



**SUBJECT: Climate Action Plan for Burlington**

**TO: Committee of the Whole**

**FROM: Capital Works**

Report Number: CW-20-19

Wards Affected: all

File Numbers: 210-19

Date to Committee: January 13, 2020

Date to Council: January 27, 2020

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**Recommendation:**

Table the Climate Action Plan in Appendix A of capital works report CW-20-19 for public review;

Direct the Executive Director of Environment, Infrastructure and Community Services to report back to the Environment, Infrastructure and Community Services meeting in March 2020 with a final Climate Action Plan.

**Purpose:**

The purpose of this report is to table the draft Climate Action Plan for Burlington for public review. There is also a recommendation that the city join the Global Covenant of Mayors for Climate and Energy program.

This report relates to the following directions under the Strategic Plan:

A Healthy and Greener City: Environmental and Energy Leadership

- The City recognizes that climate change is a significant issue and is working with the community and all levels of government towards the goal of the Burlington community being net carbon neutral.

There is also a strong relationship between the Climate Action Plan and Strategic Plan directions in The City that Grows; A City that Moves; and An Engaging City.

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**Executive Summary:**

The Climate Action Plan recommends seven key program areas to reduce the use of fossil fuels in the community of Burlington and meet the goal to become a net carbon neutral community. The program areas relate to:

1. Low carbon new buildings
2. Deep energy retrofits of existing buildings
3. Renewable energy
4. Electric mobility and equipment
5. Integrated mobility
6. Waste reduction
7. Industrial processes

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## **Background and Discussion:**

On April 23<sup>rd</sup>, city council declared a climate emergency and directed staff to report back with a Climate Action Plan by December 2019 for approval.

In addition, council approved the following staff directions in report CW-21-19 on June 17<sup>th</sup>, 2019:

- Approve funding request in capital works department report CW-21-19 of \$80,000 from the Strategic Plan Reserve Fund to retain consultants for the purpose of completing Burlington's Climate Action Plan;
- Approve the single source procurement for LURA Consulting (Land Use Research Associates Inc.) to undertake community engagement and SSG (Sustainability Solutions Workers Group Cooperative) to complete the Climate Action Plan, given their experience with the Bay Area Climate Change Office engagement process and the Low Carbon Pathway report for Hamilton and Burlington; and,
- Direct the Executive Director of Capital Works to implement option 1 to engage the community and stakeholders; including adding two community engagement workshops to the critical path to be held September 2019, to develop the Climate Action Plan and report back by December 2019.

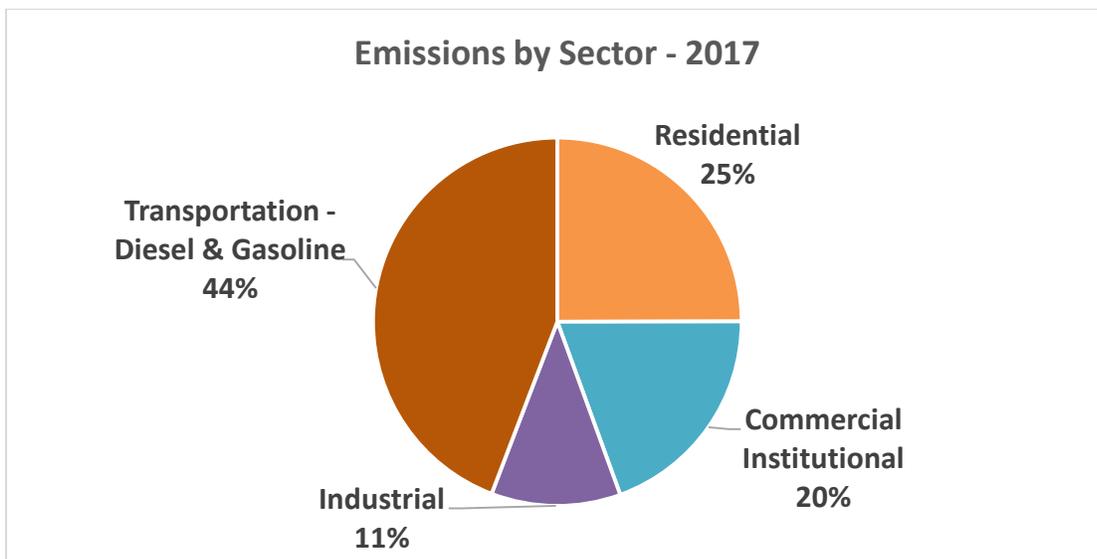
The main purpose for the Climate Action Plan (CAP) is to develop a low carbon pathway for the City of Burlington to meet its target to become a net carbon neutral

