

BetterHomesTO Knowledge Exchange:

**PATHWAYS TO NET ZERO IN THE SINGLE-FAMILY
RESIDENTIAL SECTOR**

MARCH 10, 2021

Agenda

1. Context and Background
2. BetterHomesTO
 - Project Overview
 - Opportunities, Challenges and Lessons Learned
 - Next Steps
3. Discussion

Context & Background

Current Initiatives

2016

Program

- Home Energy Loan Program (HELP)

2017

Strategy

- TransformTO

2019

Program

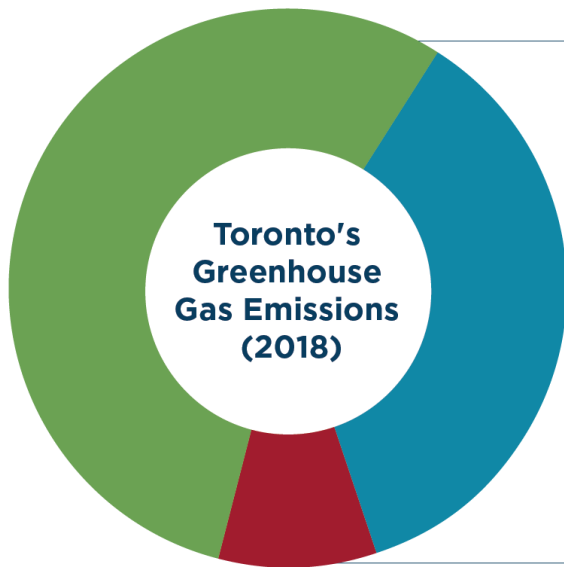
- BetterHomesTO

2021 - Q2+

Planned Strategies & Programs

- FCM-CEF Funded Program
- Existing Buildings Policy Strategy
- Net Zero Plan
- Home Energy Reporting & Disclosure

