

Table A

Facilitator – Dave Clark

Support – Stavroula Kassaris

Erika Lontoc, Lead,
Business Intelligence,
Enbridge Gas Distribution

Lauren Milkerns,
Environment Manager,
Brampton Brick

Christine Tu, Director,
Office of Climate Change
and Energy Management
Region of Peel

Bruce Zvaniga, Public
Works Commissioner, City
of Brampton

Devin Ramphal, Sector
Manager, Innovation &
Technology, City of
Brampton

Table B

Facilitator – Katie Rinas

Support – Michael Hoy

Brad Cobbledick,
Technical Director,
Brampton Brick

David Laing, Co-Chair,
Brampton Environmental
Advisory Committee

Doug Whillans, Councillor,
City of Brampton

Chun Liang, Supervisor,
Energy Management, City
of Brampton

Paul Postiglione, Team
Lead, GIS and Open Data,
City of Brampton

Table C

Facilitator – Herb Sinnock

Support – Brian Lakeman

Dave Kapil,
Co-chair

Pam Cooper, Manager,
Land-Use Policy, City of
Brampton

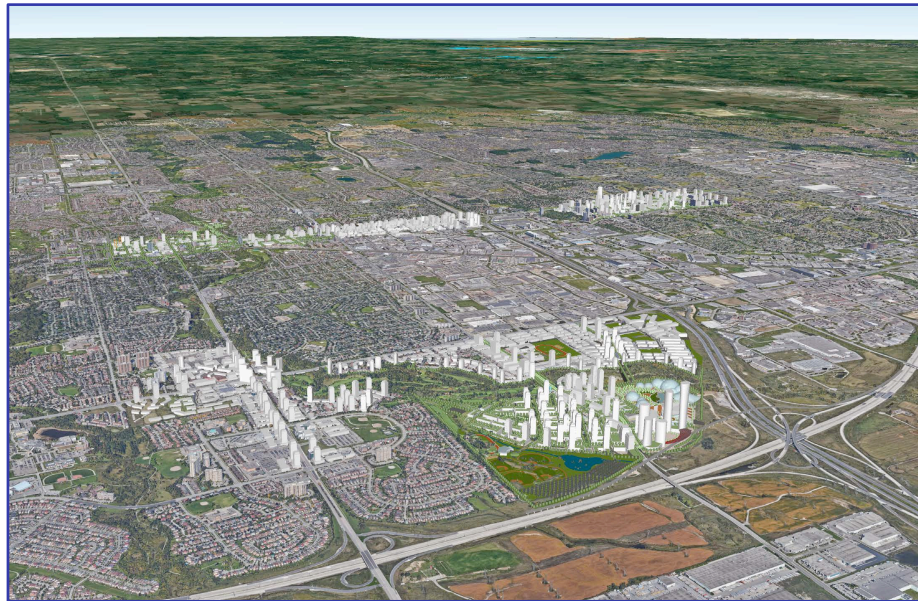
Eric Meliton, Project
Manager, Partners in
Project Green

Rebecca Winters, Region
of Peel

Stuart Craig, VP, RioCan

Community Energy And Emissions Reduction Plan

Task Force Meeting #3



Key Piece of The Mosaic

Brampton, Ontario
June 24th, 2019

City of Brampton

Community Energy & Emissions Reduction Plan

1. Welcome and Opening Remarks
 - Dave Kapil- Co-Chair

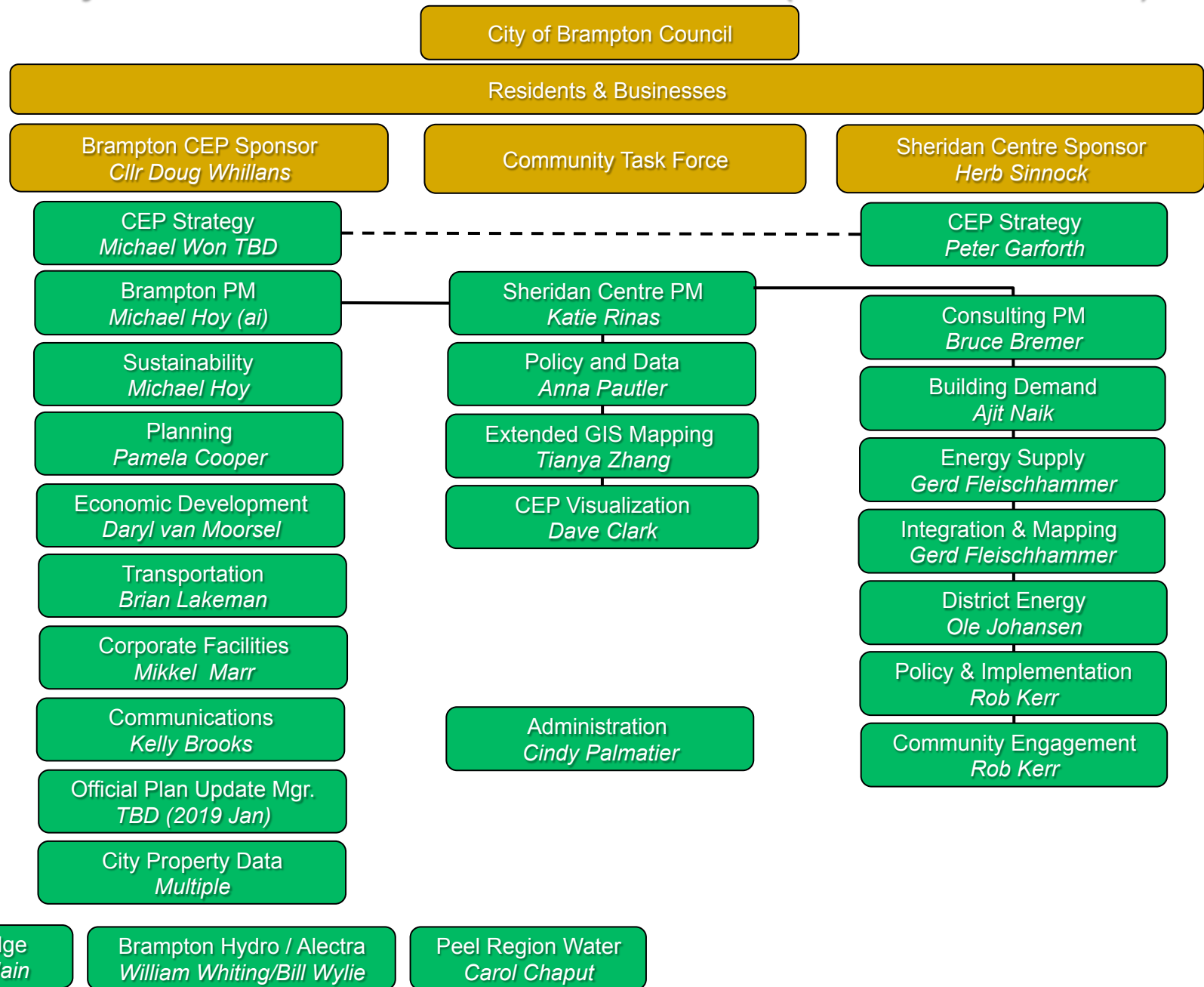
City of Brampton

Community Energy & Emissions Reduction Plan

2. Introductions

- a) Project Working Team (City & Sheridan-GIL)*
- b) Task Force Members*
 - *Dave Kapil- Co-Chair*

Project Work Team & Stakeholders (Status 19-05-22)



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Community Energy & Emissions Reduction Plan

3. Agenda Review

- a) Distribution/Confirmation of Meeting Package*
- b) Approval of Agenda*
 - *Dave Kapil- Co-Chair*

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Community Energy & Emissions Reduction Plan

