



Staff Report

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Report To:	Planning and Development Committee	
Date of Meeting:	March 7, 2022	Report Number: PDS-015-22
Submitted By:	Ryan Windle, Director of Planning and Development Services	
Reviewed By:	Mary-Anne Dempster, CAO	By-law Number:
File Number:		Resolution#: PD-021-22
Report Subject:	Clarington Corporate Climate Action Plan, Annual Update to March, 2022	

Recommendation:

1. That Report PDS-015-22 and any related communications be received for information.

Report Overview

This report provides the first annual update on the implementation of the Clarington Corporate Climate Action Plan (CCCAP) since endorsement by Council in March 2021. This includes a summary of 2021 CCCAP accomplishments and priorities for 2022. This report also provides an update on the implementation of Clarington's 2019 Energy Conservation and Demand Management (ECDM) Plan.

1. Background

Context

- 1.1 The Intergovernmental Panel of Climate Change's (IPCC) [Sixth Assessment Report](#), released in August 2021, states, "It is unequivocal that human influence has warmed the atmosphere, ocean, and land. Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred." These changes are already contributing to many weather and climate extremes in every region across the globe, including the Great Lakes Region. The impacts of climate change are harming people and ecosystems, with a greater burden on vulnerable residents such as elderly and low-income individuals.
- 1.2 Climate science indicates that there is a narrow window to limit further warming to below 1.5°C above pre-industrial levels, a threshold that if exceeded would bring catastrophic and irreversible climate change. Maintaining temperatures below this threshold will require dramatic reduction in Greenhouse Gases (GHG) emissions across all sectors of society and coordinated action across all levels of government. In recognition of this fact, in 2021 the federal government committed Canada to cutting emissions by 40-45 per cent below 2005 levels by 2030 and joined over 120 countries in committing to net-zero emissions by 2050.
- 1.3 Municipalities like Clarington play an important part in responding to climate change by decarbonizing corporate assets and operations and by instituting policies (e.g., land use), programs (e.g., fleet), and services to enable broader community wide GHG emissions reductions and resilience to extreme weather caused associated with climate change.

Previous Decisions

- 1.4 Since 2016 Clarington has partnered with the Region of Durham, Durham Area Municipalities, and other stakeholders to develop the Durham Community Climate Adaptation Plan (DCCAP) and the Durham Community Energy Plan (DCEP). The DCCAP and DCEP contain actions to help the community prepare for climate change, reduce community GHG emissions and increase energy independence while promoting

local economic development. Implementation of these plans is being led by the Region of Durham with support provided by the area municipalities, utilities, conservation authorities, and other community partners ([Resolution: GG-551-19](#)).

- 1.5 In early 2013, the Municipality established the Priority Green Clarington initiative, which resulted in a framework for sustainable residential developments (beyond code) and a household water and energy efficient demonstration project. ([PSD-060-15](#))
- 1.6 In late 2019, the Municipality released the [Clarington Energy Conservation and Demand Management Plan 2019-2024](#) (ECDM plan). The ECDM plan identifies actions that the Municipality will take to conserve energy, reduce GHG emissions and save money in Municipal buildings. Also, the Municipality tracks energy consumption and costs on an ongoing basis to identify ways to save. The Municipality has over the years implemented many energy saving improvements in our facilities and buildings.
- 1.7 In February 2020, Council passed a motion to prioritize the use of low emissions vehicles in the municipal fleet, reducing corporate GHG emissions that contribute to climate change. ([Resolution: C-066-20](#))
- 1.8 On March 2, 2020, the Municipality declared a climate emergency, highlighting its commitment to protect the community and ecosystems from climate change by reducing greenhouse gas (GHG) emissions that are causing climate change ([Resolution: GG-083-20](#))
- 1.9 In March 2021, Council endorsed the [Clarington Corporate Climate Action Plan \(PSD-018-21\)](#). The CCCAP contains 116 actions to respond to limited risks posed by climate change, and establishes corporate greenhouse gas emissions reduction targets. The CCCAP sets a target to reduce corporate greenhouse gas emissions to 35% below 2018 baseline levels by 2030 and to achieve net zero emissions by 2050.

2. Corporate GHG emissions

- 2.1 Currently the Municipality of Clarington reports annual energy consumption and [GHG emissions to the Broader Public Service \(BPS\)](#) under [O. Reg. 507/18](#) (Broader Public Sector: Energy Reporting and Conservation and Demand Management Plans)
- 2.2 Reporting is limited to energy consumed by all municipal facilities and the data is not released until it is compiled and finalized by the BPS for comparison purposes. The most current GHG emissions available are from 2019 (2021 reporting period).
- 2.3 In 2018, energy consumption from municipal facilities was responsible for approximately 2798 tonnes of CO₂e GHG emissions. In 2019 energy consumption from municipal facilities was responsible for 2998 tonnes of CO₂e GHG emissions. Within the period, GHG emissions from municipal facilities increased by **7.14%**.

- 2.4 As per action 1.12 of the [Clarington Corporate Climate Action Plan](#), the Municipality is currently onboarding a software tool that will allow the Municipality to monitor energy and water consumption, waste production and GHG emissions from all municipal operations on a month-to-month basis.
- 2.5 Future climate action updates will include a detailed breakdown of municipal energy and water consumption, waste production and GHG emissions. This information will be used to inform ongoing municipal decision making related to energy, water, waste and GHG emissions.