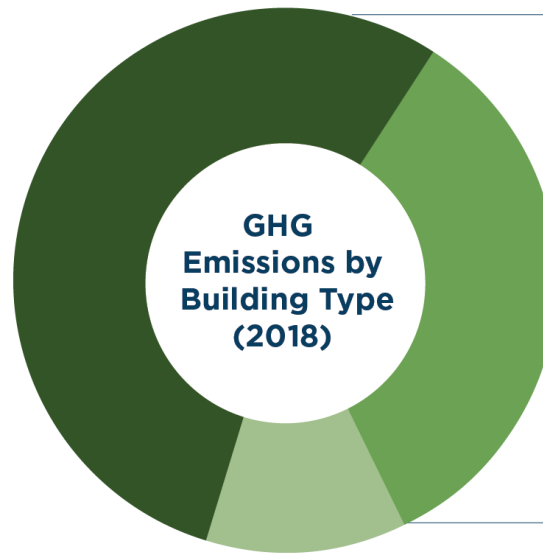
Toronto's Emissions



 **55%**
BUILDINGS

 **36%**
TRANSPORTATION

 **9%**
WASTE

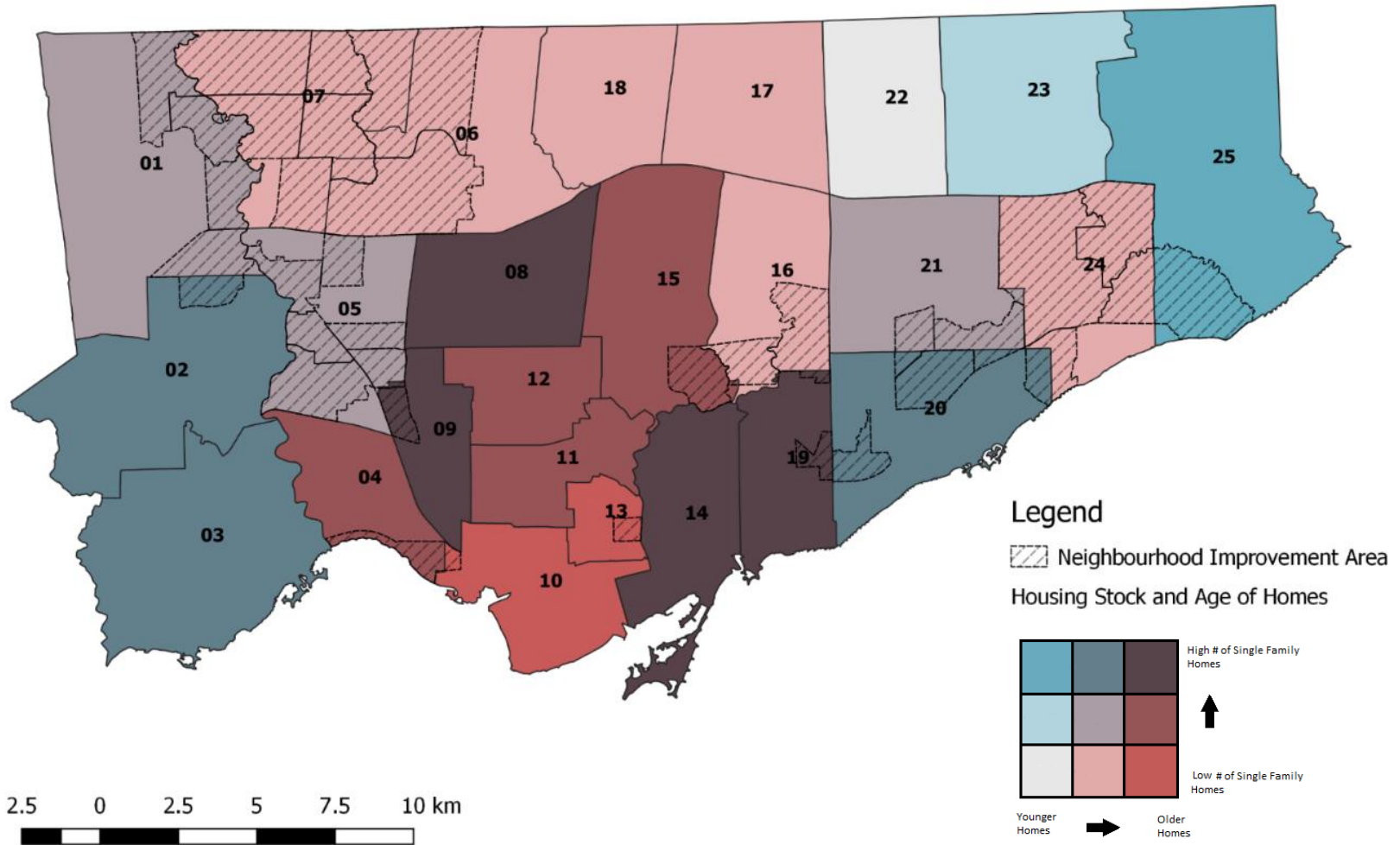


 **55%**
RESIDENTIAL

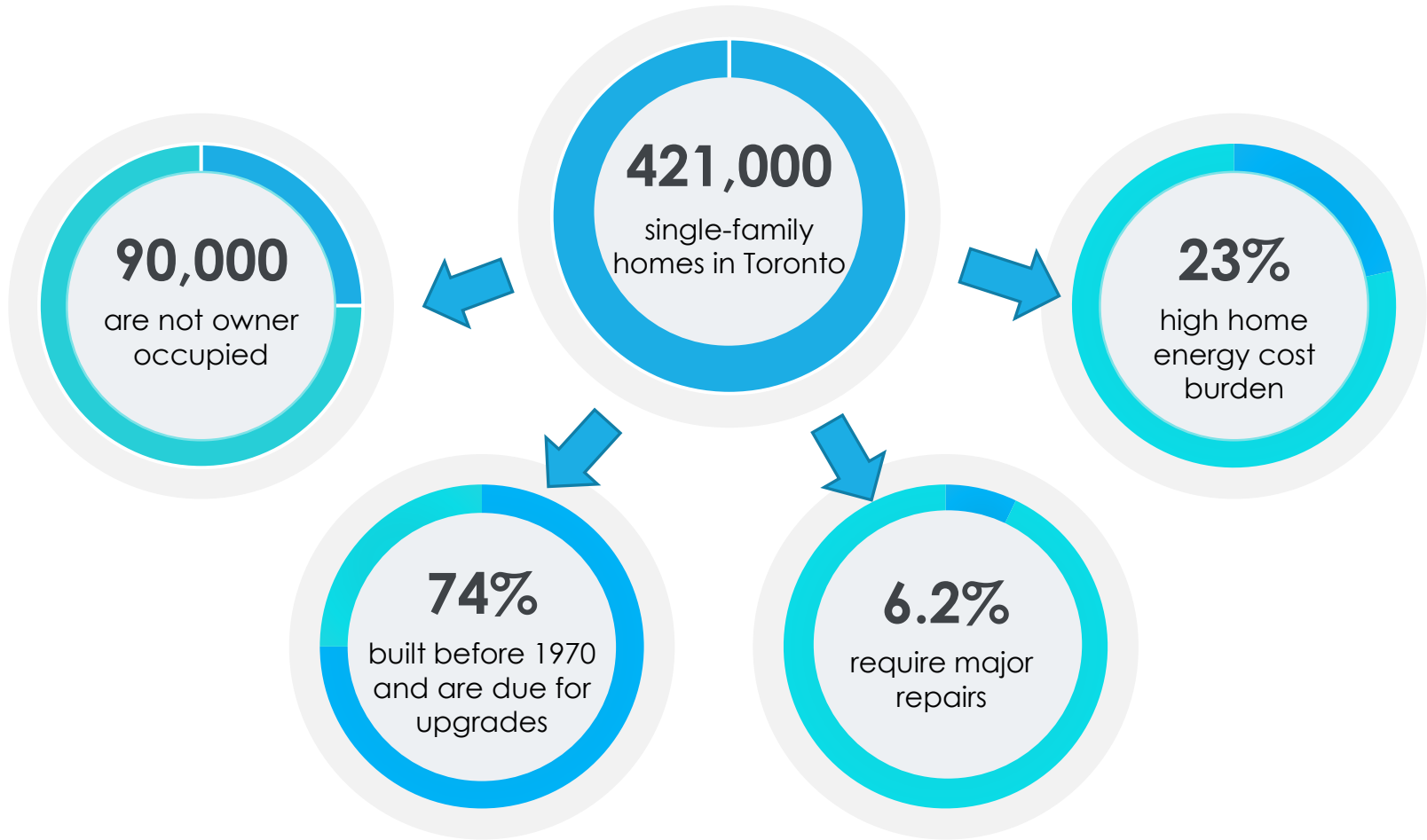
 **34%**
COMMERCIAL &
INSTITUTIONAL

 **12%**
INDUSTRIAL

Bivariate Map of Housing Stock and Age of Homes



Housing Stock & Energy Poverty



Home Renovations Value



- Home renovation is a driver of Canadian and local economy
- \$5.1 Billion in Toronto home renovations annually
- 42,700 jobs paying \$2.3 billion in wages (Toronto)
- Canada 70% of homeowners contract out some or all the work 29% did the work themselves
- Underground economy for home renovations - \$5.2 billion (Ontario 2010)

Retrofit Environment

Diverse & Complex



BetterHomes**TO**


PROJECT OVERVIEW

BetterHomesTO

- Developed in response to NRCan's Multi-sectoral Projects that Drive Demand for Energy Efficiency and Energy Conservation in Canadian Homes funding proposal in 2018
- April 1, 2019 - March 31, 2021
- Multi-partner project with 5 key deliverables

**BETTER
HOMES**TO

Project Partners

 Natural Resources Canada / Ressources naturelles Canada

Canada

 **ENBRIDGE**
Life Takes Energy™

 **HUMBER**

 **TORONTO HYDRO**

 **UNIVERSITY OF TORONTO**

 **BILD**

Canadian Home Builders' Association



 **Clean Air Partnership**

 **ecobee**

PASSIVEHOUSE CANADA
Build better. Feel better.

