



INFORMATION REPORT

TO:	Mayor and Members Board of Health
COMMITTEE DATE:	June 17, 2019
SUBJECT/REPORT NO:	Corporate Climate Change Task Force Response to the Climate Change Emergency Declaration (BOH19022) (City Wide) (Outstanding Business List Item)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Trevor Imhoff (905) 546-2424 Ext. 1308
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COUNCIL DIRECTION

The Board of Health at its meeting on March 18, 2019, and subsequently approved and amended by Council at its meeting of March 27, 2019, approved Item 3 of the Board of Health Report 19-003 which directed items:

- “(a) That the City of Hamilton declare a climate emergency that threatens our city, region, province, nation, civilization, humanity and the natural world;”
- “(b) That a multi-departmental Corporate Climate Change Task Force of City of Hamilton staff be created under the leadership of the City Manager;”
- “(c) That the Corporate Climate Change Task Force be directed to investigate and identify:
 - (i) Additional actions to be taken to incorporate into existing plans and policies to achieve net zero carbon emissions before 2050;
 - (ii) Best processes to centralize reporting on Climate Change for the Corporation of the City of Hamilton;
 - (iii) Green initiative investments and returns to the community, including, but not limited to, the following:

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- (1) The city of Hamilton has reduced its carbon footprint since 2005. In addition to efforts surrounding mitigating personal property flooding the City has initiative a number of energy conservation initiatives;
- (2) Energy intensity at City facilities (e.g. Recreation, Lodges, Entertainment, Police, etc.), has been reduce by 28% when comparing 2017 versus 2005;
- (3) The City of Hamilton was a leader in the development of local district energy. The City of Hamilton established Hamilton Renewal Power Inc. (HRPI), which operates cogeneration at the wastewater treatment plant and landfill. HRPI generates 28,000,000 kWh of renewable energy annually with a reduction of 100,000 tonnes of carbon dioxide;
- (4) Cumulative greenhouse gas (GHG) reductions from energy conservation initiatives over the period 2011-2017 is 52,325 tonnes;
- (5) When comparing greenhouse gas (GHG) emissions for the periods 2016 versus 2005, 2005 emissions were in excess of 120,000 tonnes, decreasing to in excess of 80,000 tonnes by 2016; and,
- (6) At the Bay Area Climate Change Summit some clear directions were discussed that would allow Hamilton to meetings it climate change targets:
 - (aa) All new building be built net zero by 2030 and all new buildings retrofitted by 2050 including fuel switching
 - (bb) All diesel vehicles be decommissioned by 2030 and all vehicles electrified by 2050;
 - (cc) Low carbon technology for our steel manufacturing and other district energy technologies; and,
 - (dd) These initiatives would need to be taken by all partners and the City could show leadership by committing to these actions for construction and renovations of City facilities, requiring net zero construction where the City funds organizations for buildings (i.e. affordable housing) and the City could continue to “green” its own fleet of vehicles towards the goals listed above;
- (iv) Gaps in current programs and projects and strategies to address those gaps; and,
- (v) The establishment of a critical path and Terms of Reference to initiate an awareness strategy campaign to encompass the

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history of global warming, climate change and the United Nation's Declaration on a Climate Emergency, which is to include the impacts of not taking such action, and the investment vs. the expense of taking such action."

- "(d) That the Corporate Climate Change Task Force report back to the Board of Health within 120 days;" and,
- "(e) That Council supports the City of Hamilton staff participation in the Bay Area Climate Change Implementation Teams as subject matter experts to accelerate climate action across the Bay Area."

INFORMATION

Executive Summary

The objective of this information report is to provide the Board of Health (BOH) an update on the reporting structure and framework for the creation of a multi-departmental Corporate Climate Change Task Force. The work of the task force will be to report annually to General Issues Committee (GIC) on specific strategies of how to address climate mitigation and adaptation. The task force will be coordinated by staff within Public Health Services. All City departments will centralize reporting through the task force. This information will be reported to and led by the City Manager and the General Managers of each respective department on a quarterly and ad hoc basis. This will ensure information is provided in a timely manner and essential information on climate change is considered in every department, as necessary.

