CCET
Advisory Task Force Meeting #3

June 16, 2021

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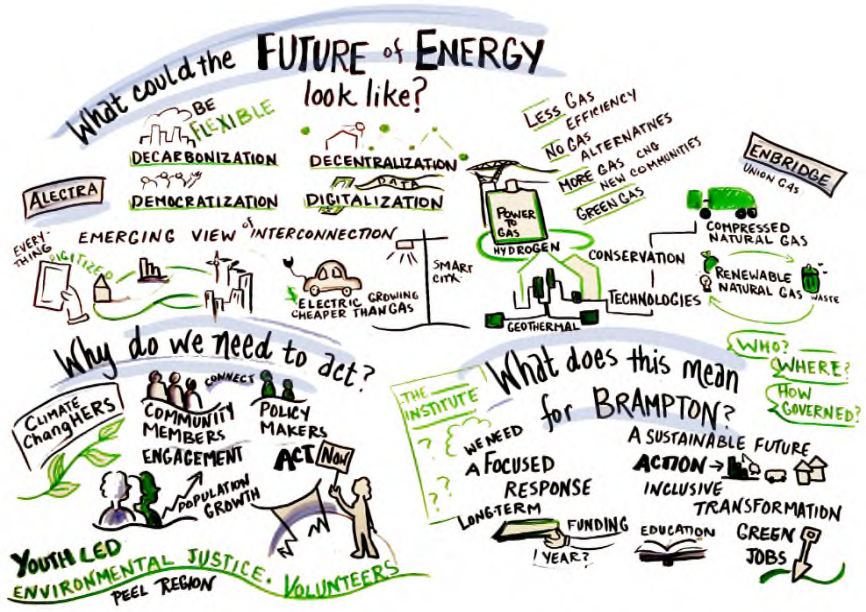
Objectives of Today's Meeting

- Learn about Shoppers World Redevelopment
- Provide updates on Subcommittees
- Discuss work plans and expectations
- Discuss Subcommittee meeting and reporting format



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Agenda

We ask that you please mute your mic during the presentation

- Presentation: Shoppers World Preliminary District Energy Study
- May ATF Meeting Minutes
- Subcommittee Reports
- Work Plan
- Subcommittee Structure
- Discussion

