SUBJECT: Climate Action Plan Update

TO: Environment, Infrastructure & Community Services Cttee.

FROM: Environment, Infrastructure and Community Services

Report Number: EICS-07-21

File Numbers: 210-09

Date to Committee: June 10, 2021

Date to Council: June 22, 2021

Recommendation:

Approve the Mayor and City Clerk to sign an agreement with the Federation of Canadian Municipalities to receive funding from the Community Efficiency Fund, subject to the approval of the Executive Director of Legal Services and Corporation Counsel, to complete a feasibility study for a Home Energy Retrofit Program in Burlington; and

Approve $15,000 from the Green Initiatives Reserve Fund to support the development of the Electricity Mobility Strategy; and,

Approve the Mayor and City Clerk to sign an agreement with the Ministry of Energy, Northern Development and Mines to apply for and receive funding from the Municipal Energy Plan fund, subject to the approval of the Executive Director of Legal Services and Corporation Counsel, to complete an Electric Mobility Strategy for Burlington.

PURPOSE:

Vision to Focus Alignment:

- Support sustainable infrastructure and a resilient environment

The purpose of this report is to provide an update on the progress of the implementation of the Climate Action Plan, which is focused on reducing community based greenhouse gas emissions to meet the target for Burlington to be net carbon neutral by 2050.

In addition, staff are working on a compendium Climate Adaptation Plan to improve local resilience for both city operations and within the community. A report (EICS-03-21) was presented in March 2021 to the Environment, Infrastructure & Community

Services (EICS) Committee including the Climate Projections for Burlington, actions and programs already under way in the city to adapt to the changing climate and the process to develop the Climate Adaptation Plan.

Staff will also be presenting an update report to the July 8th EICS Committee meeting on the implementation of the Corporate Energy and Emissions Management Plan. This report will show the progress to date on reducing greenhouse gas emissions resulting from city operations (buildings and fleet) showing community leadership.

Executive Summary:

This is the annual progress report on the implementation of the Burlington community Climate Action Plan and the efforts being taken to work towards the target of Burlington being a net carbon neutral community by 2050.

There are seven key program areas identified in the plan, including:

1. **Burlington Low Carbon New Building Guideline – enhanced energy performance for new buildings**

   Staff will be reporting to the Planning, Regulation & Mobility Committee in July on the review of the Sustainable Buildings and Development Guideline.

2. **Burlington Deep Energy Retrofit Program – transforming existing buildings**

   The city is working with the Centre for Climate Change Management to develop a Home Energy Retrofit Project, including a pilot, and will provide an interim report prior to year-end. The delay in developing this project is due to the application review and approval process for funding under the Federation of Canadian Municipalities' Community Efficiency Fund initiative. See Appendix A for an interim summary of work completed to date.

3. **Renewable Energy– stimulating local renewable energy projects**

   Burlington Hydro has reported over 8 megawatts (MW) of installed capacity for distributed energy in Burlington, the majority of which is solar energy. Additional work is required in this area to expand renewable energy installations in the community, particularly since the cancellation of the FIT (Feed-in Tariff) program in 2018.

4. **Integrated Mobility Plan – mobility planning with an emphasis on people movement**

   The Integrated Mobility Plan is under development, being led by the Transportation Department, with a focus on moving people and not cars. Network options are to be presented in July through a public engagement process.

5. **Electric Mobility and Equipment – encouraging the adoption of electric mobility and equipment**

   Although it is recognized that supporting active and sustainable transportation options (transit) is key to improve quality of life and reduce congestion, staff are recommending the development of an Electric Mobility Strategy to encourage and incent the adoption of electric vehicles, including e-bikes (micro-mobility) to further support reducing the carbon footprint of the transportation sector.

6. **Waste Reduction Initiative – engaging the community**

   Staff continue to support Halton Region's waste reduction and diversion initiatives where possible, such as through the takeactionburlington.ca blog. In addition, staff are reviewing and updating the corporate Zero Waste Policy which will be presented to council for approval upon completion.

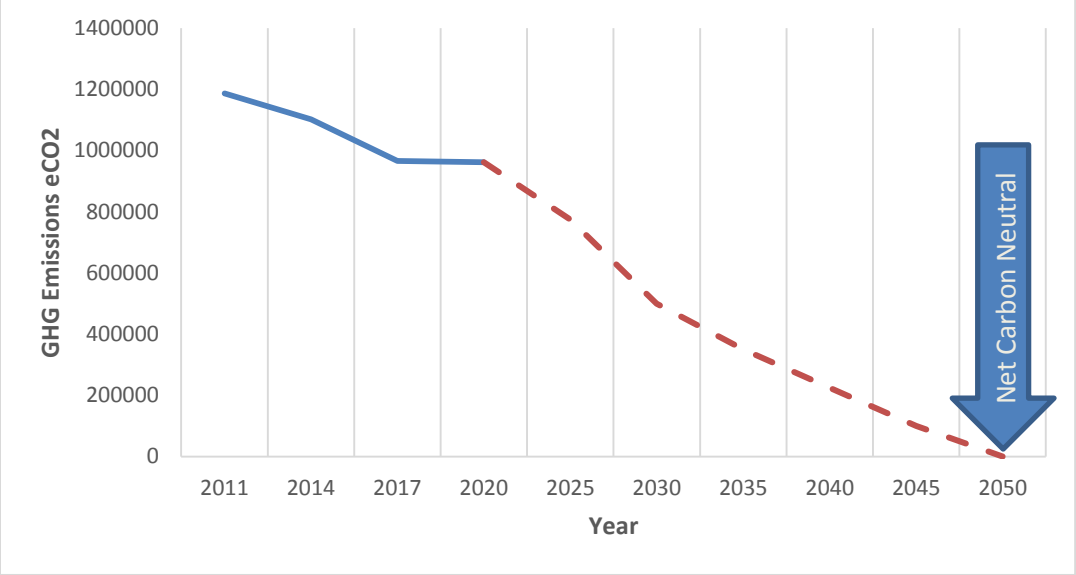
7. **Industry Innovation – reducing energy demands by industry**