 **HRAI**
YOUR ENVIRONMENT • OUR EXPERTISE

 **The Roots Collaborative**

 school for social entrepreneurs

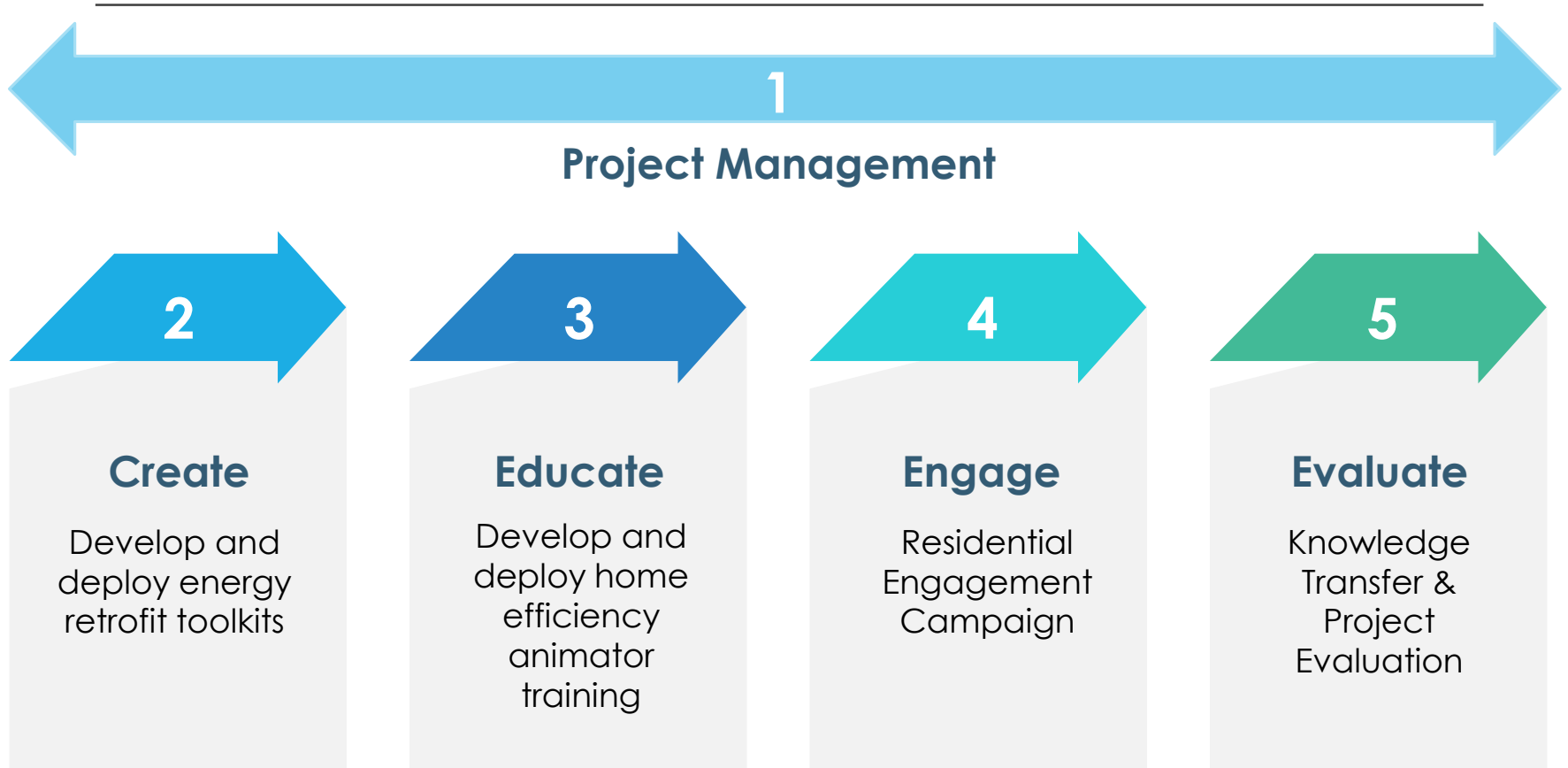
 **Windfall ecology centre**

BetterHomesTO Objectives

- Increase the uptake of EnerGuide home energy assessments and deep energy retrofits in Toronto
- Identify & promote mechanisms to increase the scale & pace of residential energy efficiency initiatives
- Undertake a data-driven, targeted and inclusive approach to improve energy literacy, encourage behaviour change and drive participation in City and partner programs.



Project Activities



Launching BetterHomesTO

John Tory @JohnTory

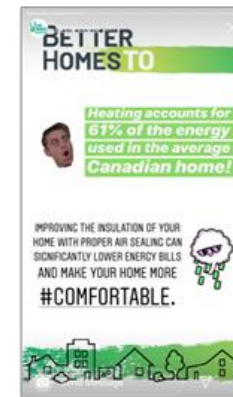
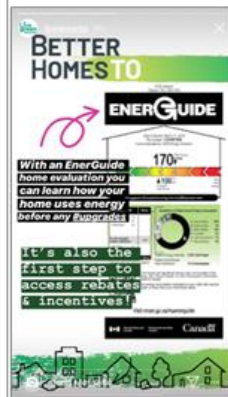
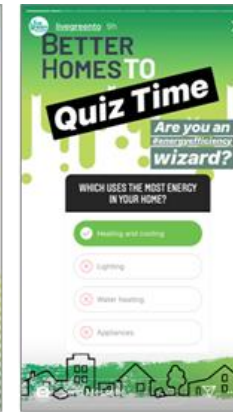
Pleased to launch the #BetterHomesTO initiative in support of #TransformTO, Toronto's climate change strategy. This initiative is all about finding new and innovative ways to reduce greenhouse gas emissions from single family homes while improving energy efficiency.



Jennifer McKelvie and 2 others

12:54 PM · Nov 5, 2019 · Twitter for iPhone

13 Retweets 32 Likes



November 5, 2019

Toolkits: www.BetterHomesTO.ca

The image displays a screenshot of the BetterHomesTO website. At the top, the navigation menu includes: Home, About, Upgrades, Home Energy Evaluation, Rebates, Resilient Homes, Savings Estimator, and social media icons for Facebook, Twitter, and LinkedIn. The main banner features a background image of a man and a woman, with the text: **Home Energy Loan Program** and "Homeowners to improve the energy efficiency of their homes, repayable through property tax." A yellow "Learn More" button is positioned below the text. Below the banner is a "Get Started" section with a grid of six service tiles: **Rebates + Incentives** (with a red icon), **Renovations + Upgrades** (with a green icon), **Net Zero Homes** (with a blue icon), **Home Energy Evaluation** (with a red icon), **Financing** (with a green icon), and **Apartments + Condos** (with a yellow icon). An inset window on the left shows a "Welcome to BetterHomesTO" banner with the tagline "Toronto's guide to creating a more comfortable and climate-friendly home." and a "Learn More" button.

Toolkits: Retrofit Cards

AIR CONDITIONER (CENTRAL)



WHAT TO LOOK FOR:

- Select a unit with a high Seasonal Energy Efficiency Ratio (SEER).
- ENERGY STAR certified high-efficiency central air conditioners use cent less energy, on average, than standard models.
- Make sure it's the right size for your home. If it's too small it won't cool home. If it's too large, it will cycle on and off frequently - wasting energy and inflating your utility bill.