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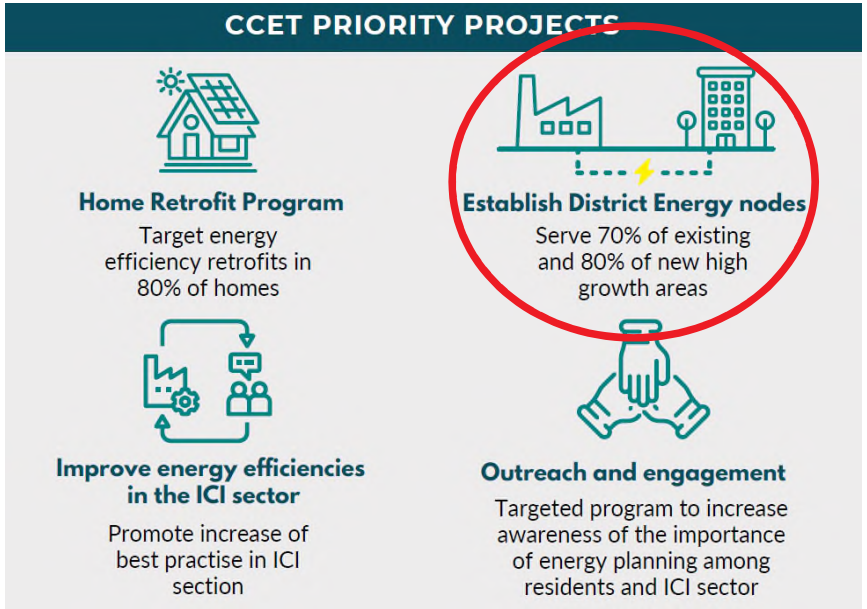
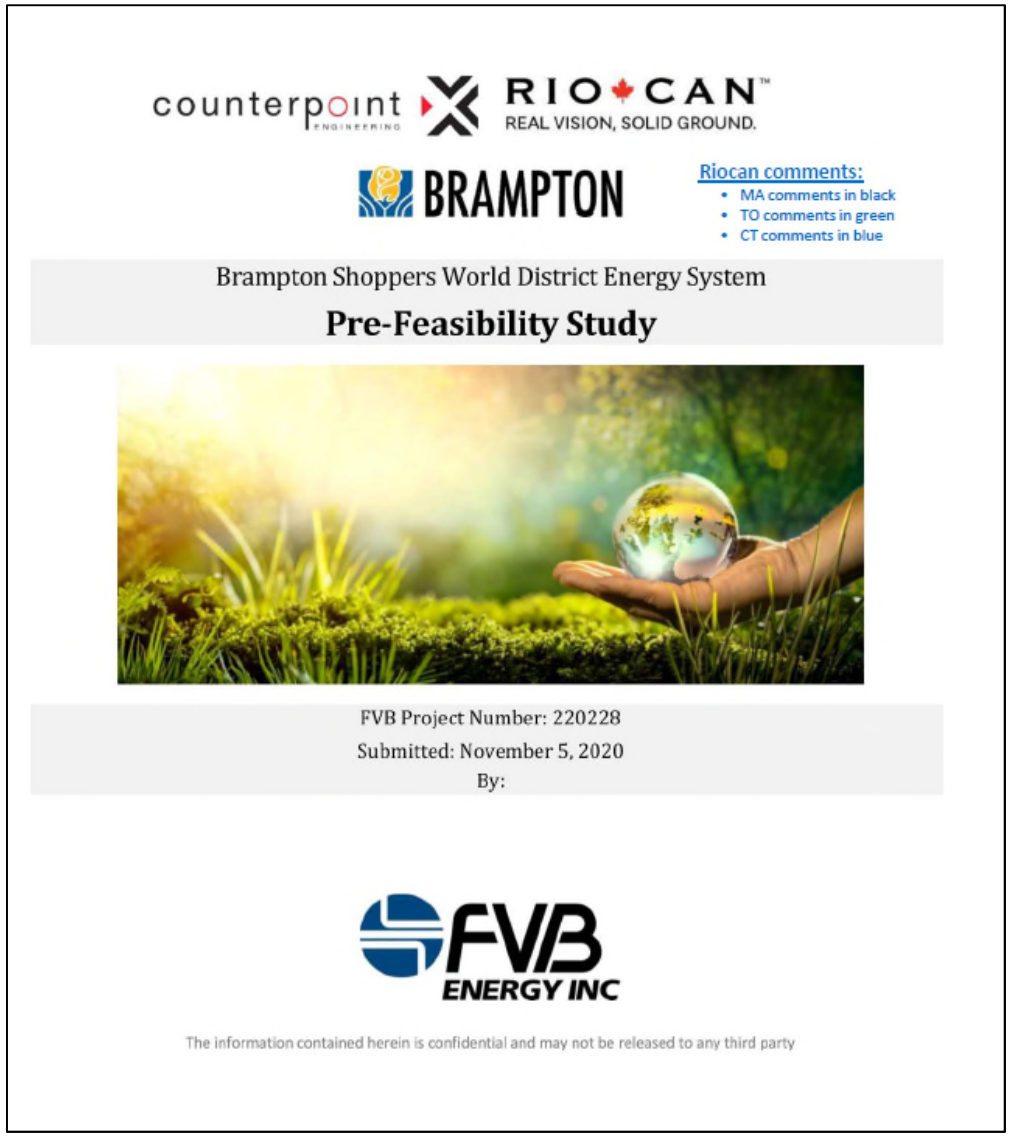
Presentation

- Shoppers World Pre-Feasibility Study for Shoppers World District Energy




counterpoint ENGINEERING

RIOCAN REAL VISION, SOLID GROUND.