Another objective of this report is to provide BOH members with a summary of previous and ongoing climate change actions taken by departments in the City of Hamilton. Several of the actions and directions identified can be leveraged through existing and ongoing work. By doing this, the City will save money and staff time by coordinating this work and identifying existing strategies and plans to reprioritize key climate change objectives.

The gap analysis identified actions to be further investigated and is in Appendix "B" to Report BOH19022. These actions have been strategically selected based on scientific reports completed for the Regional Bay Area Climate Change Office. The report completed by Sustainability Solutions Group (SSG) titled "Hamilton and Burlington Low-Carbon Scenario and Technical Report 2016 to 2050", is attached as Appendix "C" to Report BOH19022. This report completed a Greenhouse Gas (GHG) emissions inventory and identified low-carbon actions for Hamilton and Burlington to meet their GHG reductions targets. These actions include:

- Climate Adaptation;
- Planning;
- Buildings;
- Transportation;
- Procurement;
- Industry;
- Financing;
- Education and Awareness; and,
- Reporting Structures.

Locally, Hamilton is already experiencing the impacts of climate change through shoreline and escarpment erosion, millions of dollars of infrastructure damages caused by extreme storm events and freeze/thaw cycles, increases in extreme heat events leading to drought, and increased precipitation leading to flooding. Projected future costs of climate change are difficult to predict, however a well-regarded Canadian economic impact study concluded that climate change costs to the Canadian economy would be within the range of 1-5% of the Canadian GDP annually by the 2050's.

By working to achieve the City of Hamilton's climate actions goals we will also be working to achieve several other corporate and community strategic priorities. For example:

- By reducing emissions and prioritizing green infrastructure we will be improving air quality and citizens access to naturalized areas;
- Programs to accelerate net-zero energy buildings, with a focus on social housing and government incentives, will help reduce expensive utility costs and improve standard of living; and,
- Building retrofit programs can create thousands of good paying, local skilled trade jobs improving employment rates and reducing poverty.

It is important that all strategies and actions include both equitable health and social considerations in order to achieve all of Hamilton's priorities.

Background

In March 2019, Hamilton City Council approved a motion declaring climate change as an emergency and that urgent action is needed. At the time this report was written, approximately 549 Councils globally, including the Government of the United Kingdom, have declared a climate emergency according to climateemergencydeclaration.org. In Canada, the website states 386 Municipalities declared a climate emergency including, more recently, Vancouver, Halifax, Kingston, Hamilton, Burlington, and Ottawa, respectively.

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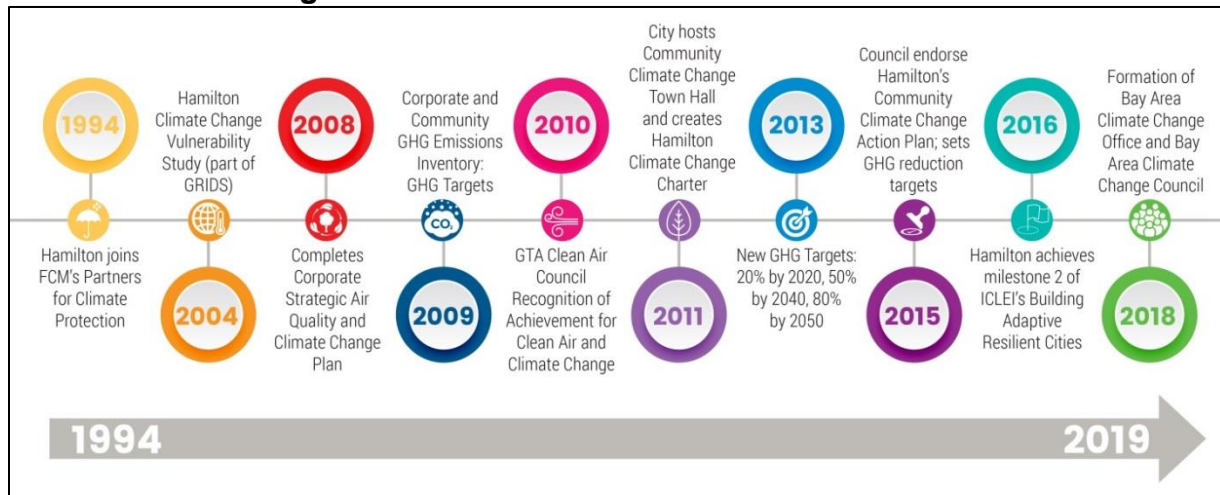
Hamilton’s Climate Actions to Date