THINGS TO CONSIDER:

- Consider using ceiling fans or heat pumps, which use less energy, to make your home comfortable.
- If your home already has a furnace, a split-system is the most economical.
- Clean filters, coils and ductwork regularly to improve efficiency. Consult your owner's manual for detailed instructions.
- Set the temperature between 22-26°C. Aim for comfort, not cold.
- Consider financing your air conditioner and other home energy improvements through the City of Toronto's Home Energy Loan Program (HELP).
- Consider getting an EnerGuide Energy Efficiency Home Evaluation to see how you understand how your home uses energy and identify all improvement opportunities.
- Check with your municipality, utility or retailer to see if rebates are available.



COST:

\$2,400 - \$10,000

BetterHomesTO: Tips, tools & resources to improve the energy efficiency of your home. BetterHomesTO.ca

BetterHomesTO

AIR CONDITIONER (CENTRAL)

A central air conditioner evaporates a liquid refrigerant to absorb heat from your home. The system then compresses the refrigerant and condenses it from a vapor to a liquid, releasing the heat so that the cooled/liquid refrigerant can be expanded and sent back into the home, where it starts the cycle again.

There are two types of central air conditioning systems to choose from, split systems or packaged systems.

Split systems - have an outdoor cabinet which compresses and condenses the refrigerant, releasing heat outdoors. The indoor cabinet expands and evaporates the refrigerant, absorbing heat. If your home already has a furnace, a split-system is the most economical central air conditioner to install.

Packaged central air conditioning system - in which all of the components are located in one cabinet; usually placed on a roof or on a slab next to your house's foundation. Ducts go through the home's exterior wall or roof to connect with the air conditioner outdoors. Packaged air conditioners often include electric heating coils or a natural gas furnace, eliminating the need for a separate furnace indoors.



Toolkits: Whole-house Guide

BetterHomesTO
Open the door to a comfortable & climate-friendly home

ENERGUIDE
Date Collected: April 17, 2017
File Number: 03402388
District: North York (City of Toronto)

The Home Rating: **74**

40 kWh/m² (2010) | 490 kWh/m² (2017)

Estimated Total Annual Energy Consumption:
 • Heating: 15,000 kWh
 • Hot Water: 1,500 kWh
 • Cooling: 1,500 kWh
 • Appliances: 1,500 kWh
 • Transportation: 20,000 kWh
 • Electricity: 20,000 kWh

Quality assured by: MSB Energy Solutions
Visit www.gc.ca/energyguide

15 maneiras de tornar a sua casa mais eficiente, resiliente e adequada ao clima.

Tecnologias inteligentes e renováveis:
 4. Central solar fotovoltaica
 5. Armazenamento de energia (baterias)
 10. Carro elétrico
 11. Termostatos inteligentes

Outros:
 12. Sanitários e ventiladores de toalha com baixo consumo de água
 13. Lâmpadas e eletrodomésticos ENERGY STAR®
 14. Bombas para fossas e válvulas de retenção de águas residuais
 15. Telhados verdes / telhados frios

Zmniejsz emisję gazów cieplarnianych Twojego domu i wpływ na środowisko

Wskonomo domowe, które sprawi, że w przyszłości będzie można osiągnąć cel 20 procent emisji gazów cieplarnianych w domu i około 20 g/m².

Zmniejsz emisję gazów cieplarnianych Twojego domu i wpływ na środowisko

Do 40 procent bardziej energooszczędne niż średnia emisja gazów cieplarnianych w Toronto.

Każdego roku emisja gazów cieplarnianych z Twojego domu jest równa energii potrzebnej do zasilania Twojego domu. Skoncentruj się na zmniejszeniu emisji gazów cieplarnianych z Twojego domu.

Para maiores informações sobre estas melhorias, visite BetterHomesTO.ca

Toolkits: Whole-house Guide

BetterHomesT0

Ouvrez la porte à une maison confortable et écologique



BetterHomesT0

வசதியான மற்றும் காலநிலைக்கு-இணக்கமான இல்லத்தை ஆவலுடன் எதிர்பார்க்கவும்



BetterHomesT0

Abra la puerta a un hogar cómodo y amigable con el clima



Spanish

Available in 10
languages

Train: Home Efficiency Animator Training



HEAT – is a two-day, 14-hour, no-cost, capacity building program focused on best practices in residential energy conservation.

