,323.60		9	2.03%
Cayley Water aeration building	Water	-		67	0.00%
Airport	Water	6,600.06		30	0.25%
Cayley WTP	Water	38,243.14		15	1.43%
Cayley water well services	Water	-		67	0.00%

# CARBON FOOTPRINT REDUCTION STRATEGY AT FOOTHILLS COUNTY

Facility	Dept.	Rank	Annual kWh	Monthly Avg. kWh	% of Total
SSSR	SSSR	1	830,837.23	69,236.44	37.94%
Aldersyde shop	Public Works	2	269,982.76	22,498.56	12.33%
Municipal Building - 309 Macleo		3	246,248.60		11.25%
Heritage Pointe Fire Hall	Fire - HPFH	4	112,170.47	9,347.54	5.12%
Heritage Pointe School	Water	5	82,289.23	6,857.44	3.76%
Aldersyde - Abilds Booster station	Water	6	60,344.49	5,028.71	2.76%
Blackie WTP	Water	7	54,323.60	4,526.97	2.48%
Fish Creek WTP	Water	8	52,746.11	4,395.51	2.41%
Priddis Creek Fire Hall	Fire - Priddis	9	47,652.88	3,971.07	2.18%
Millarville Crossing	Water	10	46,894.52	3,907.88	2.14%
Water Treatment Plan	Water	11	46,203.94	3,850.33	2.11%
Aldersyde shop - pump station	Water	12	42,492.93	3,541.08	1.94%
Cayley WTP	Water	13	38,243.14	3,186.93	1.75%
Millarville shop	Public Works	14	28,708.06	2,392.34	1.31%
Aldersyde - Maple Leaf Water Coop	Water	15	19,828.58	1,652.38	0.91%
Cayley Fire Hall/Town Hall	Fire - Cayley	16	18,785.06	1,565.42	0.86%
Abilds Lift Station	Water	17	14,558.07	1,213.17	0.66%
Longview Fire Hall	Fire - Longview	18	13,721.34	1,143.45	0.63%
Blackie Town Shop	Public Works	19	12,956.80	1,079.73	0.59%
Blackie Fire hall / Town Shop	Public Works	19	12,956.80	1,079.73	0.59%
Red Deer Lake Pumphouse	Water	21	12,846.19	1,070.52	0.59%
Spruce Meadows Fire Hall	Fire - Spruce Meado	22	12,839.90		0.59%
Blackie Lift Station	Water	23	12,793.38	1,066.12	0.58%

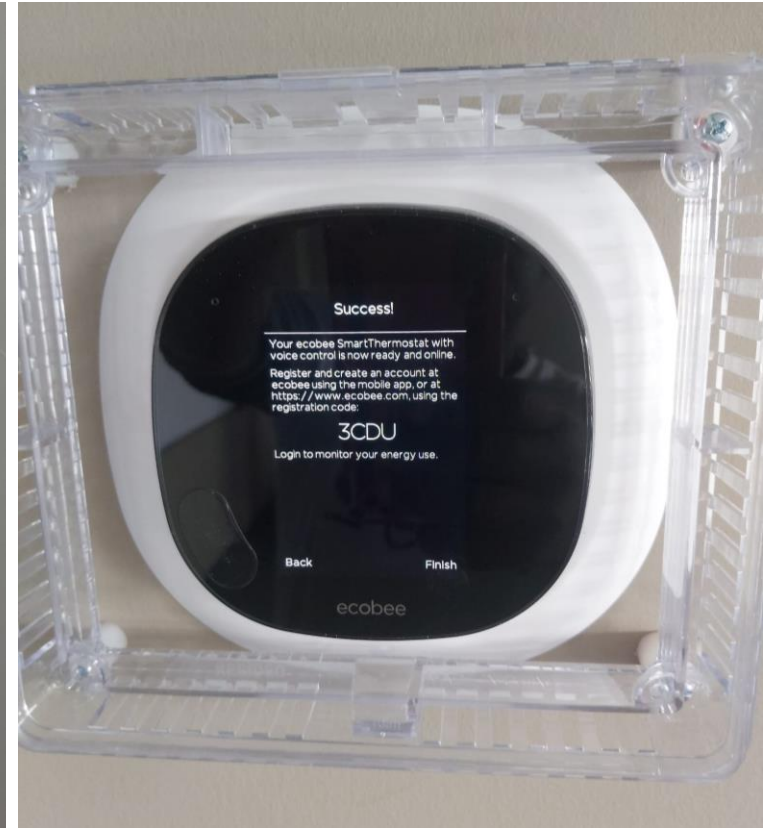


## SOME ENERGY CONSERVATION MEASURES (ECMs) IMPLEMENTED IN FIRE HALLS

- LED AND LIGHTING CONTROLS RETROFIT – MOTION SENSORS & PHOTOCELL
- REPLACED T-STATs WITH SMART OCCUPANCY SENSOR T-STATs.
- TIMERS ON MAKE-UP-AIR UNITS & EXHAUST FANS
- LOW FLOW FAUCET AERATORS
- WEATHER STRIPPING
- DHW PIPES INSULATION



**PICTURES OF SOME ENERGY CONSERVATION MEASURES (ECMs)  
IMPLEMENTED IN FIRE HALLS**



**PICTURES OF SOME ENERGY CONSERVATION MEASURES (ECMs)  
IMPLEMENTED IN FIRE HALLS**



## SOME ENERGY CONSERVATION MEASURES (ECMs) IMPLEMENTED IN PUBLIC WORKS SHOPS

- LED AND LIGHTING CONTROLS RETROFIT – MOTION SENSORS & PHOTOCELL
- BUILDING AUTOMATION SYSTEM (BAS) INSTALLATION
- TIMERS ON ELECTRIC SOCKETS FOR HEAVY EQUIPMENT/TRUCKS BLOCK HEATERS
- REPLACED T-STATs WITH SMART OCCUPANCY SENSOR T-STATs.
- TIMERS ON CEILING FANS
- WEATHER STRIPPING
- LOW FLOW FAUCET AERATORS
- DHW PIPES INSULATION

