

# Climate Lens and Youth Engagement



# Agenda

## 1. Climate Lens Tool

➔ Rochelle Rumney, Climate Change Officer

## 2. Youth Engagement Strategy

➔ Laura Almeida, Policy and Program Support Analyst

# City of Brantford



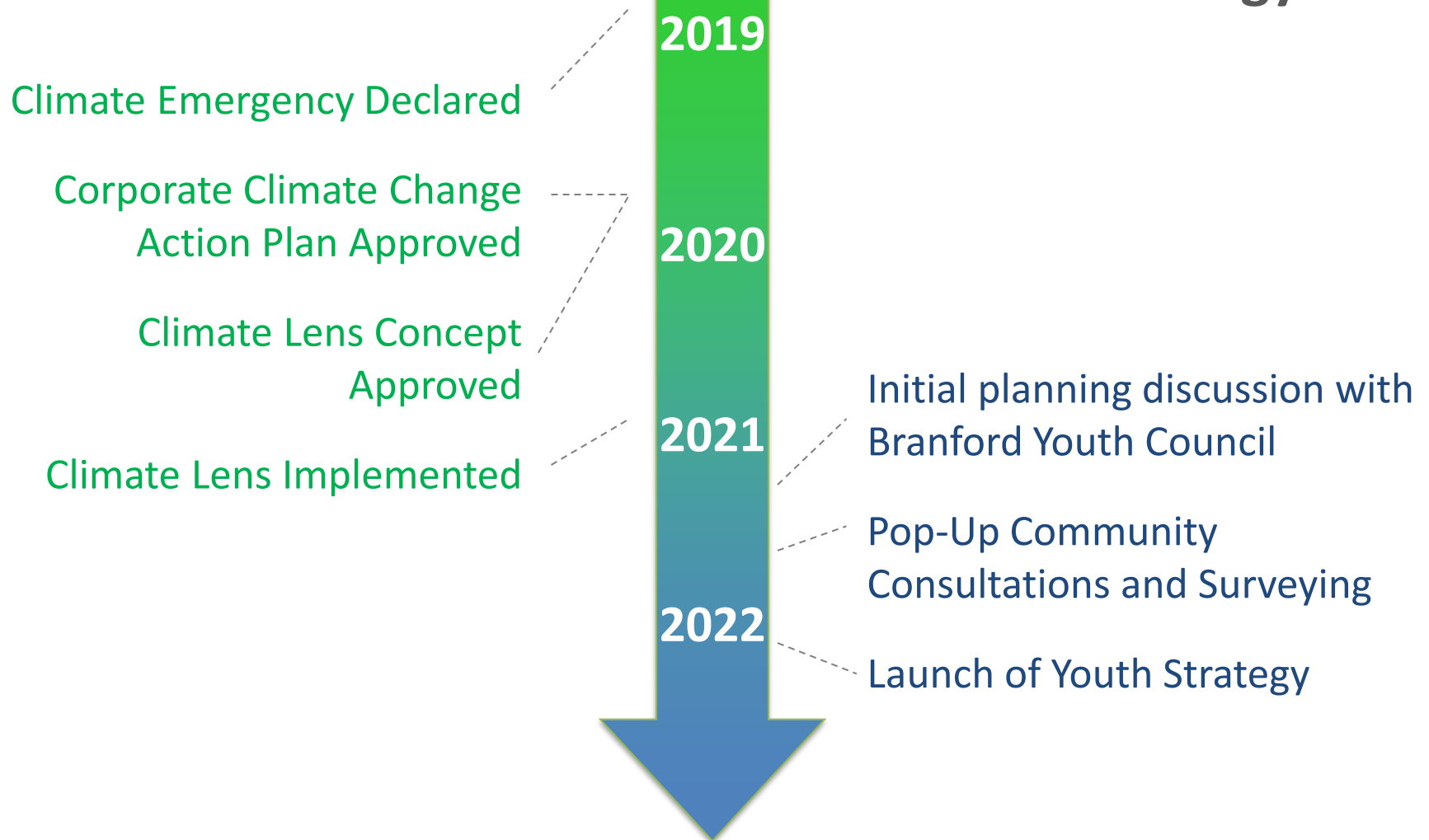
- Single-tier municipality
- Population 104,000
- Expected to grow to 163,000 by 2041