Climate change action in the City of Hamilton formally began in 1994 when the City signed on to the Partners for Climate Protection (PCP) program through the Federation of Canadian Municipalities (FCM) — a milestone oriented framework for climate action. In 2012, Hamilton completed all five of PCP’s milestones by (1) Creating a Green House Gas (GHG) Inventory and Forecast; (2) Setting Emission Reduction Targets; (3) Developing a Local Action Plan; (4) Implement the Local Action Plan; and, (5) Monitoring Progress and Reporting Results.

Hamilton utilizes innovative technology to both climate change mitigation and adaptation. Combine generation (co-gen) plants were installed at the City’s landfill and the Woodward Water Wastewater Treatment Plant (WWTP), which captures methane to create renewable electricity. This co-gen plant avoids 100,000 tonnes carbon dioxide equivalent (tCO_{2e}) per year from entering the atmosphere. Renewable natural gas is also created at the WWTP by capturing methane and using a biogas purification unit to yield utility grade renewable natural gas that is injected into the Union Gas distribution system. This results in a reduction of 15 tCO_{2e}.

The City has also undergone climate adaptation actions preparing for, and mitigating against flooding events caused by increased precipitation. An example of this is the City of Hamilton’s backwater valve replacement program where the City invested in providing a grant rebate program for homeowners to install a backwater valve in order to prevent basement flooding. Figure 1 below shows a graphical representation of Hamilton’s climate actions since 1994.

Figure 1: Hamilton’s Climate Actions 1994 – 2019



A comprehensive list of Hamilton’s completed, ongoing and proposed climate change actions are included in Appendix “A” to Report BOH19022. These existing and ongoing actions will help can be leveraged in order for Hamilton to achieve the new proposed

actions in Appendix “B” to Report BOH19022. By prioritizing these objectives within existing plans and policies it will save staff time and resources. Although care was taken to ensure that this list is as accurate as possible, there may be additional actions that were not included within this list.

Bay Area Climate Change Office

Over the past two years, City staff have focused effort on developing a governance structure for climate change work. This effort has been done in partnership with Mohawk College’s Centre for Climate Change Management (CCCM) and the City of Burlington to create a Regional, collaborative governance model that seeks to replicate the successes of the Bay Area Restoration Council (BARC). This Regional model is meant to prioritize and accelerate climate actions as described in Hamilton’s Community Climate Action Plan, Burlington’s Community Energy Plan and the new Hamilton and Burlington Low-Carbon Scenario and Technical Report 2016 to 2050.