3 cohorts

applications

270

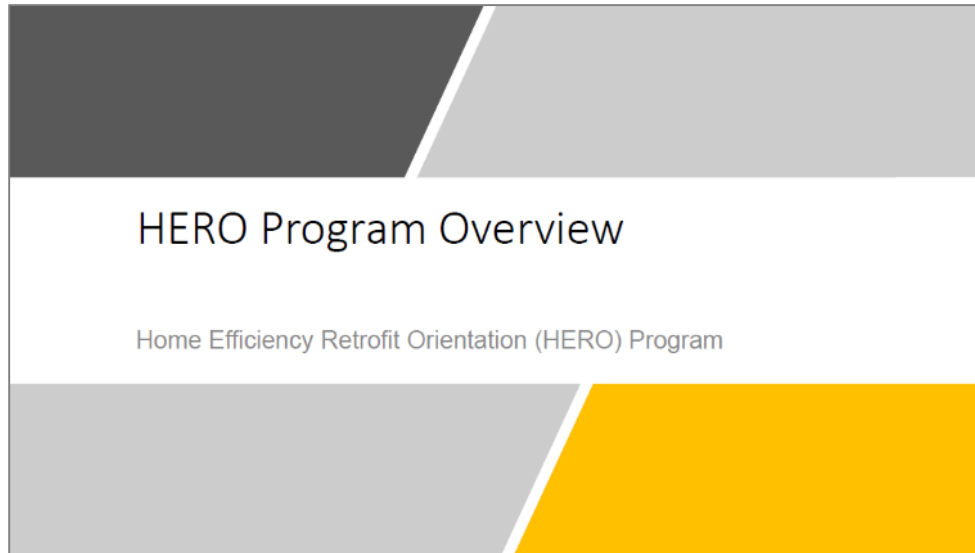
97 trained

organizations

22

HEAT

Train: Home Efficiency Retrofit Orientation



HERO - a two hour webinar that helps homeowners incorporate best practices in energy-efficient upgrades in home renovations that improve comfort, resilience, GHG reductions, and lower energy costs. Funded by Enbridge

3

cohorts

107

homeowners trained



Engage: In-person & Online

Top Tweet

Calling all #Toronto you planning a #webinar on July 10th? We'll help you through a series of steps to plan a renovation that reduces harmful greenhouse gas emissions. To register: bit.ly/2020Renovate pic.twitter.com/...



🔄 2 ❤️ 2



🔄 3 ❤️ 3



🔄 5 ❤️ 6

Engage: BetterHomesTO Webinar Series



BETTERHOMESTO
Planning Your Home Renovation: A Step-by-Step Guide
BetterHomesTO Renovation Webinar Series
July 9, 2020