   The city continues to support groups like Sustainable Hamilton Burlington (Sustainability Leadership), a social enterprise organization that supports local businesses and organizations to improve operations in a sustainable manner including the reduction of GHG emissions. The Bay Area Climate Change Council and the Centre for Climate Change Management are also involved in initiatives to support climate actions by local businesses.

The following chart shows the progress being made to reduce emissions using a simple methodology of tracking energy consumption (electricity, natural gas and local retail fuel sales), converted into greenhouse gas emissions utilizing conversion factors. From 2011 to 2020, emissions have dropped by just under 20% from 1.2 to 0.9 million tonnes of equivalent carbon dioxide, however, 2020 may not be representative for energy consumption due to lock downs and stay at home orders, particularly related to the transportation sector. Staff noted a drop in transportation emissions calculated from the sale of fuel in Burlington by 17% from 2019 to 2020. Google Environmental Insights Explorer noted a larger drop of 28% in their modelling exercise. Note that there are

challenges in calculating carbon emissions for the transportation sector at the local level.

Greenhouse Gas Emissions by Year – with 2050 Target



This report acknowledges the efforts of the Community Stakeholders (See Appendix B) involved in supporting the implementation of this plan as well as the different partnerships and collaborations city staff participate in, including: the Bay Area Climate Change Council; the Clean Air Partnership and Clean Air Council; Halton Climate Collective; QUEST; Global Covenant of Mayors Canada, Partners for Climate Protection, ICLEI; and Carbon Disclosure Project. Several staff were also engaged in the preparation of this report.

Background and Discussion:

On April 23rd, 2019 council declared a climate emergency and one year later approved the Burlington Climate Action Plan (CAP), setting a target for the community of Burlington to be net carbon neutral by 2050. This report provides an update on the progress made to date to implement the CAP. The seven program areas identified in the CAP were based on modelling and actions that are needed for Burlington to become a net neutral community by 2050.

1. **Burlington Low Carbon New Building Guideline – enhanced energy performance for new buildings**

   In 2018, council approved the Sustainable Building and Development Guidelines for new buildings. The current guidelines have been under review by Community Planning staff to assess the opportunity to strengthen requirements, particularly to achieve buildings which minimize the use of fossil fuels for (thermal) energy. A report is scheduled to be presented to the Community Planning, Regulation and Mobility committee in July 2021 which will speak to the challenges of implementing standards for new buildings above and beyond the requirements of the Ontario Building Code at this time.

2. **Burlington Deep Energy Retrofit Program – transforming existing buildings**

   In September 2020, council directed staff to work with the Centre for Climate Change Management at Mohawk College to develop a home energy retrofit program including a pilot. A budget was approved and a funding application was submitted to the Federation of Canadian Municipalities (FCM) through the Community Efficiency Fund (CEF). The CEF initiative supports municipalities with plans to develop home energy efficiency loan programs. There has been a delay in some activities in the home energy retrofit project due to the spending restrictions related to the FCM funding application, which postponed spending for these activities until the grant agreement is signed. However, staff anticipate an interim report be presented to council prior to the end of 2021. At this time, the CCCM will recommend next steps, including the implementation of a pilot project and recommendations for sustainably financing the program.

   At the time of writing this report, a number of stakeholders ranging from contractors, educators, industry associations, real estate and financing, among others, had been interviewed to identify opportunities and constraints to develop a local program. A homeowner survey is also under development which will be issued once the FCM funding agreement is executed. CCCM staff coordinated stakeholder engagement efforts with Bay Area Climate Change Council staff, which supports the implementation of a home energy efficiency program in both Hamilton and Burlington.

   City staff continue to have discussions with other municipal staff and the Clean Air Partnership on options to deliver a home energy efficiency program with a regional approach where resources might be shared.

   In addition, the federal government recently announced as part of the 2021 budget a $4.4 billion dollar initiative to support homeowner interest free loans of up to $40,000 for deep energy home retrofits, with a target of 200,000 homes over 5 years. Although this is welcome news, it is recognized that much more

funding is required to achieve Paris climate accord targets and to support fuel switching in the residential sector. The Pembina Institute responded indicating 600,000 homes need to be retrofitted by 2040 requiring an investment of $227 billion over 20 years or $13 billion annually.

The program is to be implemented by CMHC with an authorized EnerGuide energy assessment[1]. However, it is unknown whether there will be any coordination with FCM's Community Efficiency Fund initiative supporting programs implemented by local municipalities.