4. Task Force Business

a) Next Meeting Dates

- *Dave Kapil- Co-Chair*

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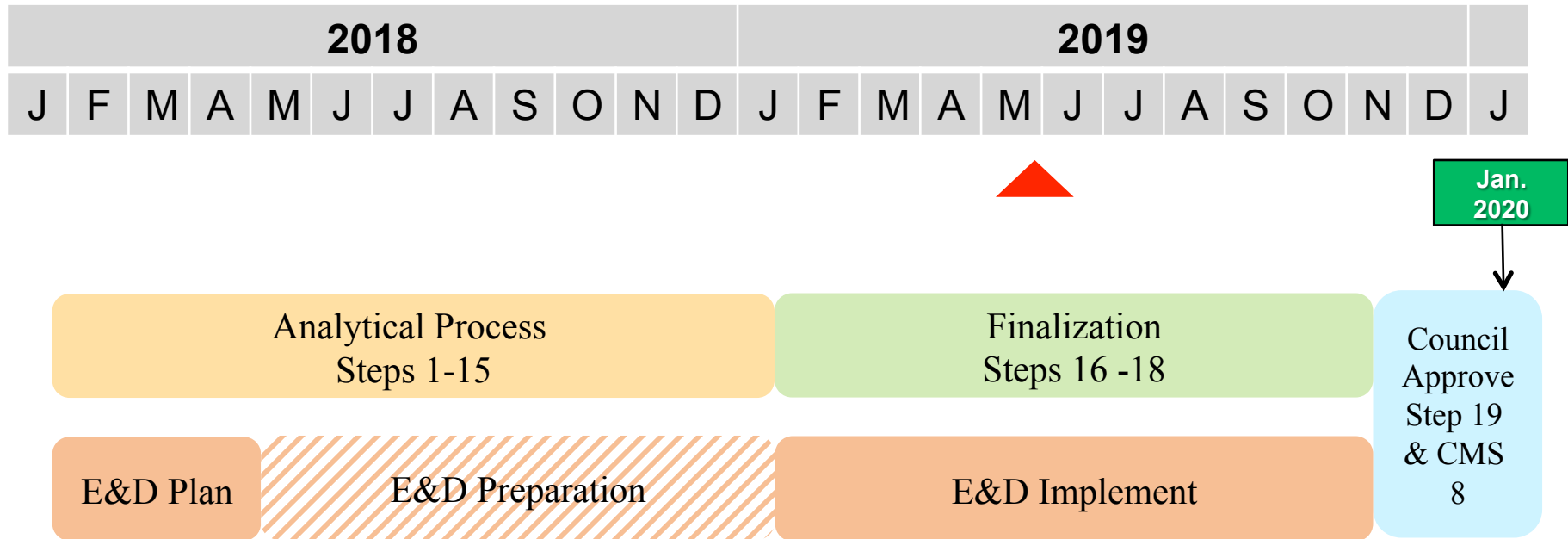
Community Energy & Emissions Reduction Plan

5. Project Overview

a) Activity Update and Timeline Review

- *Katie Rinas – Project Manager*

Community Energy Plan Timing Overview



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Community Energy & Emissions Reduction Plan

6. Accelerating the Energy Transition

a) Next Steps in Determining Vision and Goals

- *Rob Kerr*

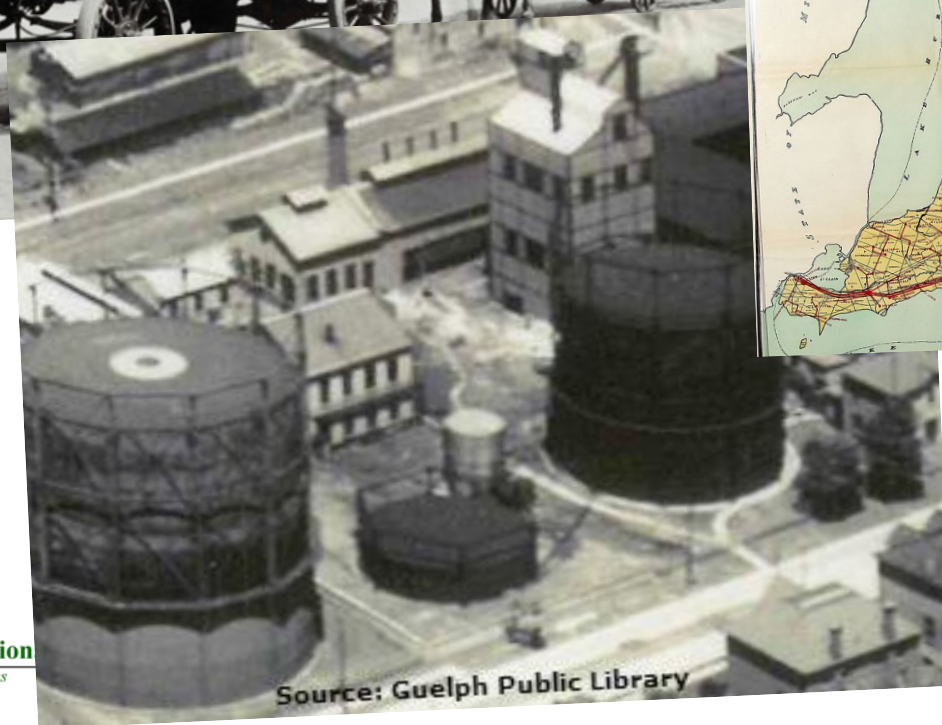


History of Energy Transitions

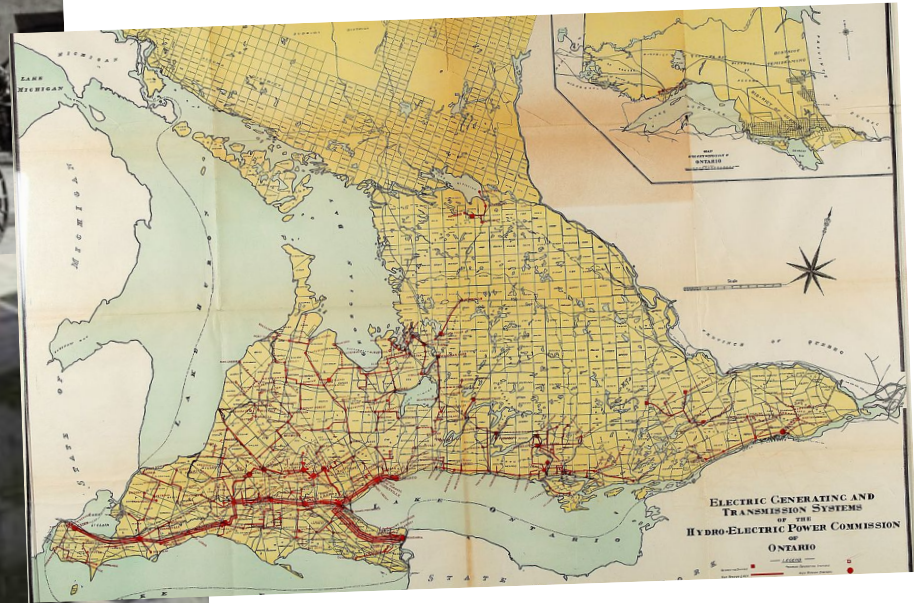
Energy Transition *Local*



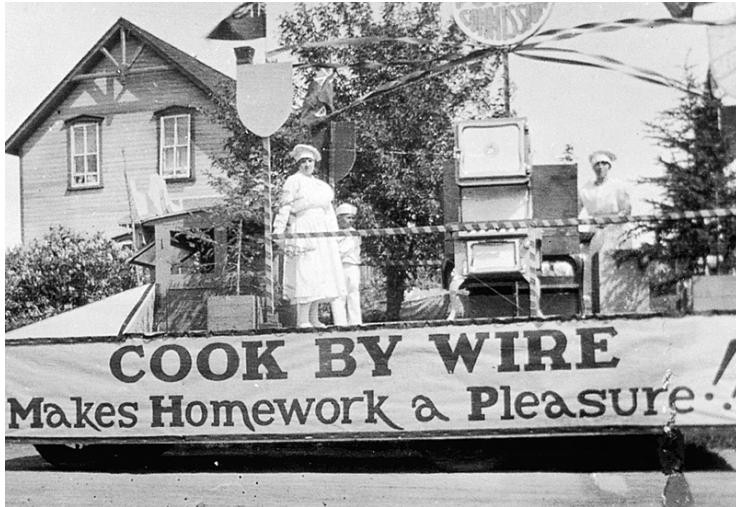
Energy Transition *Centralizing Infrastructure*



Source: Guelph Public Library



Energy Transition Impact on Economy and Culture



Energy Transition *Today – Highly Centralized*



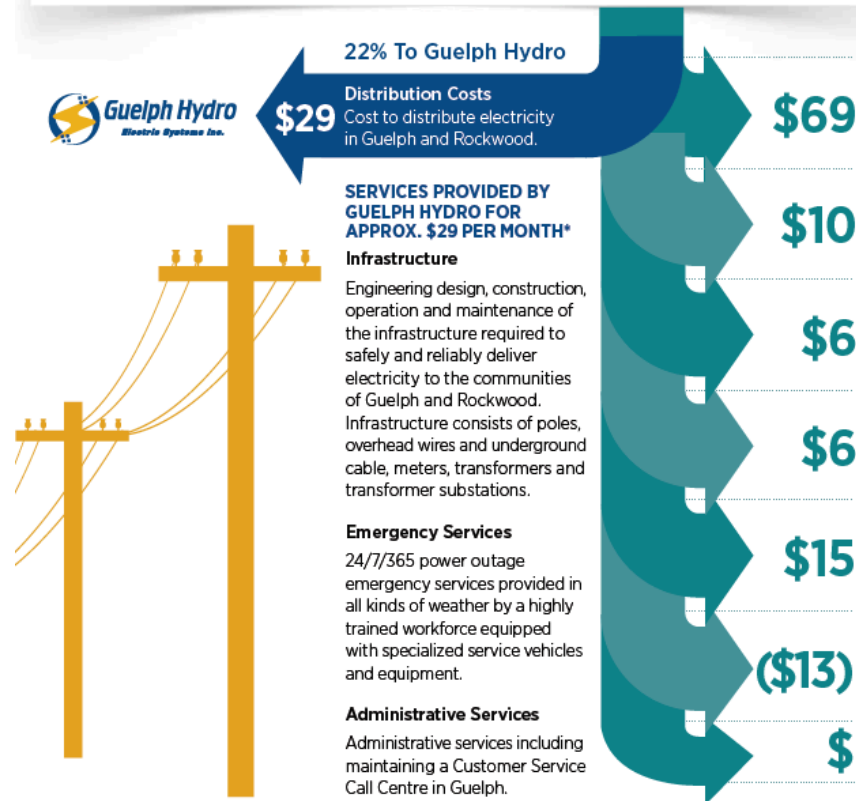
Energy Transition

Today – Highly Centralized = Cost Implication

Understanding Electricity Charges

Breakdown Of Charges On A Monthly Residential Electricity Bill
 Avg. Electricity Consumption = 800 Kw Hrs / Avg. Bill = \$122

