




# Improve your Bottom Line with Brampton Business Programs

- Audience microphones are muted
- Submit questions at any time via the tool bar (questions only visible to organizer)
- Please open a second window to use the interactive features during the webinar, and share your name or initials
- Recording & slides will be shared after the webinar

November 4, 2020

# Agenda

	Topic	Speaker
	Welcome and Introductions	Jeff Robertson
	Why are we here?	Jeff Robertson
	Bramalea Sustainable Neighbourhood Action Plan	Chaya Chengappa
	Community Energy & Emissions Reduction Plan	Pam Cooper
	Programs and support for Brampton businesses	Jeff Robertson
	Partners in Project Green programs and business results	Jeff Robertson
	Q and A	



Interactive Feature

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**Jeff Robertson**  
**Senior Manager, Partners  
in Project Green, TRCA**



**Chaya Chengappa**  
**Project Manager, SNAP  
Projects, TRCA**



**Pam Cooper**  
**Environmental Planner,  
City of Brampton**



# About TRCA: Our History and Mission

Established under the Conservation Authorities Act, TRCA brings over 60 years of experience to our stakeholders

Our mission, which is based on our Provincial mandate, is to protect, conserve and restore natural resources and develop resilient communities through education, the application of science, community engagement, service excellence and collaboration with our partners



# Key Drivers

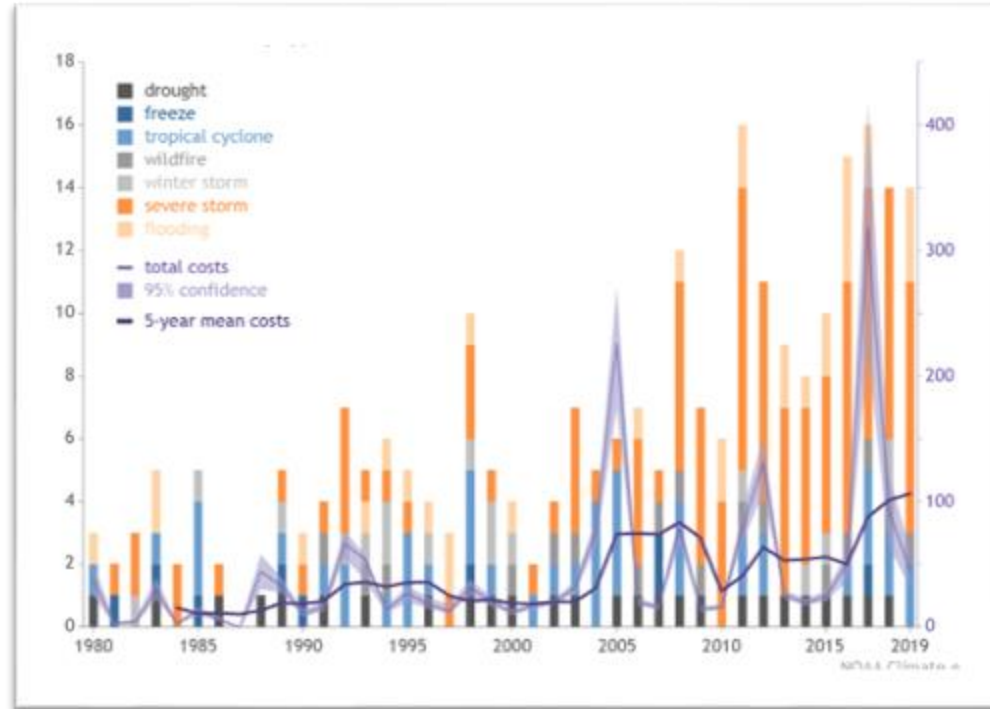
The heat is on businesses to respond to climate change

Jan 15, 2020



Climate change threatens 'both the economy and the financial system,' says Bank of Canada

May 16, 2019



# Climate Risks - Canada



## Flood damage

Insurance claims for flood damage now **\$1B annually** in Canada, up from \$400M in past decades

Federal government pays **\$2B annually**, up from \$100M two decades ago

*Source: [Ontario Centre for Climate Impacts and Adaptation Resources \(2015\)](#)*

## Wildfires

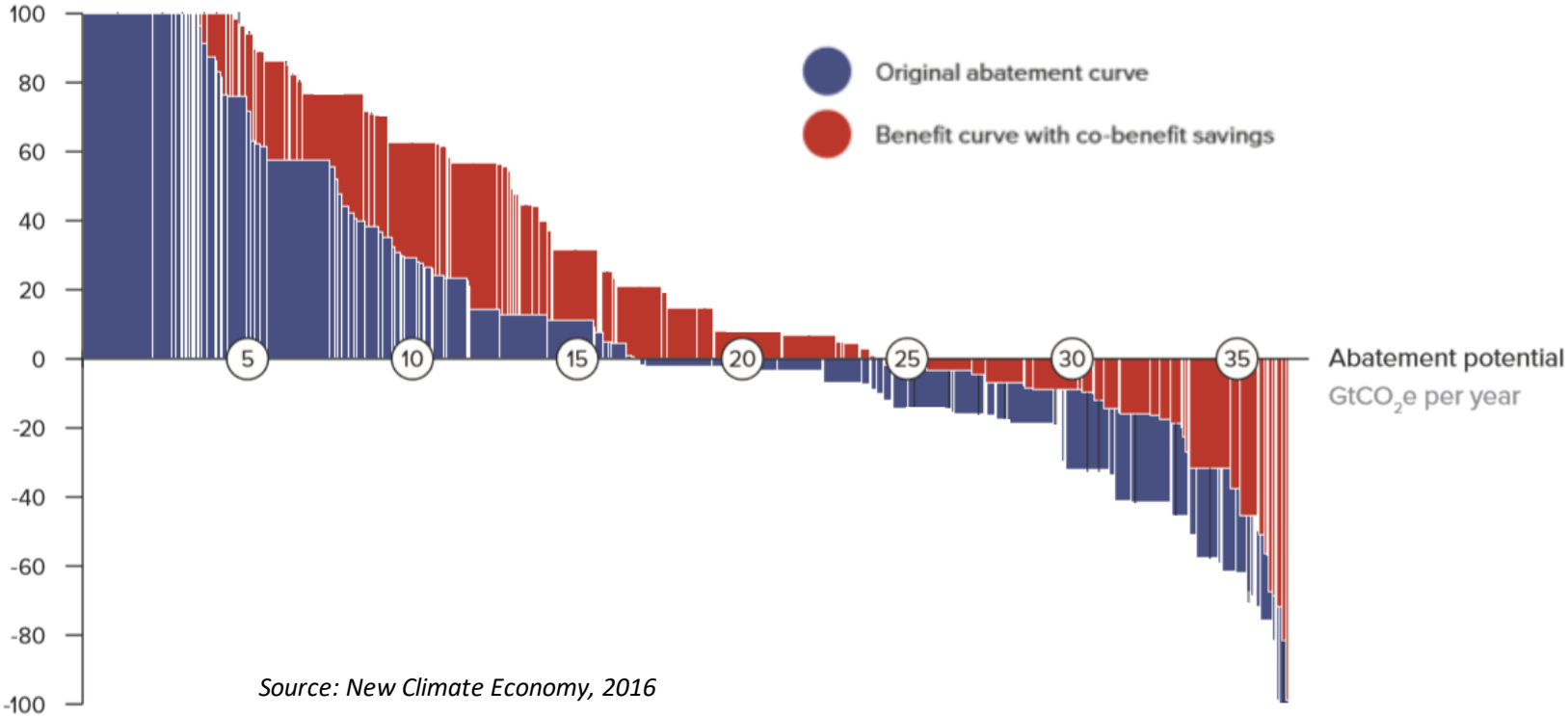
BC wildfire costs increasing decade-over-decade, 2017 year cost over \$0.5B