BRAMPTON

Riocan comments:
- MA comments in black
- TO comments in green
- CT comments in blue

Brampton Shoppers World District Energy System

Pre-Feasibility Study

FVB Project Number: 220228

Submitted: November 5, 2020

By:

FVB ENERGY INC

The information contained herein is confidential and may not be released to any third party

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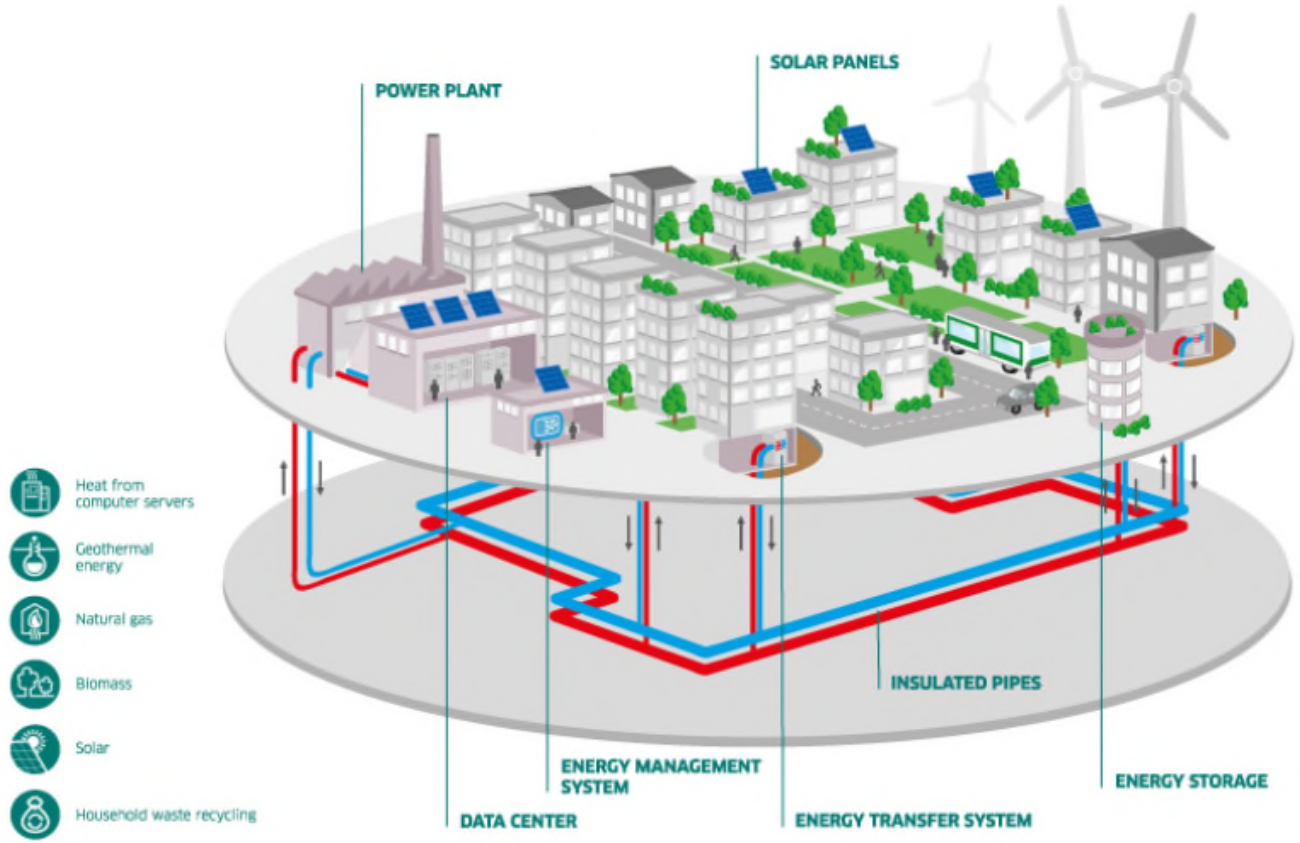
What is District Energy?