Monthly Electricity Bill* = \$122

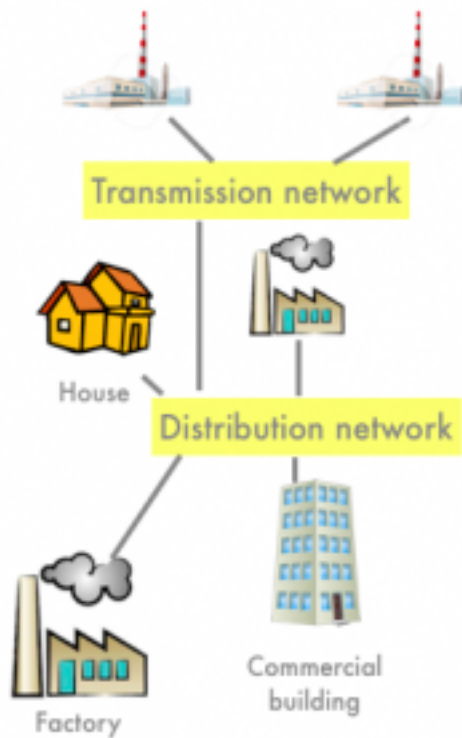


Energy Transition

Back to Local – Driven by Technology

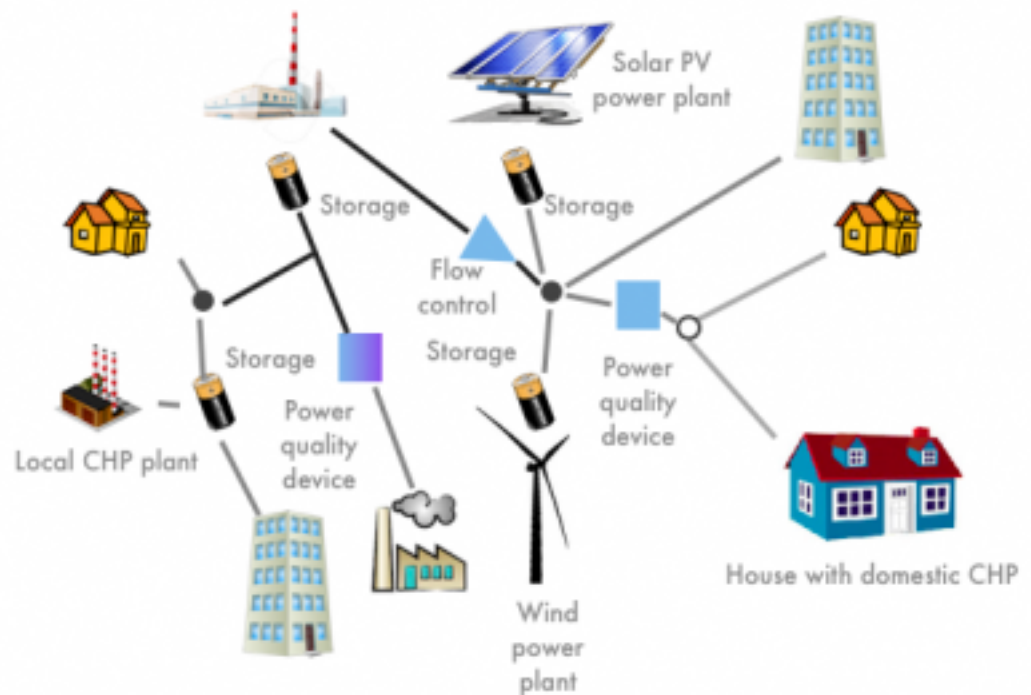
Yesterday

Centralized Power



Tomorrow

Clean, local power



Energy Transition

Back to Local – Driven by Local Benefit

*Support for Pillars of Sustainability**

Economic Benefits	Environmental Benefits	Human Benefits	Social Benefits
Reduce energy spending for households & business	Reduce greenhouse gas emissions	Improve mental health	Improve access to reliable sources of energy
Recirculate energy spending within the local economy	Foster healthy ecosystems	Reduce cardiovascular diseases and respiratory illnesses	Reduce exposure to energy price volatility
Create high-quality, local jobs	Use land and natural resources more efficiently	Increase physical activity	Solutions for areas facing energy poverty
Attract and retain businesses		Improve air-quality (indoor and outdoor)	Recognizes local priorities
Increased retail sales		Reduce healthcare costs	Improve social connectivity
Capitalize on a growing clean technology market		Reduce the heat island effect	

Accelerating the transition

COMMUNITY
LEADERSHIP

GOVERNANCE
INNOVATION

INTERMEDIARY
ORGANIZATIONS

CEERP Planning Process

Transition from Analytics to Recommendations

- ✓ Baseline
- ✓ Draft Framing Goals
- ✓ Base Case (BAU) and Risks
- ✓ Scenarios and Opportunities



- Preliminary Recommendations
- Final Goals and Recommendations

City of Brampton

Community Energy & Emissions Reduction Plan

7. Mapping Charette

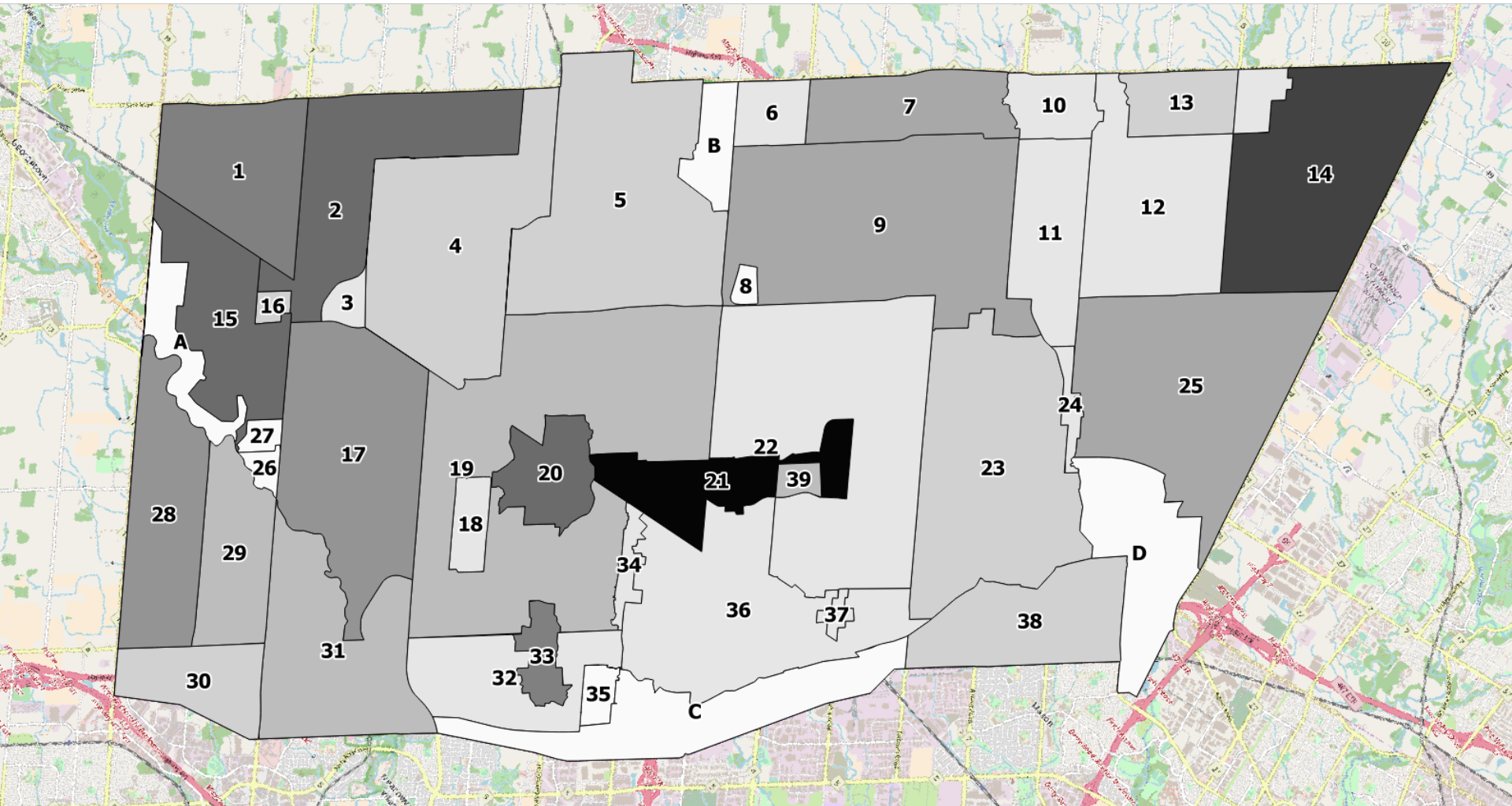
- a) Overview of Mapping Exercise*
- b) Break-Out Groups*
- c) Report Back*
 - *Rob Kerr*