3. CCCAP Implementation

- 3.1 The implementation of the CCCAP is guided by the Energy and Climate Change Response Coordinator and Interdepartmental Climate Change Work Group, which consists of staff representatives from each department.
- 3.2 To coordinate the implementation of climate actions across all departments over the next 5 years, staff have developed an iterative Climate Action Implementation Guide (**Attachment 1**).
- 3.3 The Climate Action Implementation Guide promotes the integration of actions into current municipal operations, streamlining processes and taking advantage of existing resources, and encourages the identification and use of a variety of implementation tools including communications, policy levers, and education/training. Using an integrated approach will help to maximize the success of implementing each action.
- 3.4 Action Specific Working Groups (ASWGs) have been formed to advance the implementation of department-specific climate actions and develop Action-Specific Plans (ASPs), which are tailored to the unique implementation pathway of each action.
- 3.5 The ASPs outline key steps to implement each action in the CCCAP in an easy-to-use format. They outline responsibilities, current practices, supporting tasks, timelines, financials, and indicators for each action, and act as key guidance documents for the implementation process. Please see **Attachment 1** for an example ASP.

3.6 The annual implementation cycle includes:



Figure 1 – 2022 CCCAP Action Implementation Cycle

4. CCCAP Update

2021 CCCAP Update

- 4.1 Since the approval of the CCCAP by Council in March 2021, Staff have been diligently working to implement the actions contained in the Clarington Climate Action Plan (CCCAP).
- 4.2 Actions that have been implemented in 2021 include:

Action	Ass. CCCAP Action Number
Integration of climate change considerations into the annual budget book	1.17
Review of the Municipality's extreme heat and UV policies to protect staff and the public from extreme weather	2.2, 2.5, 2.8, 2.16
Expand online safety training program to ensure safety training is accessible to staff in the field	2.11
Review best practices for a communications strategy that clearly categorises levels of weather-related risk and communicates actions that should be taken by the public to stay safe	2.18
Review anti-idling by-laws to prevent unnecessary GHG emissions from vehicle idling	1.19
Development of a work from home policy to help reduce GHG emissions from commuting	6.4
Update of council procedural by-law to allow for remote meetings during extreme weather	6.6
Encourage provincial and federal climate change funding for municipalities on an ongoing basis	7.10
Update emergency contact lists	2.9
Development of a municipal electric vehicle (EV) policy and fees schedule	1.30
Development of a 5-year plan to transition the municipal fleet to electric and provide public EV charging to the public	1.30
Installation of 8 EV charging stations for public and fleet charging at Garnet B. Rickard.	Reduce GHG emissions

Table 1 - Completed 2021 Actions

2022 CCCAP Next Steps

4.3 Currently Staff are working on several initiatives that were started in 2021 and will be completed in 2022.

Action	Ass. CCCAP Action Number
Implementation of corporate energy management software to enable the Municipality to track GHG emissions, waste and energy and water consumption	1.1, 1.12 7.11
Update of the Municipality's procurement policy to include sustainable procurement	1.7, 1.8, 1.9, 1.33, 1.34
Review the implementation of urban tree preservation by-law	5.1
Develop a plan to communicate municipal climate action to council and the public	1.23
Create an extreme weather policy to define the weather conditions for municipal building closures	6.7
Investigate the feasibility of incorporating district energy into secondary plans	1.24
Update the Municipal Green Development Framework to integrate into municipal development application processes	1.25, 1.26, 1.27
Research partnership with the University of Guelph exploring how to integrate climate considerations into ongoing local economic development initiatives in Clarington	Reduce GHG emissions
Coordination with the Region of Durham on creation of a region-wide EV education program	Reduce GHG emissions
Coordination with the Region of Durham on the creation of a region-wide flood-risk communications strategy	Reduce GHG emissions
Coordination with the region of Durham on the creation and implementation of a region-wide home energy retrofit program	Reduce GHG emissions
Install 10 EV charge stations on municipal properties as guided by the Clarington EV Action Plan, approved in February 2022	Reduce GHG emissions

Table 2 – 2021 Actions to be Completed in 2022

4.4 Staff will also initiate several climate adaptation and mitigation actions in 2022. Please see **Attachment 2** for a detailed breakdown of CCCAP actions to be initiated in 2022. The listed actions will be the focus for Staff and the Interdepartmental Climate Change Work Group during 2022.

5. ECDM Update

2021 ECDM Update

- 5.1 Facilities Staff have been working to implement the [Energy Conservation and Demand Management \(ECDM\) Plan](#), which was endorsed by Council in June of 2019 through resolution [GG-416-19](#). The ECDM Plan Contains 45 specific measures that can be implemented in municipal facilities to reduce energy consumption and GHG emissions. To date, the Municipality has implemented 18 of the proposed measures. Please see **Attachment 3** for a detailed breakdown of ECDM measures completed to date.