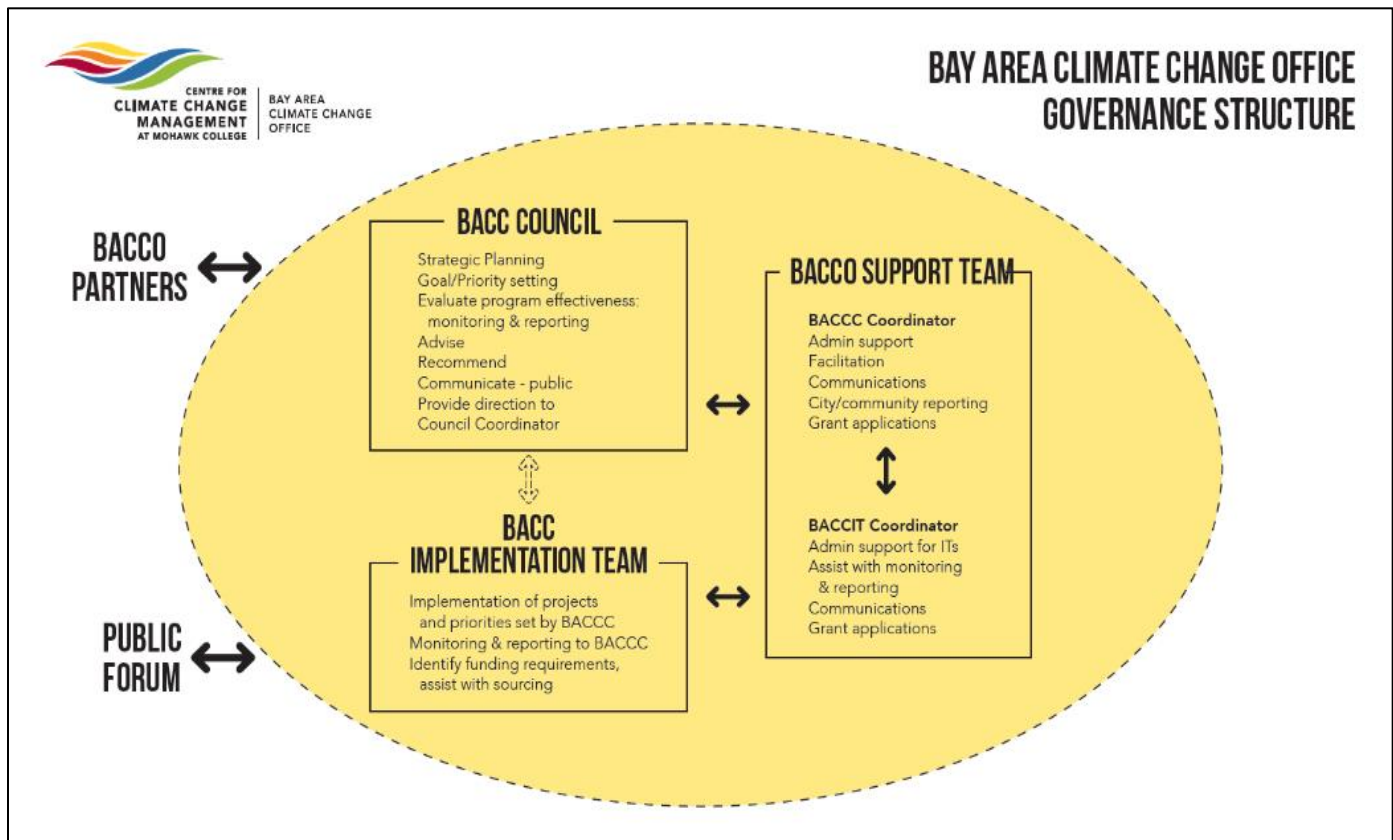
The Bay Area Climate Change Governance Model is an effort to accelerate climate change action through coordination and support of many already ongoing actions, in order to bring a collective voice to climate action to all levels of government. Figure 2 below shows a graphical representation of the governance model. For more information on the Bay Area Climate Change Office Engagement Report, please see Appendix “D” to Report BOH19022.

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Figure 2: Bay Area Climate Change Governance Model



The Carbon Disclosure Project (CDP) is another example of Hamilton’s Climate Change reporting structure that can be used to better centralize climate change reporting across the Corporation to Council and the Community.