# Timeline

## Climate Lens

## Youth Strategy





# Council Direction

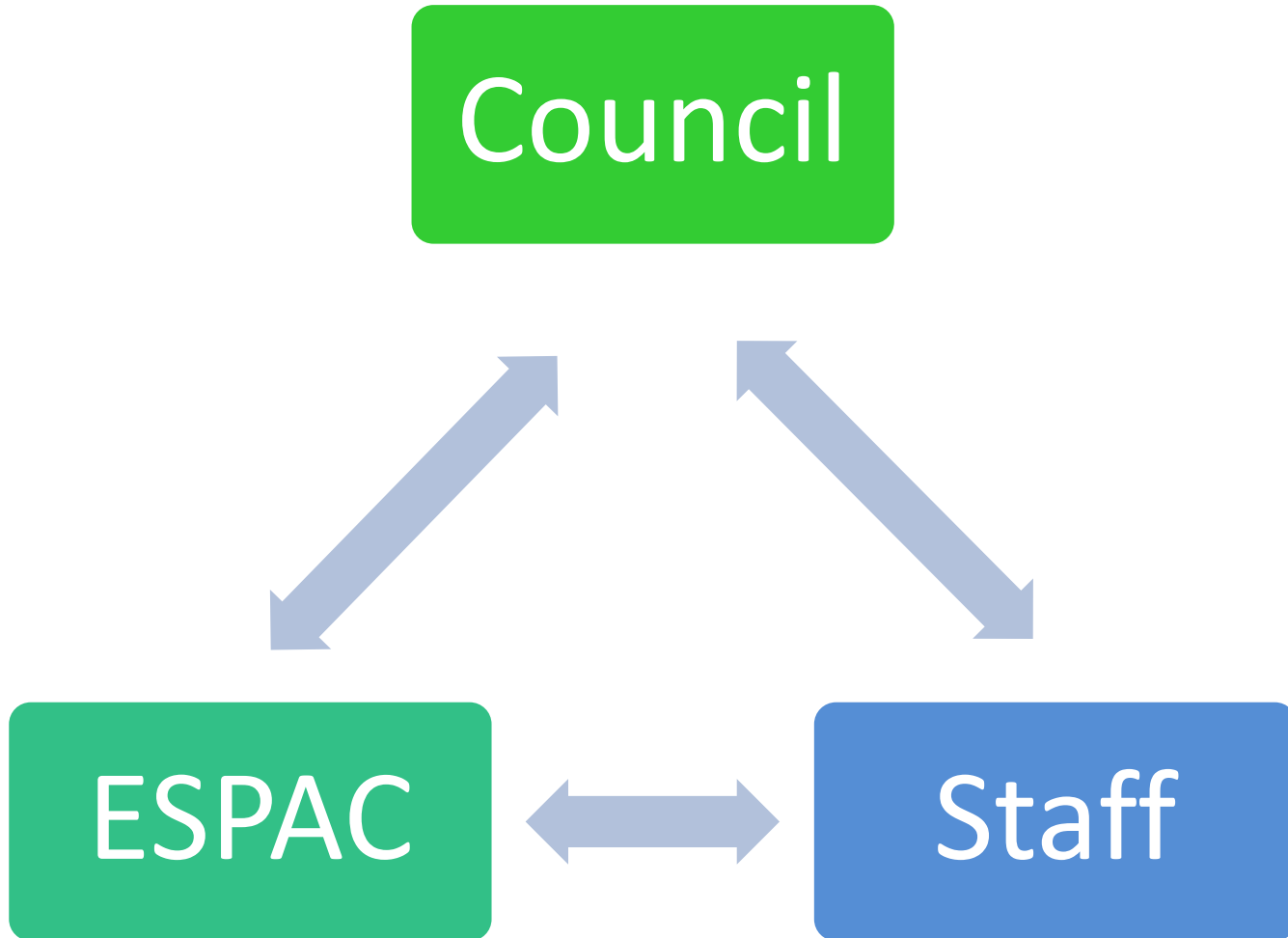
- Climate Emergency provided direction to:

*“... develop a carbon reduction strategy in collaboration with the Environmental and Sustainability Policy Advisory Committee, to be provided to Council ... that details the following:*

- A process to ensure that ... every matter coming before City Council will quantify and report its impact relative to the climate emergency and Brantford’s carbon reduction strategy; ...”*



# Development





# Function

## Quantify

- Track Data
- Calculate Emissions

## Discuss

- Identify Issues
- Propose Solutions

## Educate

- Climate Literacy
- Transparency



# Climate Lens Process

Two components:

1. New **STAFF REPORT SECTION** in all committee and council reports
2. **CALCULATOR TOOL** to quantify emissions and other metrics





# Report Section



Alternative formats and communication supports available upon request. Please contact accessibility@brantford.ca or 519-759-4150 for assistance.

<b>Date</b>	<b>Report No.</b>
<b>To</b>	Chair and Members name of Committee
<b>From</b>	name of GM or CAO title of GM or CAO

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**1.0 Type of Report**

Consent Item	<input type="checkbox"/>
Item For Consideration	<input type="checkbox"/>

---

**2.0 Topic**    **Insert Topic [Financial Impact]**

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**3.0 Recommendation**

A. THAT Report be RECIEVED

**4.0 Executive Summary**

**5.0 Purpose and Overview**

**6.0 Background**

**7.0 Corporate Policy Context**

**8.0 Input From Other Sources**

**9.0 Analysis**

**10.0 Financial Implications**

**11.0 Climate and Environmental Implications**

This section has been added as a result of the Climate Emergency Declaration. All staff reports (all depts.) should include discussion regarding any climate or environmental impacts. Public Works and Housing Operations are required to quantify impacts where applicable. A calculator tool has been developed to assist with quantifying impacts. Additional information on this section and tool can be found at that link as well.

**12.0 Conclusion**

\_\_\_\_\_  
 General Manager or CAO Signature

Prepared By:

Name and Title

In adopting this report, is a by-law or agreement required? If so, it should be referenced in the recommendation section.

By-law required  yes  no

Agreement(s) or other documents to be signed by Mayor and/or City Clerk  yes  no

Is the necessary by-law or agreement being sent concurrently to Council?  yes  no



# Report Section

Data Type	Applicable Departments	Information Examples
<b>Qualitative (Descriptive)</b>	<ul style="list-style-type: none"> <li>All Departments</li> </ul>	<ul style="list-style-type: none"> <li>Mitigation Strategies</li> </ul>
		<ul style="list-style-type: none"> <li>Land Use Change</li> </ul>
		<ul style="list-style-type: none"> <li>Policy Change</li> </ul>
		<ul style="list-style-type: none"> <li>Climate Adaptation Measures</li> </ul>
		<ul style="list-style-type: none"> <li>Active Transportation and Transit</li> </ul>
		<ul style="list-style-type: none"> <li>Ecological Impacts</li> </ul>
<b>Quantitative (Measured)</b>	<ul style="list-style-type: none"> <li>Public Works</li> </ul>	<ul style="list-style-type: none"> <li>Energy Use incl.               <ul style="list-style-type: none"> <li>Electricity (kWh)</li> <li>Natural Gas (m<sup>3</sup>)</li> <li>Gasoline/Diesel (L)</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>Housing</li> </ul>	<ul style="list-style-type: none"> <li>Trees/Vegetation</li> </ul>
		<ul style="list-style-type: none"> <li>Water Demand (L)</li> </ul>
		<ul style="list-style-type: none"> <li>Waste Production (Kg)</li> </ul>
		<ul style="list-style-type: none"> <li>Stormwater Impacts</li> </ul>



# Calculator Tool

Subject	Measurement Unit
Energy (Electricity, natural gas, gasoline, diesel, other)	kWh, m <sup>3</sup> , L, other = T of CO <sub>2</sub> e
Waste	Tonnes
Water	Litres
Stormwater	Area (sq. m.) impermeable surface % of property impermeable
Land Use Change	Area (ha) of land subject to change
Trees	# of trees = T of CO <sub>2</sub> e