Site	Measures
Bowmanville Operations Depot	LED Lighting
Fire Station #1	HVAC System - Scheduling / Setback
Fire Station #3	Programmable Thermostat
Fire Station #3	Replace Electric Boiler
Fire Station #3	Replace Electric Hot Water Heater
Hampton Operations Depot	Lunchroom Programmable Thermostats
Hampton Operations Depot	Programmable Thermostats
Kendal Community Centre	HVAC System - Scheduling / Setback
Municipal Administrative Centre	Domestic Heating Retrofit
Municipal Administrative Centre	Lighting Retrofit
Orono Library	HVAC System - Scheduling / Setback
Orono Library	Insulate hot Water / DHW Piping
Orono Operations Depot	Programmable Thermostat
Orono Operations Depot	Programmable Thermostat for Office Area
Orono Operations Depot	Furnace Upgrade
Sarah Jane Williams Heritage Centre	Programmable Thermostat
Tourism Centre	Programmable Thermostat

Table 33 – ECDM Actions Completed to Date

- 5.2 As noted in paragraph 2.4, the Municipality is currently onboarding an Energy Management Software tool that will allow the staff to monitor energy and water consumption, waste production and GHG emissions from all municipal operations on a month-to-month basis. With the EMS tool in place, staff will be able to provide a detailed breakdown of energy savings and GHG emissions reductions from completed and future measures outlined in the ECDM Plan for integration into future reporting.

2022 and 2023 ECDM Next Steps

5.3 Three ECDM actions are scheduled for implementation in 2022, with an additional 11 targeted for completion in 2023. Please see **Attachment 3** for a detailed breakdown of ECDM actions.

Site	Measures	Year
Fire Station #4	Programmable Thermostats	2022
Community Resource Centre	HVAC System - Scheduling / Setback	2022
Fire Station #2	NG Pulse Meter	2022
Visual Arts Centre	Lighting Upgrade	2023
Visual Arts Centre	Window Upgrade	2023
Fire Station #2	HVAC System - Scheduling / Setback	2023
Hampton Hall	Lighting Retrofit / Controls	2023
Hampton Operations Depot	Motion Sensors	2023
Hampton Operations Depot	Other Lighting Upgrades	2023
Fire Station #1	Lighting Retrofit	2023
Fire Station #2	Lighting Retrofit	2023
Sarah Jane Williams Heritage Centre	Motion Sensor Lighting Controls	2023
Newcastle Branch Library	LED Lighting Retrofit	2023
Newcastle Branch Library	HVAC System - Scheduling / Setback	2023

Table 44 – ECDM Actions Scheduled for Completion 2022/2023

5.4 Please note, limited facility use and cost saving measures implemented due to COVID-19, resulted in 19 actions recommended in the EDCM Plan being deferred until 2023.

6. Concurrence

6.1 This report and the draft CCCAP have been reviewed by the Directors of all departments, who concur with the recommendations contained herein.

7. Conclusion

7.1 Climate change will increasingly impact Clarington residents, infrastructure, municipal operations, and the economy. The scale to which Clarington is impacted will depend on the actions that the Municipality takes now. Keeping with the Municipality’s commitment to climate action, the Municipality must continue to identify and implement strategies to

prepare for the impacts of guaranteed climate change and reduce GHG emissions that are causing the climate to change. By implementing the Municipality's Corporate Climate Action Plan and advancing new and creative measures to respond to climate change, the Municipality is doing its part to safeguard the wellbeing of residents and the environment in which we live.

7.2 It is respectfully recommended that Council receive this report for information.

Staff Contact: Doran Hoge Energy and Climate Change Response Coordinator, 905-623-3379 ext. 2429 or dhoge@clarington.net.

Attachments:

Attachment 1 – 2022 Action Implementation Guide

Attachment 2 – CCCAP Actions Tracking

Attachment 3 – ECDM Actions Tracking

Interested Parties:

List of Interested parties available from the Department.

CCCAP Action Implementation Guide - 2022

Purpose of the Implementation Plan

Municipalities fail to implement their planned climate action initiatives due to lack of resources and support at the implementation stage. Having a detailed implementation plans and access to a wide range of implementation approaches is essential to achieving success. Planning for implementation improves the likelihood of effective climate action, provides new opportunities for outreach and engagement, and fosters long-term sustainability of the action by integrating multiple streams of support.

This document describes how the Municipality will implement the actions described in the CCCAP by 1) describing the annual cycle for action prioritization, planning, budgeting, implementation and reporting; 2) Providing a tentative five year timeline for the implementation of all 115 actions contained in the CCCAP and; 3) providing a template for creating Action Specific Implementation Plans which are unique to each action. Action Specific Implementation Plans will be developed for each action prior to the year that each action will be implemented.

This Action Implementation Guide promotes the integration of actions into current municipal operations, streamlining processes and taking advantage of existing resources. This guide encourages the identification and use of a variety of different implementation tools including communications, policy levers, and education/training. Using an integrated approach will help to maximize the success of implementing each action.

Annual Implementation Cycle

Action Prioritization - September

The Interdepartmental Climate Change Working Group (ICCWG) will review the 5-Year Climate Action Implementation Plan and prioritize actions that will be integrated into next budget.

Action Specific Plan Development – November

Action Specific Working Groups (ASWGs) will be formed to develop Action-Specific Plans (ASPs) which are tailored to the implementation of each Action.

The ASPs will demonstrate the key implementation information for each action in an easy-to-use format. They will outline responsibilities, current practices, supporting tasks, timelines, financials, and indicators for each action, and will act as key guidance documents for the implementation process.

Each department that responsible for implementation will be consulted in the development of their assigned actions. Conference calls and/or in-person meetings will be held to discuss how the action and supporting tasks will be implemented at the departmental-level, and how it will fit within current contexts. ASPs will fulfill the commitments made in the CCCAP, while also

ensuring they can be implemented by municipal staff under current conditions or with additional identified resources.

While the development of ASPs will be guided by the Action Implementation Schedule in the CCCAP, actions may be adjusted to provide clarity to departments or align with existing practices or opportunities. The ASPs are intended to be living documents, which will allow the Municipality to accommodate unexpected challenges and capitalize on new opportunities. In all cases, the intention of each action will remain the same.

