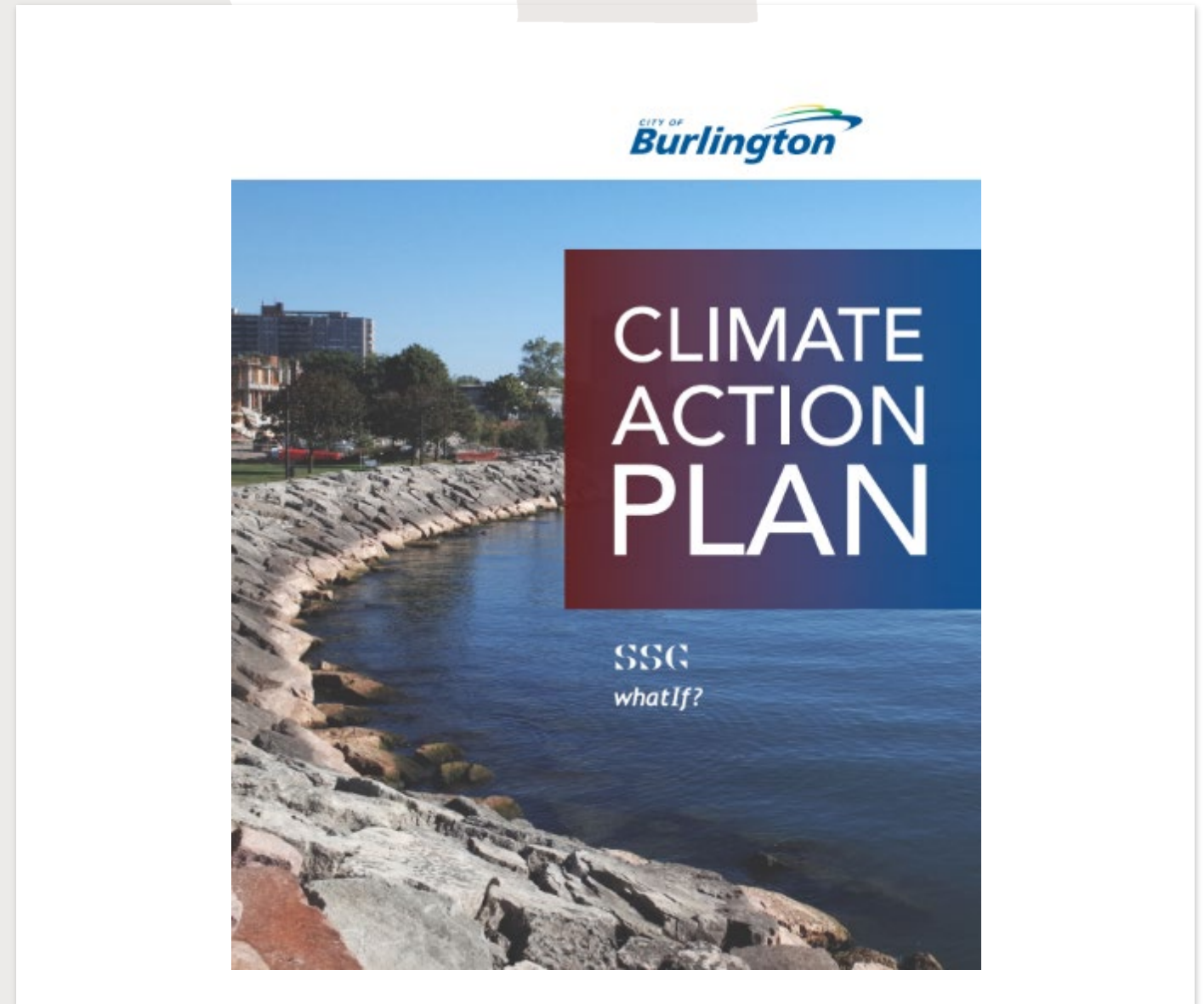


# Burlington Climate Action Plan Update 2022

Environment, Infrastructure &  
Community Services Committee

September 15, 2022



# Presentation Outline

- Related Climate Initiatives
- Climate Action Plan Update
- Renewable Energy Research
- Importance of Electrification
- Potential Risks
- Partnerships & Collaboration
- Emissions Reporting
- Next Steps



Mountain Equipment Co-op, Burlington



# Related Climate Initiatives

- Corporate Energy & Emissions Plan for city operations – update report - June EICS meeting
- Climate Resilient Burlington – a plan for adapting to our warmer, wetter and wilder weather – approved July 2022