CLEAN AIR PARTNERSHIP PRESENTS

ENERGY CONSIDERATIONS


FOR YOUR HOME RENOVATION

THURSDAY JULY 16, 2020
1PM EST

BETTERHOMESTO RENOVATION WEBINAR SERIES



Search



BETTER HOMESTO

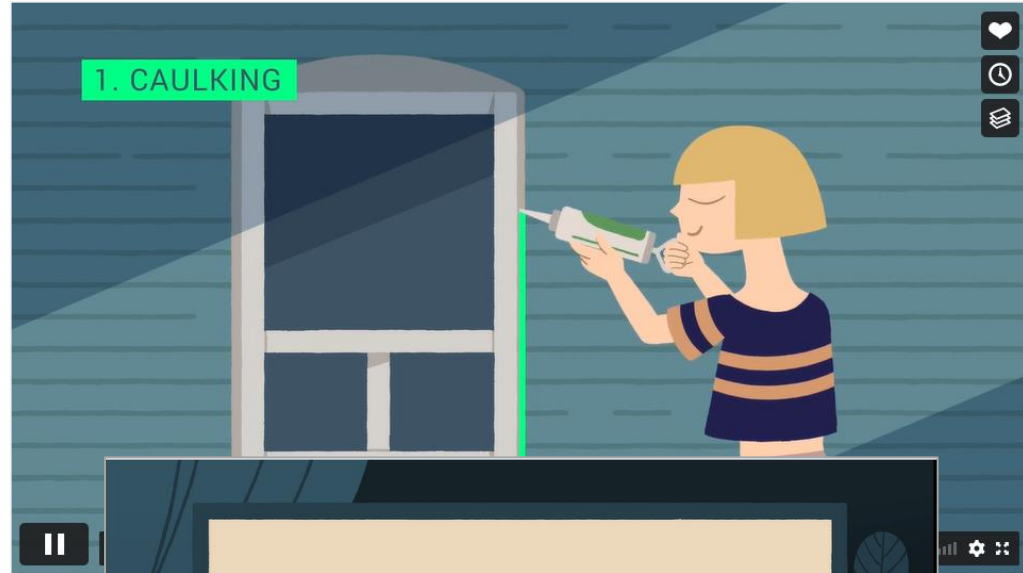
YOUR GUIDE TO A COMFORTABLE AND CLIMATE-FRIENDLY HOME

Thanks so much, Desi and hi everyone my name is Arianna Foyle and I am the

4:22 / 50:04

Heat Pumps

Engage: Video Series



Engage: Video Series



Supporting Place-Based Initiatives

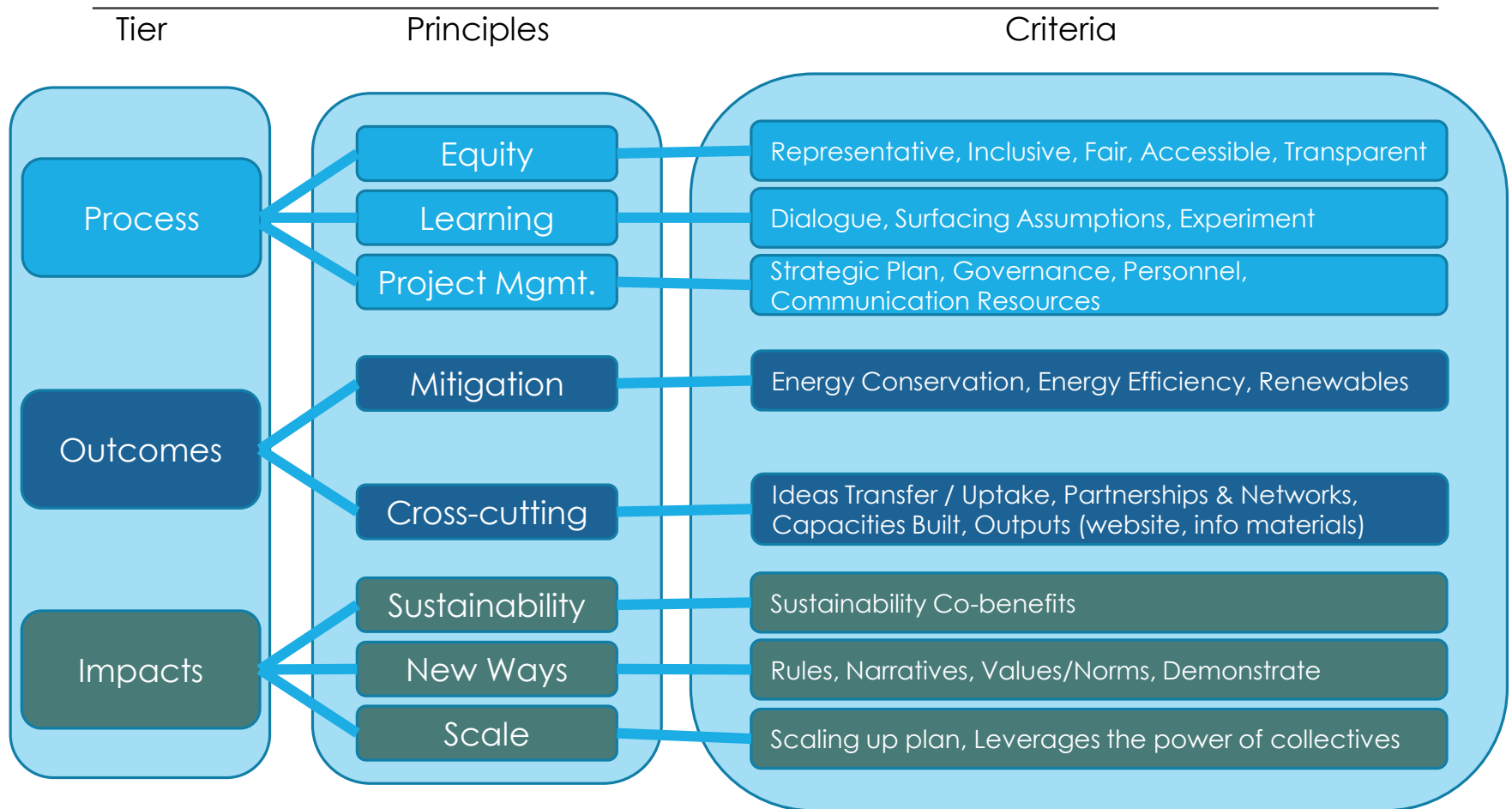
- Facilitate regular communications and knowledge exchange between neighbourhood based groups planning and implementing place-based deep retrofit neighbourhood-scale projects
- Present at community events (virtual and in-person)
- Nine neighbour groups