Given the variety of financing options that may be available to homeowners, whether it's through their own financial institution, a municipal loan utilizing the Local Improvement Charge, or a loan via the federal government, it is becoming more apparent that a regional Retrofit Delivery Centre will be a key recommendation. A delivery centre can provide detailed information to homeowners on financing options, technical expertise on energy efficiency measures and fuel switching options as well as assistance with finding contractors. More details will be provided in the final report by the CCCM. An interim report on stakeholder findings is included in Appendix A.

3. Renewable Energy– stimulating local renewable energy projects

In the hierarchy of actions to reduce emissions, ensuring energy efficient low carbon buildings ranks as a priority. However, to meet the community target to be net carbon neutral by 2050, renewable energy (RE) also needs to be part of the equation. Burlington Hydro shared the following data for distributed generation installations in Burlington[2]. It is clear that the majority of the RE projects were installed under the previous provincial FIT (Feed-in Tariff) program with over 1,500 kW installed under MicroFIT and over 6,000 kW under FIT (for projects greater than 10 kW or large FIT projects):

---

1 https://www.canada.ca/en/department-finance/news/2021/04/budget-2021-a-healthy-environment-for-a-healthy-economy.html

2 This includes 4 Combined Heat and Power generators using natural gas, which are not considered renewable energy.

DISTRIBUTED GENERATION PROJECTS			
TYPE	**# UP TO DATE**	**TOTAL CAPACITY kW**	**SOURCE**
Microfit(<=10kW)	200	1,562.28	Solar
Net Metering <=10kW	22	159.21	Solar
	1	3.60	Wind
Net Metering >10kW up to 500kW	3	266.00	Solar
Fit(>10kW up to 500kW)	27	6,018.00	Solar
Load Displacement	1	10.00	Solar
Combined Heat & Power	4	290.00	Natural Gas
TOTAL	**258**	**8,309.09**	
TYPE	**#**	**TOTAL CAPACITY kW**	**SOURCE**

The following is a summary of projects installed in 2020 and year to date for 2021:

2020			
Net Metering <=10kW	3	17.5	Solar
Load Displacement	1	10	Solar
2021			
Net Metering <=10k	2	20	Solar

The following is a summary of initiatives in Burlington and other jurisdictions which could be considered to further expand RE installations in Burlington.

- A RE cooperative model was suggested during the development of the Climate Action Plan. A community cooperative generally involves a non-profit, non-governmental entity which will sell memberships and/or bonds to raise funds to invest into RE projects. Two of the larger successful cooperatives include the Ottawa Renewable Energy Cooperative as well as SolarShare in Toronto. Many cooperatives were set up following the implementation of the provincial FIT (Feed-in Tariff) program in 2009 but many of the smaller groups have struggled since the cancellation of this program. A small cooperative does operate in Burlington, PNUC Renewable Energy Cooperative. PNUC's main investment involves an installed project at Port Nelson United Church with 288 solar panels with 50 kW of capacity.

- Ground source heat pumps (geo-exchange or geothermal) are also prime candidates to utilize for thermal energy in the community with several examples already in operation. Opportunities seem to be growing for companies to offer the installation and operation of these systems as a utility model which could be an option for larger, multi-unit residential and mixed-use developments.
- City staff are reviewing Edmonton's work with MyHeat, which uses Google's Project Sunroof platform to provide calculations on the solar potential for each individual home. Their program includes a rebate as an incentive, offered at $0.40/watt (approximately 15% of the cost).
- The City of Halifax's Solar City program utilizes an LIC (local improvement charge) program by providing loans to homeowners to install solar systems. This program initially began several years ago to support solar thermal systems for hot water to help homeowners transition from relying on fuel oil to heat water, but now includes three different types of solar systems (photovoltaic; air; and thermal – water).

Additional work is needed to connect with stakeholders to determine opportunities and constraints for expanding, supporting and incenting RE projects in Burlington. Other challenges, beyond the cancellation of the FIT program, include grid connection fees collected by Burlington Hydro for larger projects greater than 10 kW as well as time required to process applications and approve connections. It is acknowledged that there are certain standards and requirements that must be met to ensure safety, however, more work is required in partnership with Burlington Hydro to identify options and best practices in other jurisdictions to improve the application, review and approval processes and resources required to expand RE installations in Burlington, to achieve systems that are economic and practical to implement.

In addition, virtual net metering is not permitted in the province where renewable energy could be generated on a separate site to be utilized in a different location. However, the Ministry of Energy, Northern Development & Mines did request submissions in 2020 for demonstration projects.

For city operations, staff will be reporting on the Corporate Energy & Emissions Management Plan in July with information on a project to assess city buildings and other facilities to develop a capital plan for additional installations of solar photovoltaic panels. The implementation of renewable energy on city property will show community leadership.

4. **Integrated Mobility Plan – mobility planning with an emphasis on people movement**

   An Integrated Mobility Plan is under development with an innovative approach to focus on moving people instead of just vehicles, as traditional transportation plans would do. Shifting the modal split is prioritized by supporting active and sustainable transportation options, such as walking, cycling and transit.

   The vision of the IMP has been identified as: 'Mobility in Burlington will be safe, accessible, sustainable, balanced and livable.' Value statements have been created based on the vision, such as: 'Sustainable: Encourage transit, cycling and walking, and other non-car modes; and Leverage electrification potential'. Long term goals have also been developed including 'Burlington will eliminate transportation related emissions'.