Agenda & Table Resources

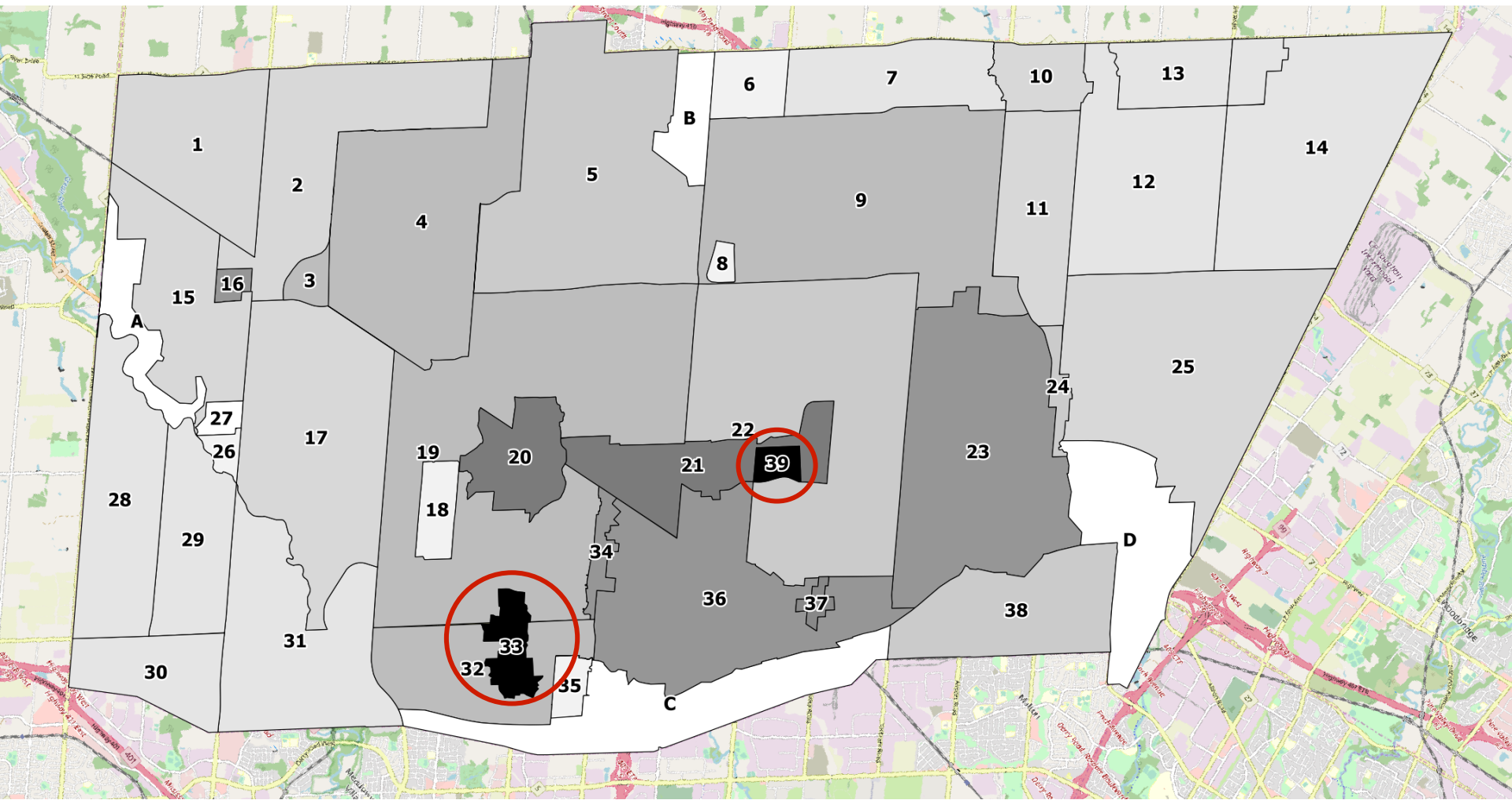
Time	Activity	Resources
2:40 pm	Orientation (10 min)	Table Map – urban structure with overlay of Energy Planning Districts (see last page for #s) Black markers
2:50 pm	Residential Sector Efficiency (15 min)	2016 Baseline - <i>Residential Site Energy Index Map</i> 2051 Base Case New Development – <i>Total Source Energy Increase GJ per year</i> Blue and yellow dots
3:05 pm	Thermal Energy (15 min)	2051 Baseline – District Energy Areas <i>Total Gas Energy – Index GJ/km²</i> Red dots and red stars
3:20 pm	Transportation Efficiency (10 min)	Transportation Corridors and Nodes Green dots
3:40 pm	Report (10 min; 2 min/group)	Volunteer Purple stars


2050 – Base Case

Source Energy Increase * - Absolute in GJ



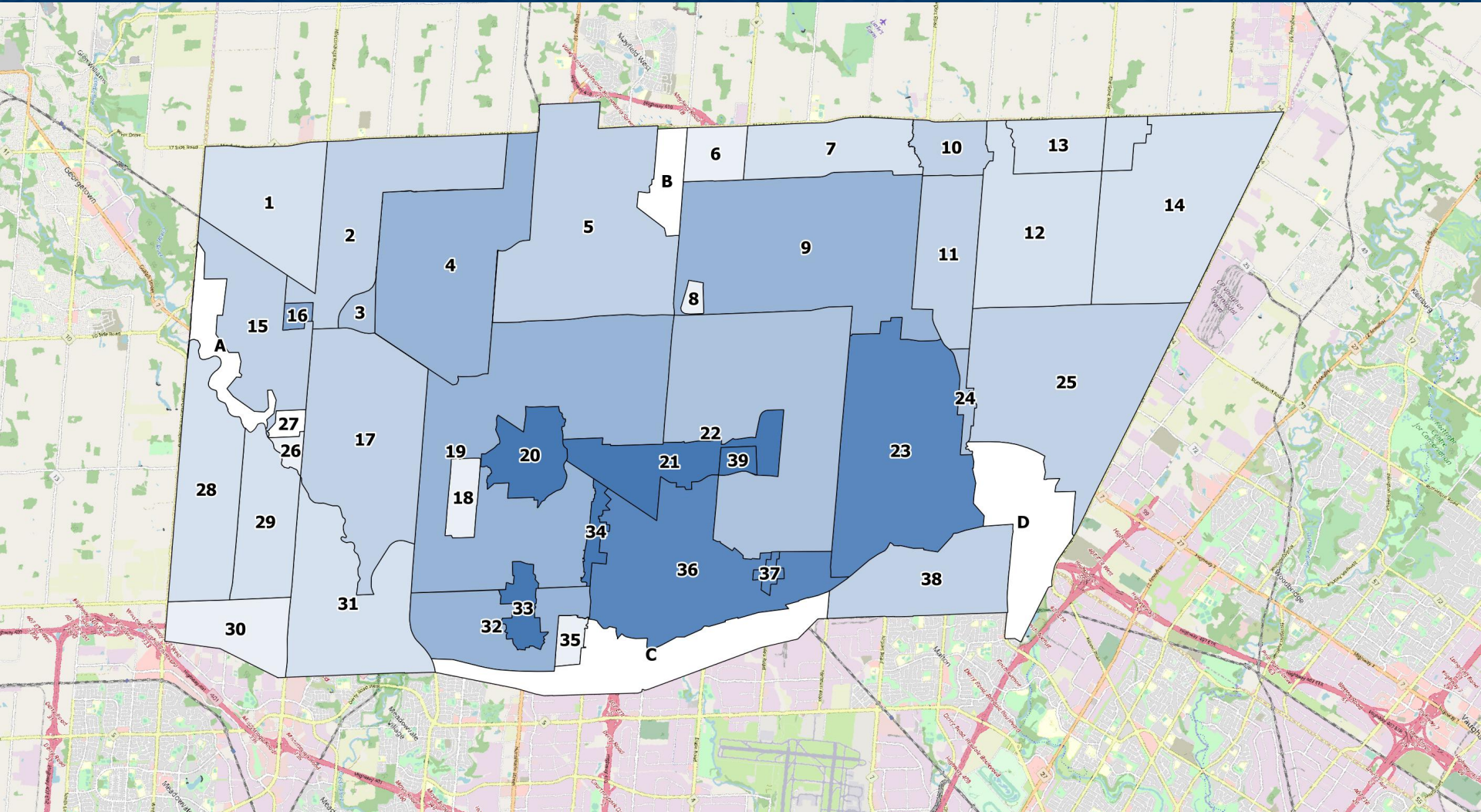
2050 – Base Case Source Energy Intensity* – GJ/km²



