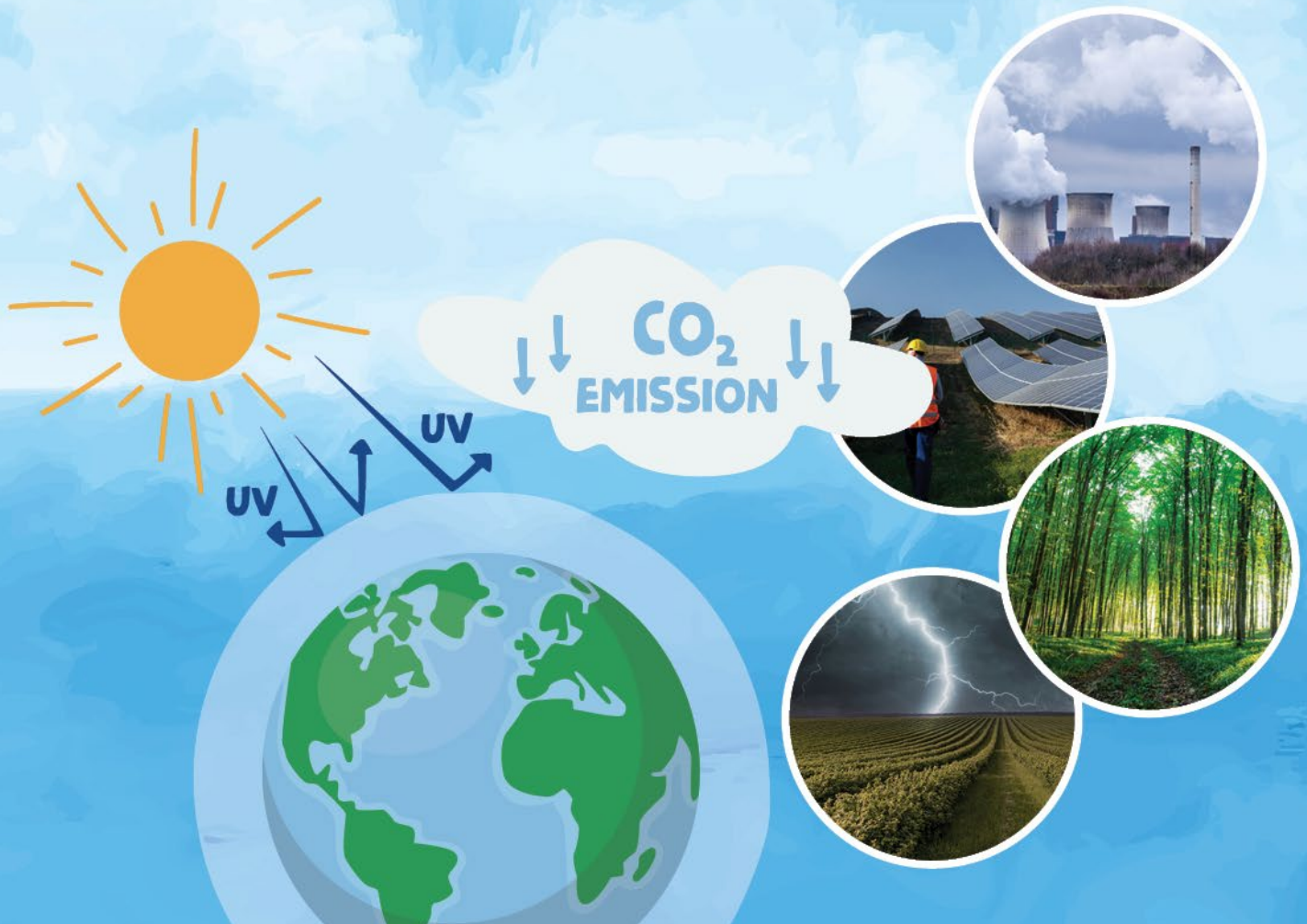
COUNTY OF Brant Simply Grand

Climate Action Plan (CAP)



Contents

Executive Summary

As our climate changes and global temperatures rise, we are experiencing devastating impacts that affect our natural environment, health, and economy. The County of Brant plays an important role in responding to climate change as a corporation, while also encouraging local action. Investing in solutions to help mitigate and adapt to climate change will promote a thriving, vibrant, sustainable, and resilient community to live, work, and play.