## **SOME ENERGY CONSERVATION MEASURES (ECMs) IMPLEMENTED OR PLANNED IN THE ICE HOCKEY RECREATION CENTRE**

- LED RETROFIT
- REALICE DEVICE INSTALLATION FOR COLD WATER RINK FLOODING
- BUILDING AUTOMATION SYSTEM (BAS) INSTALLATION
- DEHUMMIDIFIER CONTROL RETROFIT
- VARIABLE FREQUENCY DRIVES (VFD) INSTALLATION ON SELECTED PUMPS
- ICE PLANT HEAT RECOVERY FOR SPACE HEATING AND WATER HEATING
- WEATHER STRIPPING – TWO SCENARIOS
- END OF HOCKEY SEASON EQUIPMENT SHUT DOWN & MAINTENANCE



**PICTURES OF SOME ENERGY CONSERVATION MEASURES (ECMs)  
IMPLEMENTED IN THE ICE HOCKEY RECREATION CENTRE**





**PICTURES OF SOME ENERGY CONSERVATION MEASURES (ECMs)  
IMPLEMENTED IN THE ICE HOCKEY RECREATION CENTRE**

# MAJOR PROJECTS PLANNED FOR 2022

- 5 PHEV & CHARGING STATIONS
- 5 FULL ELECTRIC ICE-RESURFACER
- 5 ROOFTOP SOLAR PV INSTALLATION AT HOCKEY ARENA - GICB



# THANK YOU!

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**QUESTIONS?**



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[ADENIYI.ADEAGA](mailto:ADENIYI.ADEAGA@FOOTHILLSCOUNTYAB.CA)  
[@FOOTHILLSCOUN](mailto:ADENIYI.ADEAGA@FOOTHILLSCOUNTYAB.CA)  
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**PHONE:**  
**403-603-8918**





# Green and Inclusive Community Buildings Program

**Matthew Baird**

**Infrastructure Canada**, Director of Program Policy and Engagement Division Resilient and Innovative Communities Directorate

*Prior to completing his university education Matt worked for four years in municipal administration for the Town of Carleton Place followed by two years working in administration at McGill University. Matt joined the federal government in 1998 and has spent most of his 24 years working as a fed primarily working to help advance reconciliation and support Indigenous communities with self-government arrangements and modern treaties, culture and language revitalization programming, and establishing innovative education systems and partnerships. Joining Infrastructure Canada in 2018, Matt has worked to design and deliver innovative direct-to-community programming including the Smart Cities Challenge and Community Support Program, the Canada Healthy Community Initiative and most recently the Green and Inclusive Community Buildings Program. Matt holds a Bachelor of Arts degree from McGill University and a Master of Public Administration from Queen's University. Matt is also a recipient of the Queen's Diamond Jubilee Medal in recognition of his contributions to the advancement of Indigenous issues.*







Infrastructure  
Canada

# Green and Inclusive Community Buildings Program

Infrastructure Canada  
October 20, 2021

Climate change and community facilities: solutions for small communities

# Canada's Strengthened Climate Plan



**MAKING THE PLACES  
CANADIANS LIVE AND GATHER  
MORE AFFORDABLE BY  
CUTTING ENERGY WASTE**

- The Green and Inclusive Community Buildings (GICB) commitment was announced in December 2020, as part of the Strengthened Climate Plan, A Healthy Environment and a Healthy Economy.
- Plan committed to:
  - \$1.5 billion over five years for retrofits and new builds of green and inclusive community buildings
  - At least 10% of program funding allocated to projects serving First Nations, Inuit and Métis communities, including Indigenous populations in urban centres
- The Plan commits Canada to meet and exceed its current 2030 greenhouse gas (GHG) reduction target – 30% below 2005 levels by 2030 – and achieve net-zero GHG emissions by 2050, while encouraging clean inclusive growth.



# Triple Bottom Line Approach



## Improved environmental outcomes

- Retrofit projects must result in GHG emissions reductions and energy savings (minimum 25%)
- New Build projects must be designed to [Canadian Green Building Council's Zero-carbon design standard V.2](#)
- All projects must assess and address the impacts of climate change by improving the resiliency of the facility



## Improved inclusive outcomes

- Projects must be addressing an underserved high-needs community (including but not limited to: BIPOC communities, women, children and youth, Indigenous Peoples, newcomers to Canada, people with disabilities, rural/remote communities, and low-income individuals)
- All projects must meet or exceed the highest published accessibility standards, as defined by the [Canadian Standards Association's Technical Standard: Accessible Design for the Built Environment](#) (CAN/CSA B651-12)



## Support economic recovery

- Is the project shovel ready?
- What is the expected start date (can the project be initiated quickly)?
- Projects must be completed before March 31, 2026

# GICB Program Funding Streams

## Rolling Intake (Ongoing)

### Small Retrofit Projects

- Project costs from \$100,000 to under \$250,000
- Grants or contribution agreements