Supporting tasks and additional considerations may be included in the ASPs that were not originally considered in the CCCAP. Furthermore, lead and supporting departments will be updated once the clarity and scope of actions are defined within each ASP.

Budget Integration – August to February

August - The ICCWG will estimate the resource needs of all prioritized actions and develop an action summary document divided by department. Identified actions will be compiled and submitted to Department Heads, the Chief Administrative Officer and Municipal Treasurer with a recommendation letter from the ICCWG for all identified actions to be integrated into the subsequent budget. Submitted actions will include a brief summary of work outlining alignment with service priorities align with Council mandate and strategic plan, estimated summary of impacts to the Municipality and estimated resource needs.

September - Department Heads review the CCCAP budget items with the Chief Administrative Officer and Municipal Treasurer.

January – The Municipal Treasurer holds a public workshop attended by the Mayor and Council to review the budget process and outline the priorities staff have set out.

February - Council approves the final budget.

Reporting – November/December

Staff will complete an annual climate action report which will be submitted to Council and posted on the Municipal website. The annual report will summarize KPIs and GHG emissions, highlight successes and lessons learned throughout the action implementation process, and provide an overview of the work that will be undertaken in the following year. The report will also include an overview of progress made by facilities staff on implementing Energy Conservation and Demand Management Plan.

Implementation – March to January

ASWGs will work to implement each action based on the timeline outlined in the 5-year implementation plan and ASPs.

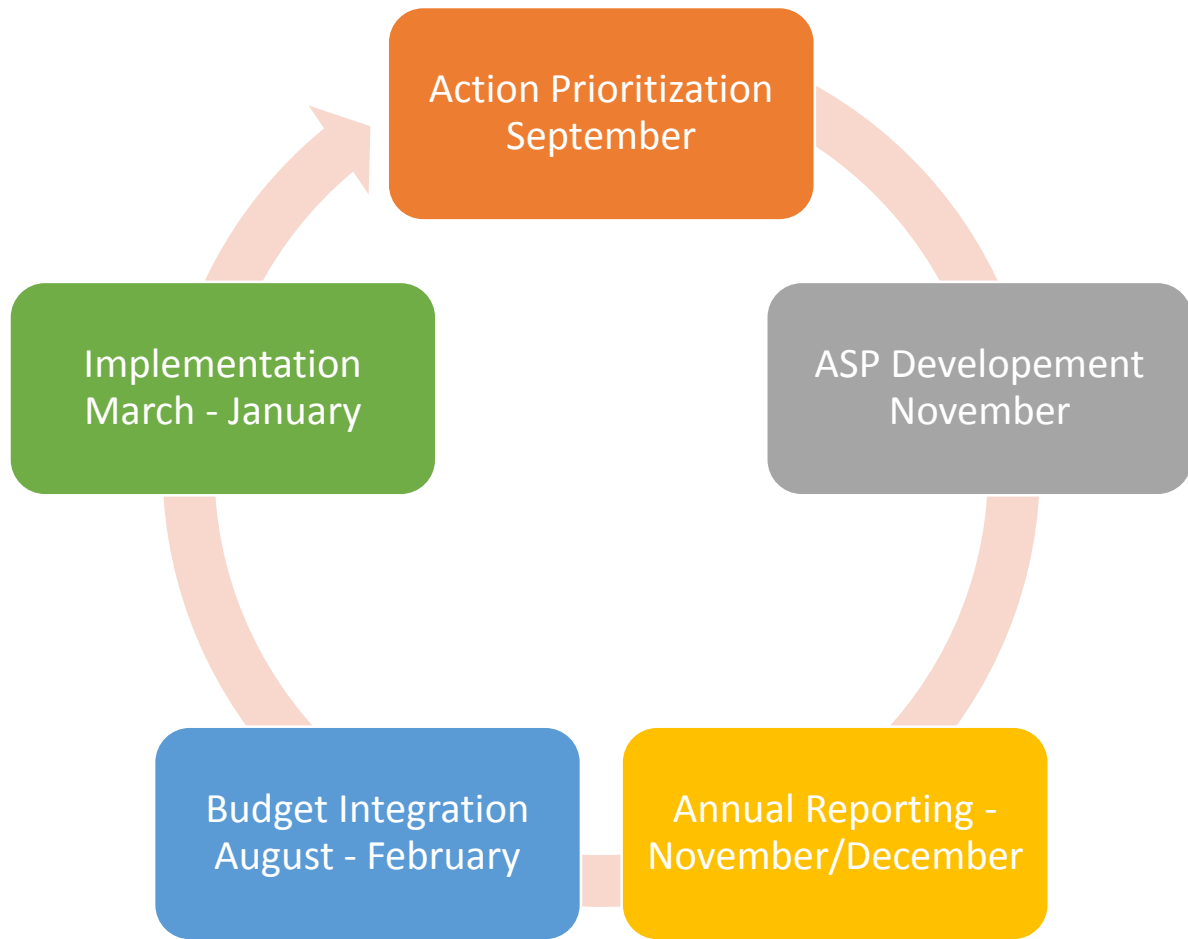


Figure 1 - Annual CCCAP Implementation Cycle

Action Specific Implementation Template (Example)

