



## **REPORT**

**REPORT TO:** Mayor Bonnette and Members of Council

**REPORT FROM:** Rija Rasul, Senior Climate Change Specialist

**DATE:** August 31, 2020

**REPORT NO.:** ADMIN-2020-0027

**RE:** Climate Change Adaptation Plan

### **RECOMMENDATION:**

THAT Report No. ADMIN-2020-0027, dated August 31, 2020, regarding the Climate Change Adaptation Plan be received;

AND FURTHER THAT Council adopt the Climate Change Adaptation Plan as the Town's key document to drive forward the Climate Change Resilience Strategy, and in doing so, take concrete action towards implementing the Low-Carbon Resilience Framework.

### **BACKGROUND:**

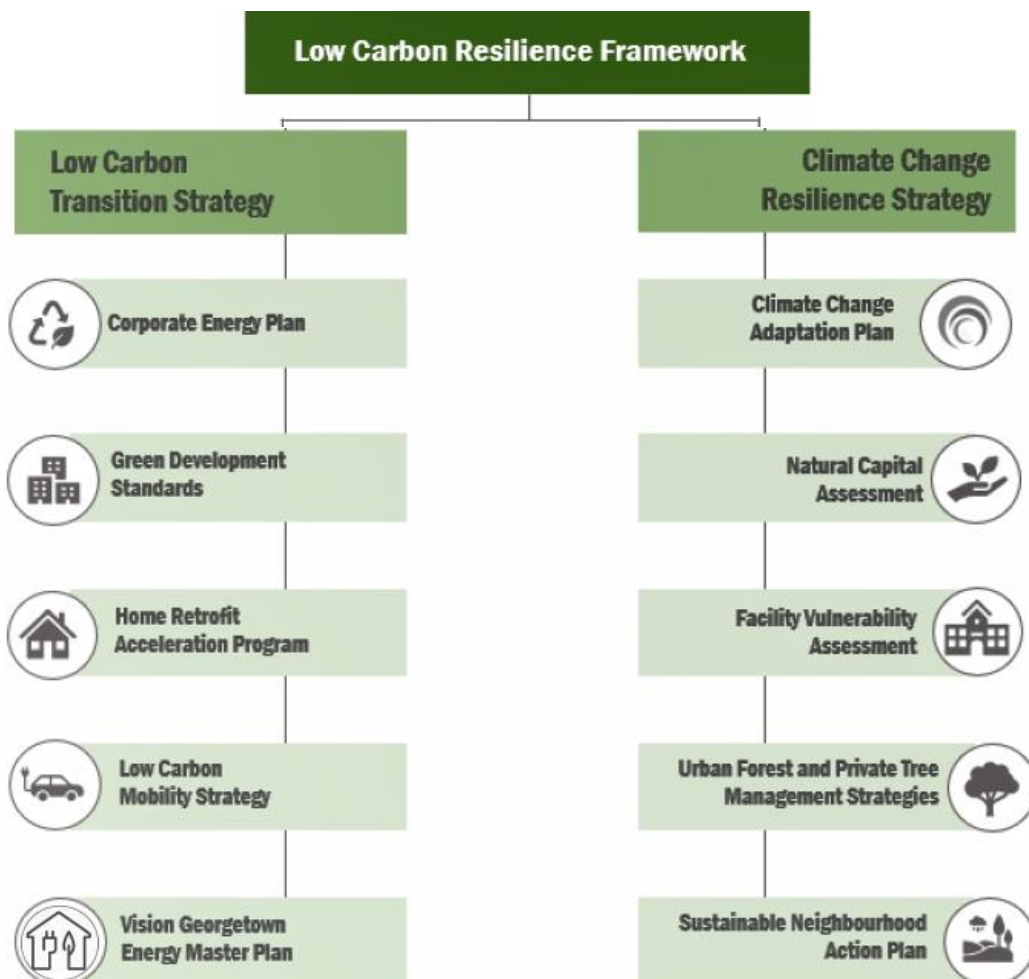
In 2017, Town staff initiated the Climate Change Adaptation Plan (CCAP) project. Since then, the following related work has been completed by the Town:

- Presented the Terms of Reference for the CCAP project to Council via Report No. P&I-2017-0002, dated February 6, 2017;
- Updated the Terms of Reference to reflect an expanded scope upon successful receipt of \$175,000 in FCM grant funding, via Report No. PLS-2017-0002;
- Issued Request for Proposal P-019-17 in Fall 2017, to hire a project consultant;
- Presented Report No. PLS-2018-0005, to hire the Canadian Urban Institute as the lead project consultant in January 2018;
- Provided a project update to Council via Report No. PLS-2019-0001, dated January 7, 2019;
- Declared a Climate Emergency in May 2019 through Resolution No. 15.1 which, among other things:
  - Cited Canada's Changing Climate Report 2019 which concluded that Canada's annual average temperature has been increasing at a rate that is double the global average

- Recognized that climate change is an emergency with no foreseeable conclusion and that addressing it will require permanent changes in the way the Town conducts business
- Established a target for the Town of Halton Hills to become a net-zero municipality by 2030
- Requested that Town staff prepare a Staff Report outlining a recommended course of action
- Presented to Council the Low-Carbon Resilience Framework through Report No. ADMIN-2019-0035, dated December 9, 2019, to help identify key initiatives in response to the Climate Emergency Declaration and to establish a coordinated approach to climate mitigation and adaptation within two guiding strategies: for mitigation, the Low-Carbon Transition Strategy, and for adaptation, the Climate Change Resilience Strategy.

The CCAP is a key element of the Low-Carbon Resilience Framework (see Figure 1). The Climate Change Action Task Force, established in response to the Climate Emergency Declaration is chaired by Mayor Bonnette and governs the overall development and implementation of this Framework. The Task Force also oversees two Steering Committees, the Low-Carbon Transition Steering Committee chaired by Councillor Fogal, and the Climate Change Resilience Steering Committee chaired by Councillor Somerville.

**Figure 1 – Low-Carbon Resilience Framework**

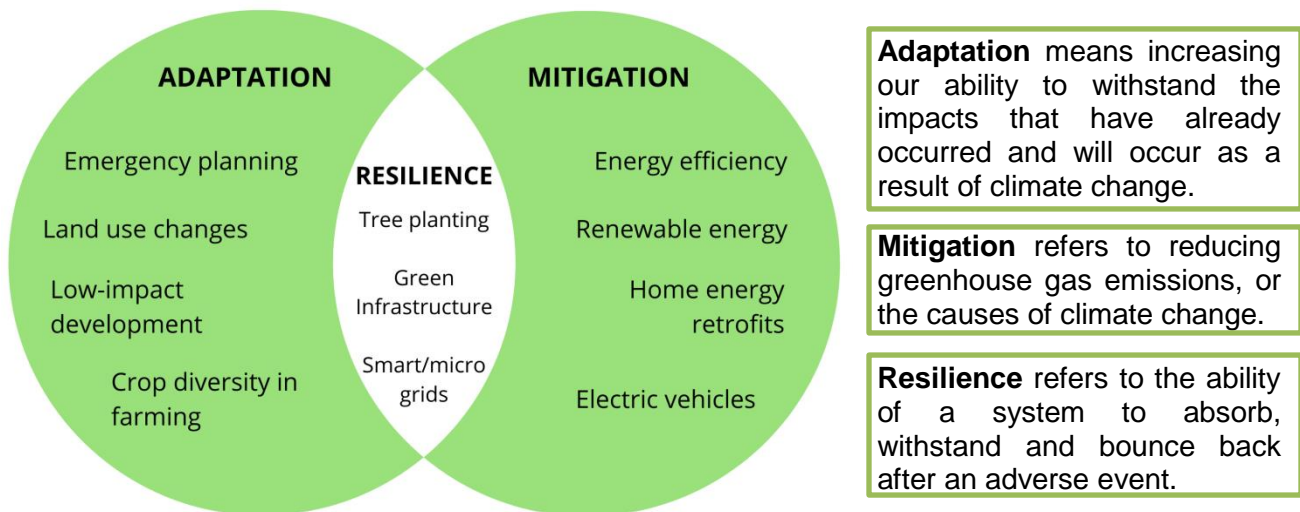


## Climate Change Resilience Steering Committee

The Climate Change Resilience Strategy (CCRS) is governed by the Climate Change Resilience Steering Committee (CCR-SC), who provides guidance on the CCRS and the initiatives that fall within it, and helps support and influence its implementation within the broader community.