# Calculator Tool

- Only **OPERATIONAL** impacts should be quantified at this time



Operational energy use  
= 48 T of CO<sub>2</sub>e

- Annual and lifetime impacts will be provided



Lifetime energy use  
= (48 x 25) 1,200 T of CO<sub>2</sub>e

- If replacing/retrofitting, provides comparison to previous asset



Previous asset  
= 265 T of CO<sub>2</sub>e  
Emissions change/yr  
= -217 T of CO<sub>2</sub>e  
Emissions change/life  
= -5,425 T of CO<sub>2</sub>e











# Calculator Tool

## Climate and Environmental Implications Assessment Tool

[Start New Climate Lens Report Entry](#)

[Find Existing Climate Lens Report Entry](#)

### Documents

✓	 Name	Modified	Modified By
	 20220217_IT Presents Climate Lens Tool Training	*** February 17	<input type="checkbox"/> Rochelle N. Rumney
	 20220217_IT Presents_Climate Lens Tool Training Video	*** February 17	<input type="checkbox"/> Rochelle N. Rumney
	 Climate and Environmental Calculator Guidance for Use	*** October 05, 2021	<input type="checkbox"/> Matt Allman
	 Climate and Environmental Implications FAQ	*** October 05, 2021	<input type="checkbox"/> Matt Allman
	 CO2e Equivalency Tables	*** February 16	<input type="checkbox"/> Rochelle N. Rumney
	 Example Climate Lens Tool Report	*** February 16	<input type="checkbox"/> Rochelle N. Rumney
	 MiniTool_Vehicle Fuel Usage Calculator	*** January 24	<input type="checkbox"/> Rochelle N. Rumney

### Climate Tool Discussion Board

[+ new discussion](#)

[Recent](#) [My discussions](#) [Unanswered questions](#) \*\*\*



There are no items to show in this view of the "Climate Tool Discussion Board" discussion board.



# Calculator Tool

## 1. Project Info

### Climate and Environmental Implications Assessment Tool

This tool is provided for calculations as well as record keeping for both qualitative and quantitative data, please fill in as much information as possible/relevant in the 9 sections below.

If you require further guidance refer to the Climate and Environmental Implications Calculator Tool Guidance for Use document on the Climate Tool homepage or contact Rochelle Rumney at [rumney@brantford.ca](mailto:rumney@brantford.ca) or ext 5158.

Enter as much project information as available to assist with record keeping and tracking. Information such as date created, report author, department and job title are entered automatically from your work station and will be included in the email report.

Project Name \*

Staff Report #

Date of Staff Report at Committee/Council



Brief Project Description

Estimated Operational Start Date



Estimated Operational End Date



Is this a new project or is it replacing or retrofitting an existing project/asset?

2. Emissions from Energy

3. Waste

4. Water

5. Stormwater

6. Land Use Change

7. Trees and Vegetation

8. Other

9. Ready to Submit?



# Calculator Tool

## 2. Emissions from Energy

Enter in the estimated **operational** energy use for the new or proposed project per year for the applicable fuel type. If this is replacing/retrofitting/improving a previous asset/project, enter the existing energy usage data in the last line and it will calculate the difference.

Amount of electricity estimated per year

  
(kWh/Yr)

Amount of gasoline estimated per year

  
(L/Yr)

Amount of diesel estimated per year

  
(L/Yr)

Amount of natural gas estimated per year

  
(m3/yr)

Other fuel estimated per year

  
(T of CO<sub>2</sub>/yr)

If you are proposing a building project, please enter area of building

  
sq m

If you implemented any emissions reduction measures in the design, construction or operation of this project, please describe

If this project is replacing/retrofitting a previous asset please provide annual emissions from previous project

  
T of Co<sub>2</sub>/yr



# Calculator Tool

## 3. Waste

Enter in the estimated waste created during **operation** of the project and/or describe any waste reduction measures considered in this project.