   Network designs are currently underway with options to be presented to the public in July 2021. The Burlington Cycling Plan (TS-01-21) was recently endorsed by council (March 23rd, 2021) where the recommended measures will be considered through the development of the IMP. A separated bike lane is in the planning stages for construction in 2022 from around the Royal Botanical Gardens to Waterdown Road.

5. **Electric Mobility and Equipment – encouraging the adoption of electric mobility and equipment**

   Prioritizing transit, walking and cycling through the IMP is important to reduce emissions with the co-benefit of reducing car dependence and congestion. However, in order for the city to meet its 2050 net carbon neutral community target, electric must also be supported. Staff plan to complete an electric mobility strategy by Q2 2022 to consider opportunities and constraints to support electric vehicles (EVs) in Burlington. The study will involve researching municipal best practices, EV trends and market research, policy analyses, electrical and charging capacity (current and future) and stakeholder and community engagement.

   The city has installed a number of EV charging stations on city property (23 stations with a total of 44 charging heads). Staff reported to council earlier this year on progress (EICS-01-21) and continue to add electric vehicles and plug-in hybrids to its fleet. A corporate policy will also be developed to help guide additional expansion of EV chargers on city property, which will be completed in parallel with the electric mobility strategy. In addition, it is expected that attention will be given to consider opportunities for electric bikes (and other electric micro-mobility options) in Burlington.

With respect to electric vehicles and equipment, the city is showing leadership by transitioning small vehicles and equipment (leaf blowers, trimmers and mowers) where practical to electric options. Many companies have electric options available for consumers interested in making the switch. Reduced air and carbon emissions at source is a benefit along with a reduction in noise pollution. In addition, the city will be updating its Green Fleet Strategy to assist with the city's greenhouse gas emission reduction targets as well as developing an action plan with options to accelerate fleet greening,

6. **Waste Reduction Initiative – engaging the community**

Waste represents a small component of the emissions profile for Burlington. Waste management is a service primarily delivered by the Region of Halton. The GreenCart program to collect organics in Burlington has been very successful to divert this matter from the landfill, a source of methane when left to decompose. In addition, methane at the waste management facility is collected and utilized to create power by Halton Region in partnership with Oakville Hydro.

The city has implemented some measures within its operations to show leadership, such as restricting the sale of bottled water (in 2010) to limit plastic waste and promote tap water through the Thirsty campaign. A zero waste program was implemented in 2011 where centralized waste stations were introduced in administrative offices and individual garbage cans were removed from offices and work stations. Staff are in the process of reviewing the existing Zero Waste policy which will be presented to council in the near future for approval. In addition, a green procurement policy and guideline exist for staff, encouraging green or environmental options and to re-think purchases (is the product necessary or can it be shared by another group).

7. **Industry Innovation – reducing energy demands by industry**

The business sector has been the focus of energy conservation programs delivered by utilities and senior levels of government, as there is the potential for greater energy savings within this sector compared to the more challenging residential sector. The city is also a participating member of and supports Sustainable Hamilton Burlington (Sustainability Leadership), a social enterprise organization that supports local businesses and organizations to improve operations in a sustainable manner including the reduction of GHG emissions.

In addition, the Bay Area Climate Change Council (BACCC) will be working to help local industry access government funding to achieve deep emission reductions in the region; connect industrial players with research and

development support; and is researching policies and regulation to aid emission reductions in industry.

Climate Action Plan - Stakeholder Advisory Committee

The Stakeholder Advisory Committee was created in 2012 when the city was developing the former Community Energy Plan, now replaced by the Climate Action Plan, and still continues to meet and provide guidance and feedback on the implementation of the CAP. Information sharing via presentations and discussions have been beneficial for participating members to learn of climate mitigation actions happening in the community as well as build on synergies between organizations. There are currently 16 participating members of the committee, representing 15 organizations and one local resident. A list of participating members and updates provided are found in Appendix B to this report.

Partnerships & Collaboration

In addition to the Stakeholder Advisory Committee, city staff participate in a number of other organizations and collaboratives to help accelerate climate action at a local, regional, and national level. The following is a summary of mandates and examples of work taking place.

1. **Bay Area Climate Change Council**

   The Bay Area Climate Change Council (BACCC) is a social impact initiative made up of 14 community leaders from Hamilton and Burlington. BACCC's vision is for the Bay Area to be a thriving and resilient net zero community by 2050. The mandate of BACCC is to develop and advocate for local climate solutions that will reduce greenhouse gas emissions. In doing so, BACCC provides strategic leadership and function as an ongoing forum for advice, feedback and guidance to the cities of Burlington and Hamilton.

   BACCC is supportive of the implementation of a home energy retrofit (HERO) program in the Bay Area and has been coordinating stakeholder engagement with the Centre for Climate Change Management at Mohawk College to help assess opportunities and constraints. BACCC is also working to support active transportation and transit opportunities by examining service gaps between Hamilton and Burlington. The city has committed to supporting BACCC financially for two years (2020 and 2021) financially and in kind. The city's annual financial support has been $32,000 per year of this period. The City of Hamilton also contributes financially to BACCC's administration with their funding committed to the end of 2022. BACCO has requested the city also commit to extending their funding through 2022 at a rate of $58,000 per year matching

Hamilton's per capita contribution. Staff will bring this request forward through the 2022 budget deliberations.