### Medium Retrofit Projects

- Project costs from \$250,000 to under \$3M
- Contribution agreements only

## Timed Intake (Closed July 6, 2021)

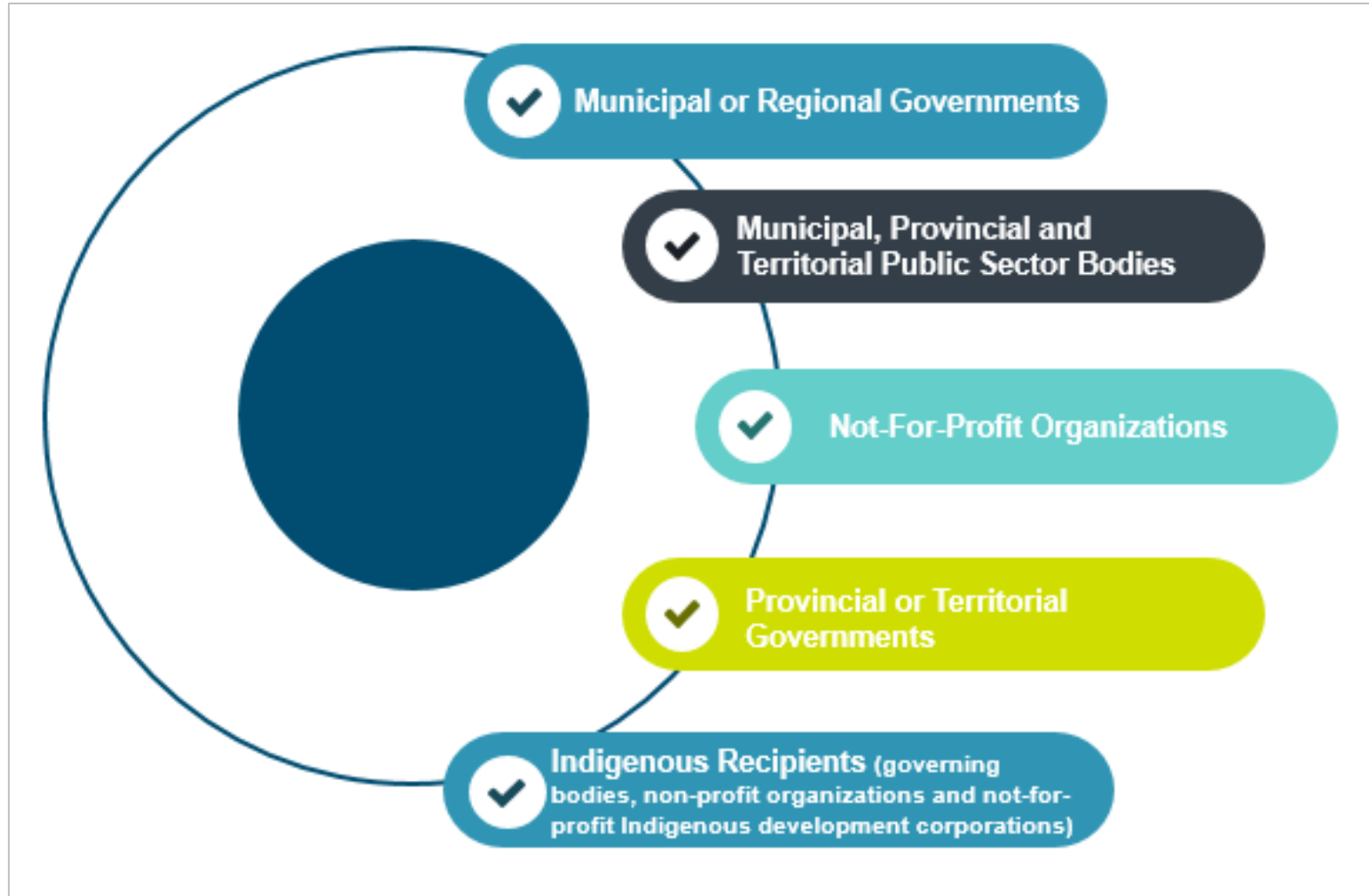
### Large Retrofit Projects

- Project costs from \$3M to \$25M
- Contribution agreements only
- Community Employment Benefits reporting (projects > \$10M)

### New Build Projects

- Project costs from \$3M to \$25M
- Contribution agreements only
- Community Employment Benefits reporting (projects over \$10M)

# Eligible Recipients





# Eligible Assets

All eligible buildings must be non-commercial and providing community services that are open to the public.

Eligible Building Types	New Build Projects	Retrofit Projects	Indigenous Projects
Community Centres	✓	✓	✓
Public Sports and Recreational Facilities (e.g. arenas, sports centres)	✓	✓	✓
Recreational Facilities (e.g. child and youth centres; community adult learning centres; seniors activity centres)	✓	✓	✓
Cultural Buildings (e.g. cultural centres, libraries)	✓	✓	✓
Mobile community infrastructure (e.g. mobile structure health clinics, libraries, youth services)	✓	✓	✓
Community health and wellness infrastructures (e.g. food storage facilities/food banks; greenhouses; community health centres; addiction, mental health, and rehabilitation centres, etc. )		✓	✓
Indigenous health and social infrastructure facilities (e.g. community health centres, clinics, paramedic facilities, long-term care facilities/Elders' lodges, family violence and homeless shelters)			✓
Indigenous education facilities (e.g. schools, universities and colleges, adult learning centres; early childhood and daycares)			✓

# Cost Share Limits

The GICB program will provide funding up to the following limits, of total eligible project costs:

Project Cost Share, by Project Type and Size		
Total Eligible Project Cost	General program (up to % max from program)	In the territories and for eligible Indigenous* recipients (up to % max from program)
Retrofits up to first \$9,999,999	80%	100%
Retrofits costs \$10,000,000 +	60%	100%
New builds up to first \$9,999,999 of costs	60%	100%
New build costs \$10,000,000 +	50%	100%

\*The application of the maximum level of funding provided by the program towards eligible expenditures will be implemented on a marginal dollar value basis whereby the total eligible project expenditures up to the first \$9,999,999 will have the higher maximum % funding rate applied and for every dollar above \$10,000,000 the lower % rate applied. For example, a non-indigenous retrofit project with \$12,000,000 in eligible expenditures would be provided a maximum of  $\$9,999,999 \times .80 + \$2,000,001 \times .60 = (\$7,999,999.2) + (\$1,200,000.60) = \$9,199,999.80$  in funding from the GICB program.