*Source: [Conference Board of Canada \(2018\)](#)*



# Abatement benefit

\$ per tCO<sub>2</sub>e





# The Opportunity

**FORTUNE**

**Consumers Say They Want More Sustainable Products. Now They Have the Receipts to Prove It**

By RENAE REINTS  
November 5, 2019 9:30 AM EST

**WORLD  
ECONOMIC  
FORUM**

**Fighting climate change could add \$26 trillion to the global economy by 2030**

Sept 11, 2018

**de  
zeen**

**"Operational progress is what moves the needle" towards zero-carbon design says Nike's head of sustainability**

Oct 1, 2020

**BARRON'S**

**Two-Thirds of North Americans Prefer Eco Friendly Brands, Study Finds**

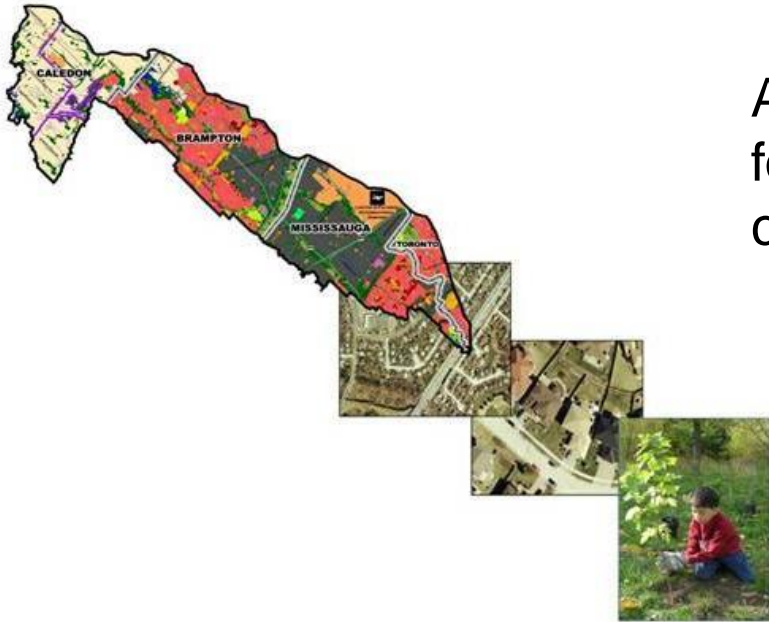
By Dinara Bekmagambetova Jan. 10, 2020 8:08 am ET



# Bramalea Sustainable Neighbourhood Action Plan (SNAP)

November 4, 2020

# What is a Sustainable Neighbourhood Action Plan (SNAP)?



A neighbourhood-based solution for sustainable urban renewal and climate action.

- ✓ Brings efficiencies
- ✓ Draws strong community support
- ✓ Builds innovative partnerships for implementation



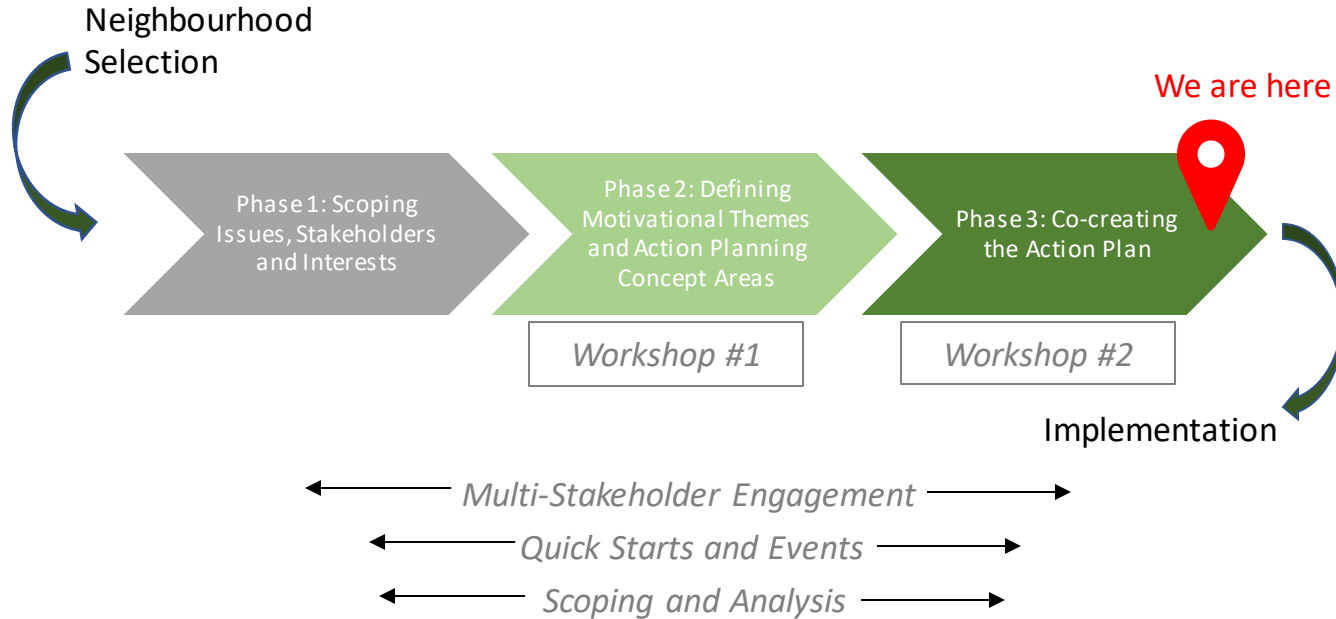


# Bramalea SNAP – Key TRCA and Municipal Priorities

- Chronic Disease Prevention
- Neighbourhood well-being
- Heat Vulnerability
- Energy Intensity
- Stormwater Management
- Channel Naturalization, Eco Park
- Environmental Education
- Urban renewal synergies