1. BACKGROUND INFORMATION	
Objectives	Mainstreaming climate change considerations
Action Description	As municipal plans and policies are updated on a regular basis, the Municipality will work to integrate climate change considerations into existing plans and policies during review.
Action Rationale	Incorporating climate change into existing plans and policies helps to mainstream these considerations into municipal day-to-day activities. It will help towards ensuring community resilience in the face of climate change impacts.
Supporting Actions from CCCAP	CCCAP ### - Incorporate climate change into the Official Plan
Potential Partnerships and resources	Active Transportation Working Group, Emergency Management Working Group
Associated Plans and Strategies	As identified
2. MUNICIPAL LEADS	
Lead Department	Engineering—Source Water Protection
Supporting Department(s)	Planning & Building Services—Planning Services; Others as identified
3. TIMELINE	
Estimate Start Date	2022
Estimated Duration	Dependent on review schedules

Frequency of Implementation	Dependent on number of policies and plans that need to have climate change implemented			
4. CURRENT STATUS/PRACTICE				
The CCCAP was Completed approved by Council in 2021				
5. ACTION PLAN TASKS				
Tasks	Suggested Start Date	Estimated Initial Cost	Estimated Ongoing Cost	Responsible Department
Begin Official Plan review and have climate change incorporated (to incorporate in other plans and policies).	20XX	N/A	N/A	Engineering – Source Water Protection & Planning & Building Services – Planning Services
Liase with all Municipal departments to develop inventory of all plans and policies that may need to have climate change considerations included.	20XX	Staff time	N/A	Engineering – Source Water Protection
Work with responsible departments to incorporate climate change considerations as appropriate within their respective plans and/or policies during the next update.	Dependent on department review period	Staff time	N/A	Engineering – Source Water Protection
6. MEASURING SUCCESS				
ID	Indicator	Does Baseline Data Exist? If yes, where?	Department responsible for measuring progress	

CCCAP Action ID #	% of identified plans and policies with climate change considerations included	No	Engineering—Source Water Protection
7. ADDITIONAL NOTES/COMMENTS			
<p>Possible Plans/Policies that could include climate change considerations:</p> <ul style="list-style-type: none"> - Economic Development Strategy - Official Plan - Comprehensive Stormwater Management Master Plan - Drainage Master Plan - Multi-Model Active Transportation Plan 			

Action Number	Action	Budget Year	Lead Department(s)	Status - Underway / Complete
1.17	Include a line item in the annual budget to provide funding for studies and/or components of capital projects that support the implementation of the CCCAP.	2021	Financial Services	Complete
1.19	Review and update municipal anti-idling by-law and consider expanding idle-free zones.	2021	Legislative Services	Complete
1.3	Update the Municipal Green Fleet Strategy and establish a five-year plan to electrify municipal fleet vehicles where practicable.	2021	Public Works	Complete
2.2	Ensure water and sunscreen are available to staff during all municipal summer outdoor events.	2021	Community Services	Complete
2.5	Ensure staff have access to cool rest areas for relief during extreme heat.	2021	Community Services	Complete
2.8	Create/update workplace policies to mandate weather-appropriate clothing to protect staff against extreme weather conditions including heat, cold, windy and wet conditions.	2021	Legislative Services	Complete
2.9	Update municipal emergency contact lists annually.	2021	Legislative Services	Complete
2.11	Expand online safety training program to ensure safety training accessible to staff in the field.	2021	Legislative Services	Complete
2.16	Develop an extreme heat policy that establishes maximum outdoor working temperatures for staff and enables staff to complete outdoor work during the cooler times of the day.	2021	Emergency and Fire Services	Complete
2.18	Create a communications strategy that clearly categorises levels of weather-related risk and communicates actions that should be taken to by the public and stay safe.	2021	Office of the CAO	Complete
6.4	Develop a work-from-home policy that utilizes telecommuting technologies and provides staff with the tools to work from home to avoid weather-related service disruptions and reduce fuel consumption.	2021	Financial Services	Underway
6.6	Update the Council Procedural Bylaw to allow Council meetings to be conducted remotely during extreme weather.	2021	Legislative Services	Underway
7.1	Encourage the federal and provincial governments to dedicate funding to help municipalities adapt to and mitigate climate change.	2021	Office of the CAO	Underway

Action Number	Action	Budget Year	Lead Department(s)	Status - Underway / Complete
1.1	Encourage waste and recycling service providers document GHG emissions on invoices submitted to the Municipality to help the Municipality track it's GHG emissions more easily.	2022	Financial Services	Underway
1.2	Consider building envelope upgrades, building automation and lighting upgrades as part of all building renewal projects.	2022	Community Services	Underway
1.3	Install/upgrade Building Automation Systems (BAS) and Smart Thermostats in municipal buildings.	2022	Community Services	Underway
1.4	Continue to convert all lighting in municipal buildings to energy efficient LEDs.	2022	Community Services	Underway
1.5	Expedite actions outlined in the 2019 Clarington Energy Conservation Demand Management Plan.	2022	Community Services	Underway
1.6	Offset the use of petroleum-based natural gas with renewable natural gas in buildings through renewable natural gas purchasing agreements.	2022	Community Services	
1.7	Establish a policy to replace all appliances with Energy STAR rated appliances.	2022	Community Services	Underway
1.8	Install Smart Water Metering to major equipment at facilities and parks (i.e. ice rinks, pools and splash pads) to better understand water consumption trends and ensure that equipment is operating at optimal efficiency.	2022	Community Services	Underway
1.9	Conduct utility consumption audits in municipal facilities, beginning with buildings with the highest potential for savings.	2022	Community Services	Underway
1.11	Replace mechanical equipment (boilers, chillers, air conditioning units) in remaining facilities with high efficiency according to building assessments.	2022	Community Services	Underway
1.12	Implement and energy management system (EMS) to track utility bills to monitor energy consumption and GHG emissions, and inform building maintenance and recommissioning	2022	Community Services	Underway
1.14	Incentivize municipal staff to choose low carbon transportation options including: carpooling, cycling and adopting EVs.	2022	Legislative Services	
1.16	Develop a Green Procurement Policy that aligns procurement and vendor selection with the climate resilience and mitigation goals outlined in the CCCAP.	2022	Financial Services	Underway