community<sup>1</sup>. Municipalities are at the frontline for developing and delivering actions to reduce greenhouse gas emissions and improve community resilience by adapting to the current and future impacts of a changing climate.

The Climate Action Plan being presented by staff represents part 1 of the plan, focusing on the mitigation of greenhouse gas emissions through actions that will reduce the reliance on fossil fuels in the community. Fossil fuels are used in our community for transportation, heating buildings and hot water, cooking, landscaping equipment, construction and industrial processes.

### **Greenhouse Gas Emissions Inventory**

Over 40% of Burlington’s community emissions are sourced from the transportation sector and the remaining from the building sector and waste. Under the building sector, residential buildings are the largest contributor, followed by commercial and institutional buildings and then industrial. A subset of the commercial sector is also comprised of large multi-residential buildings as energy utilities classify them as commercial enterprises. Waste is a very small part of the community carbon footprint compared to buildings and transportation.



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<sup>1</sup> Carbon neutral: balancing a measured amount of carbon released (through burning of fossil fuels) with an equivalent amount not used or buying enough carbon credits to make up the difference.

## **Climate Action Plan for Burlington**

Municipalities are at the frontline of climate action because they can implement actions, programs, services and incentives to drive change particularly in the transportation and building sectors. However, alignment with senior levels of government through funding and policy support is also necessary.

There are seven key program areas proposed in the Climate Action Plan to reduce the utilization of fossil fuels in Burlington:

### **1. Burlington Green Building Standard – for new buildings**

Traditional buildings utilize fossil fuels for thermal energy (heating of space and hot water). Burlington has a Sustainable Building and Development Guideline but needs to be strengthened to reflect the city's carbon reduction goal. In staff's experience, building a green building does not necessarily result in a low carbon building. Due to the longevity of buildings, it is important to design them with a low carbon footprint upfront in the process. Retrofitting buildings after the fact is usually costly and the building has contributed to the overall community carbon footprint. The City of Toronto has developed a tiered approach to requiring green buildings and takes a multi-faceted approach that includes energy modelling for new buildings and pre-consultation review.

**Action:** Sustainability staff will assist City Building and Community Planning staff to review options to update Burlington's Green Building and Development Standard. It is anticipated that additional resources may be required to complete this review and implement the new requirements due to the expertise required in reviewing energy models and development applications.

### **2. Deep Energy Retrofit Program – for existing buildings**

Reviewing the feasibility of implementing a deep energy retrofit program was an action in the Community Energy Plan utilizing LICs (Local Improvement Charges). There is interest from many other municipalities to develop this type of program. The Clean Air Partnership received FCM (Federation of Canadian Municipalities) funding to work with municipalities to develop a program toolbox. The underlying challenge for municipalities is a source of capital to utilize for the loan program given the competing capital priorities they are facing.

**Action:** Work with stakeholders to review other programs such as Toronto's HELP (Home Energy Loan Program) and Guelph's GEERS (Guelph's Energy Efficiency Retrofit Strategy – pending approval) and work with other municipalities and the Clean Air Partnership to assess potential opportunities to partner and collaborate on a home energy retrofit program utilizing local

improvement charges. This will include a review of innovative financing techniques to support this program, including LIC's, private capital and senior levels of government funding opportunities.

**3. Renewable Energy Co-operative – to facilitate the implementation of renewable energy**

A co-operative has been recommended in the action plan which could advocate for, develop, commission and finance projects, depending on which strategy is appropriate. Renewable energy and community energy systems can include district energy, neighbourhood micro systems, solar, storage and geothermal. A new approach should be considered in light of the cancellation of the FIT (Feed-in Tariff) program by the province. There are examples in other jurisdictions that the city could review for best practices.