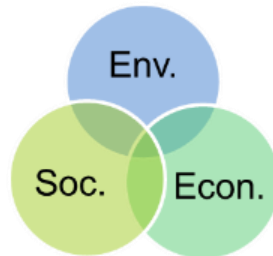


# How We Got Here – Action Planning Process



# Action Plan – Shared Objectives

- Health & well-being
- Active movement
- Safe & welcoming public spaces
- Engagement & inclusion
- Arts, culture & place
- Natural system health
- Stormwater management
- Climate resilience / preparedness & low carbon
- Water efficiency
- Materials management





# Bramalea SNAP Draft Action Plan





# Institutional and Commercial Collaboration and Greening





# Tower Resilience & Efficiency Initiatives



180 FT TOWER CONCEPT PLAN



# Home and Property Resilience & Efficiency Initiative





# Creating Ecoparks: Fallingdale, Earnscliffe, Eastbourne, Knightsbridge Parks





# Creating Multi-objective Road Diets and Pedestrian Realm Improvements





# Community Resilience - Programming and Events



# Contacts

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Project Manager, SNAP Projects, Sustainable Neighbourhoods |  
Education and Training

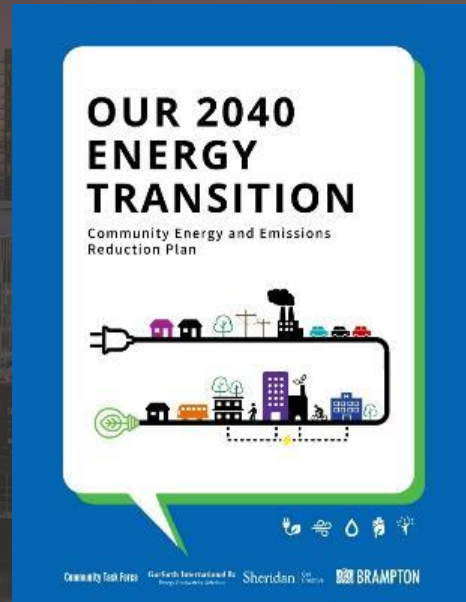
E: [chaya.chengappa@trca.ca](mailto:chaya.chengappa@trca.ca)

[www.trca.ca](http://www.trca.ca)



# Community Energy & Emissions Reduction Plan

November 4, 2020



# Purpose



- Review basis for CEERP
- Outline principles, goals, targets, strategic directions
- an “energy” lens on urbanization leads to multiple **economic**, social, and environmental benefits
- Explain **economic opportunities** associated with supporting the CEERP
- What is the **Centre for Community Energy Transformation (CCET)**

# CEERP

- Partnerships
- Foundational document
- History of municipal leadership on climate change



# CEERP: Brampton's Response to the Climate Emergency

## Brampton City Council Declares Climate Emergency

by Dylan Olley on June 6, 2019  
In News, Hot Topics, Politics

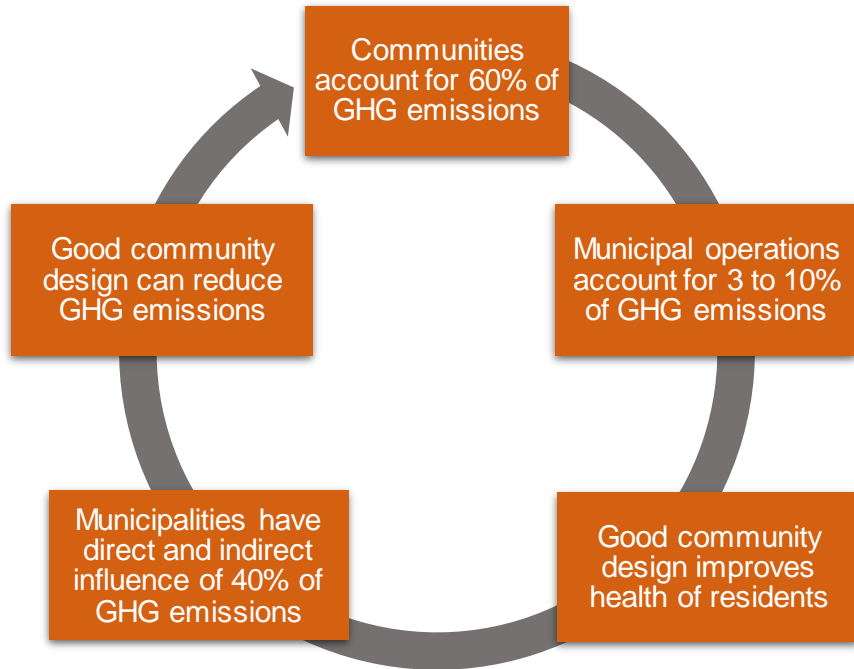
[Like](#) [Share](#) [Tweet](#)



The Brampton City Council is looking to take action against climate change.



