Better Homes Burlington

Presented by the Centre for Climate Change Management at Mohawk College
March 3rd 2022

Presentation to: Burlington's Environment, Infrastructure & Community Services Committee

BETTER HOMES BURLINGTON

Agenda

1. Rationale, Objectives, and Timelines
2. Study Methodology
3. Key Findings
4. Recommended Approach
5. Resources

What is a “Retrofit”?

A project or upgrade to your home that reduces energy use and/or greenhouse gas emissions.

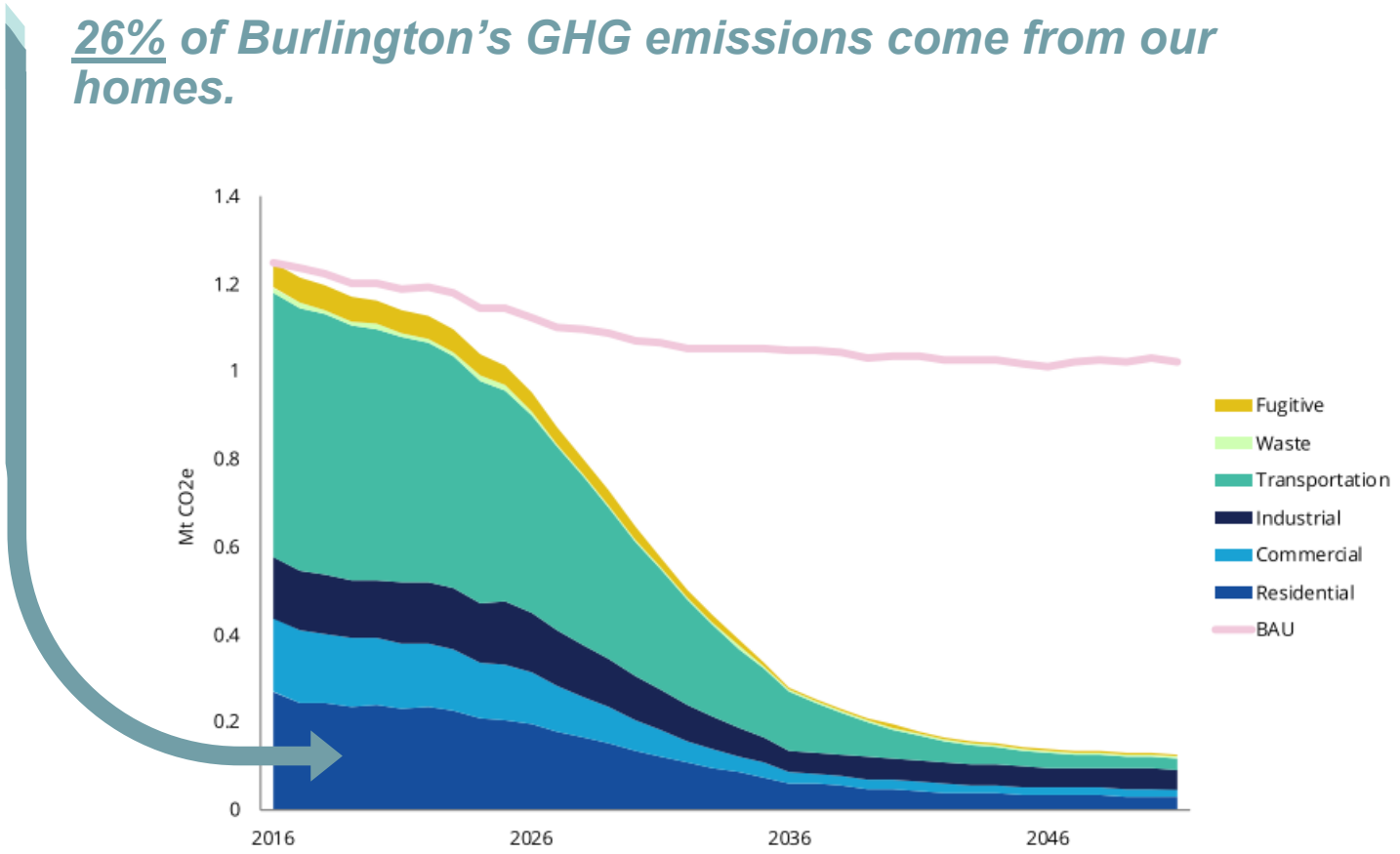
Examples include:

- Improving and increasing insulation.
- Upgrading appliance(s).
- Replacing heating and cooling equipment.
- Installing renewable energy.