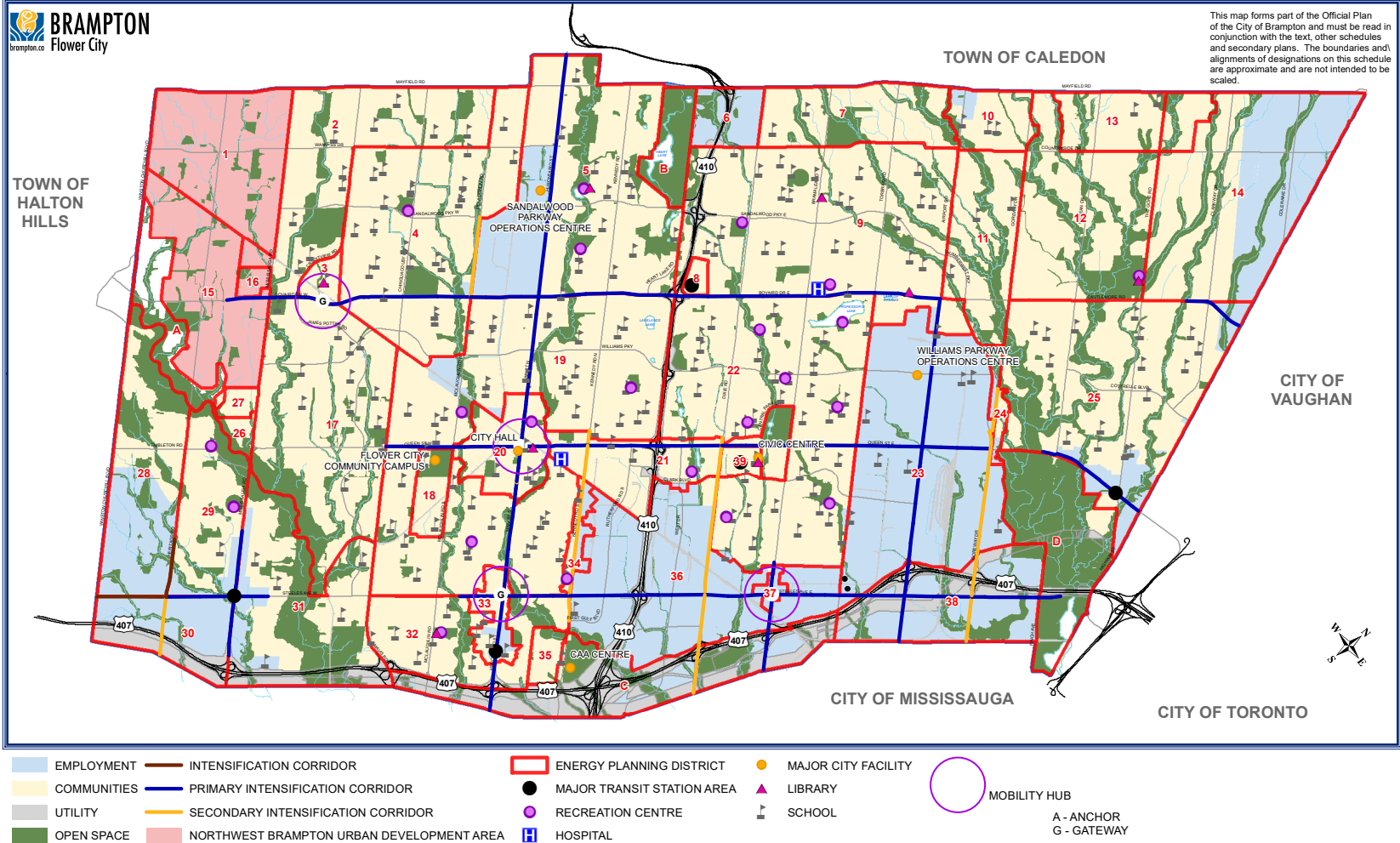
*Homes & Buildings Only  Bramalea & Uptown Urban Workshops March/May 2019

2051 CoB Base Case – Possible DE Areas

Total Gas Energy - Index GJ/km²

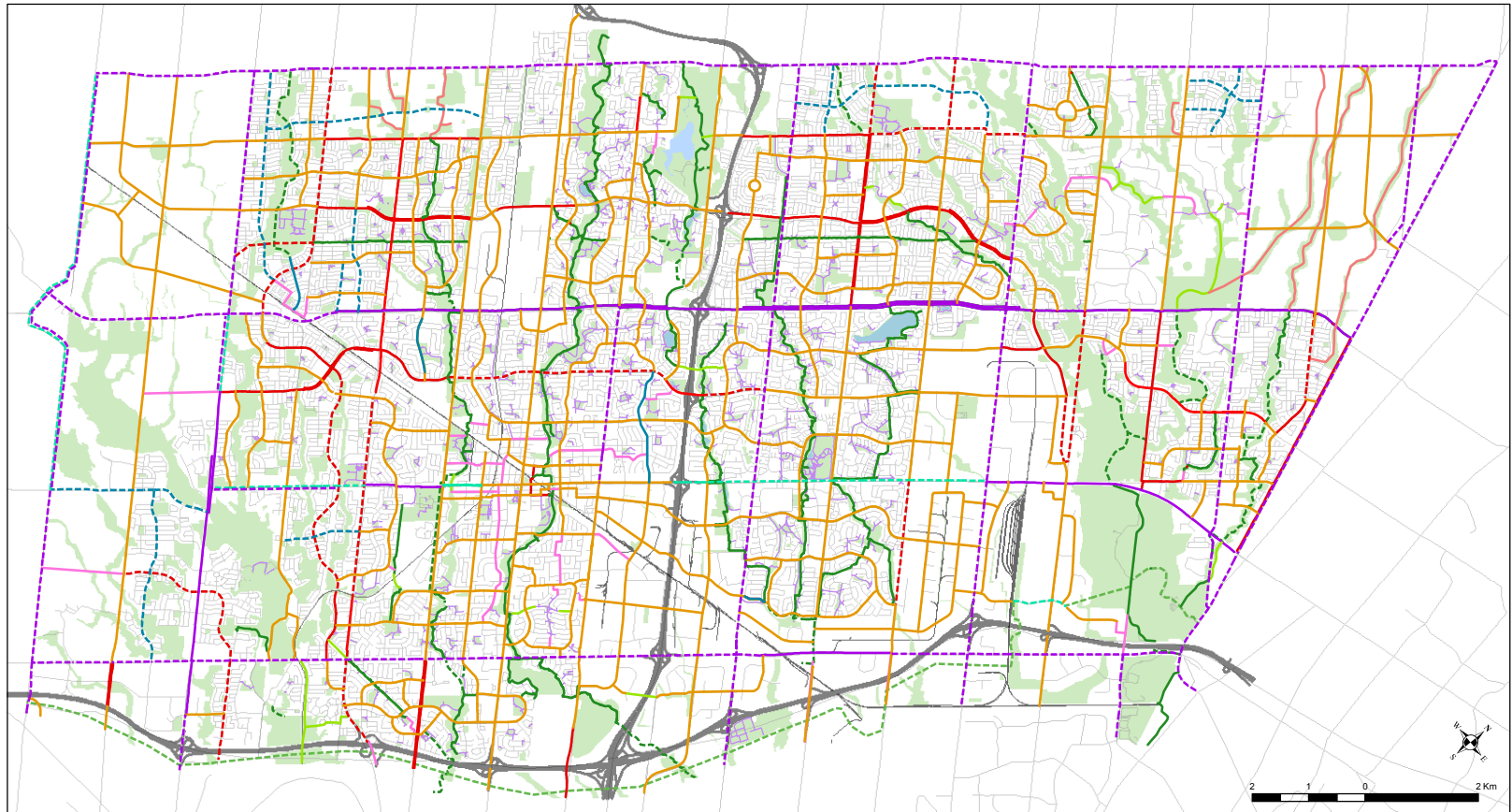


Urban Structure Intensification Corridors and Nodes



SCHEDULE 1 CITY CONCEPT

Urban Structure Active Transportation Plan



City of Brampton

Community Energy & Emissions Reduction Plan

8. Analytical Process

a) Policy Implications of Scale

- *Peter Garforth*

Policy Implications of Scale

City of Brampton CEP *Gaining Visibility*



City of Brampton CEP *Gaining Institutional Visibility*



HENRY
FORD
COLLEGE
FUTUREDRIVEN

Integrated Energy Master Plan



Final Report April 4th, 2018

Prepared for:
Henry Ford College
5101 Evergreen Road
Dearborn, MI 48128-1495

Community Energy Plan *Goals (Short Version)*

- Support realization of “Brampton 2040 Vision”
- Economic
 - *Energy investments*
 - *Competitive energy cost*
 - *New high-quality employment*
- Greenhouse Gas
 - *Cut emissions 50% by 2041*
 - *Path to 80% cut in 2050*
- Energy Efficiency
 - *Global best-practice by 2041*
 - *At least 50% gain by 2041*
- Reliability / Resilience / Flexibility
 - *Adaptable to changing technology & user needs*
 - *Service quality will be at least 2016 levels*

Brampton 2040 Vision

“Living the Mosaic”