Amount of waste estimated per year

in Tonnes/year

If you implemented any waste reduction measures in the design, construction or operation of this project, please describe

## 4. Water

Enter in the estimated water consumed/needed during **operation** of the project and/or describe any water conservation measures considered in this project.

Amount of water estimated per year

L/yr

If you implemented any water reduction measures in the design, construction or operation of this project, please describe





# Calculator Tool

## 5. Stormwater

Impermeable surfaces are hard surfaces (paving, asphalt, building, etc.) that do not allow water to infiltrate into the soil. Increased impermeable surfaces increase the risk of overloading the storm sewers causing possible overflow and flooding during rain events. It also prevents groundwater sources from being replenished and increases contamination of stormwater.

Enter in the new impermeable surfaces added as a result of this proposal (line 1) and the total % of impermeable surfaces on the property as a whole including new and existing impermeable surfaces (line 2).

Area of new impermeable surface created as a result of proposal

sq. m.

What is the percent coverage of impermeable surfaces on the property?

% (percent)

If you implemented any stormwater reduction measures in the design, construction or operation of this project, please describe

## 6. Land Use Change

This section is used to capture larger land use conversion trends. If the main land use will change as a result of this project (i.e. agriculture to residential, wooded area to industrial, etc) enter the current and proposed land use(s) and the area of land being converted. There is no emissions calculation for this, but it is used for internal tracking.

Current land use as described in the official plan

Proposed land use as described in the official plan

Area of land subject to OP land use change?

ha



# Calculator Tool

## 7. Trees and Vegetation

Enter in any trees removed or added during the construction and/or operation of the project. If vegetation is being removed aside from trees (wetlands, meadows, etc.), please describe in the text box below. Describe any methods used to prevent additional tree/vegetation loss in the text box.

Number of Trees Added

Number of Trees Removed

Please describe any tree and/or vegetation conservation measures in the design, construction or operation of this project

## 8. Other

This section can be used for any other anticipated emissions or other environmental considerations not included above either positive or negative.

Other carbon emissions not captured above

T of CO<sub>2</sub>/yr

Other carbon reductions not captured above

T of CO<sub>2</sub>/yr

Other environmental impacts you'd like to describe

Other environmental protection measures you'd like to describe



# Calculator Tool

## 9. Ready to Submit?

If your submission isn't quite complete, that's ok. Just keep the "Ready to Submit?" checkbox unchecked, and then hit save. You'll be sent an email with a link you can use to come back to your request to finish it off when you're ready or you can always access it through the Climate Lens homepage.

Once complete (and "Ready to Submit?" has been checked), your submission will be calculated and you'll receive a full report with results in your email inbox. Additionally your submission will be sent to the Climate Change Officer for review. You will only be contacted if there are any concerns, but please feel free to reach out with any questions.

Ready to Submit?

Save

Cancel



# Example Complete Results

## Brantford Police Services Retrofit and Expansion

Climate Lens Assessment Report

Created on: 10/7/2021 2:53 PM

### SUMMARY

**TOTAL ANNUAL EMISSIONS :** 48.22 T of CO<sub>2</sub>e

**LIFETIME EMISSIONS:** 1205.5 T of CO<sub>2</sub>e

### Author Info

**Name:** Rochelle Rumney

**Department:** Facilities Mgmt & Security

**Job Title:** Climate Change Officer

### Project Info

**Project Name:** Brantford Police Services Retrofit and Expansion

**Staff report #:** 1234-56

**Date of staff report at Committee/Council:** 5/3/2022

**Brief Project Description:** Proposal for Brantford Police Services Retrofit and expansion of existing building that would meet the anticipated growth for the next 20 years. The redeveloped and expanded BPS Facility is to be designed to Carbon Neutral building standards.