# RETScreen: Energy Analysis Tool

- Developed by Natural Resources Canada (NRCan), **RETScreen** is used to help analyse, plan, implement and monitor energy projects
  - RETScreen® is a Clean Energy Management Software system for energy efficiency, renewable energy and cogeneration project feasibility analysis as well as ongoing energy performance analysis
  - Harnesses advanced algorithms to simplify decision-making around energy projects
  - Helps determine if a proposed energy project makes financial sense
- The RETScreen tool supports project applicants and decisions-makers for various reasons:
  - Low cost (free for applicants to this program)
  - Directly comparable across projects
  - Promotes energy literacy
- Once in your Application Portal account, you can download a software key and the 'Resources' tab will have instructional videos for using the software. Access to additional support is available by emailing [nrcan.retscreen.nrcan@canada.ca](mailto:nrcan.retscreen.nrcan@canada.ca).





# Questions?

Email: [gicbp-pbcvi@infc.gc.ca](mailto:gicbp-pbcvi@infc.gc.ca)

Visit: <https://www.infrastructure.gc.ca/gicb-bcvi/index-eng.html>

## Green and Inclusive Community Buildings



### Update

Stay Tuned! A second intake for the GICB program will be announced shortly. For those who submit an application under the first intake closing on July 6<sup>th</sup>, your project will be assessed over the course of the summer and successful applicants will be notified in the Fall.

## On this page

- [About the Green and Inclusive Community Buildings program](#)
- [Application Intake Streams](#)
- [How to Submit an Application](#)
- [Indigenous Applicants](#)
- [Contact Us](#)
- [Applicant Guide](#)
- [Applicant Registration Form](#)
- [Accessibility Resources](#)
- [Frequently Asked Questions](#)