Mountainside Community Centre



# Climate Action Plan

## Mitigation of GHG emissions

1. Low Carbon New Buildings
2. Deep Energy Retrofit Program (existing buildings)
3. Renewable Energy Co-operative
4. Integrated Mobility Initiatives
5. Electric Mobility & equipment
6. Waste Reduction
7. Industry

# Local Priorities to Reduce GHG Emissions

## Electric Mobility



## Renewable Energy



## Home Energy Retrofits



# Better Homes Burlington - Energy Retrofit Program

— transforming existing buildings

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- Feasibility study – March 2022
- Next steps:
  - Pilot project implementation pending budget approval
  - Loans for 20 homes @ \$10,000 each
  - Air source heat pumps & leak sealing
  - Contract position proposed
  - Continued discussions for regional approach



**BETTER HOMES  
BURLINGTON**



# Sustainable Building and Development Guidelines

April 2019



## Burlington Low Carbon New Building Guideline – enhanced energy performance for new buildings

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- Review of Sustainable Building & Development Guidelines
- Update report December 2021 – Community Planning, Regulation and Mobility Committee



## Electric Mobility & Equipment –

encouraging the adoption of electric mobility & equipment

- Electric Mobility Strategy complete
- Expansion of public chargers
- Centralization of responsibility for City operations
- Monitoring and reporting
- Ongoing community engagement



# Integrated Mobility Plan – mobility planning with an emphasis on people movement

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- IMP under development by Transportation Services
- Vision – Mobility in Burlington will be safe, accessible, sustainable, balanced & livable
- Final IMP scheduled for Q2 2023