**Action:** Work with stakeholders to review best practices and implementation models including a renewable energy co-operative, to support and accelerate the implementation of renewable energy systems in Burlington and report back on the resources required to implement this action. Similar to the deep energy retrofit initiative, innovative funding sources will be investigated.

**4. Electric Mobility & Equipment Strategy – to encourage electric modes of transportation**

Supporting sustainable mobility options is key to taking action on climate change as the transportation sector in Burlington accounts for over 40% of community emissions. Recognizing that Burlington is a car-oriented community, electric mobility represents a significant opportunity to decarbonize the transportation sector. A strategy is required to support this initiative as well as transition to e-equipment such as lawn mowers, trimmers and leaf blowers. The mandate will be to coordinate infrastructure investments, educational activities and municipal policies relating to charging stations and incentives. The city will show leadership by updating its Green Fleet Strategy and electrifying its fleet and equipment where possible. One of the challenges specifically in this area is existing multi-residential buildings where the cost to upgrade electrical infrastructure to support EV chargers can be significant.

**Action:** Work with Burlington Electrical Services Inc. (Burlington Hydro's unregulated arm) and other interested community stakeholders to develop this strategy, confirm funding strategies, implement necessary infrastructure, and engage the community on the benefits of low carbon vehicles, including e-bikes and other electric mobility devices, as well as e-equipment.

## **5. Integrated Mobility Approach**

There are also a number of transportation related plans and initiatives that will assist the implementation of the Climate Action Plan and help to achieve the community emissions reduction goal to be net carbon neutral by 2050. These include the Cycling Plan, the Rural Active Transportation Plan, the Integrated Mobility Plan, outreach activities to encourage active transportation and transit ridership, as well as the Burlington Transit five-year business plan. It is not the intention of the Climate Action Plan to duplicate the efforts in these areas but highlight the importance of the city's efforts in the transportation sector to reduce carbon emissions. During the community engagement process to develop this plan, community members often repeated the need to implement safe, secure and separate cycling infrastructure in the community.

**Action:** City Transportation Department staff to complete the Integrated Mobility Plan and Transit to implement the Five-Year Business Plan (pending funding approvals). Infrastructure improvements will be necessary to achieve the mobility targets related to transit and active transportation.

## **6. Waste Reduction – to reduce the production of waste**

Waste management services are primarily the responsibility of Halton Region but the city does have a role to play with respect to its own facilities and parks as well as events and festivals. The city did adopt a zero waste approach for its operations with a two year seconded staff person to oversee the introduction of the program. As a result, waste was reduced at city hall with the introduction of centralized waste stations and removal of waste bins from individual work stations. However, the satellite recreational facilities have proved to be more challenging where past waste audits have shown high levels of contamination, even with detailed signage at the waste stations. Some facilities have discontinued GreenCart collection due to the contamination rates and not meeting the standards for organics processing. However, there are some success stories with events and festivals such as the annual Ribfest and Sound of Music festival where significant amounts of waste have been diverted from the landfill with the support of numerous volunteers to help sort waste.

During the community engagement process, comments were received related to banning single use plastics in the community. The city has restricted the sale of bottled water in most of its facilities and provides tap water stations to refill reusable water bottles. Encouraging a reduction in plastic waste is a positive step. Emissions from the waste sector is a very small part of the community

carbon footprint, therefore the city's limited resources are better applied to the actions related to the transportation and building sectors.

**Action:** Continue to support Halton Region in waste reduction initiatives, work with stakeholders to ensure waste reduction and diversion initiatives are incorporated into special events; continue to support city staff in waste reduction and diversion initiatives.

## **7. Industrial Processes – supporting industry to improve efficiency of processes**

The industry carbon footprint in Burlington is smaller than other communities, however, there are businesses that can benefit from a review of their processes to identify efficiency improvements. In the past Burlington Hydro and Union Gas targeted this sector for energy efficiency initiatives, however, Burlington Hydro is no longer involved in energy conservation initiatives. The responsibility for this has been uploaded by the provincial government to the IESO (independent electricity system operator). And Union Gas is now Enbridge Gas in Ontario. Similar to the waste section above, it is recommended that limited city resources at this time be focused on the buildings and transportation sectors.