- District energy is the production/supply of thermal energy.
- Hot water/chilled water are produced at central plants and distributed to surrounding buildings via a closed-loop underground distribution system known as a thermal grid.
- The thermal energy delivered to the buildings is used for space heating, domestic hot water heating and air conditioning.
- Buildings connected to the thermal grid do not need their own boiler or furnaces, chillers or air conditioners.
- Commercial buildings, condominiums, hotels, sports facilities, universities, and government complexes are all examples of buildings commonly connected to a thermal grid.



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District Energy in Brampton

1886

Brampton's first transmission line is built from James Oscar Hutton's woolen mill generator in Huttonville to downtown Brampton.

1915

The Dale Estates greenhouses in Brampton had the city's first district heating system, powered by 6,000-19,000 tons of coal annually and over 160km of steam pipes.

2016

The City of Brampton saves $4.4 million over 6 years on energy, partially from installing solar panels and selling back the electricity generated.

2018

Sheridan College officially opens the Skilled Trades Centre, which uses the building's district energy system to lower emissions and teach students.

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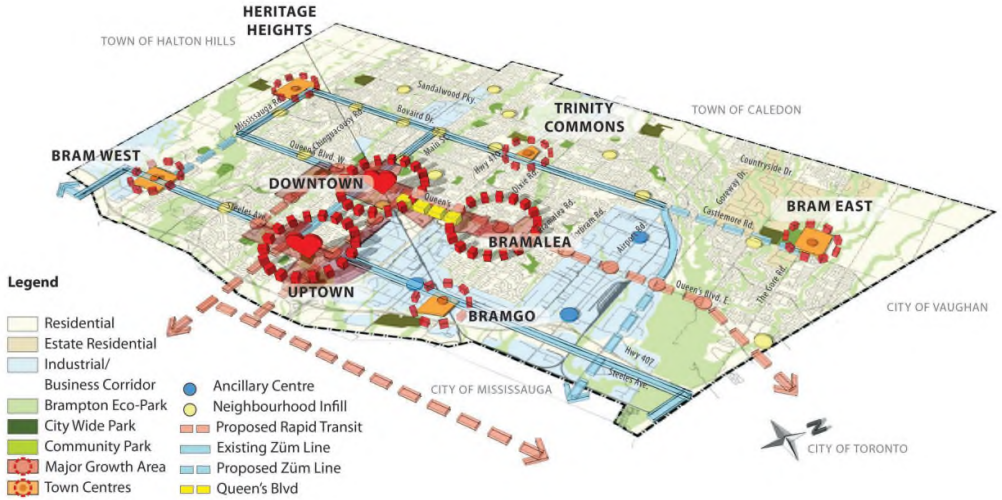
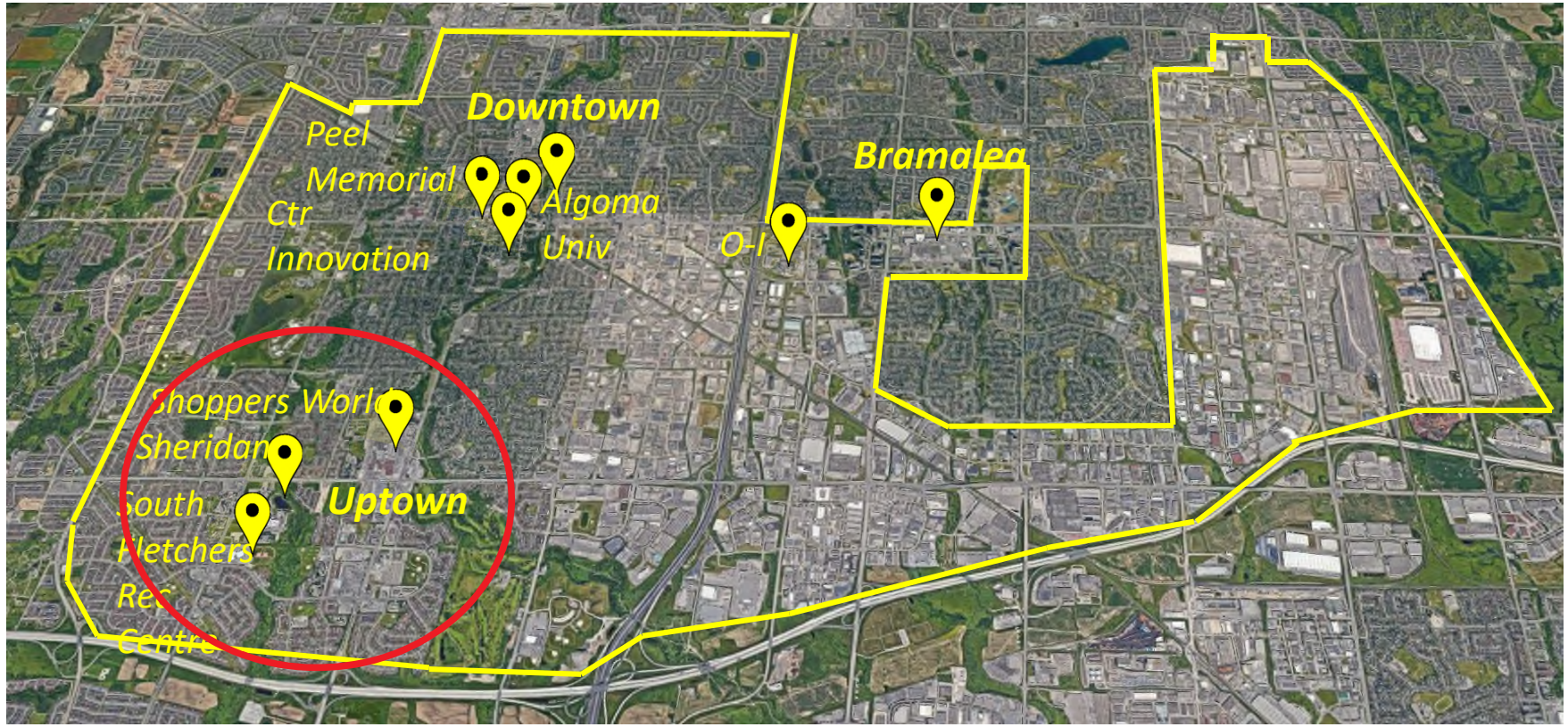
2040 Vision: Urban and Town Centres



Urban Centres and District Energy Opportunities



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CEERP District Energy Nodes

Distributed Energy Systems offer communities the following benefits:

- lowering the carbon impact of meeting the heating, cooling, and hot water needs of buildings through the distribution of heating and cooling;
- Reduced system losses associated with the current centralized energy system; and
- Increased security, resiliency, and flexibility of local energy supply.

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CEERP Action Plan

Local Energy Supply and Distribution	4A	Implement district energy in high growth districts with a mix of combined heat and power and other low-carbon heating and cooling sources	Serve 70% of existing high growth Energy Planning Districts and 80% of new high growth Energy Planning Districts with district energy
	4B	Install solar hot water in stable residential areas (low growth districts)	Serve 10% of hot water and heating needs in homes not served by district energy with solar hot water
	4C	Generate significant amounts of solar power installed on suitable rooftops and other locations	Supply 8% of Brampton's electricity needs with locally generated solar power