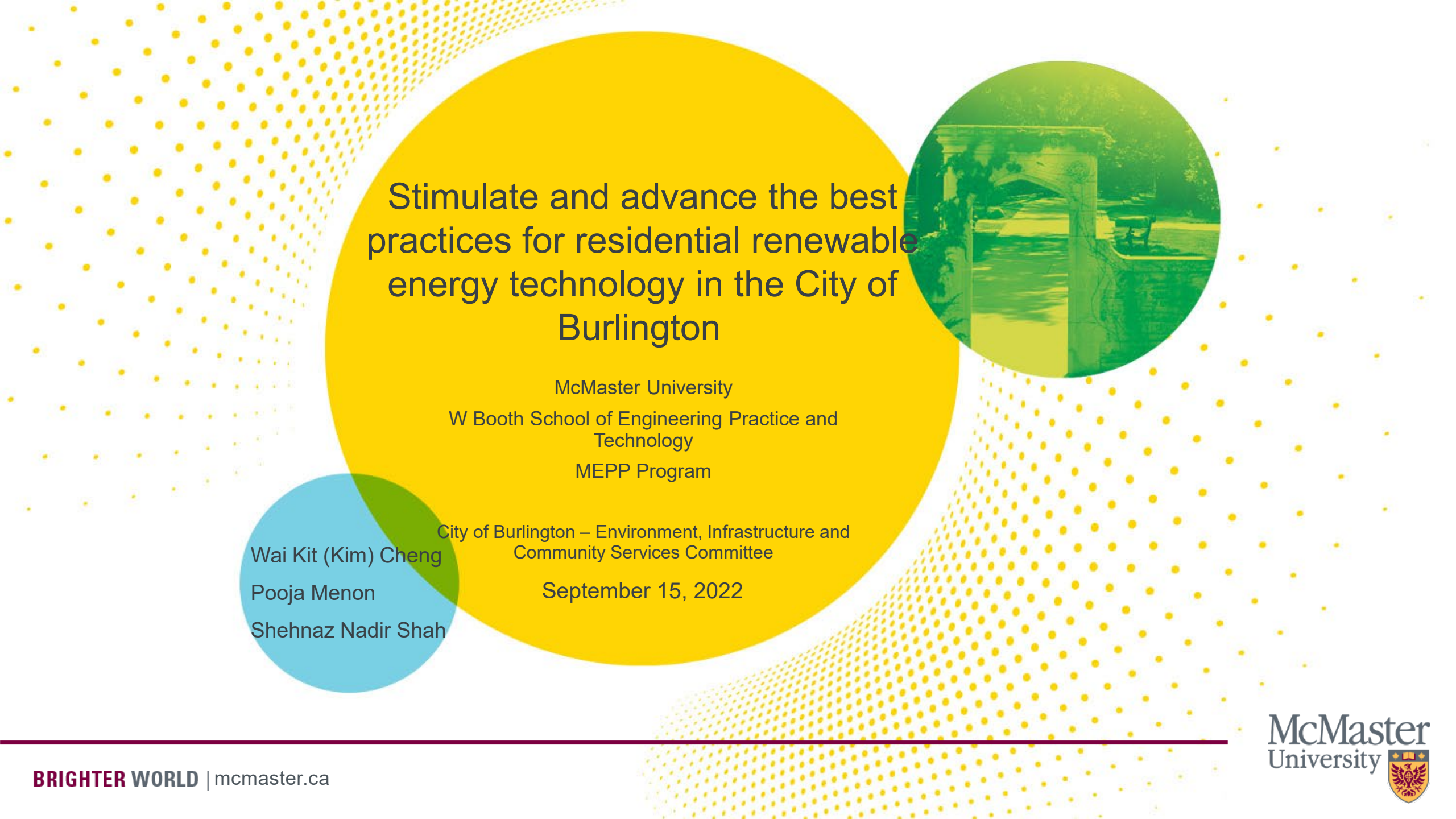


# Renewable Energy — stimulating local renewable energy projects

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- Best practices research by McMaster University's Engineering and Public Policy, W Booth School of Engineering Practice and Technology program
- Presentation by Pooja, Shehnaz & Kim





# Stimulate and advance the best practices for residential renewable energy technology in the City of Burlington

McMaster University

W Booth School of Engineering Practice and  
Technology

MEPP Program

City of Burlington – Environment, Infrastructure and  
Community Services Committee

September 15, 2022

Wai Kit (Kim) Cheng

Pooja Menon

Shehnaz Nadir Shah

# Acknowledgments

Thank you!

To our supervisor, Dr. Gail Krantzberg  
and  
our partners at Burlington, Lynn Robichaud and Tom Pedlar.



**ENGINEERING**  
W Booth School of Engineering  
Practice and Technology



# Agenda

 Introduction

 Methodology

 Key Findings

 Policy Recommendations

 Conclusions



# Introduction

## Research Question

*What driving factors encourage or discourage residents in selecting and adopting renewable energy technologies (i.e., geothermal heating and cooling, solar PVs, solar thermals) and systems in their homes: A Burlington Case Study.*

# Methodologies

A mix of methodologies including both quantitative and qualitative research



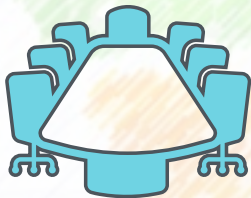
Case Study  
& Literature Review



Online Survey



Stakeholder  
Engagement



Focus Group



## Key Findings

Formation of 3 recurrent themes

Information sharing  
and summarizing

Availability of  
information about the  
skilled workforce

Incentive programs

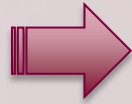


# Key Findings: Theme #1 – Information sharing and summarizing

## Background of initiatives and policy framework of recommendations



Not enough information on the City website



Lack of support from the City (installation process, options, financing)



Communication gaps between key stakeholders

# Key Findings: Theme #2 – Lack of information about the skilled workforce

## Background of initiatives and policy framework of recommendations



Lack of awareness and access (contact information) to specialized workers



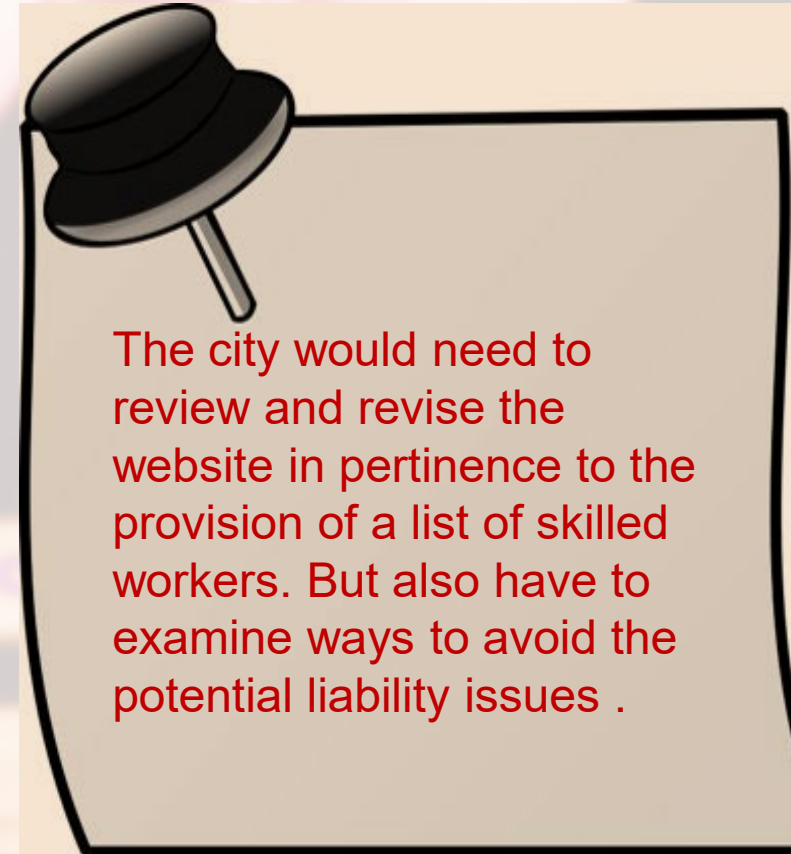
1. No list of approved skilled force
2. Huge struggle to find local worker
3. Transition to green technology is harder