**LIVING
THE
MOSAIC**

Brampton 2040 Vision
May 2018

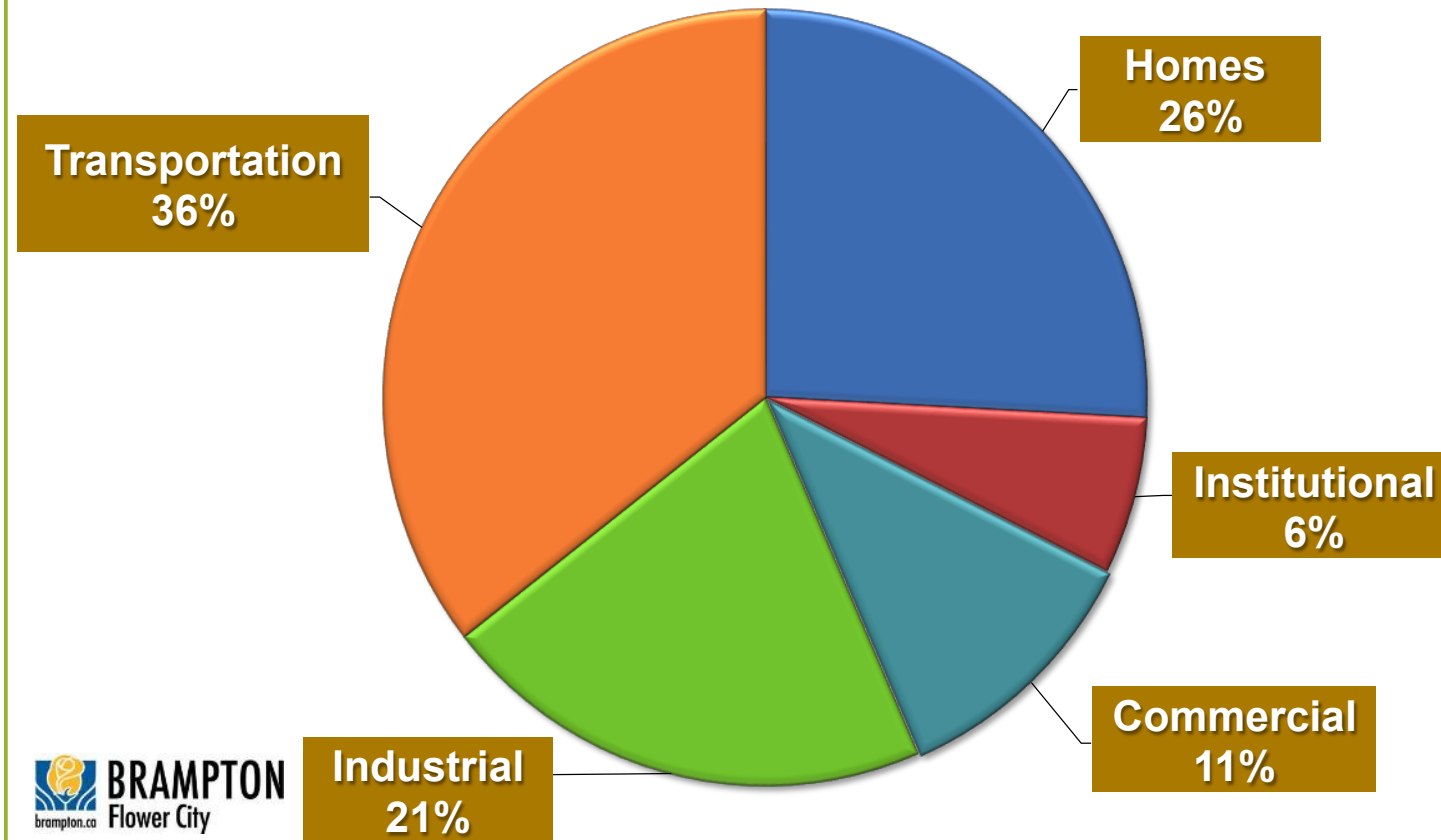
future**ready**

 **BRAMPTON**

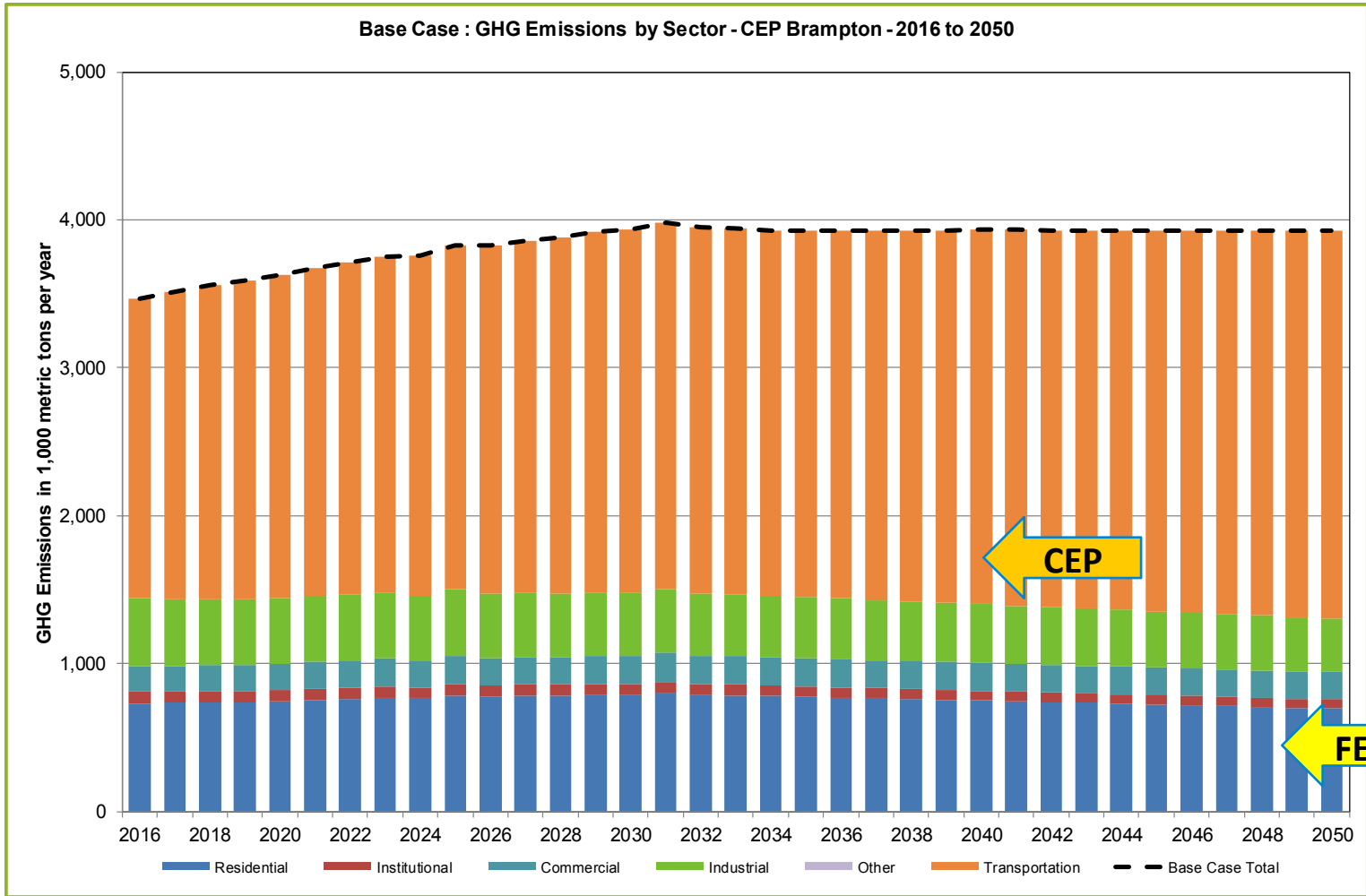
Outstanding Plan – CEP Will Add Energy Layer