**Action:** Provide information to the industrial sector on the city's website to resources to assist them in improving their production processes.

## **Governance and Implementation**

Over the next two months staff will work with stakeholders to review their role and assess options to oversee, coordinate and implement the Climate Action Plan. Most of the actions in this plan will require additional resources and funding to implement. Community stakeholders will continue to play an important role in the implementation of this plan. In addition, staff expertise from the Transportation, Transit, Community Planning, and Building and By-law, and Finance departments will be needed to support the success of the plan. Staff will report back in March with the final Climate Action Plan with recommendations for the implementation of this plan.

## **Strategy/process**

LURA Consulting led the engagement process with city staff for the Burlington Climate Action Plan. A summary of the engagement process is included in Appendix B which included the following activities:

- A survey and information on [www.getinvolvedburlington.ca](http://www.getinvolvedburlington.ca)

- Five pop-up engagements at community events including: Mountainside Street Fest; the Children’s Festival; the Aldershot BIA Community Market; the Lions Club’s Farmers Market; and, the city’s Food for Feedback event.
- Two meetings with the stakeholder group for the Climate Action Plan in August and October;
- Two public workshops in September;
- One open house in October.

The following charts provide a summary of the touchpoints with members of the public during the engagement process.

<b>Engagement Activity</b>	<b>Date(s)</b>	<b>Number of Events</b>	<b>Number of Participants Engaged</b>
Pop-up Events & Digital Engagement	Jul 27 – Sept 18, 2019	5	388
Stakeholder Meetings	Aug 9 and Oct 18, 2019	2	19
Public Workshops	Sept 16, 2019	2	41
Open House	Oct 24, 2019	2	25
Emailed Submissions	July - October	N/A	8

<b>Engagement Activity</b>	<b>Location</b>	<b>Number of Responses</b>
<b>Survey:</b> Participants were asked to complete a short, six question survey. Paper responses collected at the pop-up events were inputted into the Get Involved Burlington platform.	Online & Pop-ups	370
<b>Ideas:</b> Participants were asked to provide their ideas for addressing climate change.	Online	8
<b>Commitment Speech Bubbles:</b> Community members were invited to write in a speech bubble sharing their commitment to an environmentally friendly Burlington.	Pop-ups	10

Throughout the engagement process, it was clear that there was support for the city to play a role in taking action on climate change. The city must show leadership with its own activities as well as take a lead by coordinating actions and collaborating/partnering with community stakeholders. Council approved the Corporate Energy and Emissions Management Plan earlier this year which provides a pathway for meeting the target for

city operations to be net carbon neutral by 2040. Meetings were held with city staff recognizing that their service areas can support the Climate Action Plan and can also be impacted by the plan, such as Planning and Building, Transportation, Transit and Forestry.

Respondents to the survey questions clearly identified that information about the measures being proposed was needed to understand what is being asked. Education and community engagement will be an ongoing component of the plan. Programs and incentives were also strongly supported particularly with deep energy retrofits and electric vehicles as cost was seen as a barrier.

The discussion questions in the workshops held in September were generally focused on the key actions being proposed to reduce fossil fuels in the community. Overall, the proposed direction and actions were supported. Some participants expressed concern that many of the measures were expensive for residents and businesses. Others wanted to raise ideas for other actions that the community could do to reduce the impact on the environment; some individuals and groups were pro-active in submitting their list of ideas via email. BurlingtonGreen's submission that was made earlier this year to the city related to climate action is also included in the full document outlining the results of the community engagement process and is available on request.

Several of the ideas submitted relate to improving energy efficiency of buildings, supporting active transportation, developing community energy systems, implementing renewable energy and supporting electric vehicles, which are all in line with the proposed actions in the Climate Action Plan. Some ideas relate to service areas outside the jurisdiction of the City of Burlington. The level of community engagement showed a keen appetite for climate and environmental action in Burlington, with the exception of only a couple naysayers.