## Key Findings: Theme #2 – Lack of information about the skilled workforce

### Background of initiatives and policy framework of recommendations

The city outsources to third parties (WE HBA) who have established a website to help consumers find certified professionals in their region.

A beneficial platform for Halton region's workforce but no explicit information about specialists in green technology. This website is also not easily found on the City's website.



The city would need to review and revise the website in pertinence to the provision of a list of skilled workers. But also have to examine ways to avoid the potential liability issues .

# Key Findings: Theme #3 – Incentive Programs

Background of initiatives and policy framework of recommendations



# Recommendations: Theme #1 – Information sharing and summarizing

## Dissemination of information



- Host educational campaigns on types of renewable energy systems and technologies available to residents.



- Utilization of various communication venues.

# Recommendations: Theme #1 – Information sharing and summarizing

## Summarizing information

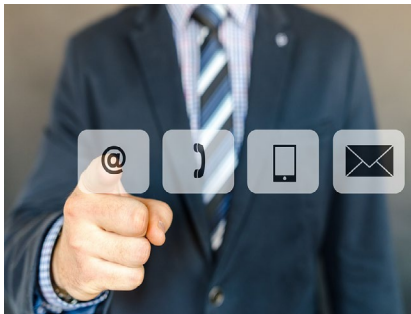
- Installation process
- Necessary permits/licensing
- Applications and documents
- Pros/cons of switching to green energy alternatives
- Contact information for utility
- Interactive platform that recommends renewable energy technology/system to resident based on consumer variables



## Recommendations: Theme #2 – Lack of information about the skilled workforce



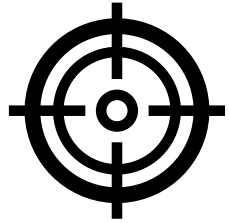
Reference and/or compile a list of approved contractors who specialize in renewable technologies.



Publish detailed contact information of specialized skilled workers

# Recommendations: Theme #3 – Incentive Programs

Municipal loans and refund of Community Benefit Charge



Target: **Residents**



Goal: **Improve accessibility to better retrofit upgrades**



Municipal loans with max \$4,000

Early Release of Greener Home Retrofit



Up to \$10,000  
free payment for deposit  
(Federal + Municipal)



# Recommendations: Theme #3 – Incentive Programs

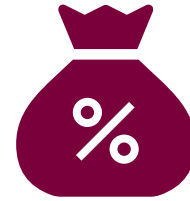
Municipal loans and refund of Community Benefit Charge



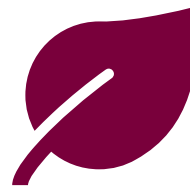
Target: **Developers**



Goal: **Implement greener alternatives and designs in building development**



**Refund/ exempt  
Community Benefit Charge**



**Compliance  
with voluntary guidelines  
& higher sustainability standard**

# Conclusions

## Limitations and Next Steps



- Strong interest in advancing implementation of green alternatives



- Poor information access
- Absence of local subsidies
- Disconnect between stakeholders (e.g., City, residents, utilities, contractors)

# Conclusions

## Limitations and Next Steps



### Prioritize

Initiatives and recommendations

Further research



### Investigate

Other municipalities in GTA

Regulations & guidelines

Building permit



### Regular

Focus group discussion

Continuous follow-up

Members with more diverse professions



### Multiple

Approaches for engagement

Town hall meetings & social media

# Thank you!

For more information, comments, or questions, contact:

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# Importance of Electrification

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- Meeting net carbon neutral targets
- Ensuring infrastructure can support:
  - Electric mobility & bi-directional charging
  - Electric transit buses
  - Air source heat pumps and electric water heaters
  - Renewable energy – solar and net metering
  - Battery storage
- Resiliency – preparing for impacts of climate change



# Potential Risks

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- Provincial policy – how electricity is produced
- Senior government disconnect to local decision making
- Lack of buy-in and support
- Supply chain issues