# Local Planning Matters

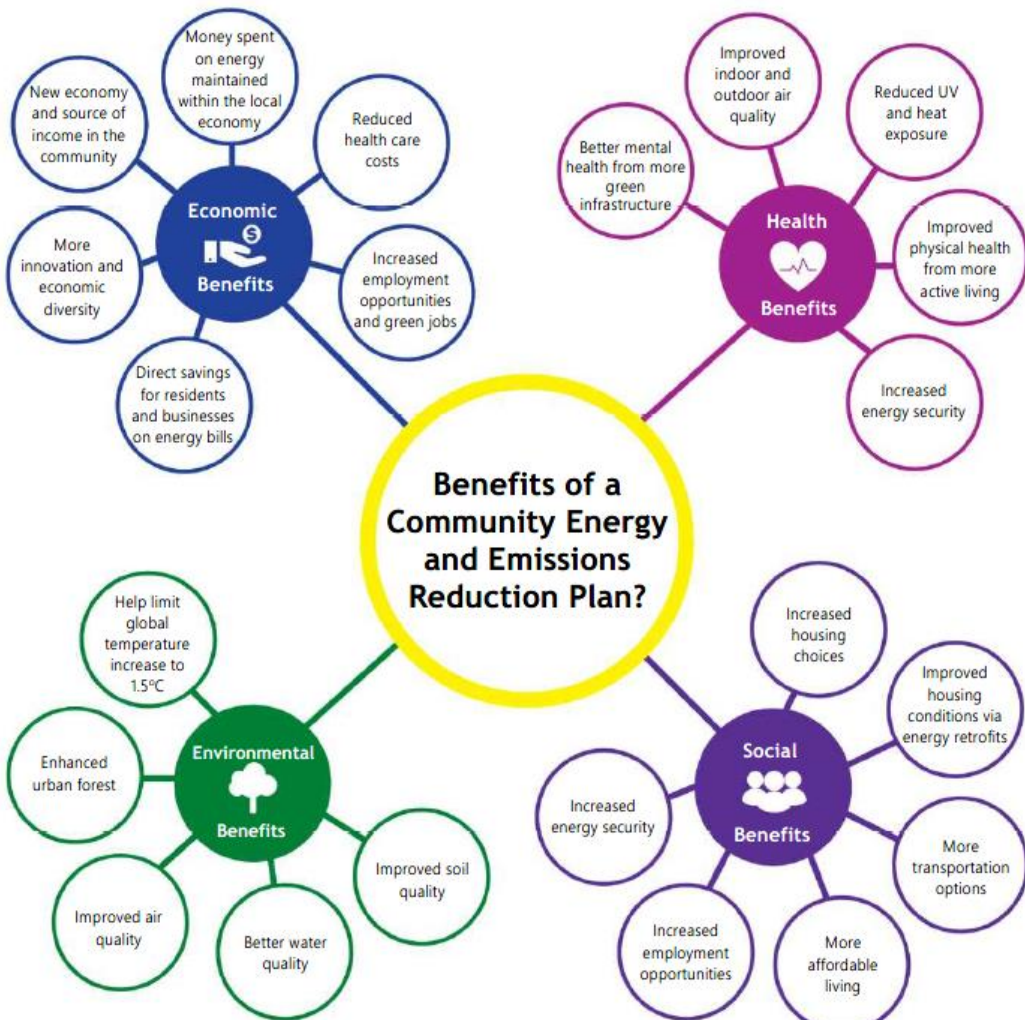


- Economic, environmental, social, and cultural outcomes:
- Healthier communities, denser, convenient, more housing choices, local jobs
- More transit, cycling, and walking
- Reduced energy costs
- Attract new business and create green jobs
- Improve building energy efficiency
- Achieve international GHG reduction targets
- Increase energy security
- Enhance climate change resilience



# Co-Benefits

- Environmental
- Social
- Health
- Economic



# Community Task Force



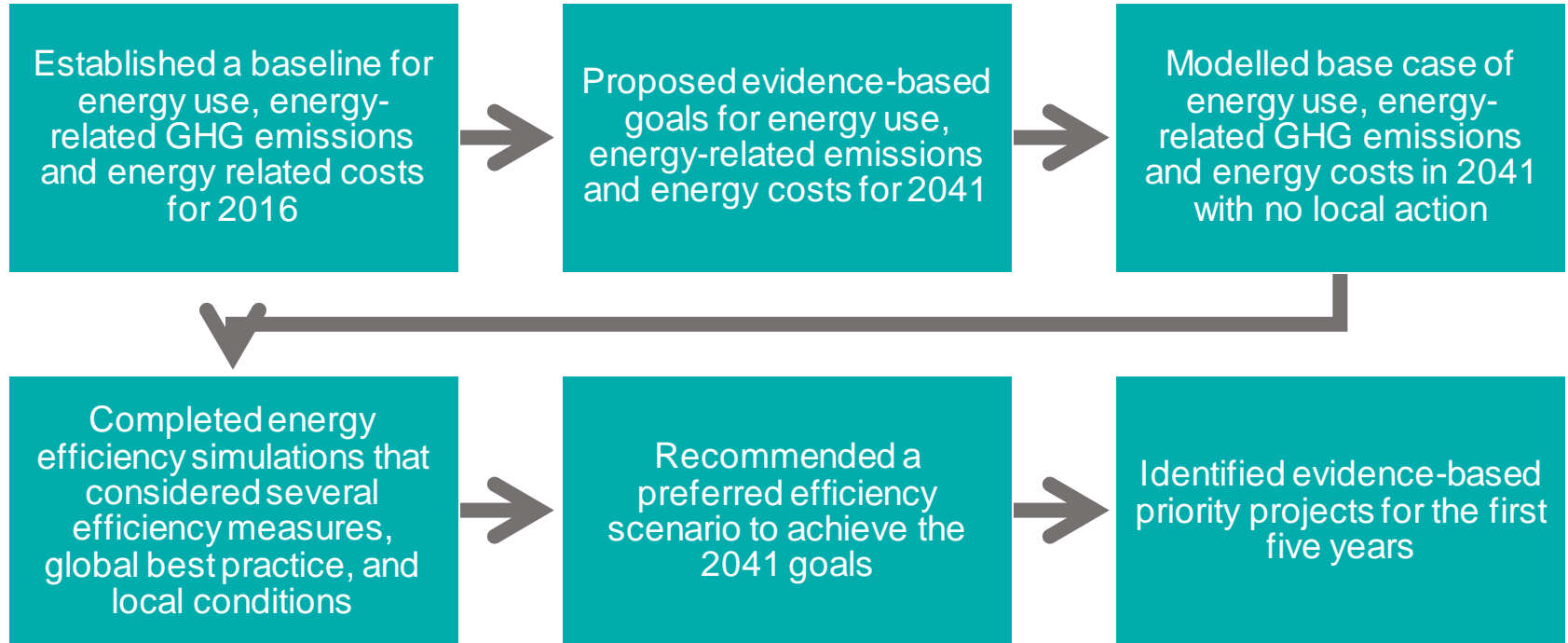
# Engagement

- Council workshops
- Departmental/divisional consultations
- Environment Advisory Committee meetings
- Stakeholder presentations (Association of Energy Engineers, Partners in Project Green, BILD, York University)
- CEERP Task Force meetings
- Nordic City Solutions workshop
- Grow Green Team meetings
- Community Survey
- Mapping workshop
- Public events (tree plantings, open houses, Vision Celebration, Public Works week, Heart Lake Run, Farmers Market)
- Public information sessions
- Social media (Twitter, Instagram, Facebook)



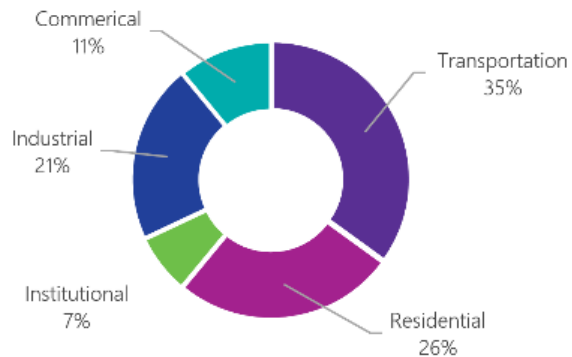


# Evidence Based Process

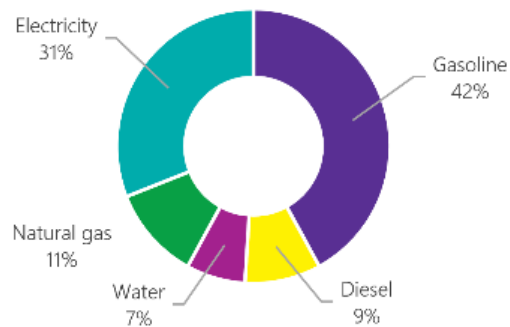


# 2016 Base Case

## Brampton Source Energy Use by Sector, 2016



## Brampton Energy Costs by Utility, 2016



## Brampton Emissions by Sector, 2016



# Key Findings

**\$1.8 billion annual energy bill**

Energy costs projected to **quadruple** by 2050

5.6 tonnes of GHG per resident (Ontario per capita is 3.7 tonnes)