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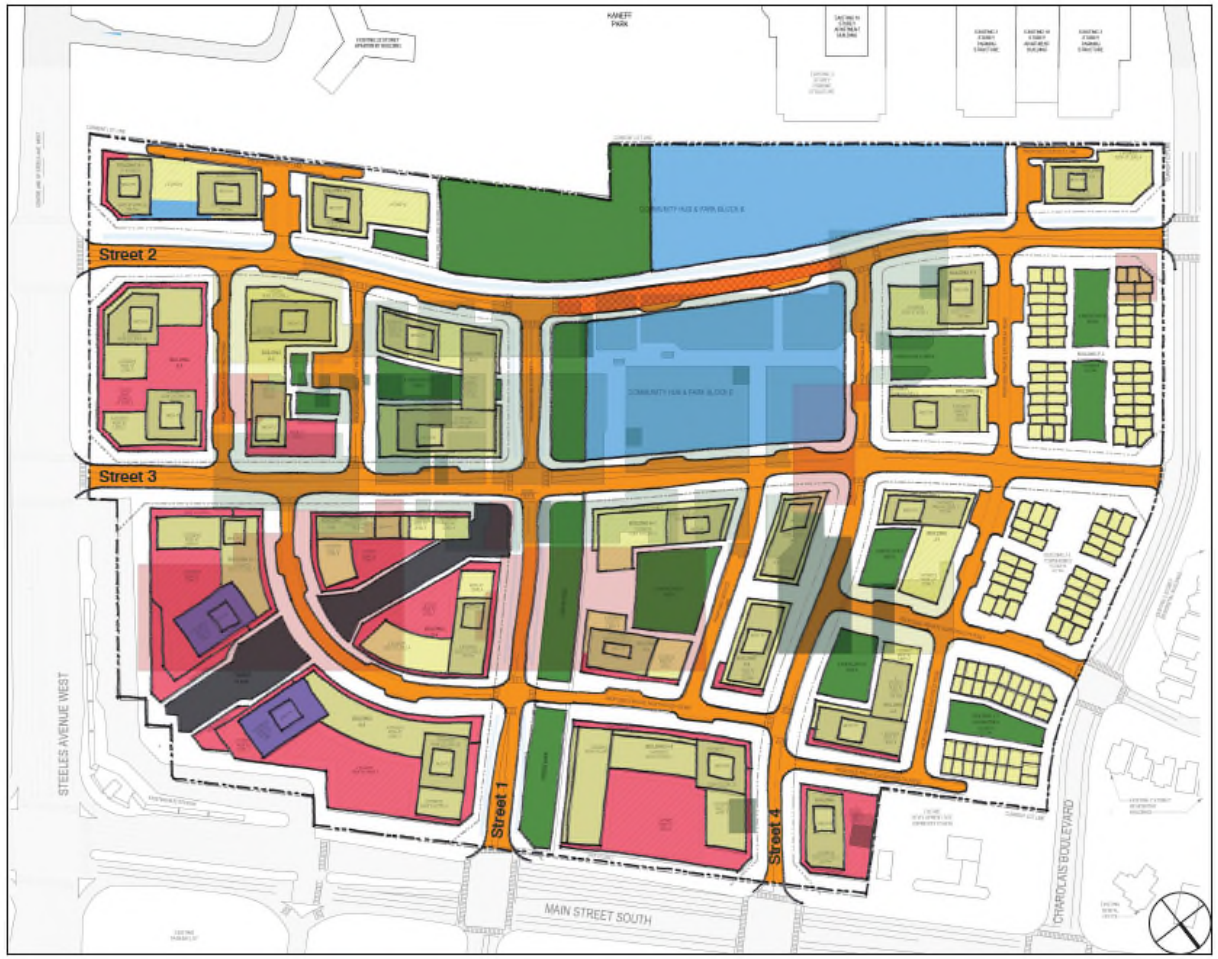
Uptown: Shoppers World Redevelopment