Terminology is interchangeable with terms such as *home renovation* or *home upgrade.*

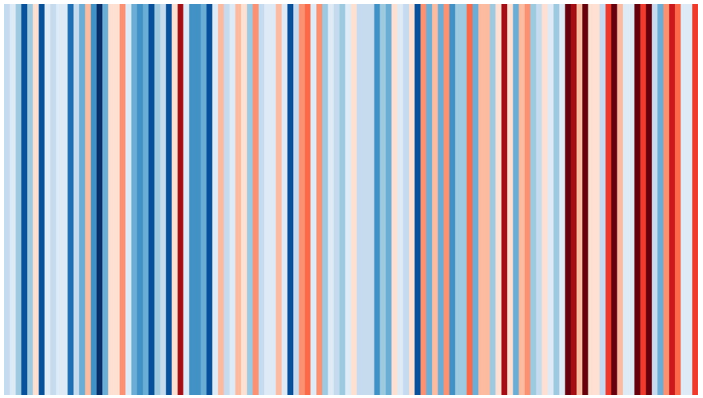
Home Upgrade Program Context

26% of Burlington's GHG emissions come from our homes.

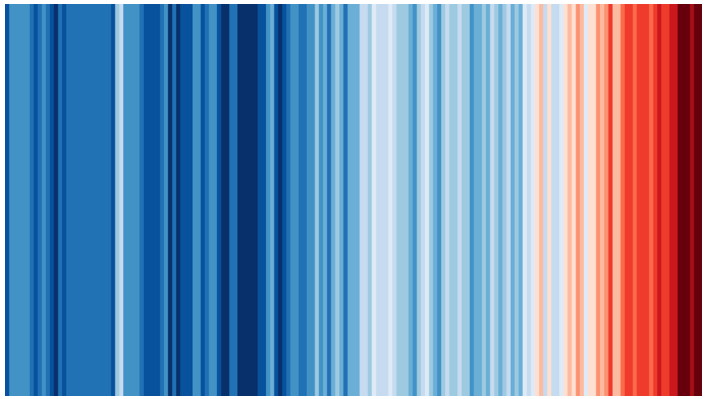


Graph outlines projected low carbon emissions ($mtCO_2e$) by sector in Burlington, 2016-2050.