Although the Town's mitigation and adaptation initiatives have been separated into two strategies for the purposes of the Low-Carbon Resilience Framework, it is important to note that synergies between these two areas exist (i.e. actions that help adapt to climate change while at the same time reduce GHG emissions to mitigate the effects of climate change) and will be drawn upon to drive forward the entire Framework and to reinforce the Town's response to the Climate Emergency. This concept of building upon the synergies and striving for resilience, as opposed to solely adaptation was woven throughout the CCAP actions and remains a focus of the CCR-SC. Figure 2 below shows the differences between and examples of mitigation, adaptation, and resilience.

**Figure 2: Synergies between Adaptation and Mitigation**



## Plan Development:

The framework for the development of the Town's first Climate Change Adaptation Plan (CCAP) is based on ICLEI Canada's Building Adaptive & Resilient Communities (BARC) methodology, summarized in Figure 3 below and as follows:

**Figure 3: BARC Milestone Framework and Town Status**



### Milestone 1: Initiate (2017)

This phase set the groundwork for the project and included the following tasks:

1. Development of work plan and engagement plan
2. Submit funding application to the Federation of Municipalities (FCM)
3. Establishment of Adaptation Team
4. Scan/review of existing Town plans/strategies
5. Review of Regional and Provincial climate change policy

### Milestone 2: Research (2016-2017)

This phase involved climate modeling, assessing risk and vulnerability of Town facilities, mapping the impacts of climate change on the Town, and engaging the community to solicit feedback and input on the plan. Milestone 2 produced the following deliverables:

#### **1. Historical Climate Analysis & Future Climate Modeling**

This Report looked at historical climate data for Halton Hills and conducted modeling to predict what climate change impacts Halton Hills can expect over the next 10, 20, and 30 years.

#### **2. Town Facilities Vulnerability Assessment**

This Report undertook a risk and vulnerability assessment for ten Town facilities, to evaluate their ability to withstand the projected impacts of climate change. The study used the Public Infrastructure Engineering Vulnerability Committee (PIEVC) protocol to define the climate parameters, provide climate change impact projections, and make recommendations to enhance the resiliency of the Town's key facilities.

### **3. Geospatial Natural Capital Assessment**

This Report identified and mapped out the Town's significant natural areas and environmental features that provide crucial ecosystem services (e.g. flood mitigation, carbon sequestration, heat refuges, etc.), and which, if conserved/enhanced/restored, will improve the Town's ability to leverage its natural capital assets to remain resilient to climate change.

### **4. Community Engagements**

Between the two public workshops, a total of 70 attendees participated in a collaborative discussion forum on key themes of the CCAP. The first community consultation focused on sharing information about climate adaptation and research findings such as expected climate projections for Halton Hills with residents. Participants were then asked to discuss and share their perceptions of climate change, how they have been impacted, and what they think the Town should do to prepare. The second consultation focused on identifying priority actions.

Two online surveys were also conducted through Let's Talk Halton Hills, and this platform was also used to provide project updates, information and opportunity to ask questions. Staff also had two student volunteers, who worked with Halton Climate Collective to survey residents on CCAP and homeowner climate actions.

#### Milestone 3: Plan (2018-2020)

The development and Council approval of the Final CCAP document will mark the end of this phase. Milestone 3 included the following tasks:

1. Climate Change Plan Vision, Mission and Guiding Principles
2. Plan Document Development (including draft, revisions, and final document)
3. Plan Presentation to Council (to summarize the CCAP contents, how it was developed, and importance of adaptation planning to Council, and provide an opportunity to ask questions)

#### Milestone 4: Implementation

Once the plan is approved by Council, the Town will officially initiate Milestone 4 and begin implementing actions. It should be noted, however, that projects contributing to CCAP implementation have been ongoing and the Town is at various stages of progress on CCAP actions. Examples of recent, ongoing initiatives that contribute to CCAP implementation are outlined below in this report.

Upon Council approval, staff will also complete and fulfill any outstanding reporting obligations to the FCM; \$175,000 was awarded to the Town through FCM's Municipalities for Climate Innovation Program (MCIP). These funds went towards the Canadian Urban Institute contract.

#### Milestone 5: Monitoring and Reporting

The final Milestone involves monitoring and reporting on implementation throughout the lifetime of the Plan and establishing a process to review and keep the CCAP up to date.