The County's first Climate Action Plan (CAP) provides a roadmap to advance climate mitigation, adaptation, and environmental sustainability throughout the corporation and community. The CAP lists 50 recommendations spread across seven main themes: buildings and infrastructure; transportation; nature; waste; economic development and tourism; safety and emergency preparedness; and data, education, and outreach.

Recommendations were formed through collaboration with internal staff across the County, research, data analysis, and community engagement and feedback. Action items focus on advancing three main goals:

1. Decreasing corporate and community emissions through reducing energy use, improving efficiency, and switching to cleaner sources of energy when suitable
2. Fostering resiliency to adapt and cope with the impacts of climate change
3. Promoting overall environmental sustainability

Over the years, the County has taken strides to promote climate action and has invested considerably in smart and innovative solutions like installing renewable energy projects, undertaking building retrofits to reduce energy consumption, updating to LED streetlighting, planting and preserving trees, supporting our pollinators, and more. To build on these successes, the CAP presents next steps and outlines smart, community-informed actions for the future. Solutions included in the plan will help the County respond to the climate emergency and reach our goal of becoming net carbon neutral by 2050.

As the first plan of this nature in the County, many of the recommendations are high level and focused on making sure we have the policies and strategies in place for future success. The plan will be reviewed and updated frequently to align with new priorities, changing technologies, and available data.

Message from the CAO

The County of Brant's Climate Action Plan is a comprehensive framework that positions us to meet the challenges of climate change while benefiting from operational and financial savings. By focusing on mitigation and adaptation, we aim to reduce our environmental impact and protect our local ecosystems, while also ensuring that our infrastructure is more resilient to the impacts of a changing climate.

The Climate Action Plan outlines smart actions ranging from developing a strategic approach to reduce emissions from our buildings, to enhancing biodiversity across the County. These actions are designed for both short and long-term implementation, ensuring we make steady progress toward a more sustainable future. It's important to recognize that our success in taking climate action will depend on the collaboration and support of our community, local businesses, and all levels of government. We look forward to engaging with the community as we implement the Climate Action Plan, confident that, together, we can foster a stronger, more resilient future for the County of Brant.

County of Brant, Chief Administrative Officer, Alison Newton

Message from the Mayor

As we look around our beautiful community, we see the effects of climate change. From increased flooding to the challenges facing our local farmers, we are reminded of the urgent need to protect our environment. That's why our Climate Action Plan (CAP) is so important. This plan lays out practical steps to reduce our environmental impact, with a focus on both immediate actions and long-term solutions to ensure a resilient future for the County of Brant. Together, with the support of our residents, businesses, and all levels of government, we can build a healthier, more sustainable community for generations to come. It's up to all of us to protect the place we're proud to call home, and I believe that by working together, we can create a brighter, more sustainable future.

Mayor, County of Brant, David Bailey

Territorial Acknowledgement

The County of Brant is located on the lands and territory of the Mississaugas of the Credit First Nation, Six Nations of the Grand River, and the traditional territory of the Attiwanderonk. We remind ourselves that the County of Brant is situated on lands that are full of rich Indigenous history and home to many First Nations, Inuit, and Métis people today; we recognize the significance of their contributions to the past, present, and future of this land. As a County, we have a shared responsibility for the stewardship of the land on which we live and work and a commitment to the Truth and Reconciliation calls to action. We commit to continue learning, reflecting on our past, and working in allyship.

Helpful Terms

In the field of climate action, there are technical terms that are often used. Before diving into the plan, this section provides definitions to help support readers.

Carbon Dioxide Equivalents (CO_2e): Is a measurement of the total greenhouse gases emitted, expressed in terms of the equivalent measurement of carbon dioxide.

Climate: The climate is the overall trend of the weather in the long term. Weather has always varied widely but is expected to be more unpredictable with climate change.