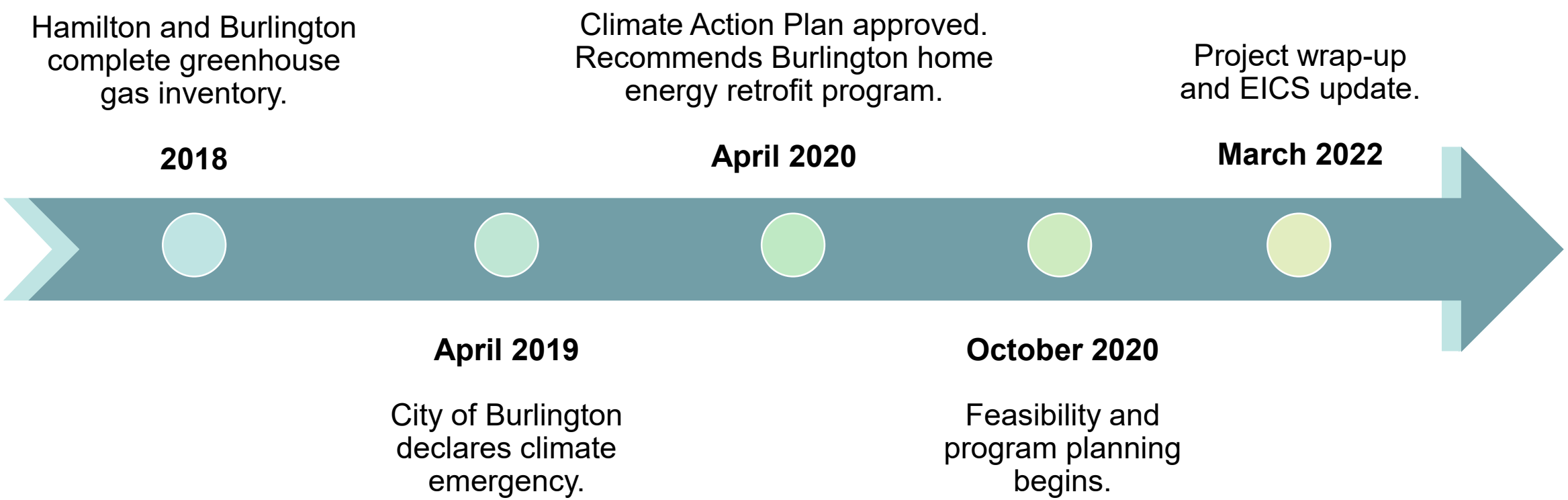
1901-2020: Ontario average temperature



1850-2020: Global average temperature



Project Timeline



Program Values

1. **Do not incentivize upgrades with low emission reduction potential**.
2. **Minimize marginal abatement cost** (cost to reduce 1 kg emissions).
3. Promote a **just transition** and prioritize energy poverty.
4. **Promote transparency** and consumer choice.
5. Create **market confidence** for home upgrades.

Program Goals

98% of pre-2017 built homes must reduce their energy by 50% to achieve current municipal targets.

Primary Goal

- Implement home upgrade program to reduce GHG emissions from Burlington homes.

Secondary Goals

- Increase local employment.
- Reduce energy inequality.
- Improve home comfort and enjoyment.

Research Methodology

Combined three main areas for a comprehensive understanding of home upgrade market and profile of homeowner segments.

1. Analyze available **housing and energy audit data**.
2. Gather **homeowner feedback** from Burlingtonians.
3. Understand **stakeholder perspectives** and existing programs.

Research Methodology

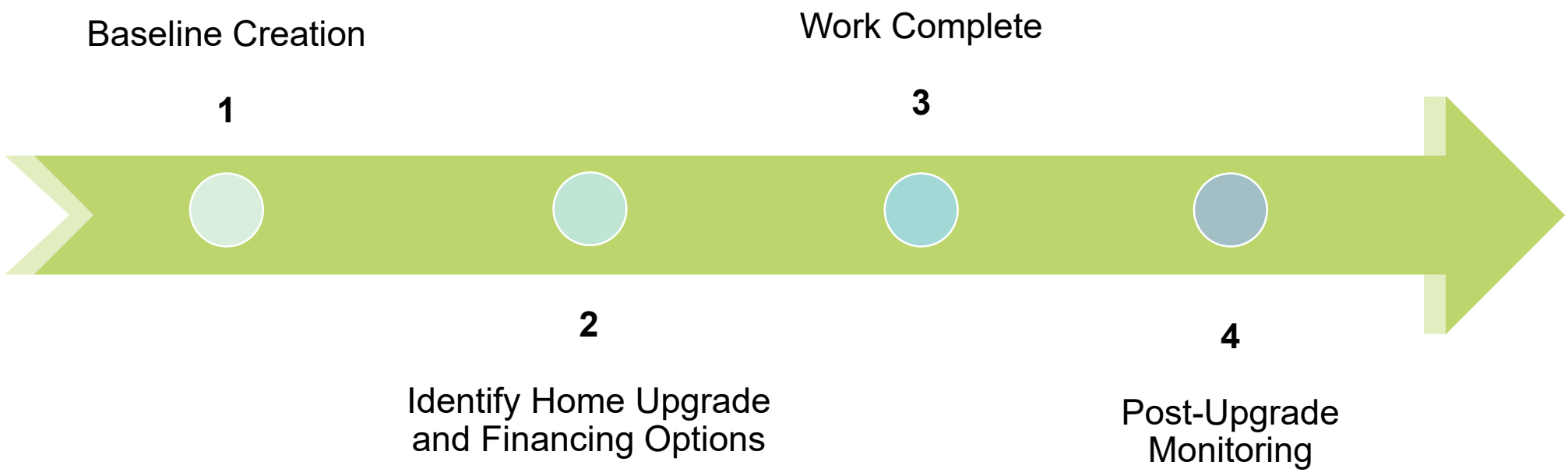
Literature Review	• Base knowledge.
Stakeholder Outreach	• Feedback from local groups relating to home energy and emissions programming.
Municipal Discussions	• Lessons learned from similar programs and proactive collaboration discussions.
BACCC Analyses	• Landscape analysis. • Cost benefit analysis. • Local context analysis.
Homeowner Survey	• Identification of homeowner values, beliefs, and drivers.
Lightspark Data	• Quantitative data on Burlington homes.