Figure 3 above shows major tasks associated with each of the five Milestones, including the red box outlining the current stage. Once approved, staff will continue to implement CCAP actions and report progress on an annual basis, using the indicators developed through the CCAP process. While the full list can be found in Appendix B of the CCAP, examples of indicators that may be reported on include:

- Number of actions implemented
- Annual Town expenditures related to climate change adaptation (total cost and percent of total)
- Number of residents engaged through climate change adaptation programs, events and online
- Percentage of Town critical infrastructure with backup power
- Percentage of municipality with tree canopy coverage

## **COMMENTS:**

The Town's CCAP consists of:

- Main document summarizing the development process, community consultation results, climate data, and findings of background studies
- Appendix A: Actions
- Appendix B: Indicators
- Appendix C: Resources and what you can do at home

The six main goals of the CCAP, and a summary of the types of actions within each, are as follows:

### **1. Cross-cutting**

The 9 cross-cutting actions can relate to more than one specific goal and have broader implications. Examples of such actions include: community education and outreach, integrating climate considerations across Town policies/plans, and securing access to data.

### **2. Halton Hills can withstand extreme weather events**

The 10 actions in this category largely deal with infrastructure (e.g. transportation systems, facilities, power systems) resiliency to extreme storms and ensuring operation of critical facilities during extreme weather events.

### **3. Halton Hills is resilient to higher temperatures and increased heat waves**

The 13 actions in this category revolve around the Town's parks and recreation facilities, as well as natural assets (e.g. tree canopy) protection and resilience against drought.

### **4. Halton Hills is resilient to increased precipitation and flooding**

The 11 actions under this goal are related to flood protection and ensuring proper stormwater management.

## 5. Halton Hills is prepared for the socio-economic impacts of climate change

The 7 actions in this category are focused on agricultural resilience, food security, and strengthening resilience of the economic sector.

## 6. Halton Hills can protect residents from the health and safety impacts of climate change

The 11 actions in this goal center around emergency preparedness and response, as well as the public health impacts of climate change.

The 61 actions in the CCAP were developed and informed by the three main background studies, discussions with the relevant staff/departments involved in action response, and the community engagement workshops. For each action, the following are also identified:

- **Lead** – Town department or external agency if applicable who is responsible for implementing the action
- **Partners** – Town departments or external agencies who should be involved in a supporting capacity
- **Cost** – Approximate cost to complete action, categorized into low (under \$500k), medium (\$500k-\$2m), and high (\$2m+)
- **Type** – Category of action for the Town, i.e. planning, encouraging, or regulating
- **Timeline** – Approximate timeframe in which the action should be completed, categorized into either short (within 1 year), medium (2-4 years), long (4+ years), or recurring actions (happen more than once or on a regular basis)
- **Status** – to identify actions that have already begun, and are in progress

A total of 22 indicators were also developed to help track and measure progress on action implementation; in addition to 'overall' CCAP indicators, each goal area has distinct indicators corresponding to the actions that fall under its respective category. These indicators will be used for monitoring and reporting of CCAP implementation and progress on action completion, on an annual or bi-annual basis. Examples of some indicators to measure overall progress include:

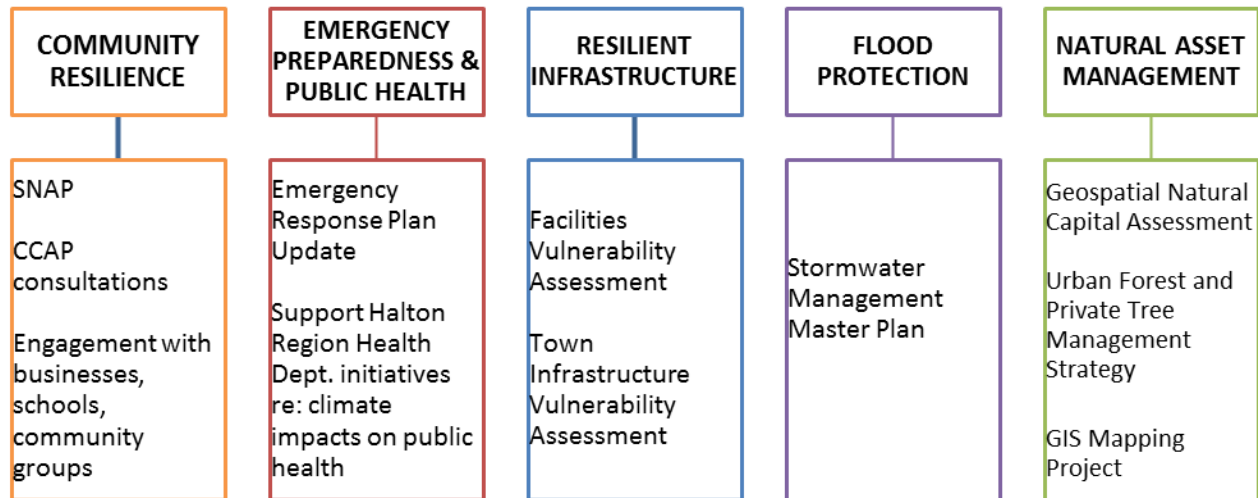
- Number of actions implemented
- Annual Town expenditures related to climate change adaptation (total cost and percent of total)
- Number of residents engaged through climate change adaptation programs, events and online

