

REPORT

REPORT TO: Chair and Members of the Community Affairs Committee
REPORT FROM: Gabriel Clarke, Manager of Sustainability (Interim)
DATE: January 13, 2017
REPORT NO.: P&I-2017-0002
RE: Climate Change Adaptation Plan – Terms of Reference

RECOMMENDATION:

THAT Report No. P&I-2017-0002 (dated January 13, 2017) regarding the Terms of Reference for the Climate Change Adaptation Plan be received;

AND FURTHER THAT the proposed Terms of Reference for the Climate Change Adaptation Plan, attached as Appendix 1 to Report No. P&I-2017-0002, be approved;

AND FURTHER THAT if required, the Manager of Purchasing be authorized issue a Request for Proposal (RFP) for the Climate Change Adaptation Plan in accordance with the Terms of Reference set out in this report;

AND FURTHER THAT the Manager of Purchasing be authorized to issue a purchase order to the highest ranked consultant (s) for the completion of the Climate Change Adaptation Plan, provided that:

- i. The successful bid does not exceed the project budget of \$70,000 (plus taxes);
and
- ii. The consultant has been endorsed by the evaluation committee, consisting of all or select Staff Sustainability Team members (and other Town staff, as may be appropriate), and the Manager of Purchasing who will facilitate the evaluation process.

AND FURTHER THAT, if the above criteria are not met, Town staff report back to Council on the results of the consultant selection process to obtain Council direction.

BACKGROUND:

The International Panel on Climate Change (IPCC) released its Fifth Assessment Report (AR5) in 2014. The AR5 synthesis report states that:

1. “Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen.”¹
2. “Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems.”²

While the IPCC AR5 discusses the challenge of climate change from a global perspective, the Town of Halton Hills has and continues to experience the effects of a changing local climate. Extreme weather events, such as the 2013 ice storm, severely affected the Town’s transportation network, the electrical distribution system as well as the Town’s tree canopy. While the transportation network and the electrical distribution system were repaired in a relatively short period of time, the Town is still in the process of addressing damages caused to trees more than three years later.

More recently, the summer of 2016 was characterized by very low precipitation levels and several extremely hot days (over 30 degrees). As a result, agricultural crop production was negatively impacted in certain rural areas of the Town and the Town opened cooling centers to help residents and visitors to combat heat related stresses.

While it is still crucially important for governments of all levels to address the root cause of climate change by reducing greenhouse gas (GHG) emissions (referred to as mitigation) , it has also become clear that governments also need to plan for and be prepared to adapt to a changing climate.

Recognizing these facts, Town Council identified the development of a local Climate Change Adaptation Plan as a priority project for Town of Halton Hills as part of the 2014-2018 Council Strategic planning process. Council approved the necessary funding to complete a Climate Change Adaptation Plan in the 2016 capital budget process.

The project is also supported by two goals outlined in Imagine Halton Hills – The Town’s Integrated Community Sustainability Strategy, and will fulfill four actions listed in the Corporate Sustainability Action Plan (please see section 1.1.3 of the Draft Terms of Reference for additional details).

Lastly, as shown in Figure 1, the preparation of the Climate Change Adaptation Plan is a key component of the Town’s broader climate change mitigation and adaptation efforts. Halton Hills has taken a strategic approach to climate change by making

¹ https://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf

² Ibid.

connections between a wide range of key corporate initiatives that, combined, are continuing to advance the Town’s sustainability and climate change priorities. This includes a focus on energy efficiency, greenhouse gas emission reductions and moving towards net zero development. Net Zero development is a building, neighbourhood, commercial, or industrial development with zero net energy consumption, meaning the total amount of energy used by the development on an annual basis is roughly equal to the amount of renewable energy created on the site. Net zero development has the potential to make a significant contribution to not only mitigating greenhouse gas emissions, but also making the Town more resilient to the impacts of a changing climate.

Figure 1: Strategic Connections – Sustainability and Climate Change Priorities



As a result of Council's direction and the above-mentioned plans and initiatives, Town staff have taken the following steps to lay the foundation for developing an effective local Climate Change Adaptation Plan:

1. In 2016, Town staff applied for and were accepted in the Great Lakes Climate Change Adaptation Project (GLCCAP) which was developed and is being managed by ICLEI Canada – Local Governments for Sustainability.
2. Staff have prepared the project Terms of Reference (attached to this report as Appendix 1) to guide the completion of a local Climate Change Adaptation Plan.