# The Community Buildings Retrofit (CBR) initiative

**Émilie Marleau**

**Federation of Canadian Municipalities, Advisor,  
programs outreach**

# GMF's **Community Buildings Retrofit** initiative

Save money and reduce GHGs in community  
buildings



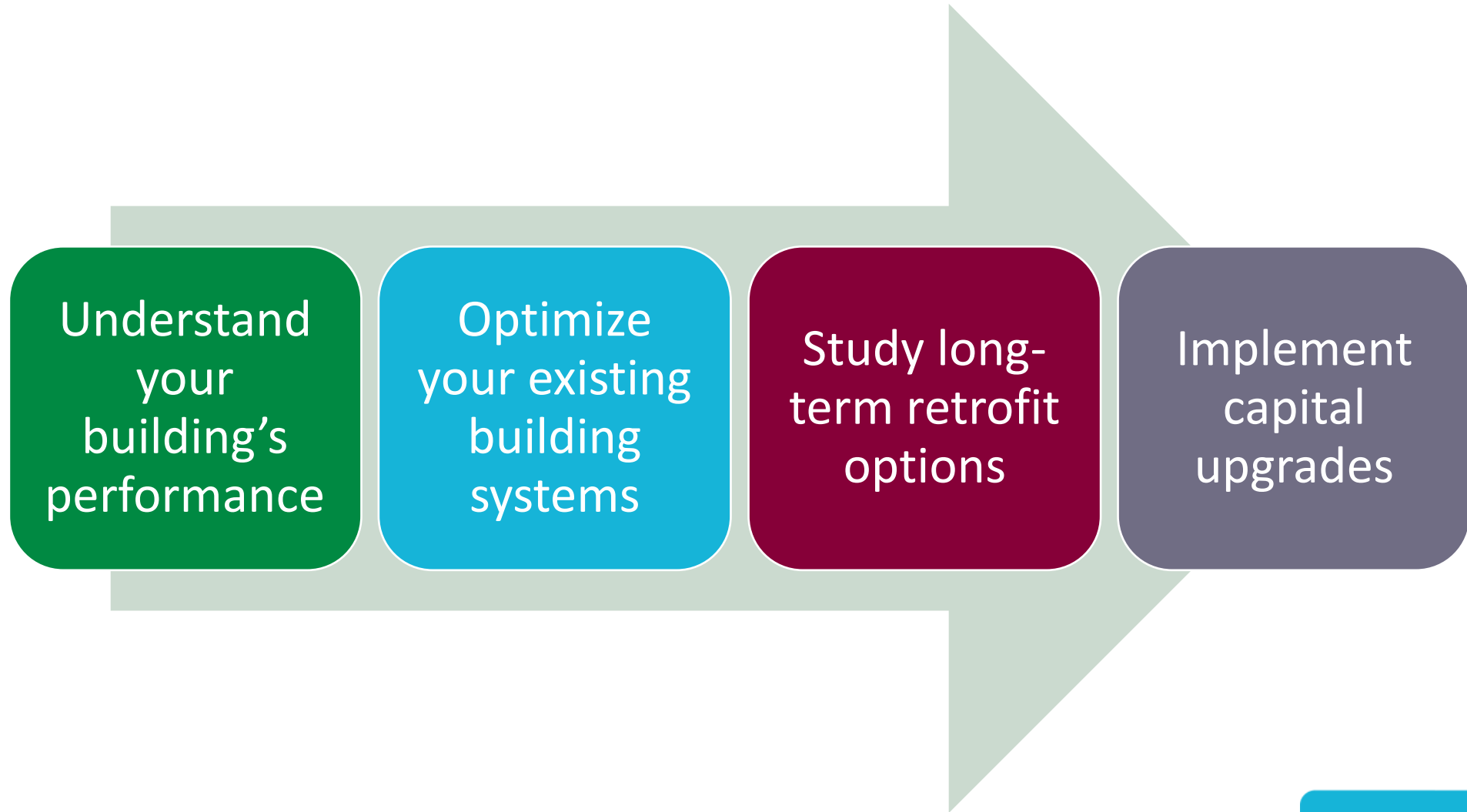


# CBR: Community Buildings Retrofit

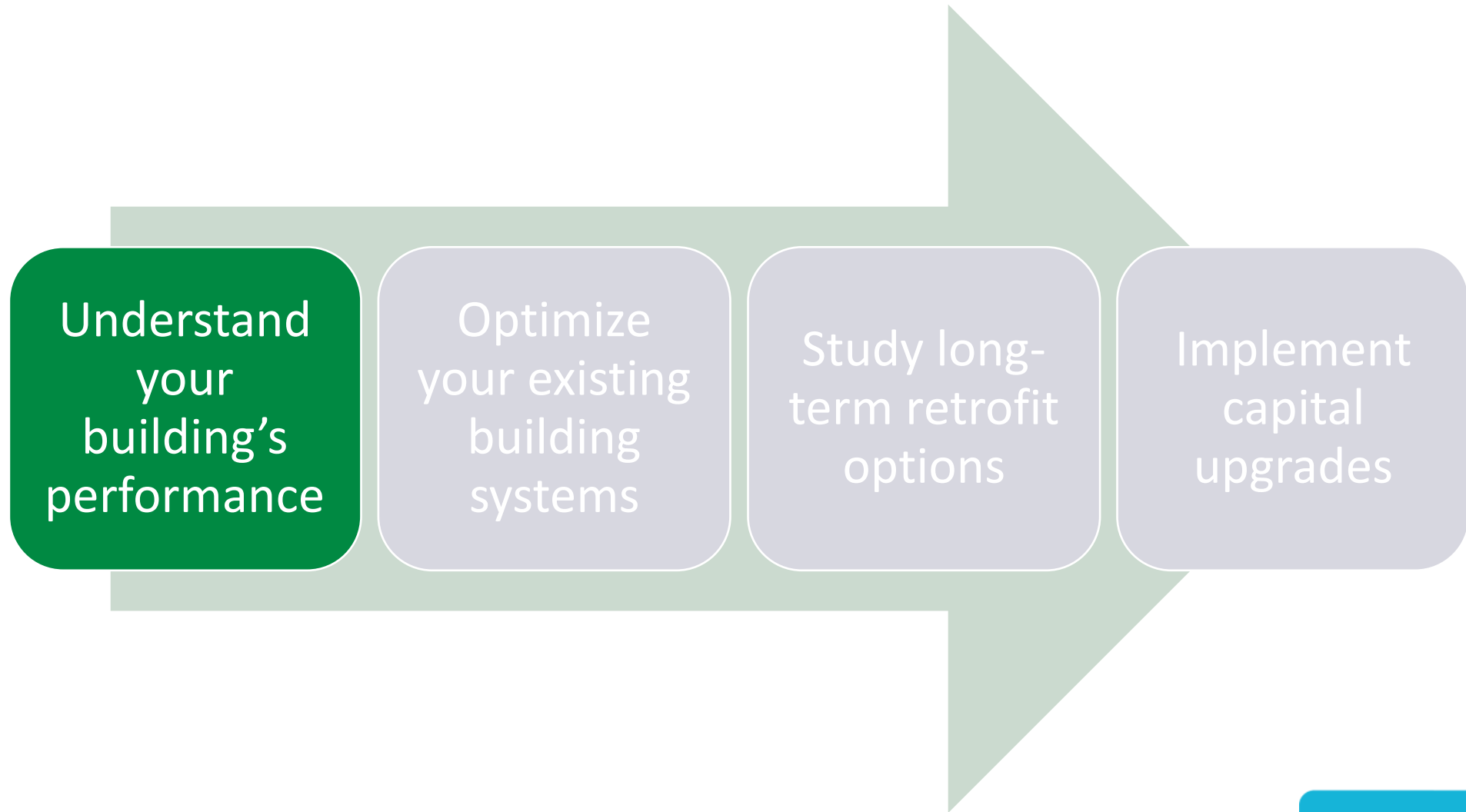
GMF's \$167 million **Community Buildings Retrofit** (CBR) initiative helps municipalities optimize the energy performance of community buildings and reduce GHG emissions.