Brampton buildings are **half as efficient** as global best practices

Transportation sector accounts for almost **60% of GHG emissions**



# CEERP Content

1 Vision

4 Principles

3 Goals

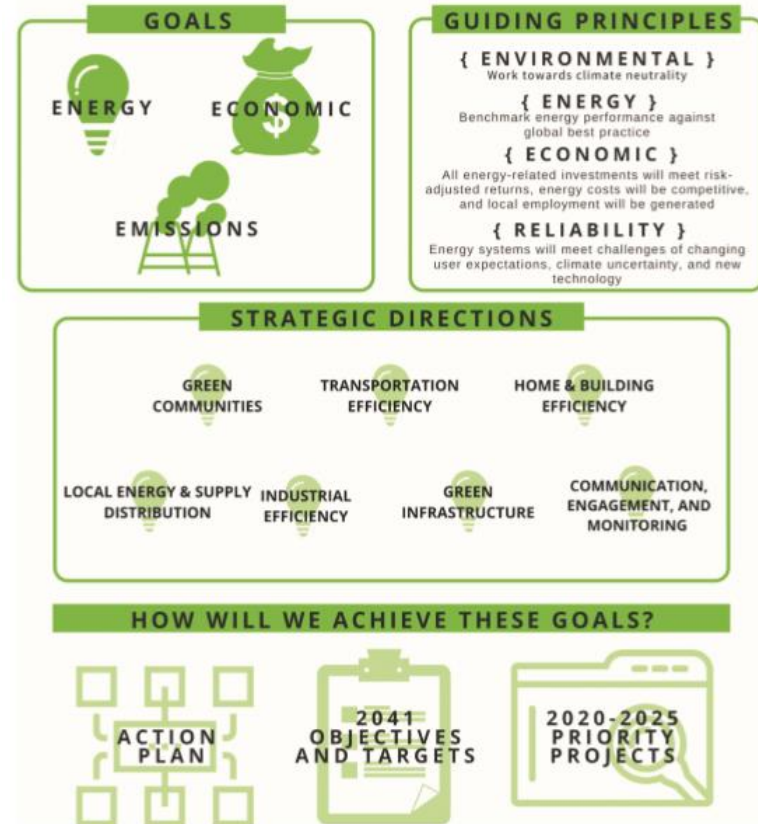
7 Strategic Directions

25 Objectives/Targets

6 Priority Projects

1 Action Plan

**BRAMPTON'S ENERGY FUTURE IS CLEAN,  
SUSTAINABLE, RESILIENT AND SUPPORTS THE  
BRAMPTON 2040 VISION**



# Brampton's energy future is clean, sustainable, resilient, and supports the Brampton 2040 Vision.

## ENVIRONMENTAL

Work towards climate neutrality

## ENERGY

Benchmark energy performance  
against global best practice

## ECONOMIC

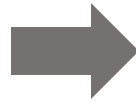
All energy related public and private  
sector investments will meet  
acceptable risk-adjusted returns

Energy costs will be competitive  
compared to comparable North  
American communities

Local employment will be generated

## RELIABILITY

Energy systems will be designed to  
meet the challenges of changing user  
expectations, climate uncertainty and  
new technology options



## Energy

Based on global best-practices, reduce  
community-wide energy end use by at  
least 50% from 2016 levels by 2041.

## Emissions

Reduce community-wide emissions by  
50% from 2016 levels by 2041, and  
establish a pathway to reduce emissions  
by at least 80% by 2050 to meet or  
exceed federal and provincial targets.

## Economic

Retain at least \$26 billion in  
cumulative energy costs within the  
community by 2041.

# Strategic Directions



**GREEN  
COMMUNITIES**



**TRANSPORTATION  
EFFICIENCY**



**HOME AND BUILDING  
EFFICIENCY**



**LOCAL ENERGY SUPPLY  
AND DISTRIBUTION**



**INDUSTRIAL  
EFFICIENCY**



**GREEN  
INFRASTRUCTURE**



**COMMUNICATION,  
ENGAGEMENT, AND  
MONITORING**

# 2041 Targets

## Green Communities

- Attain near net-zero GHG emissions for new communities in Heritage Heights, and new buildings in Town Centres and Major Urban Growth Areas
- Meet Major Growth Area and Town Centre density and job targets

## Home and Building Energy Efficiency

- Retrofit 80% of homes to achieve a 35% efficiency gain

## Transportation

- Reduce trip lengths by 3.75%
- Increase Active Transportation to 7%
- Increase trips using Brampton Transit to 9%
- Increase trips using GO transit to 8.5%





# 2041 Targets

## Industrial Efficiency

- Increase best practice to all local industry

## Local Energy Supply and Distribution

- Increase solar energy by 8%
- Serve 80% of new growth areas with district energy
- Serve 70% of existing high growth areas with district energy

## Green Infrastructure

- Plant 1 million trees by 2040
- Increase restoration and enhancement management to 45 ha/year
- Determine dollar value for the city's natural assets





# Priority Projects

1. Ensure City of Brampton policies and programs are aligned with supporting the CEERP objectives and targets;
2. Establish a system to deliver standardized retrofits to Brampton homes;
3. Update the Transportation Master Plan (TMP) to reflect complete streets and the integrated nature of mobility and built form;
4. Integrate District Energy Systems in appropriate locations within Brampton;
5. Develop Integrated Energy Master Plans for public facilities and private development; and
6. Establish a Community Organization to lead the development and implementation of select priority projects (CCET).