Trees were often raised as a potential solution 'carbon sink' to the climate crisis. It is agreed that trees do sequester carbon but there is not enough land available in Burlington to sequester all community emissions and achieve the city's net carbon neutral target. Sustainability Solutions Group calculated, based on a high rate of carbon sequestration per hectare that if trees were planted across the entire land mass of Burlington of 18,200 hectares, it would sequester just under 80,000 tonnes of GHG emissions. Burlington's emissions are estimated currently at approximately 1.2 million tonnes of emissions. Given that much of the land is already taken up by urban land uses (buildings and roads) and agricultural areas, the actual ability for trees to sequester carbon in the community would be much lower.

This reinforces the overall direction of the Climate Action Plan is to focus on the reduction of fossil fuels to meet the Strategic Plan goal of becoming a net carbon neutral community. Trees do, however, have many benefits to improve community resilience, particularly related to reducing the urban heat island effect, improving air

quality, and reducing erosion. They can help to cool buildings if the correct variety are planted and in the right location. Therefore, the importance of trees will be discussed in part 2 of the Climate Action Plan related to community resiliency.

The proposed actions in the Climate Action Plan are difficult and challenging. The city can pull many of the levers necessary to help implement the actions but policy and funding alignment is necessary from senior levels of government. Climate change is complex. There is no silver bullet to solve this problem. Action is necessary from all levels of government, businesses, schools, community groups and individuals.

The city is active with a number of organizations on climate change where there will be opportunities to partner and collaborate on measures and programs to reduce the use of fossil fuels in the community. Current partnerships include the Bay Area Climate Change Council and the Halton Climate Collective. The Clean Air Council and QUEST are important collaboratives that the city participates in. The city also coordinates a group of local community stakeholders who have been involved since the development and approval of the original Community Energy Plan in 2014.

The city has also been a member of the Partners for Climate Protection (PCP) Program since 2002 which is administered by FCM (Federation of Canadian Municipalities) and ICLEI (Local Governments for Sustainability). The PCP program provides support to municipalities to reduce greenhouse gas emissions from city operations as well as community wide. The city has been selected to work with these organizations to participate in the new recently launched Showcase Cities program. See below for more information about this program with a recommendation that the city join the Global Covenant of Mayors for Climate and Energy.

### **Showcase Cities Program**

The City of Burlington has been accepted as one of 25 municipalities to participate in the Showcase Cities Program. The program is designed to help municipalities make the transition to the Global Covenant of Mayors for Climate and Energy (GCoM).

One of the conditions of participating in the program is to join GCoM, an international alliance of cities and local governments with a shared long-term vision of promoting and supporting voluntary action to combat climate change and improve resilience. Over 9,000 cities, representing more than 800 million people worldwide and over 10% of the total global population have committed to the GCoM.

GCoM Canada is a collaboration between the Federation of Canadian Municipalities, ICLEI Canada, C40 Cities, the Global Covenant of Mayors Secretariat and the International Urban Cooperation Project, supported by funding from the European Union. The initiative combines two leading domestic climate programs, the Partners for

Climate Protection (PCP) and Building Adaptive and Resilient Communities (BARC) with the leading global climate program. The purpose of this collaboration is to further advance Canadian local climate action by adding value, international opportunities/profile and streamlined support and reporting for members.

In total, 25 Canadian municipalities will participate in the project, receiving hands-on support to advance through the GCoM process. Participants will be a part of a 'best practice' climate change community, gaining knowledge and internal capacity while developing ambitious climate change mitigation and adaptation objectives.

Burlington is in a good position to participate in this program given:

- The city has been a member of the PCP program since 2002 and has met all of the milestones;
- Council has declared a climate emergency;
- The city is in the process of developing the Climate Action Plan with Part 1 focused on mitigation and Part 2 on adaptation (to be completed in early 2021);
- Council's workplan From Vision to Focus supports the Strategic Plan targets for city operations to be net carbon neutral by 2040 and to work towards being a net carbon neutral community;
- The city has experience implementing the Community Energy Plan with effective community stakeholder relationships;
- City Council recently approved an updated Corporate Energy & Emissions Management Plan with a path for city operations to achieve net carbon neutrality by 2040;
- Staff are actively involved in external partnerships and collaborations as noted in this report; and,
- The city is actively involved in implementing measures to improve the resiliency of city operations and the community, particularly following 2014 Burlington flood.