# Supporting municipalities along the journey

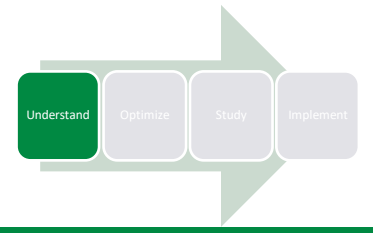


# Supporting municipalities along the journey





# Building Monitoring and Analysis



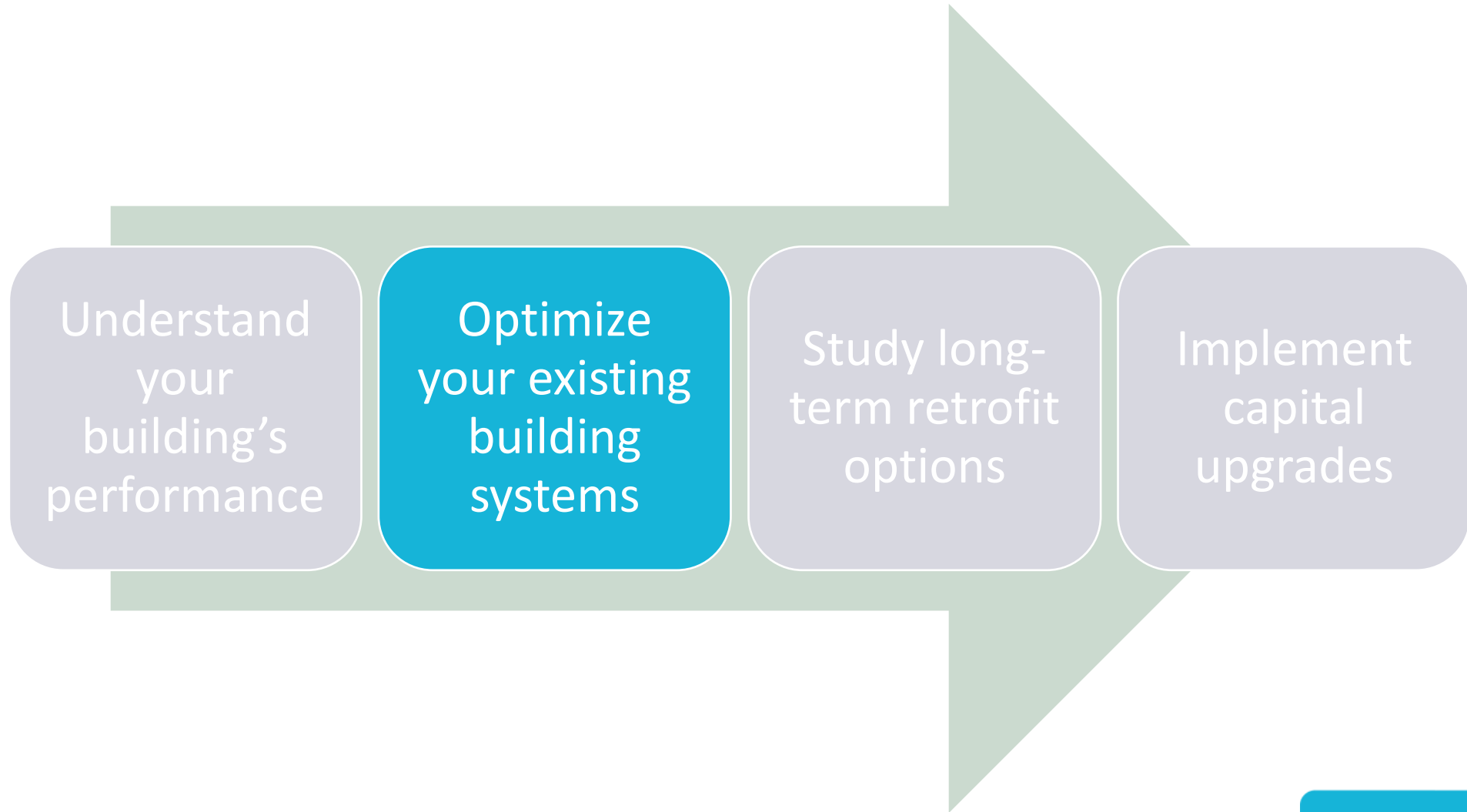
Up to \$25,000  
80% of eligible costs

- Involves setup and use of **energy management software** and **building energy benchmarking** where these systems are not already in place
- Can include multiple buildings to support business case development

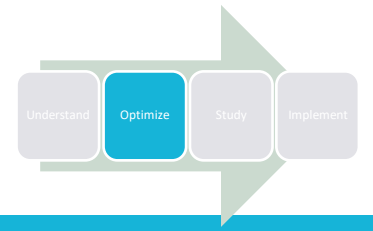
**Outcomes:** Gain insights to inform planning, improve operations, and measure progress



# Supporting you along the journey



# Existing Building Commissioning (EBCx)



Up to \$55,000  
60% of eligible costs

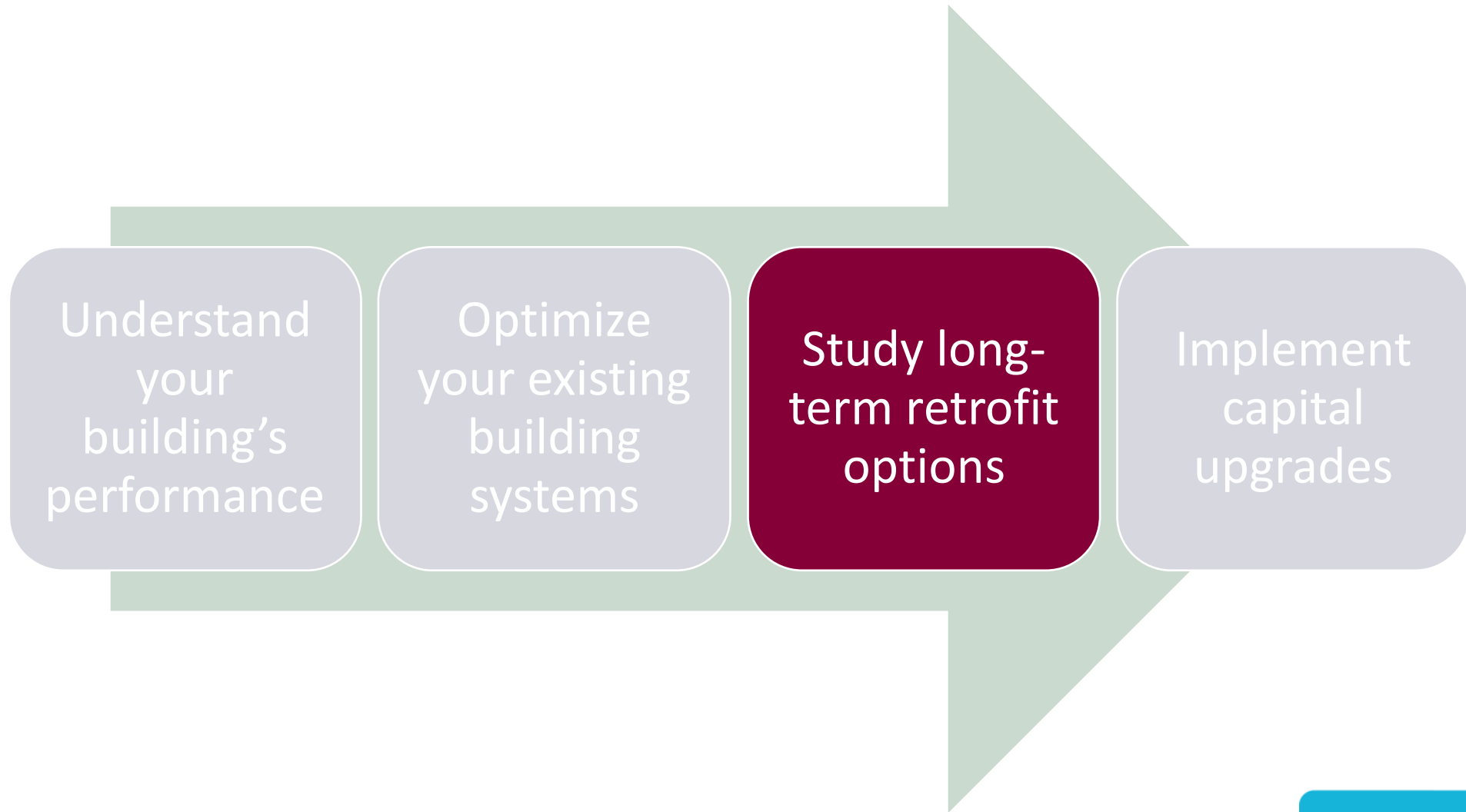
- Identify, prioritize and implement efforts to **re-commission** or **retro-commission** buildings and maintain performance over time
- Can be single building or multiple buildings