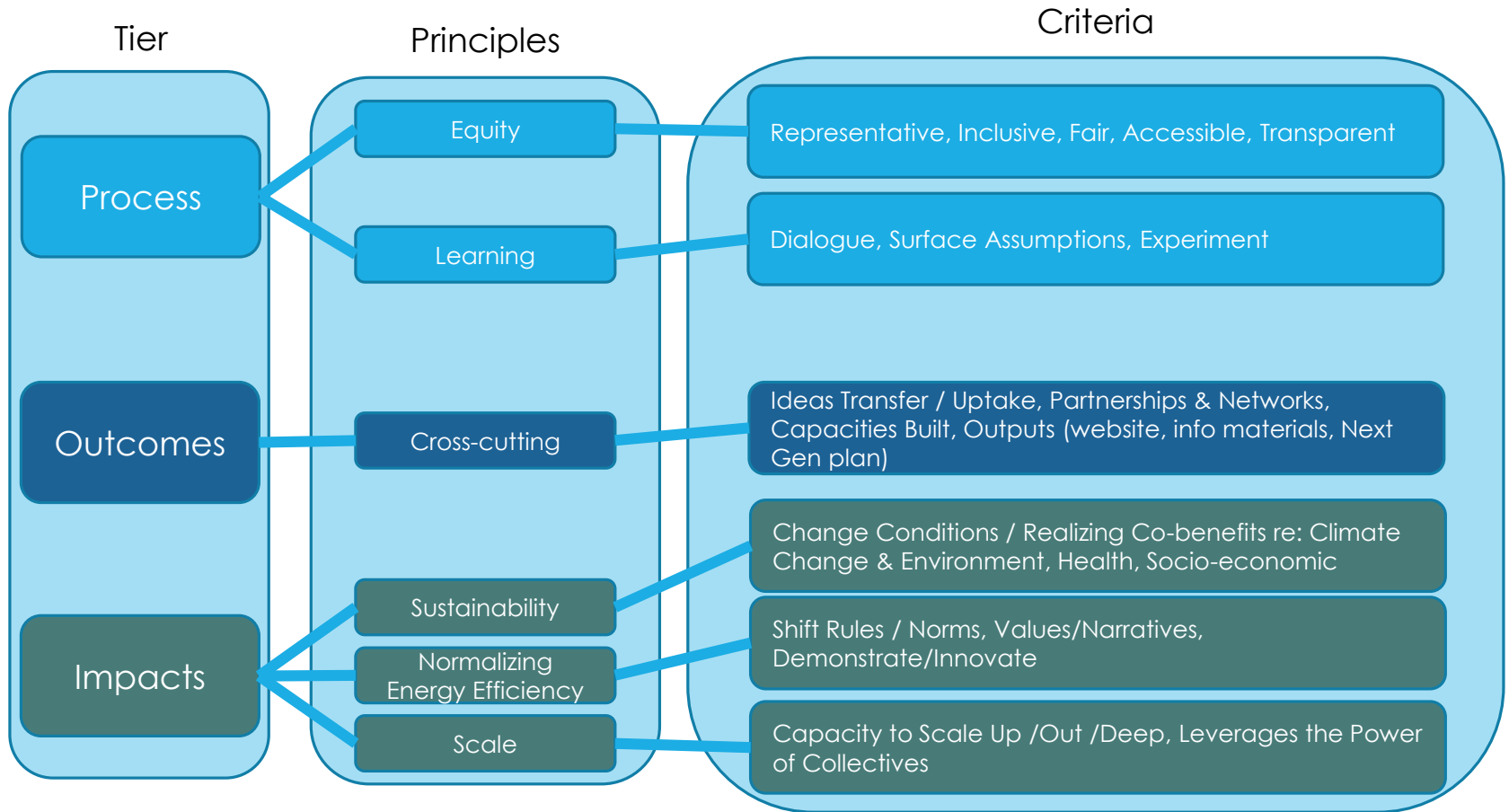
Evaluation Approach

- University of Toronto leading the evaluation & engaging partners
- Principles-based, learning-focused, co-produced evaluation framework
- Methods: document analysis, interviews, and survey to partners
- BHTO & framework were recalibrated in the wake of COVID-19
- Main change: shift from direct reduction of GHG emissions via retrofits to creating favorable conditions for home retrofits
- Creating change -> steering change

Original Evaluation Framework



Modified Evaluation Framework



BetterHomes**TO**

OPPORTUNITIES, CHALLENGES & LESSONS LEARNED

Project Overview: Successes

- Sustainable
- Partnerships
- Connecting with communities
- Community training
- Communications materials
- Responding to Toronto's diverse communities
 - Expansion of offering to include information and resources for tenants

Project Overview: Challenges

- Engagement and advertising moratorium
 - Potential labour disruption Jan-March 2020
 - COVID-response
- Municipal procurement and hiring processes
- Staffing capacity
- Not leveraging partners enough
- Gaps at the table

Project Overview: Lessons Learned

- Advance equity by focusing on those most impacted/greatest need during project development phase
- Develop stronger partnerships through agreements
- Leverage relationships and realize efficiencies in collaborations
- Look for efficient ways to support neighbourhood-based initiatives
- Greater funding is needed for accelerated climate action (deeper retrofits)
- Lightening the economic burden of retrofits through increased incentives and cost savings

Next Steps: BetterHomesTO 2.0

- Leverage lessons learned
- Building out the BetterHomesTO brand
- FCM-CEF Applications develop with lessons learned from BetterHomesTO and HELP
- Stronger partnerships and collaboration
- To get to scale will require aligned policy, programs and support

Next Steps: Share and Partner

- All communications, and website content is available for other municipalities to duplicate and rebrand
- Communications materials are available at no costs to communities
- Partnering with virtual training across municipalities

Questions?

Thank You

STEWART DUTFIELD, PROGRAM MANAGER

NICOLA LASHLEY, PROJECT LEAD