# Action Plan

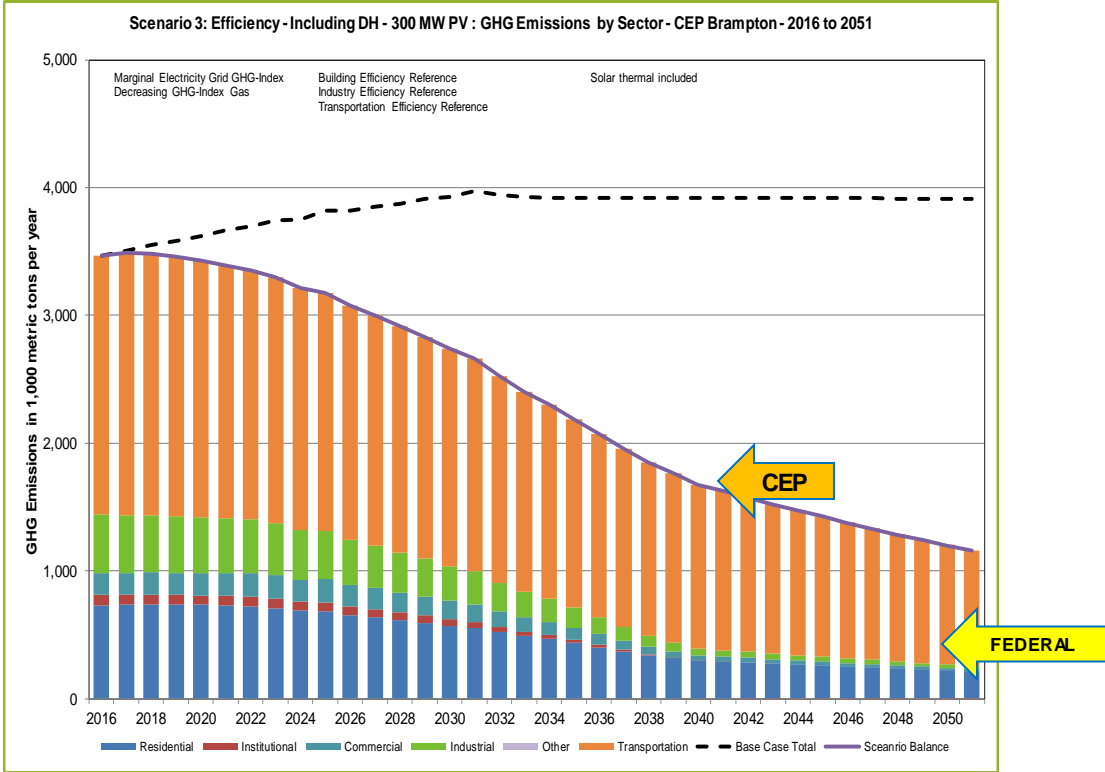
- Five year action plan
- Actions for each strategic direction
- Identifies leads and partners
- Example actions:
  - Implement Active Transportation Master Plan
  - Integrated Energy Plan for Shoppers World redevelopment
  - Launch electric buses and charging stations
  - Grow City-owned EV Charging stations
  - Update City's Sustainability Metrics
  - Undertake Heritage Heights Community Energy Plan

Local Energy Supply and Distribution				
#	Action	Lead	Partner(s)	Timeline
Corporate				
5.1.1	Complete Integrated Energy Management Plans for priority municipal facilities to align with the targets of the Corporate Energy and Emissions Management Plan 2019-2024: A Zero Carbon Transition and the CCEMP.	COB	COMM, DEV	Medium-term
5.1.2	Investigate distributed energy options for City facilities, including solar, geothermal, and waste heat recovery.	COB	COMM	Medium-term
District Energy				
5.2.1	Develop business cases for District Energy System, including but not limited to, low carbon fuel options (e.g. geothermal, heat recovery, wastewater heat recovery, solar PVT), and hybrid of PV and thermal in areas identified in the CCEMP energy district mapping. <sup>4</sup>	COMM	COB, DEV, ROP, BLS	Short-term
5.2.2	Investigate the requirements for the use of City road right-of-ways for the purposes of installing district energy infrastructure. <sup>4</sup>	COB	ROP	Medium-term
5.2.3	Develop a Business Case for establishing a district energy company to distribute thermal energy to homes and buildings. <sup>4</sup>	COM	COB, ROP, UI	Short-term
5.2.4	Identify and pursue opportunities for combined heat and power (CHP) partnerships for district energy. <sup>4</sup>	COB	COMM	Medium-term

Industrial Efficiency				
#	Action	Lead	Partner(s)	Timeline
Corporate				
6.1.1	Implement an Economic Development marketing campaign highlighting Brampton energy advantages as an incentive to locate business in this city.	COB	COMM	Medium-term
6.1.2	Establish or join an existing community of practice for facility energy managers from public and private sectors to share local industrial energy management expertise.	COMM	BEOL, DEV, ROP	Short-term
6.1.3	Develop a comprehensive inventory of large energy users in Brampton.	COMM	COB	Medium-term
6.1.4	Develop a comprehensive inventory of "green" employers in Brampton.	COMM	COB	Medium-term

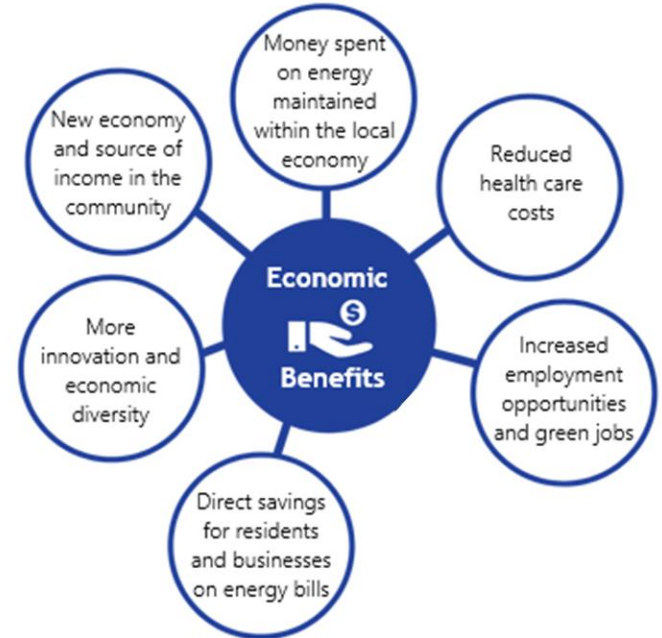
# Brampton's GHG Emissions Target

- GHG Emission reduction of 50% by 2041



# Economic Benefits

- Keep more energy dollars within Brampton by spurring local energy investments and improving local energy efficiency.
- Identify where and how local energy investments can provide the greatest opportunity
- New jobs and skills will be needed to support the businesses and organizations driving the implementation of the CEERP including:
  - Post-secondary institutions (education for skills),
  - Manufacturing (energy/construction technology and materials)
  - Construction (installing retrofits)
- Energy-efficient and climate leadership provide branding advantages that can motivate businesses to remain in/locate to Brampton



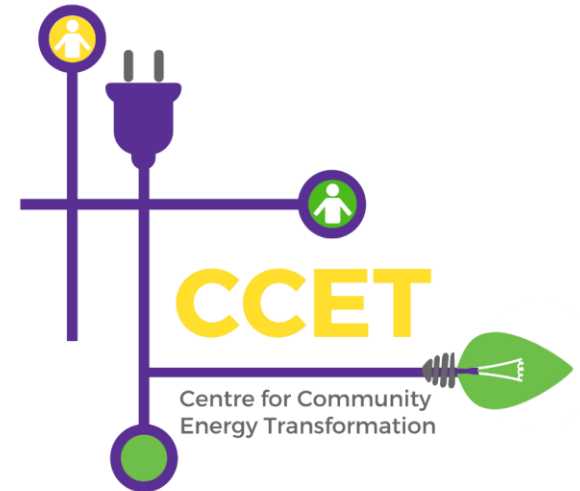
# Moving Forward

- Municipal resources through corporate Green Team
- Implement Action Plan
- Implement Priority Projects
- Ensure municipal policy/program alignment (OP)
- Work to establish Centre for Community Energy Transformation (CCET)
- Develop District Energy Business Case
- Continue to develop Home Retrofit Business Case
- Monitor progress/report back
- Communication/outreach