**Estimated operational start date of project:** 1/1/2025

**Estimated operational end date of project:** 1/1/2050

**Resulting project life span:** 25 years

This Project is: Retrofit/Refurbishment

### Emissions from Energy

**Amount of electricity estimated per year:** 1600000 kWh/yr

**Calculated GHG emissions from above energy usage:** 48 T of CO<sub>2</sub>e /yr

**Amount of gasoline estimated per year:** 0 L/yr

**Calculated GHG emissions from above energy usage:** 0T of CO<sub>2</sub>e/yr

**Amount of Diesel estimated per year:** 0 L/yr

**Calculated GHG emissions from above energy usage:** 0 T of CO<sub>2</sub>e/yr

**Amount of natural gas estimated per year:** 0 m3/yr

**Calculated GHG emissions from above energy usage:** 0T of CO<sub>2</sub>e /yr

**Amount of other fuel estimated per year:** 0 T of CO<sub>2</sub>e/yr

**Total annual emissions from energy:** 48 T of CO<sub>2</sub>e

**Lifecycle energy emissions of project:** 1200 T of CO<sub>2</sub>e/yr

**Area of building (if applicable):** 10500 sq m

**Calculated Emissions Intensity of building:** 0.00457142857142857 T of CO<sub>2</sub>e/sq m

**Emissions reduction measures to be implemented in the design, construction or operation of project?**

Increased insulation, air source heat pumps, ground source heat pumps, solar panels, variable frequency drives, energy efficiency equipment, EV chargers.

**If this project is replacing/retrofitting a previous asset/project, please provide annual emissions from previous project:**

265 T of CO<sub>2</sub>e/yr

**Emissions Increase/Decrease:**

-217 T of CO<sub>2</sub>e/yr

**Lifecycle emissions increase/decrease from previous project:**

-5425 T of CO<sub>2</sub>e/yr



# Calculator Tool

## BRANTFORD Citynet



SELF-SERVICE ▾ DEPARTMENTS ▾ APPS ▾ COMMITTEES ▾ MY FAVS ▾ HOME

Search...

[+ new item](#) or [edit this list](#)

[All Items](#) [Excel export](#) [test1](#) ...

✓	Project Name	Modified By	Staff Report #	Date of Staff Report at Committee/Council	Total Annual Emissions	Estimated Operational Start Date	Project Lifespan	Ready to Submit?
	Example - Brantford Police Services Retrofit and Expansion	<input type="checkbox"/> Rochelle N. Rumney	xxxx-xx	5/3/2022	48.22	1/1/2025	25 years	Yes
	Advanced Metering Infrastructure and Water Meter Replacement	<input type="checkbox"/> Jennifer Elliott	2021-614	11/2/2021	2.31546	2/1/2022		
	Single Family Home Estimate	<input type="checkbox"/> Tyler J. Wright			12.71153744			
	Single Family Home Estimate (2000sqft)	<input type="checkbox"/> Tyler J. Wright			11.61589112			
	test 0124b	<input type="checkbox"/> Matt Allman	1234-56	11/2/2021	5.04926122	1/24/2022	20 years	No
	Matt Test Feb 11	<input type="checkbox"/> Matt Allman			0		1 year	Yes



# Example Section 11

## 11.0 Climate and Environmental Implications

- Total emissions are... *48 T of CO<sub>2</sub>e*
- Lifetime emissions are... *1,205 T of CO<sub>2</sub>e*
- Emissions decreased by... *217 T annually and 5,425 T over the lifetime*
- Waste/water/wastewater created/consumed... *2,500,000 L water annually*  
Waste/water/wastewater decreased by... *40% reduction in water usage expected*
- Impermeable surfaces are... *Increasing by 5,000 sq. m. to a total of 59% of site*
- Mitigation features include... *energy efficient building, solar panels, low flow toilets, onsite stormwater management, etc.*
- Impacts are equivalent to... *Emissions from building are equivalent to 15 cars/yr, emissions saving are equivalent to planting almost 10,000 trees*