COMMENTS:

1. The Great Lakes Climate Change Adaptation Project

The Great Lakes Climate Change Adaptation Project was initiated by ICLEI Canada–Local Governments for Sustainability in 2016 to help municipalities with the initial phases of the Climate Change planning process.

Through the GLCCAP project, ICLEI Canada:

1. Provides participating municipalities with a customized local climate change science report which is based on data from internationally-accepted climate models but is tailored to fit the local context (see Appendix 2);
2. Provides training to staff from participating municipalities to develop and implement a multi-stakeholder engagement process to:
 - a. Identify local vulnerabilities to climate change through a vulnerability assessment workshop(s);
 - b. Evaluate the level of exposure to climate change vulnerabilities through a risk assessment workshop(s);
3. Provides support to participating municipalities to plan and host the vulnerability and risk assessment workshops.

In exchange, participating municipalities are required to:

1. Attend the training;
2. Organize and host the workshops mentioned above within a specified timeframe; and
3. Provide a post-workshop report to ICLEI outlining how the workshops went and lessons learned.

There are no financial commitments or additional fees associated with participating in ICLEI Canada's Great Lakes Climate Change Adaptation Project.

The Town of Halton Hills was successful in its application to be selected as one of just 16 municipalities that ICLEI Canada has the capacity to support throughout the Great Lakes Climate Change Adaptation Project. As a selected participant, the Town will greatly benefit from access to ICLEI Canada's expertise and support for completing the initial phases of the Climate Change Adaptation Planning exercise.

2. Climate Change Adaptation Planning

Rooted in extensive community input, the implementation of the Halton Hills Community Sustainability Strategy requires active participation from a broad spectrum of community stakeholders.

The Community Sustainability Strategy is a strategic document. It does not include specific actions as these will be determined by the partners who commit to its implementation, including the Town. The Strategy's goals provide guidance for the types of actions that are necessary.

The Community Sustainability Strategy recognizes the need to act locally while thinking globally. The issue of climate change is ostensibly a global challenge as greenhouse gases do not recognize political borders. However, since 44% of Canada's greenhouse gas emissions are directly or indirectly controlled by municipal governments, there is an opportunity for municipalities to take a leading role in the fight against climate change. Recognizing this, the Town established two goals in the Community Sustainability Strategy related to climate change:

1. Reduce local greenhouse gas emissions for both the Town corporately and in the Community.
2. Be prepared for climate change.

The Town has already taken action to reduce greenhouse gas emissions while raising quality of life through the development and implementation of the Mayor's Community Energy Plan, approved by Council in 2015. The development and implementation of a Climate Change Adaptation Plan will enable the Town to take appropriate action to prepare for the inevitable consequences of climate change.

At its simplest, Climate Change Adaptation Planning is form of risk management. It is a method for systematically identifying a community's risks to climate change and developing actions to manage, minimize, or eliminate those risks.

A community's risks are identified and prioritized through the analysis of climate science and extensive stakeholder engagement, and actions are selected by evaluating potential solutions against metrics such as available and required resources, effectiveness, longevity and ease of implementation.

3. Terms of Reference

As outlined in Appendix 1, the proposed Terms of Reference are modeled after ICLEI Canada's Building Adaptive and Resilient Communities (BARC) climate change adaptation planning framework and consist of three Milestones.

Milestone One – Initiate: During the first Milestone, the Town will establish the stakeholder groups that will be consulted at various points throughout the project.

The consultant will be tasked with:

1. Developing a work plan to outline how they propose to complete the project;

2. Undertaking a cursory community systems scan to identify obvious climate change vulnerabilities;
3. Completing a climate change case study to assess the Town's response to a historical extreme climate event (i.e. 2013 ice storm);
4. Conducting a scan of existing Town plans to identify actions that the Town is already taking to adapt to climate change; and
5. Performing a regional and provincial policy review to understand the climate change policy direction for these levels of government.