Hamilton’s Mayor and Council signed Hamilton onto the Global Covenant of Mayors (formerly Compact of Mayors) — 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 move to a low emissions, resilient society.

In 2018 CDP, in partnership with the Global Covenant of Mayors, created a standardized scoring methodology for city submissions. Cities around the world were scored based on their actions and level of detail within their submissions and given a letter rating score. The City overall scored a “B” and is considered “Management Level” as per CDP methodology. The North American and Global Average for cities, in comparison, received a score of “D” (see Figure 3 below).

Figure 3: City of Hamilton Carbon Disclosure Project Scoring

Scoring Band Explanation						
A city in the Management has understood the main risks and impacts of climate change and is taking action to adapt to and reduce these effects. These cities have worked collaboratively with key stateholders to understand their risks and impacts and now have plans in place to mitigate and adapt.						
	Adaptation	City-wide emissions	City-wide emissions reductions	Climate & social risk	Opportunities	Water supply
City of Hamilton	D	B	D	C	B	B
North America Average	D	D	D	C	C	D
Global Average	D	D	D	D	D	D

Although climate change is a challenging problem to solve and further action is needed, the actions described above demonstrate that the City of Hamilton is well-positioned to achieve the proposed framework and to meet our GHG emission reduction goals.

Corporate Climate Change Task Force Framework

Climate change mitigation and adaptation planning is complex, and requires coordinated attention and action among City departments across the corporation, companies and organizations across Hamilton, and individual citizens. Recent direction from Council calls for the creation of a multi-departmental Corporate Climate Change Task Force under the leadership of the City Manager.

This Task Force is directed to undertake an extensive investigation to determine:

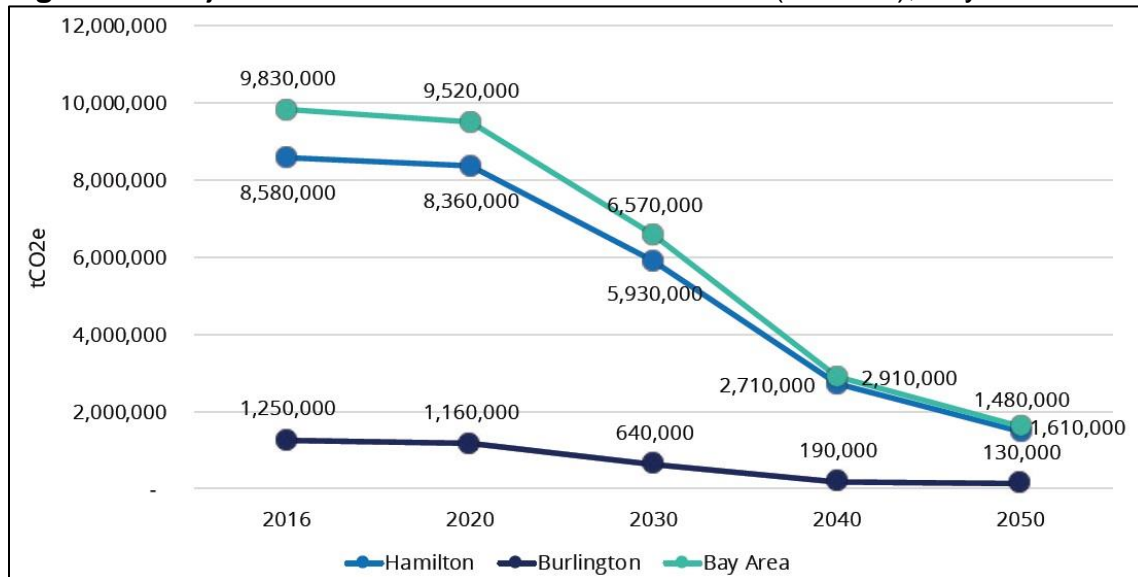
1. Additional actions to be taken to incorporate into existing plans and policies to achieve net zero carbon emissions before 2050;
2. Best processes to centralize reporting on Climate Change for the Corporation of the City of Hamilton;
3. Investigation into past green initiative investments and returns to the community;
4. Gaps in current programs and projects and strategies to address those gaps; and,
5. Establishment of a critical path and Terms of Reference to initiate an awareness strategy campaign.