Action Number	Action	Budget Year	Lead Department(s)	Status - Underway / Complete
1.18	Establish a Green Revolving Fund (GRF) that is dedicated to funding energy efficiency, renewable energy, and/or sustainability projects that generate cost savings.	2022	Financial Services	
1.2	Create a Corporate Energy Commodity Policy that prioritizes energy savings, locally produced energy and low carbon energy options.	2022	Office of the CAO	
1.21	Create corporate protocols to incorporate climate change considerations into Council reports.	2022	Office of the CAO	
1.23	Develop a communications plan to share corporate progress on climate action with staff and the public on an ongoing basis.	2022	Office of the CAO	Underway
1.24	Investigate the feasibility for District Energy Systems in new and existing secondary plan areas.	2022	Planning & Development Services	Underway
1.25	Update the Priority Green Clarington Green Development Framework criteria checklists to include considerations for climate change mitigation and adaptation.	2022	Planning & Development Services	Underway
1.26	Update Clarington's Planning and Development Design Standards and Guidelines to align with the Clarington Priority Green Development Framework to support moving toward net zero communities.	2022	Public Works	Underway
1.27	Complete the implementation of Clarington's Green Development Program, as set out in the Priority Green Clarington Green Development Framework endorsed by Council and as addressed in Clarington's Official Plan policies for a Green Development Program, including the creation of an implementation process guide.	2022	Planning & Development Services	Underway
1.28	Establish beyond-code energy efficiency design standards for new municipal buildings	2022	Community Services	Underway
1.29	Conduct a review of existing Community Improvement Plans to evaluate the potential for program expansions to support corporate energy efficient retrofits.	2022	Planning & Development Services	Underway
1.33	Purchase electric tools and equipment where possible.	2022	Public Works	
1.34	Right-size fleet vehicles based on their use to reduce fuel consumption.	2022	Public Works	Underway

Action Number	Action	Budget Year	Lead Department(s)	Status - Underway / Complete
1.35	Integrate green infrastructure and Climate Change into Clarington's Asset Management Plan.	2022	Financial Services	
2.1	Extend pool hours during extreme heat, taking into consideration staffing, infrastructure and maintenance needs	2022	Community Services	
2.3	Allow outdoor activities to be held at indoor recreation facilities during extreme heat events where possible.	2022	Community Services	
2.4	Design summer outdoor community programming to take into consideration extreme heat to ensure staff adequately prepared.	2022	Community Services	
2.6	Update safety training for staff to incorporate extreme weather risks associated with climate change including extreme heat.	2022	Legislative Services	Underway
2.7	Establish protocols for staff during extreme wind events. Identify "Shelter in Place" safe zones for staff.	2022	Legislative Services	
2.1	Incorporate weather monitoring into staff management processes to forecast staff needs and ensure there are enough staff available to respond to extreme weather such as snowstorms and ice storms.	2022	Public Works	Underway
2.12	Expand mutual aid agreements with other municipalities to avoid labour and equipment shortfalls during weather-related emergencies.	2022	Emergency and Fire Services	Underway
2.2	Increase signage near municipally owned and maintained bodies of water including beaches and stormwater management ponds, warning about the dangers of thin ice.	2022	Public Works	Deferred
2.22	Incorporate textured, slip proof floor surfaces into the design of public spaces.	2022	Public Works	
3.2	Update design standards for municipal buildings using climate projections to ensure municipal buildings are resilient to extreme weather.	2022	Community Services	
3.3	Work with the Conservation Authorities to update flood mapping based on the most up-to-date climate projections.	2022	Planning & Development Services	Underway
4.4	Update building design standards to incorporate green and reflective roofs into municipal building designs.	2022	Community Services	

Action Number	Action	Budget Year	Lead Department(s)	Status - Underway / Complete
4.5	Revise asset management policy and equipment repair and replacement schedules to reflect wear from increased use due to extreme weather.	2022	Financial Services	
4.6	Add surge protectors to all electronic equipment and backup batteries to all computers.	2022	Financial Services	Underway
4.9	Review zoning regulations to promote ground water permeability.	2022	Planning & Development Services	Underway
4.21	Review road weight restrictions to prohibit hauling on local roads. Prioritize hauling on higher-order Regional roads.	2022	Public Works	Deferred
5.1	Review the implementation of an urban tree preservation bylaw to prevent urban trees from being cut down without a permit.	2022	Public Works	Underway
5.2	Integrate urban heat island projections into the Clarington Urban Forest Strategy. Plant more trees in areas with the greatest potential for becoming urban heat islands.	2022	Planning & Development Services	
5.3	Require winter maintenance staff become Smart About Salt certified. This program will provide training on the application of road salt to improve winter salting practices and decrease salt-related damage to ecosystems and infrastructure.	2022	Public Works	Deferred
5.4	Consider alternatives to conventional road salt (NaCl) to reduce the negative impacts on the environment.	2022	Public Works	
5.5	Expand municipal tree planting programs and partnerships to include urban and rural tree planting on public and private properties.	2022	Public Works	
5.6	Integrate the Clarington Urban Forestry Strategy and Clarington's development guidelines.	2022	Public Works	Underway
5.9	Investigate environmentally friendly road surface treatments to control dust.	2022	Public Works	
6.1	Plan municipal events and programs with backup dates in the event of cancellations due to extreme weather.	2022	Community Services	
6.2	Revise refund policy for municipal recreation programs to exclude refunds for cancellations due to extreme weather. Instead, provide credits on customer accounts for weather-related cancellations.	2022	Community Services	