Quadrangle

- Existing Mall
- Proposed Retail
- Proposed Residential
- Proposed Office
- Proposed Community
- Proposed Road
- Proposed Landscaping/Park
- Proposed Plaza
- Traffic Calming and Street Connection (TBD)

Existing Above Grade GFA - 2020		
Retail/Commercial	62,256 sm	670,124 sf
Office/ Institutional	1,573 sm	16,930 sf
Residential	0 sm	0 sf
Community	0 sm	0 sf
Parkland dedication (public)	0 sm	0 sf
Privately owned open space/park	0 sm	0 sf

Estimated Interim Above Grade GFA -Phase: 4 - 2051-2060		
Retail/Commercial	40,497 sm	435,905 sf
Office	37,001 sm	398,274 sf
Residential	282,561 sm	3,041,487 sf
Community	31,435 sm	338,361 sf
Parkland dedication (public)	8,094 sm	87,124 sf
Privately owned open space/park	16,110 sm	173,408 sf

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Uptown: Shoppers World Redevelopment

- Total area of approximately 21.45 ha
- Mixed Use - retail, commercial, office, residential and institutional/community uses in a mix of building types ranging from 3 to 28 storeys
- Approximately 384,000 m^2 of floor space including
  - 88,000 m^2 of non-residential floor space,
  - 296,000 m^2 of residential floor space
- Approximately 5,000 units at full build out

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Pre Feasibility Study for District Energy: Shoppers World

- **Stage 1: shall include the initial evaluation of building energy needs, evaluation criteria, evaluation of a proposed system energy and emissions modelling and the business case for the implementation of a District Energy System. (completion in Q3 2021)**
- Stage 2: will provide greater clarity and support for the modelling of energy generation, distribution, and consumption, emissions, and economic modelling for both the buildings and generation components of a District Energy System.

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Pre Feasibility Study for District Energy: Shoppers World

Stage 1:

- Coordination and guidance on building energy modeling evaluation
- Evaluation of possible energy generation technologies or mixtures of that could be implemented to meet the energy demands of the proposed development.
- Outline the emissions reduction anticipated through the implementation of the various district energy options to meet City of Brampton's Community Energy and Emissions Reduction Plan.
- Consideration for the proposed development phasing plan as provided by the owner, and allowance for flexibility in phasing.
- Evaluate potential future integration of a District Energy System into the larger network.
- A recommendation on utility operation, assistance in developing a utility for generation and distribution if identified in the initial phases of the study.

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Pre Feasibility Study for District Energy: Shoppers World

- Low Carbon district energy systems being investigated include:
  - large solar-thermal arrays;
  - biofuel boilers and combined heat and power (CHP);
  - sewage waste heat recovery;
  - geothermal arrays; and
  - boilers using renewable electricity.

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May ATF Meeting Minutes

- ✓Staff to follow up with Gaby to share excel spreadsheet used for analysis of funding allocation and share the item to Google Drive
- ✓Members to send in their Google/Gmail account to CCET@brampton.ca get access to Google Drive
- ✓Subcommittee Chairs to report back to ATF on monthly basis using briefing template. Template can be found in the ‘Agendas and Minutes’ folder in each Subcommittee folder on Google Drive.
- ✓Subcommittee tasks (regular meetings set up and working groups)
- ✓Subcommittees to create a work plan using overarching plan for next ATF Meeting in June.