It is recommended that the Mayor sign the commitment letter in Appendix C as required for the City of Burlington to join the Global Covenant of Mayors for Climate and Energy.

### **Options considered**

Doing nothing on climate change is not an option. Those residents who participated in the engagement process overwhelmingly supported action with an expectation that the city would show leadership through its own operations as well as supporting community action through collaboration and partnerships.

The Climate Action Plan being presented in this report represents part 1 with a focus on mitigation of greenhouse gas emissions by reducing the use of fossil fuels. Staff will be working on part 2 of the plan in 2020/21 with a focus on those actions that can help

improve community resilience and adapt to the changing climate, such as extreme weather events, urban forestry, and rising temperatures as well as fluctuating temperatures.

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### **Financial Matters:**

There are no direct funding requests associated with this report for the Climate Action Plan (part 1) at this time. However, resources will be required to design and set-up the programs. Staff will be assessing the proposed actions and will report back with recommendations related to resourcing requirements, including staff, and funding required for operating and capital budgets. For some of the programs, it is expected that there will be a cost to develop the programs as well as implementation. For instance, developing a Deep Energy Retrofit program can be complex and requires capital funding to support loans to homeowners. Implementing a program to support new green and low carbon buildings may require incentives and additional expertise on staff to work with the building industry to review energy models. And the implementation of a Renewable Energy Co-operative would require capital investment dollars to support community projects.

Staff will work with community stakeholders and partners to look for innovative and external sources of funding to support climate action projects. As noted in the recent presentation ([CW-46-19](#)) at the November 4<sup>th</sup> Committee of the Whole meeting from the Executive Director of the Clean Air Council, exploring funding mechanisms to support municipal action is a priority over the next three years.

In addition, there is no cost to participate in the Showcase Cities program and join the Global Covenant of Mayors for Climate and Energy.

### **Total Financial Impact**

The cost of completing the Climate Action Plan was originally estimated at \$80,000. An additional cost of approximately \$7,000 was incurred to re-assess some of the transportation emission reduction targets related to mode share.

Future reports will include recommendations on resourcing related to the development and implementation of the programs included in the Climate Action Plan.

### **Source of Funding**

The development of the Climate Action Plan was funded through the Strategic Plan Reserve Fund.

## **Other Resource Impacts**

To be investigated.

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## **Connections:**

There are several connections between the Climate Action Plan and other city documents including the Strategic Plan, Council's workplan from Vision to Focus; the Official Plan; the Integrated Mobility Plan (under development); the Cycling Plan (pending approval); the Rural Active Transportation Plan (pending approval); Burlington Transit's Five Year Business Plan (pending approval); the Green Fleet Strategy (to be updated); the Climate Adaptation Strategy (to be developed); and others.

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## **Public Engagement Matters:**

A community engagement strategy has been developed as part of the Climate Action Plan. Community engagement will be ongoing and will be tied to the program areas of the plan. A climate change portal on the city's website is recommended and keeping online information up to date will be critical. Support for community events promoting climate action is strong. City staff will work our different partners and stakeholders to continue delivering information sessions. The Sustainable Development Committee has already planned an event to promote electric vehicles including free test drives with Plug 'n Drive at Burlington Central Library on May 7<sup>th</sup>, 2020 and the Bay Area Climate Change Council is planning a climate forum in February.

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## **Conclusion:**

Staff appreciate the time that members of the community, staff and council members contributed to the development of the Climate Action Plan for Burlington. The plan is being tabled to allow time to review the document and staff will report back at the March Committee of the Whole meeting with a final plan.

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Respectfully submitted,

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**Appendices:**

- A. Climate Action Plan for Burlington (to be circulated under separate cover)
- B. Community Engagement Summary
- C. Commitment Letter to Join Global Covenant of Mayors for Climate and Energy

**Report Approval:**

All reports are reviewed and/or approved by Department Director, Director of Finance and Director of Legal. Final approval is by the City Manager.