Milestone Two – Research:

The second Milestone builds on the findings of Milestone 1 and will enable the Town to further understand how climate change will impact Halton Hills. The Town's participation in the GLCCAP will enable staff to complete several tasks that are required for Milestone Two. This will reduce the burden on the consultant and will enable the Town to re-deploy financial resources to other tasks and project Milestones.

During Milestone Two, Town Staff will:

1. Develop Climate Impact Statements that describe the anticipated effects of climate change and their consequences.
2. Organize and host vulnerability assessment workshops to understand the Town's sensitivity and adaptive capacity to climate change. Impacts that are rated higher on the sensitivity scale and lower on the adaptive capacity scale will be given higher priority.
3. Organize and host risk assessment workshops to understand the severity of the climate change effects facing the Town and the likelihood that climate effects will occur. Impacts that are rated higher on the severity scale and higher on the frequency scale will be given higher priority.

The consultant will be tasked with:

1. Producing a refined Climate Science Analysis
2. Reviewing the outcomes of the staff-led vulnerability and risk assessments
3. Conducting a climate change vulnerability assessment of the Town's facilities

Emphasis will be placed on engaging Town staff, the Senior Management Team, Council, partner organizations and community stakeholders throughout this phase.

Milestone Three – Plan Development

The focus of Milestone Three – Plan Development – will be on the selection of climate change adaptation actions to address the priority climate vulnerabilities identified during the previous Milestones.

In close cooperation with Town staff, the consultant will:

1. Lead the development of a plan Vision and Mission
2. Conduct a Best Management Practices (BMP) review
3. Develop a Climate Change Adaptation Plan which:
 - Identifies actions that the Town will take;
 - Identifies policies and standards that the Town will implement;

- Outlines a process for monitoring implementation; and
- Identifies potential external funding sources.

Milestone Three will culminate in the development of a Climate Change Adaptation Plan document. The document will be finalized based on feedback received from staff, the Senior Management Team and Council.

The main components of the Climate Change Adaptation Plan document will include:

- Context and background: This section will establish the need for community-level climate change adaptation planning, the benefits of taking a proactive and systematic approach towards climate change and the risks that communities face if they ignore or defer action to adapt to an already changing climate.
- Climate Science and Halton Hills: This section will provide a summary of the locally-observed historical climate trends as well as data from the future climate projection models in non-technical terms. The various climate change scenarios that will be used to inform the development of the Climate Change Adaptation Plan will be discussed in detail.
- Engagement Summary: This section will describe the engagement process that will be undertaken to develop the Climate Change Adaptation Plan. A description of the multiple engagement events, the input received and the way that stakeholder input will be incorporated into the plan will be provided.
- Action Plan: The action plan section will list and describe the actions that the Town of Halton Hills will take to adapt to a changing climate. The actions will be prioritized, implementation timelines will be included, and indicators will be listed.

4. Benefits to the Town of Halton Hills:

Through the development and implementation of a Climate Change Adaptation Plan, the Town, residents and businesses stand to gain from the following benefits:

- Increased emergency preparedness
- Enhance asset management and decreased lifecycle infrastructure costs
- Increased financial predictability
- Enhanced service delivery and business continuity
- Enhanced risk management
- Capitalization of opportunities
- Lower insurance claims and premiums
- Increased economic, environmental, social and cultural resiliency
- Enhanced quality of life

RELATIONSHIP TO STRATEGIC PLAN:

The development of a Climate Change Adaptation Plan fulfills Action 5A in Council's 2014-2018 Strategic Action Plan – Develop a Climate Change Adaptation Plan to address community responsiveness and resiliency to climate change.

FINANCIAL IMPACT:

By proactively managing risks through the Climate Change Adaptation Plan, Halton Hills can be expected to reduce its financial exposure to climate change. As demonstrated through the 2013 ice storm recovery costs, these impacts can be significant. According to the Insurance Bureau of Canada, severe weather caused by climate change is resulting in greater damage and costs. In Canada, insured damage costs for 2016 reached \$4.9 billion, rising from \$3.2 billion in 2013.

COMMUNICATIONS IMPACT:

There is no communications impact associated with this report.