# Centre for Community Energy Transformation (CCET)

- Brampton 2040 Vision and 2019 TOCP gave support to investigate establishing an Institute for Sustainable Brampton
- Project Team established with representatives from City, Region, and Sheridan
- Community Workshop held in November 2019 with stakeholders:
  - Focus on energy transition
  - Arms-length from the City
  - Action-oriented, not research
  - Non-profit community organization
  - Focused on becoming a centre of excellence in energy
  - Support Brampton in meeting its climate change targets
  - Collaborate with businesses, developers, utilities, governments, institutions, non-profits, and homeowners

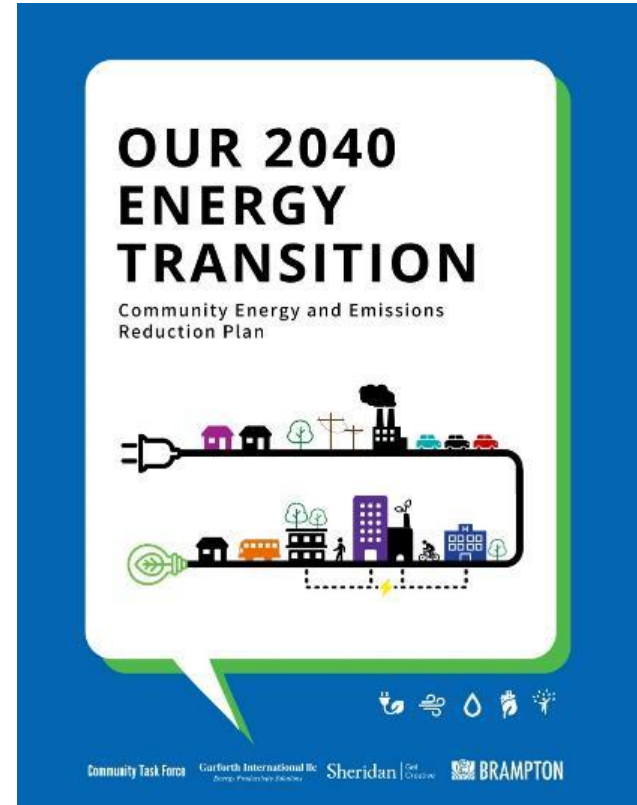




# Thank you

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Public Works and Engineering  
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[www.brampton.ca/ceerp](http://www.brampton.ca/ceerp)



# Business Programs and Support



## The New Invest Brampton Website

Introducing [InvestBrampton.ca](https://investbrampton.ca), the new online home of Brampton Economic Development.

Our new streamlined website includes an interactive site selection tool and direct access to the new investment services team, providing personalized services to potential investors.

Local businesses, entrepreneurs, and potential foreign investors are encouraged to visit the new website for resources and announcements and to connect with a Sector Manager or Business Advisor.

# Available Energy Programs

Delivery Organization	Description	Large (500+ employees)	SME
 Natural Resources Canada	Energy monitoring	✓	✓
	ISO 50001	✓	✓
	Energy studies	✓	✓
 SAVE ON ENERGY	Capital retrofits (electricity)	✓	✓
	LED swap-in		✓
	Energy Manager salary funding		✓
 ENBRIDGE	Capital retrofits (natural gas)	✓	✓
	Energy monitoring	✓	
	Savings performance incentive	✓	
 ieso Connecting Today. Powering Tomorrow.	Peak shaving (Global Adjustment)	✓	
	Peak shaving (auction)	✓	✓
	Energy efficiency (auction)	✓	✓



# Available Water Programs



## Business Equipment Replacement Incentives

Upgrade to water-efficient fixtures, fill out the online form, email a copy of your receipt and receive your rebate. It's that easy!

**Deadline for applications is December 31, 2020**



## Irrigation System Assessments

Improve your irrigation system to save water and money. A Water Smart Irrigation Professional® can help.

# Updates and Opportunities in Waste Management

- Proposed changes to Blue Bin Program
  - Make producers responsible for collecting and managing blue box materials, which comprises of designated products and packaging
  - Expand the scope of blue box materials collected and managed
  - Comments open until Dec 2
  - <https://ero.ontario.ca/notice/019-2579>

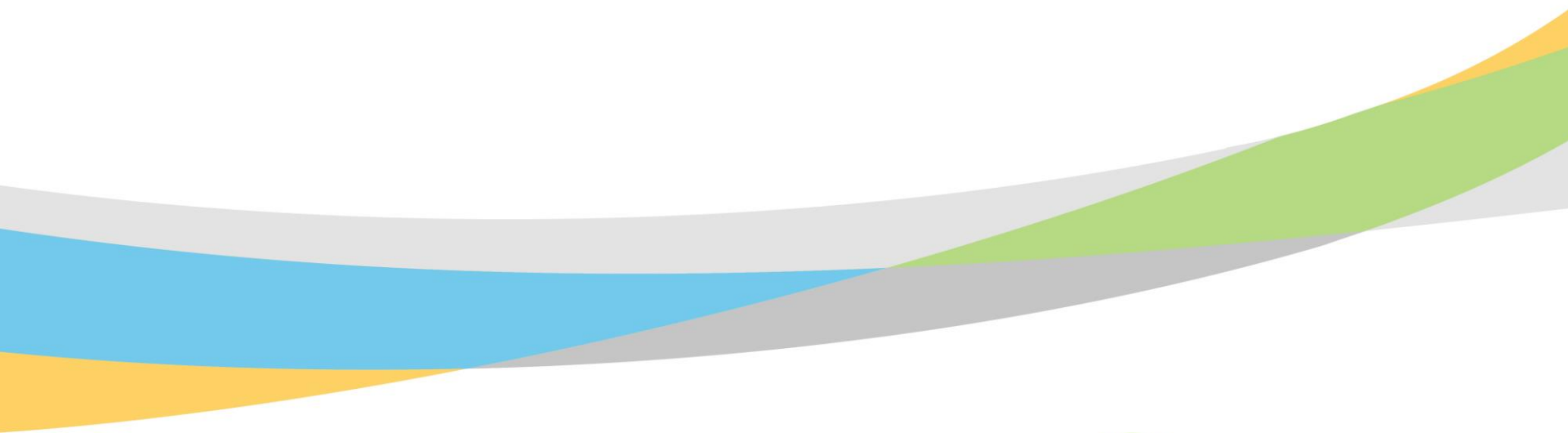


# Updates and Opportunities in Waste Management

- Canada's Single Use Plastics Ban (by end of 2021):
  - Plastic checkout bags
  - Stir sticks
  - Six-pack rings
  - Cutlery
  - Straws
  - Some Food service ware
  - For more information visit:  
<https://partnersinprojectgreen.com/news/canadas-single-use-plastics-ban/>



# Partners in Project Green





# About Partners in Project Green

## Vision:

The vision of Partners in Project Green is to grow the Pearson Eco-Business Zone model as an internationally recognized community of leaders advancing environmental action and economic prosperity across the Greater Toronto Area.