Stakeholder Outreach

Lessons Learned

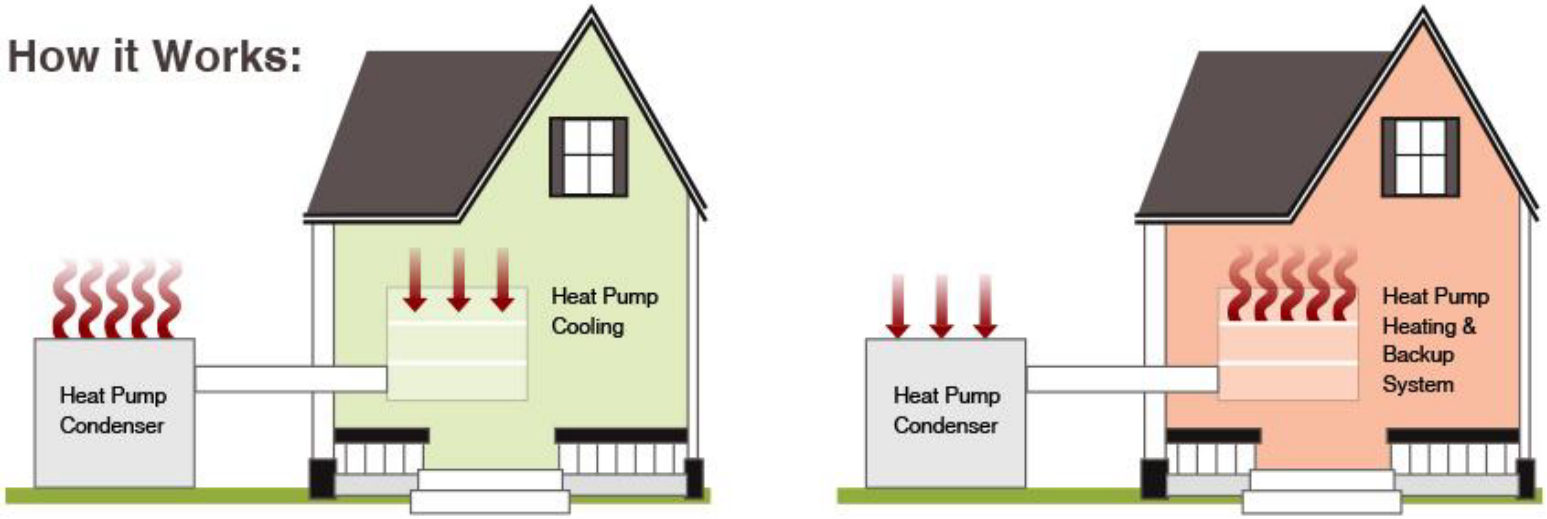
- A program is **feasible and desirable**.
- A program can help homeowners **“future proof”** their homes.
- **Education and outreach** to homeowners and contractors is required.
- A **“retrofit delivery centre” will drive participation** and positive outcomes for homeowners and contractors.
- A program should support a **“phased” approach** to upgrades.

Recommended Approach | Design



Recommended Approach | Eligible Upgrades

1. Heat Pump Installation

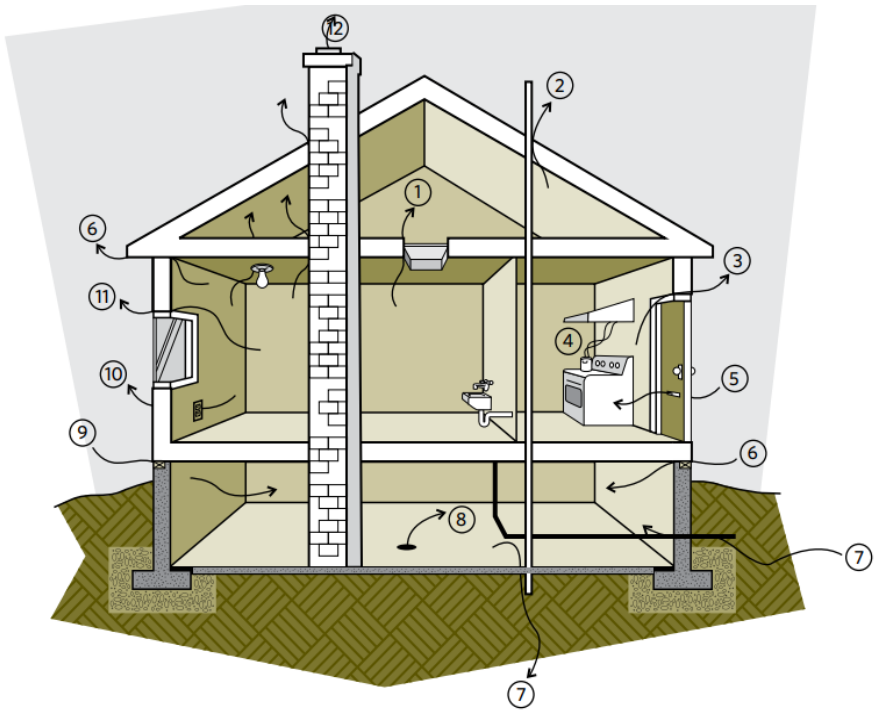


During the summer:
A heat pump pulls heat from inside your home and moves it outside to provide air conditioning.