**Outcomes:** Improved operation and monitoring, 5-15% energy reduction

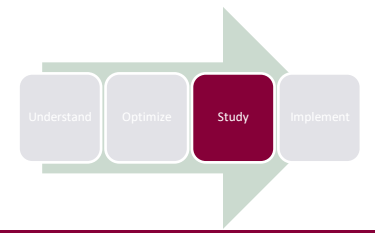




# Supporting you along the journey



# GHG Reduction Pathway Study



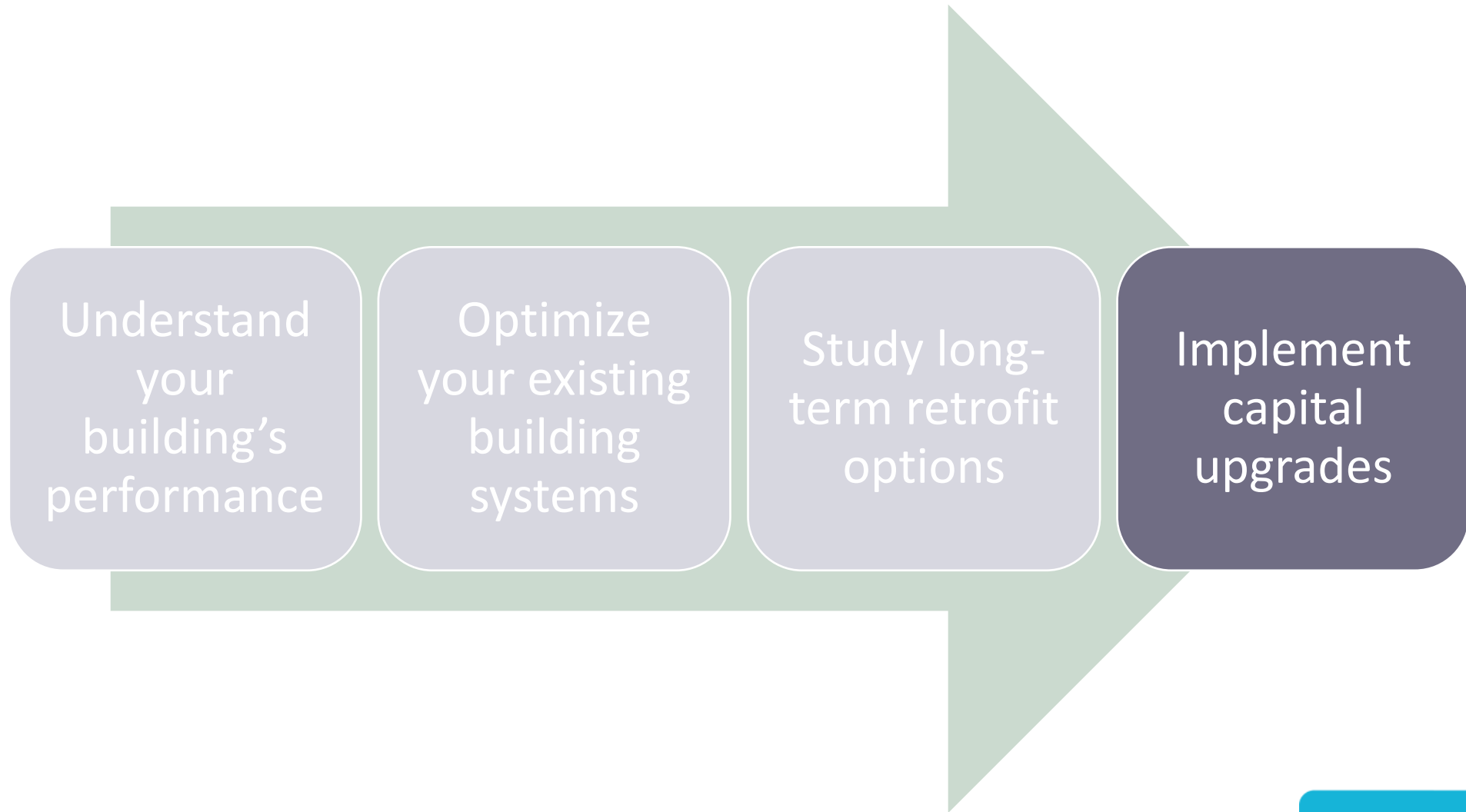
Up to \$65,000 (single building) or \$200,000 (portfolio)  
80% of eligible costs