Action Number	Action	Budget Year	Lead Department(s)	Status - Underway / Complete
6.5	During elections, promote advanced voting, allow a longer time frame for voting during extreme weather and promote online voting options.	2022	Legislative Services	
6.7	Create an extreme weather policy that identifies the weather condition that will close municipal facilities	2022	Office of the CAO	Underway
7.1	Establish partnerships with organizations with facilities that could be used as cooling centres during summer heatwaves.	2022	Community Services	
7.3	Stockpile sandbags and sand to prepare for emergency flooding and store in a location that is protected from UV light.	2022	Emergency and Fire Services	
7.6	Consider the inclusion of incentives for sustainable development in the DC review, ensuring alignment with the Green Development Framework.	2022	Financial Services	Underway
7.7	Review the Municipal Insurance Program to ensure adequate coverage for staff and the public during extreme weather events.	2022	Financial Services	
7.8	Create a strategy to communicate the risks associated with climate change. Educate the public about the actions that they can take to prepare for extreme weather events.	2022	Office of the CAO	Underway
7.9	Educate elected officials on how the municipality will be impacted by climate change by creating climate risks briefing packages.	2022	Office of the CAO	
7.11	Undertake regular departmental risk audits that include climate-related risks to the Municipality.	2022	Office of the CAO	Underway
1.13	Assess and retrofit buildings with insulation where possible to reduced energy consumption.	2023	Community Services	
1.15	Expand corporate waste reduction and diversion initiatives to further reduce waste and promote recycling and composting.	2023	Community Services	
1.22	Undertake a feasibility study to identify opportunities for the Municipality of to generate and sell renewable energy.	2023	Office of the CAO	
1.31	Complete the conversion of outdoor lighting in parks and streetlights to energy efficient LEDs	2023	Public Works	Underway
1.32	Implement a Municipal Automatic Vehicle Location Monitoring System (AVL) in fleet vehicles to track fuel consumption, evaluate idling and optimize routes for regular travel	2023	Public Works	

Action Number	Action	Budget Year	Lead Department(s)	Status - Underway / Complete
2.17	Extend library hours to keep libraries open to the public during extreme heat and cold weather.	2023	Office of the CAO	
2.21	Identify roadways that are the least likely to be impacted by flooding and incorporate them into community emergency evacuation plans.	2023	Public Works	
3.1	Utilize climate projections to assess which municipal buildings are at risk due to extreme weather. Prioritize building upgrades based on identified risk.	2023	Community Services	
3.4	Update zoning bylaws to prohibit development in flood hazard areas.	2023	Planning & Development Services	
3.5	Include natural hazards and climate projections as criteria in Clarington's Land Acquisition Strategy.	2023	Planning & Development Services	
3.6	Assess the municipal trail system to determine areas that are most vulnerable to flooding based on climate projections.	2023	Public Works	
3.7	Update trail design standards to take into account accurate climate projections.	2023	Public Works	
3.8	Utilize climate projections to identify areas of roads that are vulnerable to flooding. Create a plan to upgrade road areas that are at high risk.	2023	Public Works	
4.2	In new building designs and building retrofits, locate cooling condensers on the shady side of the building. Ensure proper ventilation and maintenance for efficient operation.	2023	Community Services	
4.3	Increase backup power supply including generators and solar battery storage options at maintenance facilities.	2023	Community Services	
4.7	Store electronic equipment in a location that is secure and not vulnerable to flooding or fire.	2023	Community Services	Underway
4.8	Ensure all evacuation centres are equipped with and emergency backup power supply.	2023	Emergency and Fire Services	
4.11	Establish a strategy to control invasive plant species that have negative impacts on stormwater management ponds, sightlines, drainage ditches and water quality.	2023	Public Works	
4.13	Assess and upgrade stormwater infrastructure using accurate climate projections.	2023	Public Works	
4.15	Incorporate lighting into new field designs so they can be used in the evening when outdoor temperatures are cooler.	2023	Public Works	