During the fall and spring:
A heat pump pulls heat from outside your home and moves it into your home. You will need a backup heat source when temperatures are below 30 degrees F, typically mid-December through to mid-February.

Recommended Approach | Eligible Upgrades

2. Air Sealing



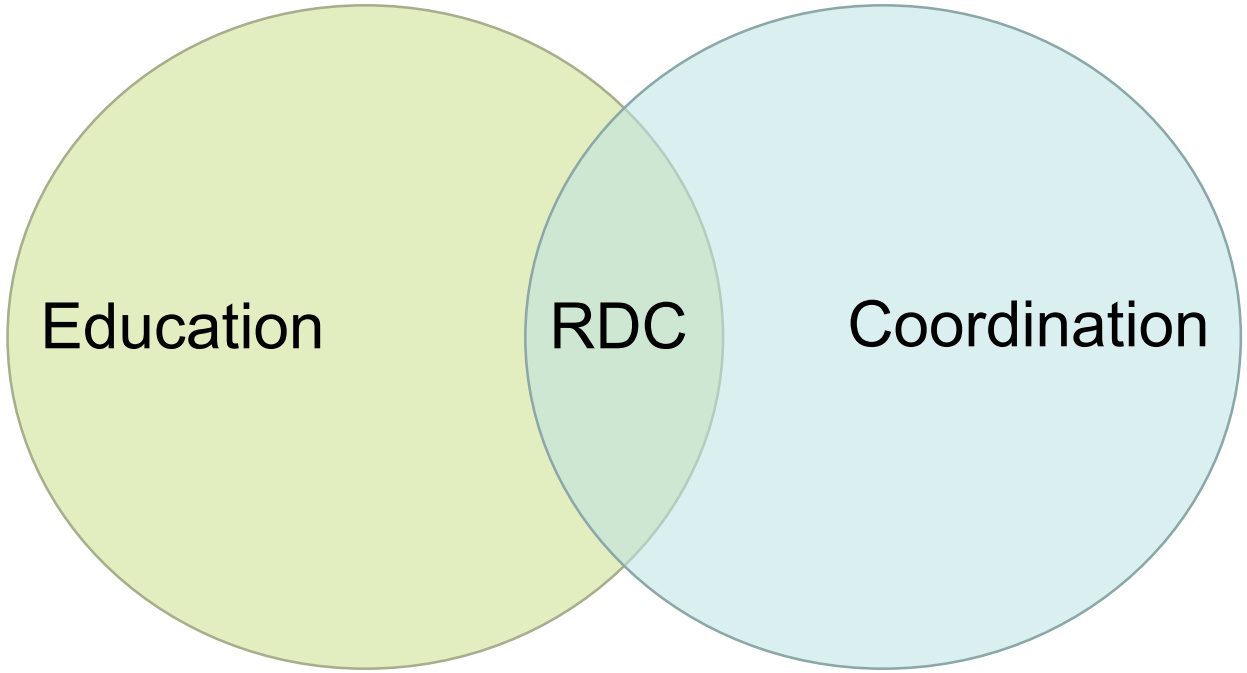
Where to look

Key locations to check for leaks

1. attic hatch
2. ceiling penetrations into the attic
3. door
4. exhaust vent
5. mail slot
6. sill and header
7. service entry
8. floor drain
9. foundation crack
10. electrical outlet
11. window
12. chimney