# CO<sub>2</sub>e Comparisons

Table 1: CO<sub>2</sub>e values for common reference points

Item	T of carbon dioxide equivalent*† (CO <sub>2</sub> e)/yr	Assumptions
1 BBQ Propane Tank	0.024/tank	8 kg of propane (20 lb tank filled to 88% capacity)
1 Gasoline Car	3.1	Fuel consumption 9 L/100 km, driving 15,000 km/yr
1 Gasoline SUV	3.8	Fuel consumption 11 L/100 km, driving 15,000 km/yr
1 Gasoline Truck	4.5	Fuel consumption 13 L /100 km, driving 15,000 km/yr
1 Diesel Transit Bus	90	Traveling 56,000 km/yr
1 Average Home	4.2 (3.96 + 0.24)	2100 m <sup>3</sup> of natural gas + 8000 kWh of electricity (approx. 1600 sq ft home)
1 Tree	-0.022	Estimated average carbon sequestration annually over 50 year lifespan of urban tree

Table 2: CO<sub>2</sub>e equivalencies



Amount of CO <sub>2</sub> e†	Equal to...*
1 T of CO <sub>2</sub> e	<ul style="list-style-type: none"> <li>• Cutting down 45 trees</li> <li>• Driving an SUV for 5000 km (3 months)</li> <li>• 42 propane BBQ canisters</li> </ul>
10 T of CO <sub>2</sub> e	<ul style="list-style-type: none"> <li>• 3 cars/yr</li> <li>• 2 ½ homes/yr</li> <li>• 2 trucks/yr</li> </ul>
50 T of CO <sub>2</sub> e	<ul style="list-style-type: none"> <li>• 11 trucks/yr</li> <li>• 12 homes/yr</li> <li>• 16 cars/yr</li> </ul>
90 T of CO <sub>2</sub> e	<ul style="list-style-type: none"> <li>• 1 Transit bus/yr</li> <li>• 29 cars/yr</li> </ul>



# Quarterly Reporting

- Quarterly memos to Committee of the Whole
- Summation of previous quarter of climate and environmental impacts
- Values of total GHGs, waste, water, etc. added/avoided by Council





# Quarterly Reporting

Report #	Date at Comm.	Report Title	GHG Emissions (T of CO <sub>2</sub> e)	
			Annual	Lifetime
2021-614	11/2/21	Advanced Metering Infrastructure and Water Meter Replacement	-2.3	-23
2021-472	12/7/21	Brantwest Phase 2 Subdivision Agreement and Road Dedicating By-law	996	9,960
2022-024	1/11/22	Feasibility of Electrifying the Fleet/Light Duty Vehicles - Corporate Fleet Electrification	-21	-147
2022-26	1/5/22	Climate and Environmental Impacts Scan for Public Works Commission Operational Budget	Expansion vehicles: 6.5	45.5
			Replacement vehicles: 417	4,815
			LED Streetlight conv.: -5.3	-106
November, December 2021 and January 2022		Total Approved	1,391	14,545
		Total New	974	9,730



# Revision Process

- After one year of use review of process and tool will be conducted
- Feedback from Council, ESPAC and staff
- Edits to tool can be made for second year
- Review if additional departments should be required to quantify impacts.



# Youth Engagement

## EMPOWERING YOUTH

The City of Brantford's Youth Strategy

2022-2024



**Lead:** in areas within the municipal scope (ex. housing, youth engagement, neighbourhood development)

**Advocate:** for the needed resources and policy change in areas outside of the municipal scope (ex. mental health, addictions, primary care)

**Support:** the goals of existing community groups through collaborative projects and grant writing



# Commitments

- Increase the number of youth accessing community centres, recreational facilities, and outdoor amenities
- Increase the number of youth participating in community programs
- Increase the number of programs run in partnership with community agencies and grass-roots youth groups.
- Increase the number of youth participating in leadership and mentorship opportunities.



# What Did Youth Say?

## What Resources Did Youth Say They Need to Thrive?

**Leaders in the youth community**

Care and guidance

Some activities that can build self-confidence

**Safe and comfortable environment**

Youth need more opportunities to engage with their community, and more job/volunteer opportunities that promote their professional development

**Truth and Reconciliation**

More buses on weekends and late nights

Safe spaces for LGBTQ+ youth as well as BIPOC youth

Increased youth mental health resources



# How Do Youth Want to Get Involved?





# Youth Engagement In Climate Action



**COMMUNITY CHANGEMAKER**

*Youth Edition*





Questions?