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. The relationship between this report and the Strategy is summarized below:

The Climate Change Adaptation Plan project is supported by, and will help achieve two goals contained in the Town's Community Sustainability Strategy. The first goal: "be prepared for climate change" is directly supported by, and will be fulfilled through the development and implementation of the Climate Change Adaptation Plan, as the plan will outline what the Town needs to do to be prepared and adapt to climate change. The second goal: "raise community awareness of the opportunities and threats posed by climate change and inspire action, including efforts to reduce greenhouse gas emissions" will be partially fulfilled by this project since it will raise community awareness of climate change as well as the risks and vulnerabilities facing the Town.

Do the report's recommendations advance the Strategy's implementation? Yes

Which pillar(s) of sustainability does this report support? Environmental Health.

In Summary, the Sustainability Implications of this report are as follows:

Overall, the alignment of this report with the Community Sustainability Strategy is:
Excellent

CONSULTATION:

The Climate Change Adaptation Team (Town staff), the Stakeholder Group (community members), the Senior Management Team and Council will be consulted at various points throughout the development of the Climate Change Adaptation Plan. Figure 2 (below) outlines the major tasks of the project and the points at which various stakeholders will be consulted.

The recommended Terms of Reference have been presented and endorsed by the Senior Management Team.

Figure 2: Major Project Tasks and Consulted Stakeholders

Milestone	Task / Sub-Task	Lead	Consulted Stakeholders
Milestone One: Initiate	Work Plan	Consultant	●
	Community Systems Scan	Consultant	●
	Existing Plan Scan	Consultant	●
	Regional / Provincial Policy Review	Consultant	●
	Milestone One Report	Consultant	● ● ●
Milestone Two: Research	Climate Science Analysis	Consultant	●
	Climate Impact Statements	Town Staff	● ● ● ● ●
	Vulnerability Assessment	Town Staff	● ● ● ● ●
	Risk Assessment	Town Staff	● ● ● ● ●
	Milestone Two Reports	Consultant	● ● ●
Milestone Three: Plan Development	Vision and Mission	Consultant	● ● ● ● ●
	Best Practice Review	Consultant	●
	Action Planning	Consultant	● ● ● ● ●
	Policies and Standards	Consultant	●
	Monitoring (Indicator Selection)	Consultant	●
	Funding	Consultant	●
	Draft Climate Change Adaptation Plan	Consultant	● ● ● ●
	Final Climate Change Adaptation Plan	Consultant	●

Legend:

- Project Manager
- Climate Change Adaptation Team (Town Staff)
- Senior Management Team
- Stakeholder Group (Community Members)
- Council

CONCLUSION:

Communities have two options when it comes to future-based risk management, and both involve risks and benefits. The first is to take a reactive “wait and see” approach and deal with problems as they arise, and the second is to proactively anticipate, plan for, and take action today for an outcome that may or may not happen tomorrow.

With the reactive approach, the risk is that an event will happen that will overwhelm the community and its capacity to respond. The benefit is that if the event does not happen, resources can be deployed elsewhere. Conversely, with the proactive approach, the risk is that an event that is planned for does not actually materialize. However, the benefit is that if the event does happen, the community will be better prepared to manage it and the likelihood of becoming overwhelmed is greatly diminished.

With regards to climate change, there is now overwhelming scientific evidence and international consensus that the climate has changed since industrialization and will continue to change in the future. It is no longer a matter of “if” we will experience the impacts of climate change but one of “when” and “how much”. As a result, the reactive approach is insufficiently positioned to ensure that the Town will remain resilient as it continues to experience the effects of climate change, and the aforementioned risks associated with this approach outweigh any benefits that it may have provided to communities in the past.

Council has recognized the importance of planning for and adapting to climate change by directing staff to develop a Climate Change Adaptation Plan and allocating the necessary resources. The proposed project Terms of Reference, attached as Appendix 1 to this report, outline how staff propose to complete this important project.

Respectfully submitted,

Gabriel Clarke
Manager of Sustainability (Interim)

Reviewed and Approved by,

John Linhardt, MCIP, RPP
Executive Director of Planning Services
Chief Planning Official

Chris Mills, P. Eng.
Commissioner of Planning and
Infrastructure

Brent Marshall
Chief Administrative Officer