Recommended Approach | Delivery

The main value of the program **Retrofit Delivery Centre.**



Recommended Approach | Program Delivery

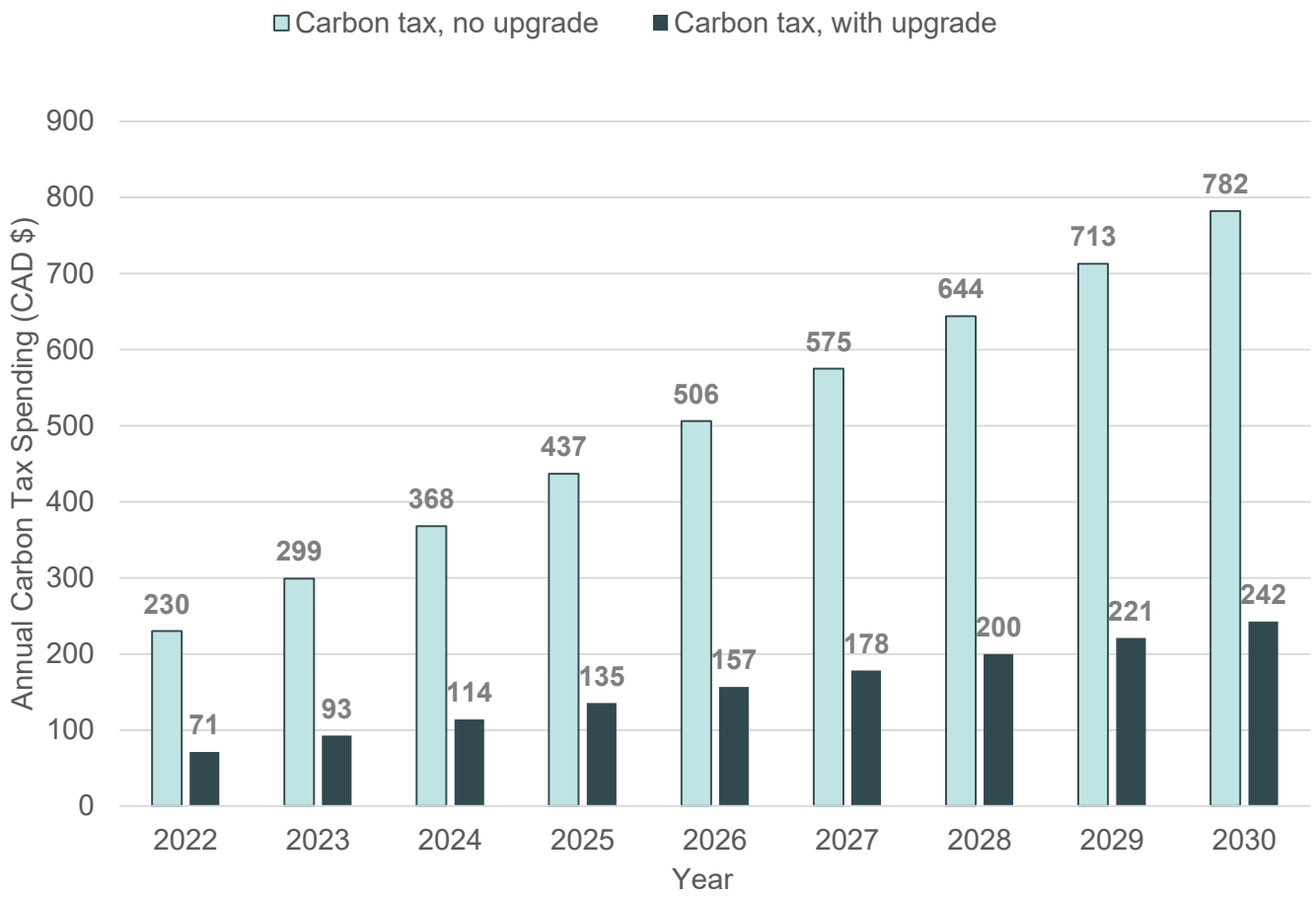
Canadian programs typically **delivered by local, already established non-profits**.

- Perceived as most trust-worthy option.
- Limited incentive for profits.
- More flexible and adaptable.
- Experience in similar programs.

Program Benefits

- Improve home comfort.
- Proactive reduction in long-term carbon taxes.
- Supports 2050 net-zero carbon target.
- Enable citizen climate action.
- Support local economy.
- Contribute to climate resilience and future-proofing.

Annual Carbon Cost



Carbon Tax Savings = **$3,143 (69% reduction)**

Financial Incentive | Local Improvement Charge

- **Available to larger number** of citizens and therefore has a **higher GHG reduction** potential.
- **Supports low-income** homeowners and **improves equity**.
- **External funding** to implement municipally.
- **Recoverable loans** do not contribute to municipal debt.

Retrofit Delivery Centre

Key Resources Required

- Staffing
- Marketing and Communications
- IT Services

Available Options for Funding

- Municipal (20%) and FCM contribution (grant and loan combination)

Thank you.
Questions?

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