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Subcommittee Reports

- Governance and Nominations
- Funding and Partnerships
- Communication and Engagement

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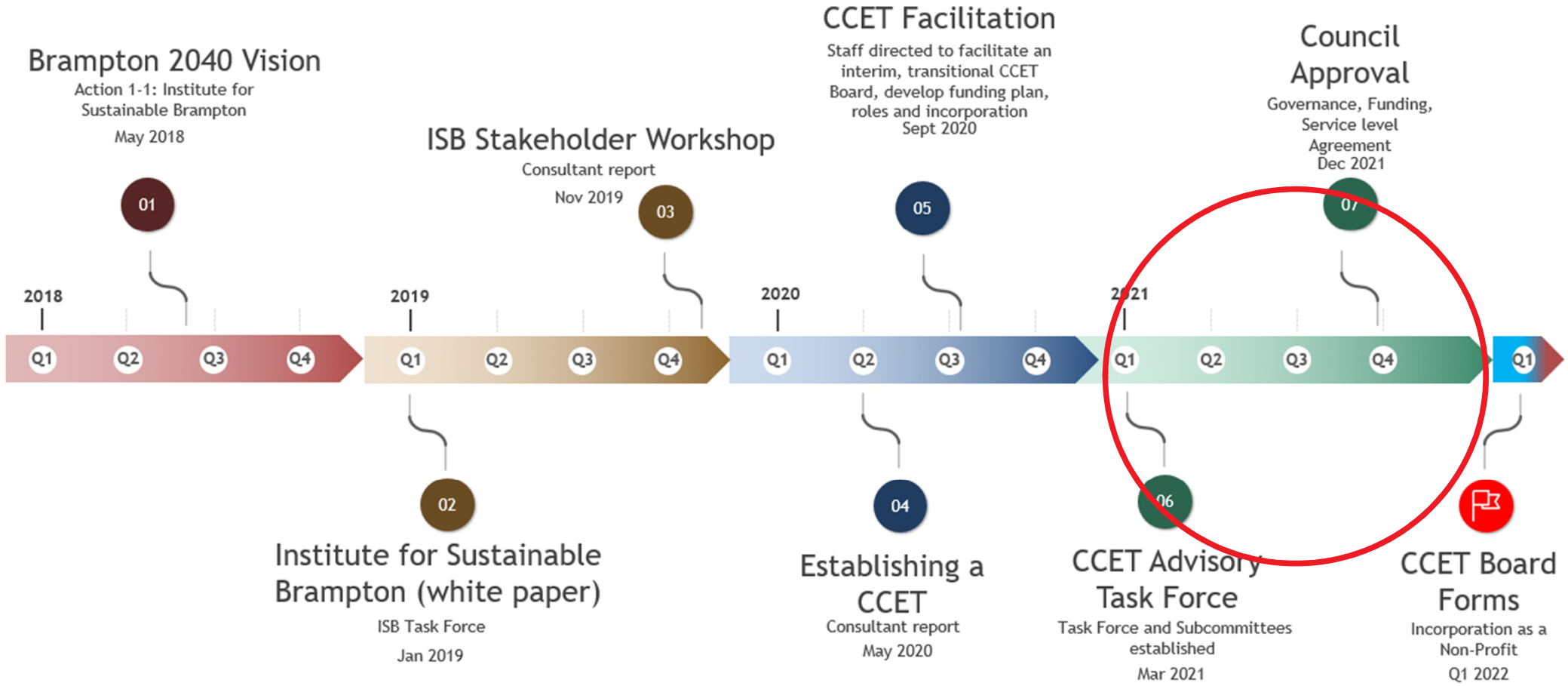
Work Plan



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CCET ATF Work Plan

Committee	May	June	July	August	September	October	November	December
Governance Subcommittee								
Draft Corporate Bylaws	■	■						
Board Structure		■	■					
Board Recruitment Strategy			■	■				
Executive Director Job Description				■	■			
Funding Subcommittee								
Funding Strategy	■	■	■					
Review Draft Service Agreement				■	■			
Partnership Strategy		■	■	■				
Communication and Engagement Subcommittee								
Communication Plan - Short Term Actions	■	■						
Communication Plan - Long Term Actions			■	■	■			
Project Team								
Draft Service Level Agreement	■	■	■	■	■			
Write Council Report					■	■		

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Discussion

- Subcommittee Structure
  - Meeting Format
  - Report back to ATF
- Next ATF Meeting July 21st

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Contacts

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