Action Number	Action	Budget Year	Lead Department(s)	Status - Underway / Complete
4.17	Assess bridges and embankments to determine areas that are most vulnerable to flooding based on climate projections.	2023	Public Works	
4.19	Expand preventative maintenance and repair program for roads, sidewalks and bridges to mitigate damage due to increased freeze and thaw cycles.	2023	Public Works	
5.7	Establish municipal tree canopy, biodiversity and green space targets for urban areas.	2023	Public Works	
5.8	Update parks maintenance programs to include vegetation and tree species that are resilient to extreme heat, extreme weather, and invasive species.	2023	Public Works	
6.3	Back up corporate data and store in a location that is not vulnerable to flooding or fire.	2023	Community Services	Underway
7.2	Create guidelines for non-essential use of water during heatwaves to conserve water.	2023	Community Services	
7.4	Create a dedicated reserve fund for climate-related emergencies and adaptation and mitigation efforts.	2023	Financial Services	
7.5	Evaluate the implementation of a stormwater fee (and credit) program to encourage residents and businesses to maintain permeable surfaces on their property and generate funds to upgrade and maintain stormwater management infrastructure.	2023	Financial Services	
1.1	Conduct building re-commissioning to optimize building operations where applicable.	2024	Community Services	
2.13	Ensure adequate resources are in place to ensure adequate response to the increased frequency of climate-related emergencies.	2024	Emergency and Fire Services	
2.14	Update the Clarington Emergency Plan to incorporate a strategy for extreme weather based on climate projections.	2024	Emergency and Fire Services	Underway
2.15	Work with stakeholders to identify and promote the location of evacuation centres to the public.	2024	Emergency and Fire Services	
2.19	Incorporate shade structures and trees in the designs of outdoor recreation areas for relief from extreme heat.	2024	Public Works	
4.1	Assess the depth of wells that service corporate buildings to ensure water will be available during a drought and establish a mitigation plan for managing drought	2024	Community Services	

Action Number	Action	Budget Year	Lead Department(s)	Status - Underway / Complete
4.1	Utilize water catchment for irrigation in park designs where possible.	2024	Public Works	
4.12	Update the municipal road maintenance plan by increasing the road maintenance cycle to accommodate less predictable freeze/thaw cycles.	2024	Public Works	
4.14	Design new splash pads to clean and recirculate water to consume less water.	2024	Public Works	
4.16	Expand the rural ditching maintenance program to reduce flooding and avoid infrastructure and property damage.	2024	Public Works	
4.18	Upgrade storm water management infrastructure with on-site ponds, cisterns and landscaping decisions to minimize storm water run-off.	2024	Public Works	
4.2	Increase construction standards for higher order roads that are used for hauling to mitigate damage due to increased freeze and thaw cycles.	2024	Public Works	
4.22	Design new parks and sports fields to accommodate flooding and function as stormwater management areas where reasonable to do so.	2024	Public Works	
4.23	Upgrade existing parks and sports fields with permeable asphalt and other permeable materials to reduce overland flooding.	2024	Public Works	

Site	Measures	Estimated Year of Implementation	Completeness
Hampton Operations Depot	Lunchroom Programmable Thermostats	2018	Complete
Kendal Community Centre	HVAC System - Scheduling / Setback	2018	Complete
Municipal Administrative Centre	Domestic Heating Retrofit	2018	Complete
Orono Operations Depot	Programmable Thermostat	2018	Complete
Orono Operations Depot	Programmable Thermostat for Office Area	2018	Complete
Orono Operations Depot	Furnace Upgrade	2018	Complete
Sarah Jane Williams Heritage Centre	Programmable Thermostat	2018	Complete
Tourism Centre	Programmable Thermostat	2018	Complete
Fire Station #3	Programmable Thermostat	2019	Complete
Fire Station #3	Replace Electric Boiler	2019	Complete
Municipal Administrative Centre	Lighting Retrofit	2019	Complete
Orono Library	HVAC System - Scheduling / Setback	2019	Complete
Orono Library	Insulate hot Water / DHW Piping	2019	Complete
Fire Station #3	Replace Electric Hot Water Heater	2020	Complete
Hampton Operations Depot	Programmable Thermostats	2020	Complete
Fire Station #1	HVAC System - Scheduling / Setback	2021	Complete
Bowmanville Operations Depot	LED Lighting	2021	Complete
Fire Station #4	Programmable Thermostats	2022	Ongoing
Community Resource Centre	HVAC System - Scheduling / Setback	2022	Pending
Fire Station #2	NG Pulse Meter	2022	Pending
Visual Arts Centre	Lighting Upgrade	2023	Ongoing
Visual Arts Centre	Window Upgrade	2023	Ongoing
Fire Station #2	HVAC System - Scheduling / Setback	2023	Pending
Hampton Hall	Lighting Retrofit / Controls	2023	Pending
Hampton Operations Depot	Motion Sensors	2023	Pending
Hampton Operations Depot	Other Lighting Upgrades	2023	Pending
Fire Station #1	Lighting Retrofit	2023	Pending
Fire Station #2	Lighting Retrofit	2023	Pending

Site	Measures	Estimated Year of Implementation	Completeness
Sarah Jane Williams Heritage Centre	Motion Sensor Lighting Controls	2023	Pending
Newcastle Branch Library	LED Lighting Retrofit	2023	Pending
Newcastle Branch Library	HVAC System - Scheduling / Setback	2023	Pending
Hampton Hall	Solar (11kW)	2024	Pending
Orono Operations Depot	Solar (20kW)	2024	Pending
Newcastle Branch Library	Solar (9kW)	2024	Pending
Animal Services Building	Solar (11kW)	2024	Pending
Bowmanville Operations Depot	HVAC System - Scheduling / Setback		Omitted
Hampton Hall	HVAC System - Scheduling / Setback		Omitted
Animal Services Building	HVAC System - Scheduling / Setback		Omitted
Tourism Centre	Programmable Thermostat for Electric Baseboard Heaters		Omitted
Tourism Centre	Lighting Upgrade		Omitted
Newcastle storage (prev FS#2)	Solar (10kW)		Omitted
Newcastle storage (prev FS#2)	HVAC System - Scheduling / Setback		Omitted
Yard 42 Depot	HVAC System - Scheduling / Setback		Omitted