2. **Halton Climate Collective**

   The Halton Climate Collective is a group of local organizations, including Halton Region, the local municipalities and the school boards, focused on collectively transforming Halton into a low carbon climate resilient community. Its purpose is to align actions and leverage expertise to reduce climate change, secure funding opportunities and promote a collective approach to addressing climate change.

   The Collective hosted their annual HCC Reads program in late 2020, featuring the book 'The Right to be Cold' by Sheila Watt-Cloutier, a book about the threat of global climate change and its impacts on the Canadian Arctic. HCC partnered with the local libraries to encourage residents to read the book and participate in an online forum.

   The HCC also helped to facilitate the Generation Green conference in March 2021, planned by youth for youth on how to take action on climate change. Students from the Halton District School Board could also participate in an optional six week project to reduce greenhouse gas emissions in Halton Region.

3. **Clean Air Partnership**

   The Clean Air Partnership (CAP) is a charitable environmental organization launched in June 2000. CAP's mission is to enable communities to improve air quality, advance active and sustainable transportation options, take bold climate action, increase community resilience to climate impacts and accelerate the transition to a low carbon economy. CAP facilitates the Clean Air Council (CAC) network made up of over 30 municipalities (Burlington has been a member since 2002) from across southern Ontario working collaboratively on the transfer and scale up of climate actions. Burlington staff participate in CAC activities that share lessons learned from reducing emissions from municipal operations (ex. facilities and fleets); building energy efficiency retrofit programs, advancing green development standards, complete streets and active transportation and incorporating climate into municipal decision making.

4. **QUEST**

   QUEST is a national non-government organization that works to accelerate the adoption of efficient and integrated community-scale energy systems in Canada by informing, inspiring and connecting decision makers. This organization commissions research, communicates best practices, convenes government,

utility and private sector leaders, and works directly with local authorities to implement on the ground solutions.

The QUEST network provides Burlington with the opportunity to learn from others, share information and provides access to senior levels of government and utilities on energy issues. Burlington staff are planning to participate in a research project to complete a feasibility study of the Seniors Centre on achieving a net zero carbon building (funding applications have been submitted by QUEST to Natural Resources Canada and The Atmospheric Fund).

5. Global Covenant of Mayors (Canada)

The Global Covenant of Mayors (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. This initiative combines the 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 streamlines support and reporting for members.

Burlington has been a participating member in the PCP program since 2002 and met all five milestones of the program in 2017. Burlington is also a member of ICLEI Canada. Burlington joined GCoM in 2019 and has received the mitigation badge related to the Climate Action Plan and set a greenhouse gas emissions reduction target.

6. Carbon Disclosure Project

The Carbon Disclosure Project (CDP) is an international non-profit charity that runs a global disclosure system for investors, companies, cities, states, and regions to manage environmental impacts. CDP North America is based in New York City and administers the program for the United States and Canada. The global head office is in London, England. This will be the first year that Burlington staff report on climate action through the CDP, which will be shared with and meet the city's reporting requirements for GCoM. Burlington, along with other Canadian cities, was invited to participate in CDP during the Showcase Cities Program delivered by PCP, ICLEI and GCoM Canada in 2020. CDP reviews the data and information provided by organizations and provides a score and feedback based on progress. The reporting deadline for this year is July 23rd.

Strategy/process

Energy (electricity and natural gas) consumption data is collected from Burlington Hydro and Enbridge Gas Inc. to calculate greenhouse gas emissions across the community. Transportation emissions are more challenging to calculate – historically the city has relied on fuel sales data in Burlington for gasoline and diesel consumption. However, this method is imperfect as it does not capture fuel purchases in other municipalities by Burlington residents. It should be considered as an indicator of emissions from the transportation sector. Recently, Google has begun reporting on emissions for different communities, including Burlington, utilizing their own data and modelling. Emissions reported through Google Environmental Insights Explorer are provided in this report as a comparison under the Climate Implications section.

Community stakeholders were also asked to provide updates on their efforts to reduce emissions from their own operations and/or engagement actions/programs that they have delivered to encourage a reduction in emissions.

Options Considered

The Climate Action Plan provides a pathway to meet the Burlington target to become a net carbon zero community by 2050. The measures identified in the plan must be implemented in order to meet this target.

Financial Matters:

The Climate Action Plan is comprised of multiple initiatives and projects that collectively delivers the vision and objectives of the plan. The following is a summary of some of the initiatives that have come forward as noted in this report and their respective funding needs.

Home Energy Retrofit Project

Council approved a budget of $180,000 in September 2019 to support the development of a home energy retrofit program including a pilot. Following budget approval, staff applied for $100,000 of funding from FCM’s Community Efficiency Fund as suggested by Council. This resulted in a total budget of $280,000 for the project. Staff initiated the funding application in early November with an anticipated signed agreement in June 2021 (pending final approval).

As per report EICS-03-21 additional funding was required to support the development of the Climate Adaptation Plan. As per the report, up to $60,000 was approved to be transferred from the Home Energy Retrofit program to support the Climate Adaptation Plan. This resulted in a revised budget for the Climate Adaptation Plan of $120,000.