City of Brampton CEP 2016 Baseline *Customer Energy – 92M GJ*

CEP Brampton - Source Energy Usage by Sector - 2016



Business-as-Usual to 2050 Emissions Goals - CEP & Federal



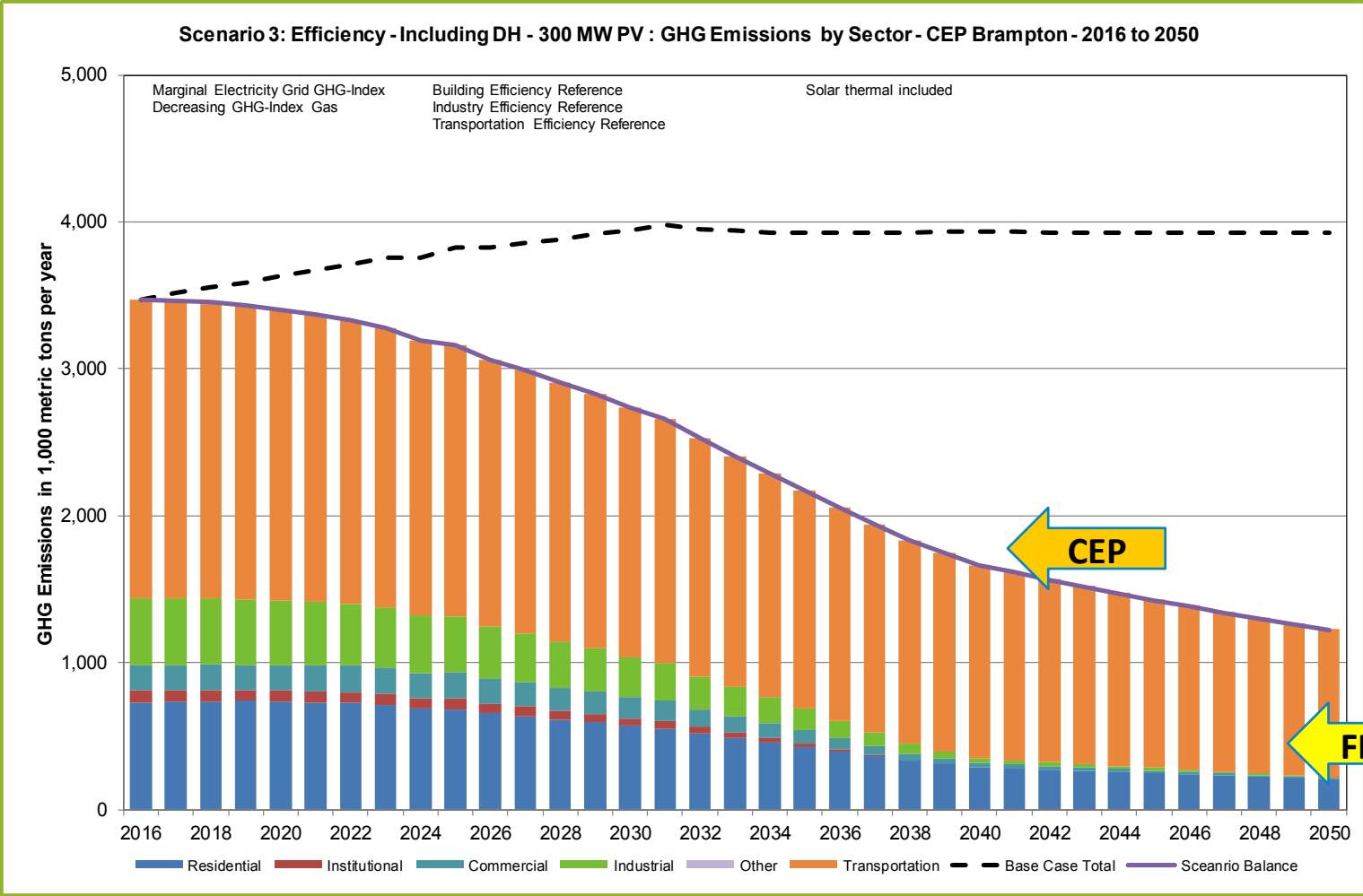
Developing Integrated CEP Scenarios

Elements for CEP Solution Simulation

- Efficiency of existing homes
- Efficiency of existing C&I buildings
- Efficiency of existing industry
- New construction efficiency
- Net-Zero Neighbourhoods (*“Greenfield”*)
- Mixed-use Densification (*“Town Centres”*)
- District Energy areas
- Renewable electricity generation
- Transportation efficiency and mix

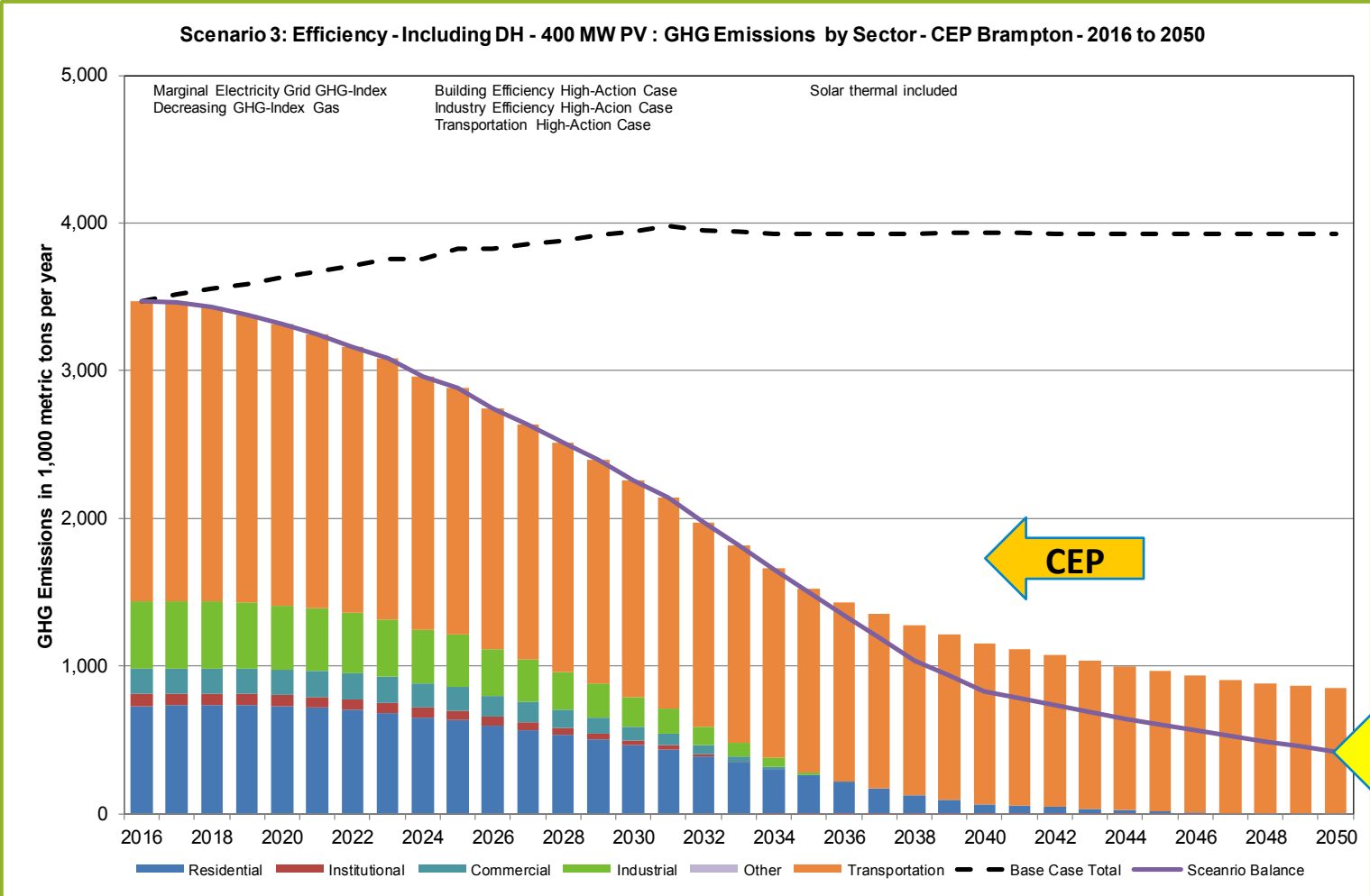
Brampton Simulation – Reference Case

GHG by Sector



Brampton Simulation – High-Action Case

GHG Emissions by Sector



CEP Implementation

Prerequisites to Achieve Scale

- Embed CEP requirements in Vision 2040 and all relevant City plans and policies immediately
- Embrace linkage between CEP Goals and the necessary implementation scale
- Create institutional frameworks, business plans and financing capable to deliver scale over decades
- Build effective national and international coalitions
- Create local engagement and resource development capability
- Measure – Report – Analyze – Adapt
- Move fast: Growth creates “Facts on the Ground”

Implications of Scale

Home & Buildings Efficiency Retrofits

■ Structure

- *Create “Efficiency Utility” to deliver volume*
- *Standardized retrofits and pricing*
- *Payment through LIC mechanism*

■ Benefits

- *High-quality and fast implementation*
- *Owner payments less than energy saving*
- *Productivity gains through volume*
- *Contractor profits increased*
- *Attractive investment opportunity*
- *.....*

Implications of Scale

District Heating & Cooling

■ Structure

- *Create Municipal District Energy Utility*
- *Develop global-best practice business plan*
- *Designate District Energy Areas and policies*

■ Benefits

- *High-quality, reliable comfortable services*
- *Proven technology and predictable investments*
- *Municipal scale will attract global-players*
- *Attractive investment opportunity*
- *High-quality local employment*
- *Pathway to zero emission heating*
- *Build resources with Sheridan*
- *.....*

Implications of Scale

Greenfield “Net-Zero” Neighbourhoods

■ Structure

- *Designate policies for Greenfield “Net-Zero Neighbourhoods”*
- *Above code efficiency standards*
- *Served by district energy with pathway to zero-emissions*

■ Benefits

- *Comfortable, high-value properties*
- *Accelerated achievement of emissions goals*
- *Creates early critical mass for district energy*
- *.....*

Implications of Scale *Planning & Policy*

■ City Planning

- *Official, Secondary and Transportation Plans include and meet energy targets*

■ Policy

- *New construction and deep retrofit permitting must include energy goals and guidelines*
- *Differentiated guidelines by energy areas –
Densification, Net-Zero and Other*
- *Construction guidelines must include clean and renewable supply – solar thermal, solar PV and DE connection....*