The multi-departmental Climate Change Task Force will begin to develop specific strategies on the exact implementation of the actions areas proposed in Appendix “B” to Report BOH19022 and will report back to GIC.

The new action areas identified in Appendix “B” to Report BOH19022 are based on previous scientific reports including the Hamilton and Burlington Low-Carbon Scenario

and Technical Report 2016 to 2050. The forecasting model utilizes Sustainability Solutions Group's (SSG) energy, emissions, land-use and financial model CityInSight. This model developed a baseline for 2016, then created a Business-as-Usual (BAU) and Low-Carbon (LC) scenarios forecast, which identifies actions that could be taken in order for Hamilton to lower its emissions from approximately 8.6 megatonnes of carbon dioxide equivalent (MtCO_{2e}) in 2016 to 1.5 MtCO_{2e} — a decrease of 83%. The low carbon emissions pathway is identified in Figure 4.0 below:

Figure 4: Projected Low Carbon Scenario Emissions (MtCO_{2e}), Bay Area 2016-2050



SSG's report and CityInSight model shows that it is technically feasible to lower Hamilton's emissions by 83%. The modelled predictions for costs of these actions were out of the scope of this project and would need to be further investigated prior to making any strategies and recommendations to GIC.

Relevant Consultations

Staff colleagues, including Senior Leadership Teams from departments across the corporation including Public Works, Planning and Economic Development, Healthy and Safe Communities, and the City Manager's Office were all consulted with respect to this report. External stakeholders include leading environmental organizations including Environment Hamilton, Hamilton 350 and the Bay Area Climate Change Council.

With respect to the formation of the Bay Area Climate Change Office and the Bay Area Climate Change Council, Lura Consulting undertook extensive community consultation across Hamilton and Burlington. For details on those consultations please see Appendix "D" to Report BOH19022.

Conclusion

The purpose of this report is a response to Hamilton City Council's declaration recognizing that climate change is an emergency and the single largest threat to municipalities across the world and that urgent climate action is needed.

The objective of this information report is to provide the Board of Health (BOH) an update on the reporting structure and framework for the creation of a multi-departmental Corporate Climate Change Task Force. The work of the task force will be to report annually to General Issues Committee (GIC) on specific strategies of how to address climate mitigation and adaptation. The task force will be coordinated by staff within Public Health Services, Healthy and Safe Communities Department. All City departments will centralize reporting through the task force. This information will be reported to and led by the City Manager and the General Managers of each respective department on a quarterly and ad hoc basis. This will ensure information is provided in a timely manner and essential information on climate change is considered in every department, as necessary.

Regional collaboration with the Bay Area Climate Council will ensure alignment with regional priorities and synergies are identified between the City of Hamilton and Burlington and the members of the Bay Area Climate Change Council.

It will take an unprecedented shift of resources and attention to achieve carbon neutrality by 2050. Through constant and ongoing collaboration with internal and external stakeholders, climate adaptation, prioritization of zero emission buildings and transportation, strategic procurement, clear and constant education and awareness, and consistent reporting, Hamilton will be able to achieve our climate change goals that contribute to environmental, social and economic prosperity for Hamilton.

APPENDICES AND SCHEDULES ATTACHED

Appendix "A" to Report BOH19022:	List of Hamilton's Climate Change Actions
Appendix "B" to Report BOH19022:	Hamilton's Corporate Climate Change Actions Framework
Appendix "C" to Report BOH19022:	Hamilton and Burlington Low-Carbon Scenario and Technical Report 2016 to 2050
Appendix "D" to Report BOH19022:	BACCO Engagement Summary Report