This results in a revised budget of $220,000 to support the home energy retrofit project, as summarized here:

Council approved budget	$180,000	Report EICS-18-20
FCM CEF funding	$100,000	Final approval pending
Sub-total	**$280,000**	
Transfer funding to Climate Adaptation Plan	($60,000)	Report EICS-03-21
Final TOTAL to support Home Energy Retrofit Program	**$220,000**	

Electric Mobility Strategy

As noted in this report, staff plan to develop an Electric Mobility Strategy to identify measures to support the adoption of electric mobility (including e-micro-mobility) in Burlington. A budget of $50,000 is proposed, broken down as:

Enbridge Gas Inc. – contribution in 2021 to support the Climate Action Plan	$10,000
City of Burlington Green Initiatives Reserve Fund	$15,000
Ministry of Energy – MEP funding initiative (available to support implementation of community energy and climate action plans)	$25,000
TOTAL	**$50,000**

The Ministry of Energy administers the Municipal Energy Plan fund to support the development of Community Energy and Climate Action Plans. The fund includes a small amount of up to $25,000 to support an initiative related to the implementation of a plan. Staff propose to submit a funding application for the maximum amount of $25,000. Staff propose that matching funding by the city will include $10,000 received from Enbridge Gas Inc. retroactively in support of the Climate Action Plan and $15,000 from the city's Green Initiatives Reserve Fund, as per the recommendation in this report.

Bay Area Climate Change Council

In response to a request by the Bay Area Climate Change Council, city council previously approved contributions to the administration of BACCC in the amount of $32,000 each for 2020 and 2021, totaling $64,000. As previously outlined, a request has been made by BACCC for the city to extend their funding support for 2022. Staff will review this request during the 2022 budget preparation process.

Total Financial Impact

Climate Action Initiatives	City Funded	External Funding
Home Energy Retrofit Project	$120,000	$100,000
Climate Adaptation Plan	$120,000	-
Electric Mobility Strategy	$25,000	$25,000
Bay Area Climate Change Council (2020 & 2021)	$64,000	-
Total	**$319,000**	**$135,000**

Source of Funding

Approval of a grant of $100,000 is pending from the Federation of Canadian Municipalities' Community Efficiency Fund to support a feasibility study for the Home Energy Retrofit Program.

For the Electric Mobility Strategy, it is recommended that the city's contribution of $15,000 be funded through the Green Initiatives Reserve Fund and that a funding application be submitted to the Ministry of Energy, Northern Development and Mines' Municipal Energy Plan fund in the amount of $25,000.

The remainder of funds to support climate action identified in this report are funded through the Operating Budget.

Climate Implications

The city has set a target for the community to achieve net carbon neutral by 2050. From 2011 to 2020, emissions have dropped by just under 20% from 1.2 to 0.9 million tonnes of equivalent carbon dioxide (see Fig. 1). Approximately half a million tonnes needs to be reduced between now and 2030 to work towards the overall target for 2050. Please note that this is based on a basic reporting framework relying on emissions from electricity and natural gas consumption as well as retail fuel sales. Staff intend to

improve reporting data, particularly through the support of the Climate Disclosure Project and the Global Covenant of Mayors.

Fig. 1 - Greenhouse Gas Emissions by Year – with 2050 Target

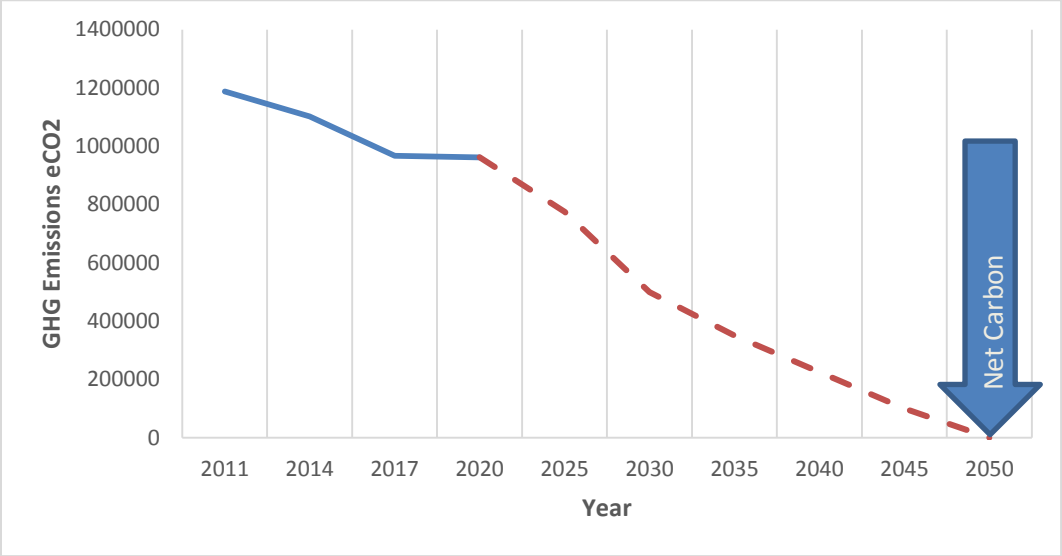


Figure 2 shows the fluctuation in emissions by source since 2011, based on the consumption of natural gas, electricity and transportation fuels. The chart clearly illustrates the impact that the phase out of coal fired generating stations had on the, reducing the carbon footprint. The current carbon footprint can be attributed to the reliance on natural gas peaking plants to help respond to daily changes in demand for electricity.