- Identify sequence of measures to allow community buildings to achieve **>50% reduction** in GHG emissions within 10 years and **>80% reduction** within 20 years
- Can consider one or more buildings within a **single municipality** or a group of similar buildings in **multiple municipalities**

**Outcomes:** Establish a preferred pathway for GHG reductions and be capital project-ready



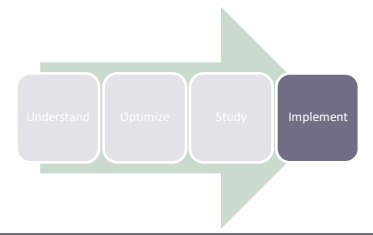
# Supporting you along the journey





# 1

## Capital Project: GHG Impact Retrofit



75% loan + 25% grant, up to a maximum of \$5 million  
80% of eligible costs

- Reduce GHG emissions by a **minimum of 30%** compared to baseline emissions
- May be a **single** community building or a **portfolio** of buildings\*

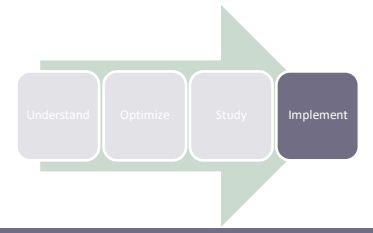


*\*Portfolio = multiple community buildings or at least one community building and other municipal buildings*



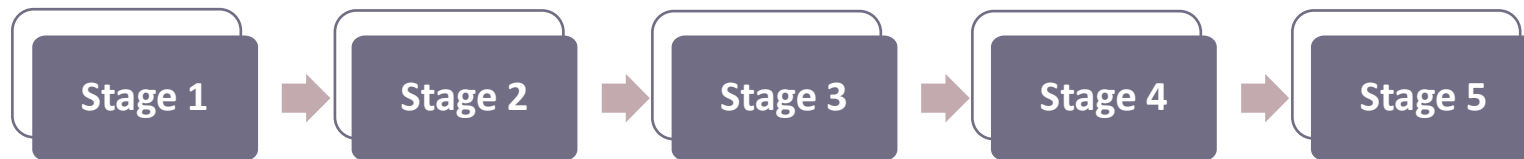
# 2

## Capital Project: GHG Reduction Pathway



75% loan + 25% grant, up to a maximum of \$5 million  
80% of eligible costs

- Reduce GHG emissions **in stages** as defined by a **GHG Reduction Pathway Study** or similar
- May be a **single** community building or a **portfolio** of buildings
- Consider **at least one retrofit stage** identified in the pathway



# Funding opportunities

PROJECT STAGE		FUNDING OFFER*
IMPROVE & IDEATE	BUILDING ENERGY MONITORING & ANALYSIS	<ul style="list-style-type: none"> <li>• <b>Grant</b> up to \$25,000</li> </ul>
	BUILDING COMMISSIONING	<ul style="list-style-type: none"> <li>• <b>Grant</b> up to \$55,000</li> </ul>
STUDY	GHG REDUCTION PATHWAY	<ul style="list-style-type: none"> <li>• <b>Grant</b> up to \$65,000 for single buildings, \$200,000 for portfolio of buildings</li> </ul>
CAPITAL PROJECT	GHG IMPACT RETROFIT	<ul style="list-style-type: none"> <li>• Minimum 30% reduction in GHG emissions</li> <li>• <b>Financing</b> (loan + grant) up to \$5 million</li> </ul>
	GHG REDUCTION PATHWAY RETROFIT	<ul style="list-style-type: none"> <li>• Supports GHG reduction pathway in one or more buildings at different Stages</li> <li>• <b>Financing</b> (loan + grant) up to \$5 million</li> </ul>

*\*CBR's total funding can cover up to 80% of eligible costs, with the exception of building commissioning, for which GMF funding may cover up to 60% of eligible costs*





# How to apply?

Visit the CBR webpage: [fcm.ca/communitybuildingsretrofit](http://fcm.ca/communitybuildingsretrofit)

Review the [CBR application guide](#) (available online).

A)

## Monitoring & Analysis and Commissioning Grants



Application forms for each grant and the project workbook are available online.

B)

## Studies and Capital Projects



Complete the pre-application form and submit it to GMF



Eligible applicants will be invited to submit a **full application and project workbook**



# Municipal Asset Management Program

Eight-year, \$110M program (until 2024) Funded by Infrastructure Canada

**415** Training events and workshops



**34 M\$**  
Worth of municipal asset management projects funded

**830**  
Municipal Projects



[fcm.ca/assetmanagementprogram](https://fcm.ca/assetmanagementprogram)

**Contact us:**

gmfinfo@fcm.ca

1-877-417-0550

**Program information:**

[fcm.ca/communitybuildingsretrofit](http://fcm.ca/communitybuildingsretrofit)

Subscribe to our newsletter for the latest updates:

[fcm.ca/fcmconnect](http://fcm.ca/fcmconnect)





# Post-workshop survey



Please click on the link below and take 2 minutes to complete the post session survey:

[https://www.surveymonkey.com/r/SCC-CCD\\_2021](https://www.surveymonkey.com/r/SCC-CCD_2021)

By completing this survey, you will

1. Provide us with relevant feedback to improve future events
2. Have the opportunity to win a GMF mug!





**Craig Stephens**

Specialist, Energy and Environment

Town of Caledon

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*Thank  
you!*