A resources and 'what you can do at home' section is included at the end of the Plan as an easy takeaway for residents, describing easy and no/low-cost examples of actions they can take to both further their understanding of the impacts of climate change, and to contribute towards climate adaptation.

## Next Steps and Implementation

Various climate adaptation initiatives that align with and help achieve actions in the CCAP have been ongoing and staff will continue to prioritize these projects as a next step towards CCAP implementation. The 61 actions in the CCAP helped determine five key theme areas, which will guide implementation (see Figure 4 below). Examples of major projects/initiatives that fall under each theme area are listed under each respective theme and details on three key ongoing projects are provided below as well.

**Figure 4: CCAP Implementation Theme Areas**



The following initiatives and projects are currently underway and help fulfill actions of the CCAP:

1. Hungry Hollow Sustainable Neighborhood Retrofit Action Plan (SNAP)
2. Vulnerability Assessment on Town Infrastructure
3. Natural Assets Management and Mapping
4. Private Tree Management Strategy
5. Youth Challenge International's Innovate MY Future Program

In addition to progressing on and completing the projects listed above, staff will continue to work with other departments to integrate their respective CCAP actions into ongoing business/capital plans wherever possible.

## RELATIONSHIP TO STRATEGIC PLAN:

The recommendations within this Report contribute to the 2020 Strategic Plan focus areas of Climate Change and the Environment, Fiscal and Corporate Management, and Ensure a Vibrant Agricultural Community.



**FINANCIAL IMPACT:**

Existing funds of \$100,000, approved in the 2019 capital budget through 7300-10-1902 are currently being used for the implementation projects described above. Additional funding, as required, will be sought through the standard capital budgeting process and through external grant opportunities wherever possible.

**CONSULTATION:**

N/A

**PUBLIC ENGAGEMENT:**

Public consultations were completed as a part of the Plan development process and are summarized above, as well as in the CCAP document, attached. Once approved, the CCAP will be made public on the Town's website.

**SUSTAINABILITY IMPLICATIONS:**

The Town is committed to implementing our Community Sustainability Strategy, Imagine Halton Hills. Doing so will lead to a higher quality of life.

Through the identification of climate related risks and the development and implementation of strategies and actions to minimize/address those risks, the Climate Change Adaptation Plan will enhance the Town's ability to "be prepared for climate change" and advances the Strategy's implementation.

This Report supports the environmental pillar of Sustainability and in summary the alignment of this report with the Community Sustainability Strategy is Excellent.

This Report also supports the Town's Climate Emergency Declaration.

**COMMUNICATIONS:**

There will be ongoing communication through the Town's new climate change webpage as well as the Town's other communication channels primarily to engage, educate and raise awareness in the community on climate change adaptation. Public consultations, as appropriate, will be held for various CCAP implementation projects as needed.

**CONCLUSION:**

The development and approval of a Climate Change Adaptation Plan is a key strategic priority for Halton Hills. This Report summarizes the progress made to date, outlines notable results from the process, and presents a Final Climate Change Adaptation Plan ready to be endorsed.

Reviewed and Approved by,

A handwritten signature in black ink, appearing to read 'Dharmen Dhaliah', written in a cursive style.

Dharmen Dhaliah, Senior Manager of Climate Change and Asset Management

A handwritten signature in black ink, appearing to read 'Richard Cockfield', written in a cursive style.

Richard Cockfield, Director of Strategic Planning

A handwritten signature in black ink, appearing to read 'Chris Mills', written in a cursive style.

Chris Mills, Acting Chief Administrative Officer