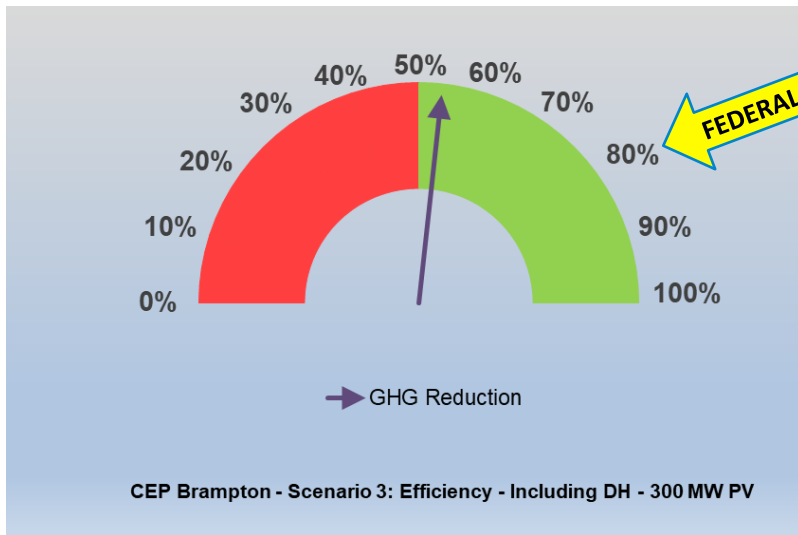
Implications of Scale

Closing Thoughts

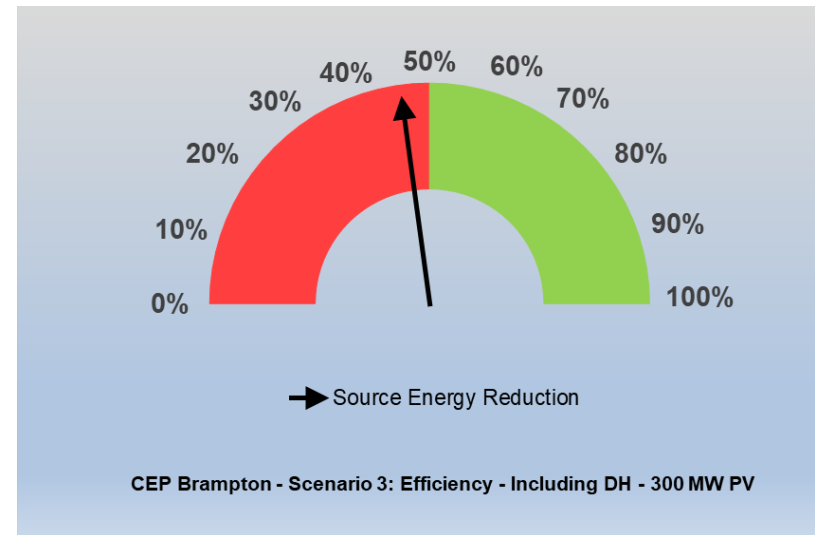
- Drives down costs
- Improves consistency and quality
- Attracts patient investors
- Attracts global leading suppliers
- Localizes energy value
- Create collateral investment
- Gives Brampton national and global status

Brampton Simulation – Reference Case Results by 2041

Carbon Emissions



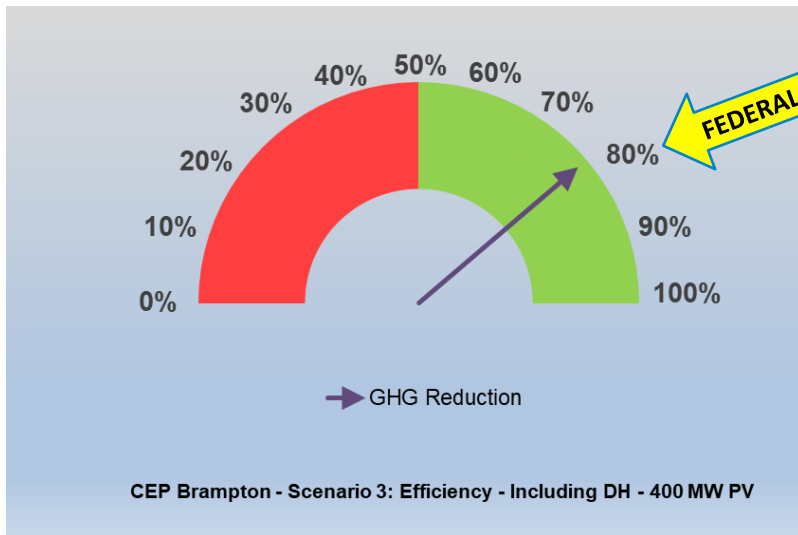
Energy Efficiency



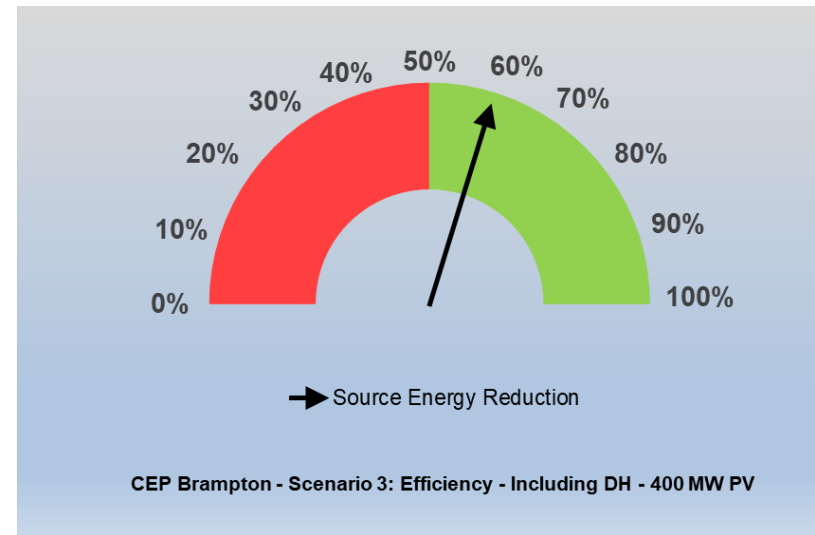
Brampton Simulation – High-Action Case

Results by 2041

Carbon Emissions



Energy Efficiency



City of Brampton

Community Energy & Emissions Reduction Plan

9. Engagement Update

a) Summary of Engagement Activity

- *Rob Kerr*
- *Michael Hoy*

Engagement Plan *Update*

- Task Force
- Mayor and Council
 - *Previous Reports*
 - *Council Workshop – Fall 2019*
 - *Final Report – January 2020*
- Targeted Networks
 - *Nordic Cities*
 - *Peel District School Board*
 - *TRCA/PPG*
- Municipal Departments
 - *Initial Meeting pre-Nordic Cities*
 - *MD2 late June/early July*
- Public
 -

Engagement Plan

Public Engagement Opportunities

- April 22 = Earth Day CP24
- April 27 = Earth Day Community Tree Plantings
- April 30 = Mayor's Faith Based Leaders Forum
- May 1 = Massey Street Public School Open House
- May 4 = Annual Scouts Tree Planting
- May 11 = Brampton Vision Celebration
- May 19 = National Public Works week
- June 8 = Heart Lake Plogging event
- June 15 = Farmers Markets Launch
- June 22 = Bike the Creek
- July 13 = Famers Market: tree talk
- July or August = Farmers Market: pollinator
- September 14 = Massey Park planting
- Late September = Jessie Park planting
- Fall = Dorchester Park planting
- Fall = County Court planting - aim for first weekend of October
- Fall = Fletchers Creek planting

City of Brampton

Community Energy & Emissions Reduction Plan

10. Communication

a) Community Communique #3

■ *Rob Kerr*

Communication *Resident Info Card*



The City of Brampton, in partnership with Sheridan College, and the Community Task Force is developing a Community Energy & Emissions Reduction Plan (CEERP).

The CEERP will create a roadmap to:

- improve energy efficiency;
- reduce greenhouse gas emissions;
- ensure energy security;
- create economic advantage; and
- increase resilience to climate change.

@BramGrowGreen



www.brampton.ca/CEERP



BRAMPTON

City of Brampton

Community Energy & Emissions Reduction Plan

11. Next Meeting

- a) *Trial Dates for Meetings #4 and #5*
 - *Dave Kapil*

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Community Energy & Emissions Reduction Plan

Engagement	General Topics	Format/Tools	Provisional Date
Task Force #1	Overview of CEERP process (scope), CEERP Relationship to Urban Planning, CTF Charter and Governance Role, Draft Framing Goals, Baseline, Base Case, Engagement Strategy	Presentation Q&A Working Meeting	March 28, 2019
Task Force #2	Scenarios and Options	Mapping Charrette Working Meeting	May 22, 2019
Task Force #3	Preliminary Recommendations	Presentation Q&A Working Meeting	June 24, 2019
Task Force #4	Final Draft Recommendations Ongoing Governance Role	Presentation Q&A Working Meeting	Week of September 9, 2019
Task Force #5	Final Draft CEERP	Presentation Q&A	Week of October 21, 2019



City of Brampton

Community Energy & Emissions Reduction Plan

12. Adjourn

THANK YOU
And
GOOD DAY