Fig. 2 - Annual Emissions by Source

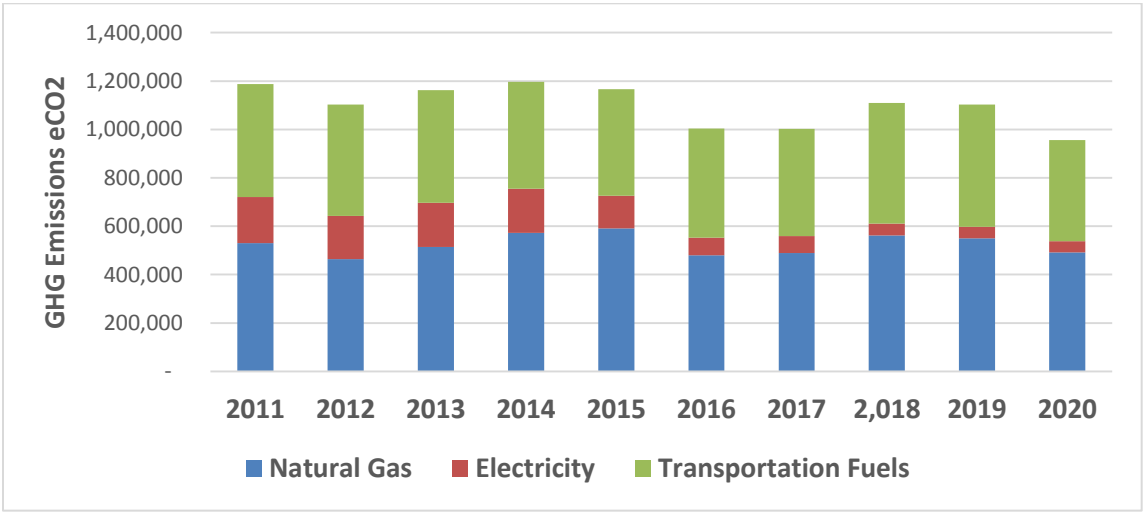


Figure 3 illustrates the need to focus climate actions on the transportation sector as noted in this report as well as reducing the use of natural gas for thermal energy in buildings.

Fig. 3 - Emissions by Source - Percentage

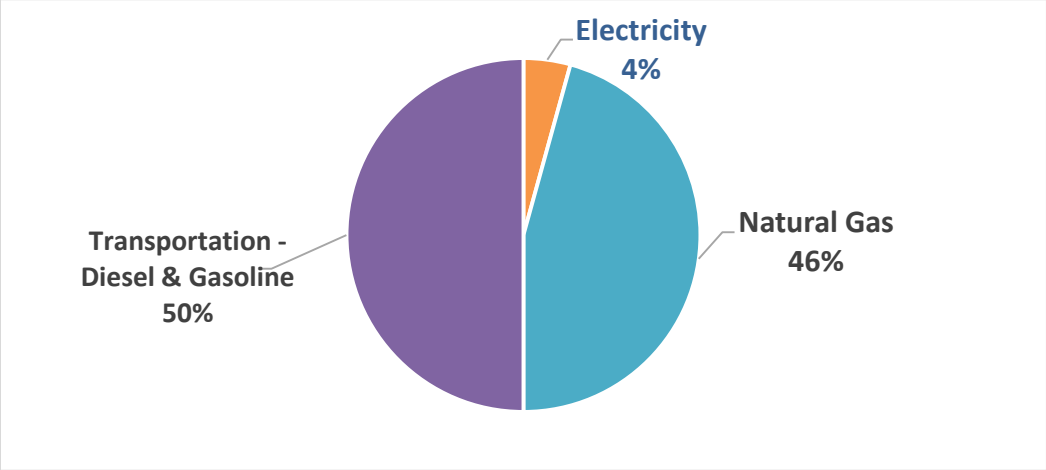


Figure 4 is similar to figure 2 but is based on the four different community sectors, with residential represented by the bottom bar, commercial and institutional (2nd lowest bar), industry (2nd from the top), and transportation (top bar).