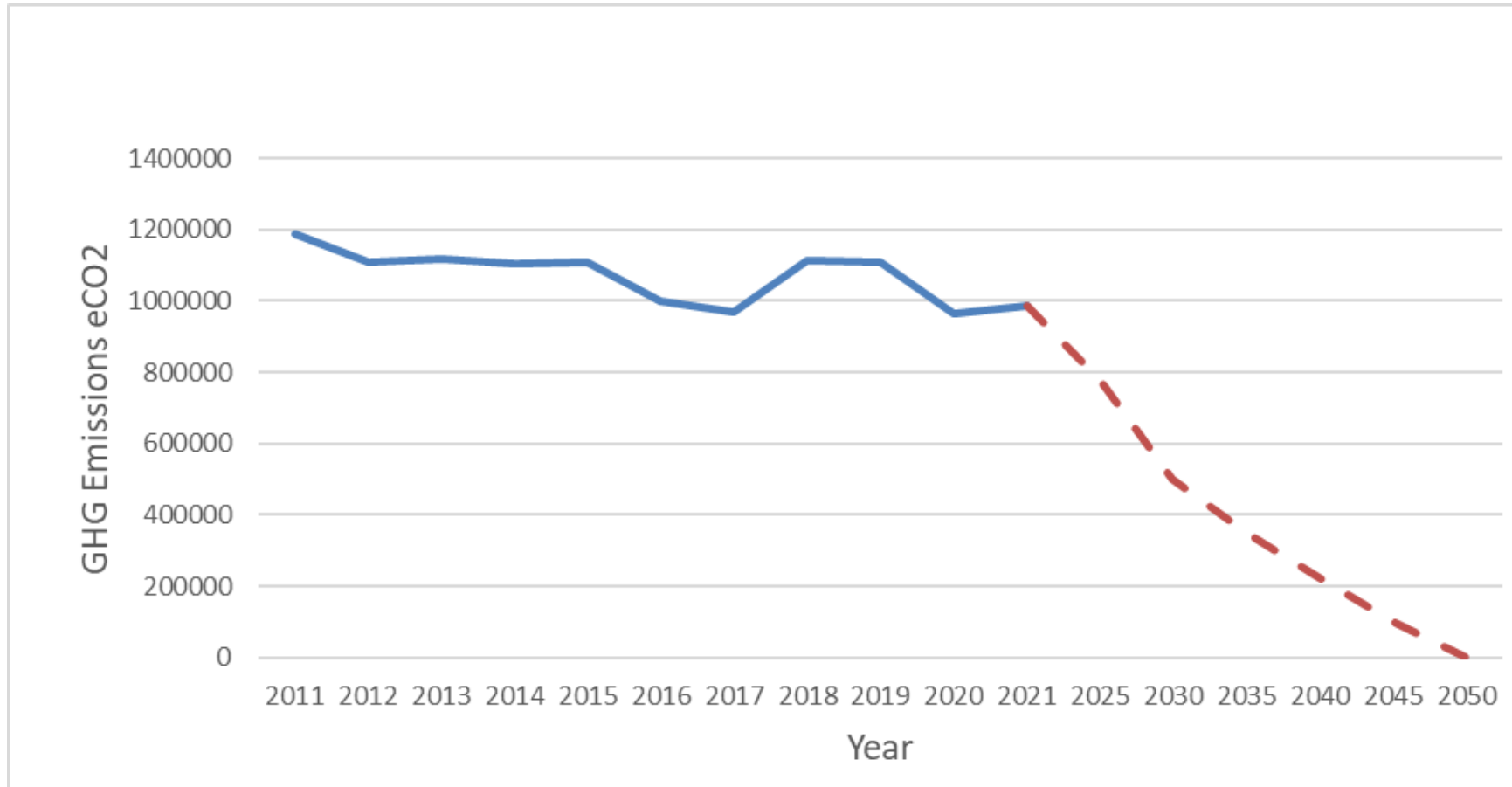


# Climate action takes a community....

- Community Stakeholder Committee participants
- Partnerships and Collaboration



# Greenhouse Gas Emissions by Year – with 2050 Target





# Next Steps

- Implementation of Better Homes Burlington pilot
  - Pending budget approval
  - Report back with program requirements (ie. bylaw)
- Explore funding options to support electric mobility
- Assess and implement recommendations to support renewable energy
- Work with Burlington Hydro on a climate action report





# Thank you!

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[www.takeactionburlington.ca](http://www.takeactionburlington.ca)  
[www.burlington.ca/environment](http://www.burlington.ca/environment)