## Founding Ambassadors:



# Green Economy Webinar Series

Partners in Project Green's free monthly webinar series highlights important issues and ideas in sustainable business.

## Free webinars on demand:

- Getting to Zero Plastic Waste
- The Business Case for Natural Infrastructure
- Sustainability Reporting: Escaping Acronyms and Rear-View Mirror Reports
- Innovative Business Solutions to Combat Food Waste and Insecurity
- Building Resiliency into your Sustainability Strategy: Lessons from COVID-19
- Microplastics Diversion: Sharing Two Pilot Case Study Successes
- Energy Monitoring Technologies and Resulting Cost Savings

Visit [partnersinprojectgreen.com/resource](https://partnersinprojectgreen.com/resource) to access recorded webinars

Sign up for our monthly newsletter at  
[partnersinprojectgreen.com/newsletters](https://partnersinprojectgreen.com/newsletters)  
to stay up to date on our upcoming webinars and programs!

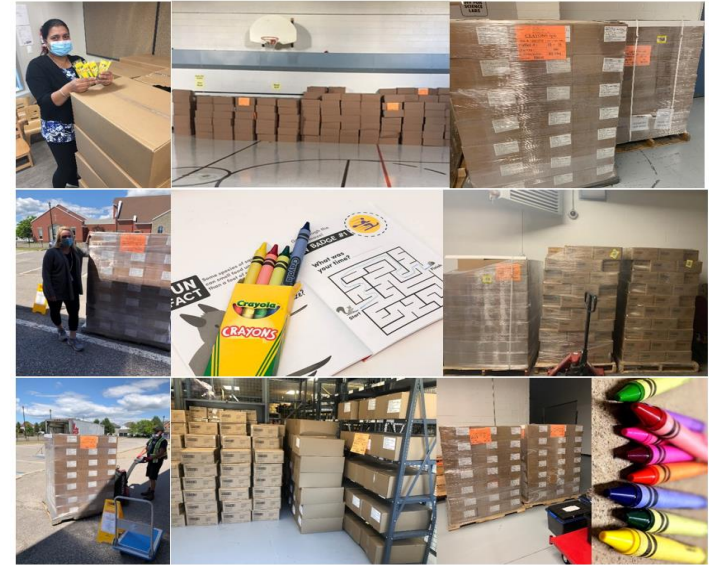
# Material Exchange

Facilitating the exchange of material between businesses and non-profit organizations to divert waste from landfill, support local communities, and move towards a circular economy.

## Crayons & Activity Books

A large Canadian company found themselves with an over abundance of crayons & activity books. Instead of sending them to landfill, they called us. Within a week, PPG found homes for 36 skids of crayons and activity books at local schools & non-profits – that's almost 18 tonnes.

**If you have items that need new homes, we can help.**



Contact [catherine.leighton@trca.ca](mailto:catherine.leighton@trca.ca) for details

# Natural Infrastructure and Climate Resiliency



Above: Calstone Inc. site, before and after project construction



This program helps property managers, commercial developers, industrial manufacturers, institutional facilities, and business owners understand their climate risks and identify opportunities to mitigate those risks and provides support to take action and become more resilient.

For more information, visit:

<https://partnersinprojectgreen.com/natural-infrastructure/>

Contact [Eric.Meliton@trca.ca](mailto:Eric.Meliton@trca.ca) for details



# Energy Consortia

The Energy Leaders Consortium and SME Consortium bring industrial energy professionals together in facilitated sessions to:

- Learn from each other's energy projects
- Share resources and expertise
- Strategize solutions to shared challenges

## Collective Group Savings



133.6 million  
kWh electricity



11.4 million  
m<sup>3</sup> natural gas



31,000  
tonnes eCO<sub>2</sub>





\$36.3 million






















































































































Contact [nathaniel.magder@trca.ca](mailto:nathaniel.magder@trca.ca)

# ELC Member Projects



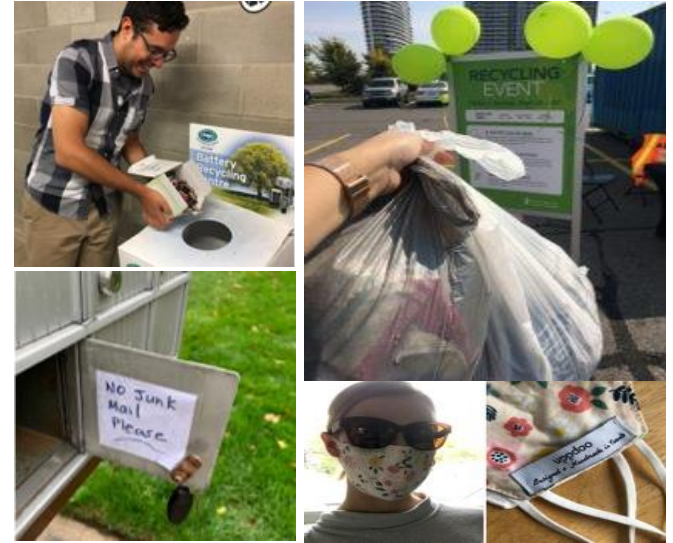
 Working on it this year  
 Completed

Battery Storage													
Biogas													
Boilers													
Building Automation Systems (BAS)													
Cogeneration													
Compressed Air													
Continuous Commissioning													
Corporate Energy/Sustainability Strategy													
Energy Monitoring													
Employee Engagement													
Energy Star Certification													
Electric Vehicles (EVs)													
Forklifts													
Heat Recovery													
Hydrogen													
Insulation Upgrades													
ISO 50001 Certification													
Lighting													
Low-GWP Refrigerants													
Peak Curtailment													
Power Quality													
Process Efficiency													
Pumps and Fans													
Refrigeration Plant													
Renewable Energy Procurement / Carbon Credits													
Solar PV (On-Site)													
Solar Thermal													
Sustainable New Construction													
Waste Management													
Water Efficiency													

# Employee Engagement

## People Power Challenge

- Operationalize sustainability by empowering people
- Campaigns linked to United Nations Sustainable Development Goals
- Fun activities for home and workplace
- Webinars, tools, and resources
- Action oriented events
- 5,000 + employees reached annually



Contact [Jennifer.taves@trca.ca](mailto:Jennifer.taves@trca.ca) for details



# Q and A

Please put your questions in the chat!

[www.trca.ca](http://www.trca.ca)





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