Fig. 4 - Community Emissions by Year and Sector

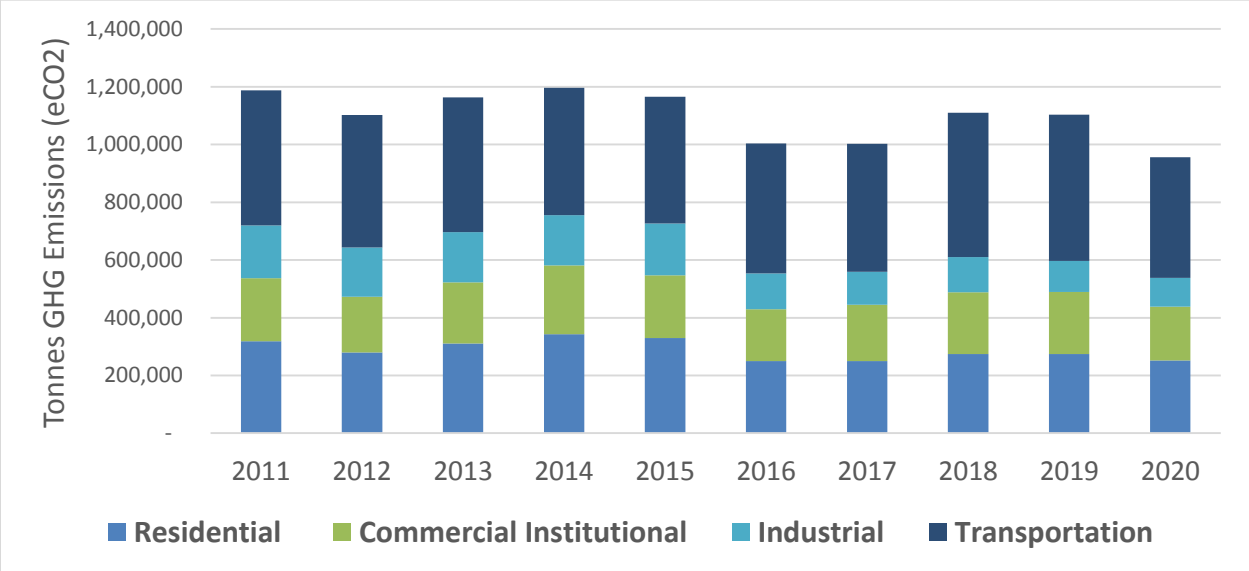
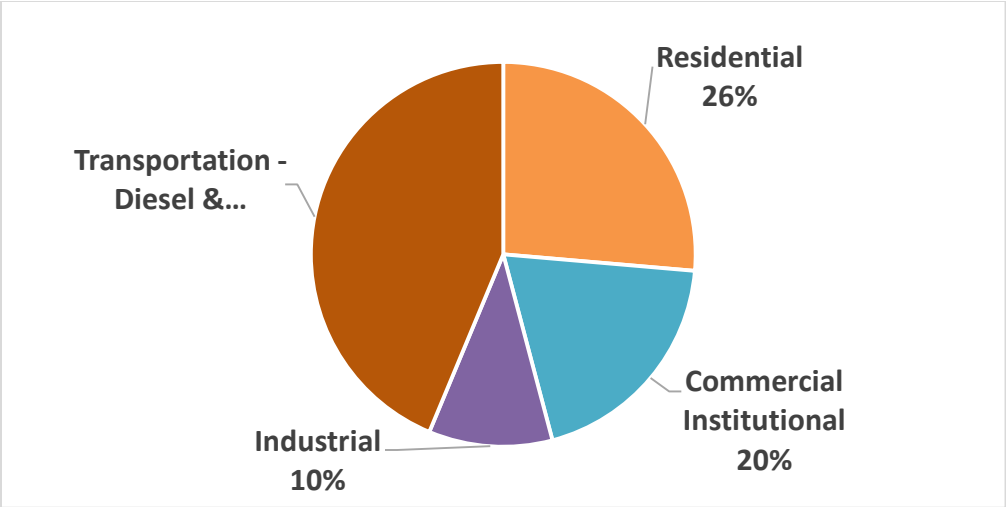


Figure 5 illustrates the impact that the transportation sector has on community emissions in relation to the other sectors.

Fig. 5 - Emissions By Sector – Percentage (2020 data)



Based on fuel sales, transportation emissions represent approximately 418,000 tonnes of greenhouse gas emissions in 2020 and the data showed a drop in emissions from 2019 to 2020 by approximately 17%. Conversely, Google Environmental Insights Explorer models transportation emissions utilizing Google maps data and algorithms and reported emissions for 2020 as 781,000 tonnes of greenhouse gas emissions and estimates a drop in emissions from 2019 to 2020 by 28%, clearly an impact of the pandemic with lockdowns, school closures and increased people working from home.

Engagement Matters:

The Stakeholder Advisory Committee for the Climate Action Plan was engaged in the preparation of this report. See Appendix B for updates from a selection of stakeholders regarding the climate actions of their organizations.

City staff were also engaged in the preparation of this report, including representatives from: Environment, Infrastructure & Community Services; Transportation; Community Planning; Building; Roads, Parks & Forestry; Legal; Transit; Engineering Services; Finance; and City Manager's Office.

The city continues to engage the public through various means on climate change, including the TakeActionBurlington.ca blog, burlington.ca/environment, the Sustainable Development Committee, GetInvolvedBurlington.ca, and through our partnerships and collaborations in the community as noted in this report.

Conclusion:

Staff would like to acknowledge and thank the contributions of the members of the Stakeholder Advisory Committee, city staff, as well as the other organizations mentioned in this report. Meeting the community target for Burlington to be net carbon neutral by 2050 requires commitment and action from all levels of government, non-government organizations, businesses, community groups and individuals.

Respectfully submitted,

Lynn Robichaud

Manager of Environmental Sustainability

905-335-7600 x7931

Appendices:

A. Home Energy Retrofit Project – Stakeholder Findings Report

B. Climate Action Plan Stakeholder Advisory Committee – Member Updates

Report Approval:

All reports are reviewed and/or approved by Department Director, the Chief Financial Officer and the Executive Director of Legal Services & Corporation Counsel.