Climate Adaptation: Climate adaptation is the process of making changes to help people, communities, and ecosystems adjust to the effects of climate change. This can involve modifying practices, structures, and policies to reduce vulnerability and enhance resilience to climate impacts, like rising temperatures or more frequent storms**.**

Climate Mitigation: Climate mitigation refers to efforts focused on slowing down or stopping climate change by reducing and preventing the release of greenhouse gases into the atmosphere. You can help by doing things like riding your bike instead of driving, conserving water and electricity, and eating or buying food that is produced locally.

Community GHG Inventory: Accounts for emissions created by the larger community of Brant. This includes emissions from buildings (residential and non-residential), transportation, waste, and agriculture.

Corporate GHG Inventory: Accounts for emissions created by the corporation of the County of Brant. This includes County owned buildings, on and off-road fleet, water and wastewater, and street and traffic lighting.

Greenhouse Gas (GHG) Emissions: Greenhouse gases are gases in the earth's atmosphere that trap heat. These gases are an essential part of maintaining the earth's temperature, without them, the average temperature would be -18

degrees Celsius. When GHGs exceed certain levels, the atmosphere retains more heat. This imbalance can cause climate change by destabilizing weather systems and causing increasing temperatures, changing precipitation patterns, more intense storm events, and more unpredictable weather. The six most common GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (NOx), hydrochlorofluorocarbons (HCFCs), hydrofluorocarbons (HFCs), and ozone in the lower atmosphere.

Net Carbon Neutral: This term means we want to balance out the carbon we emit with actions that remove carbon from the atmosphere. Actions that remove carbon are called offsets and may include producing excess clean renewable energy, using carbon capture technologies, and planting trees that sequester carbon.

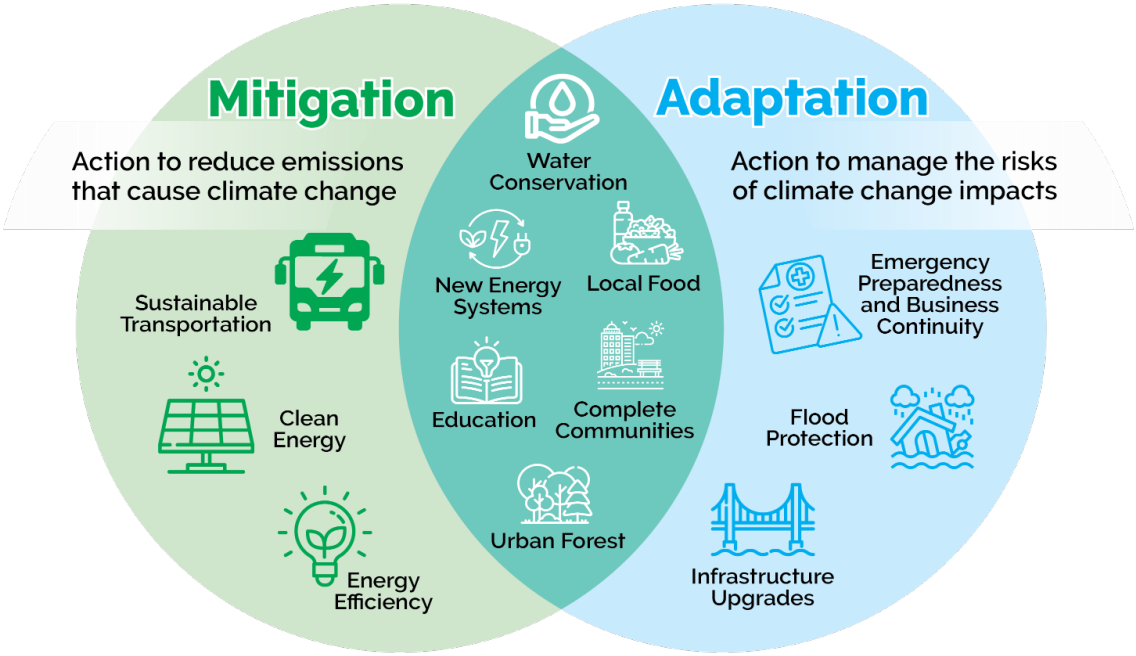
Weather: Weather is happening from day to day and can be up or down.

Section 1.0 – Introducing the Climate Action Plan

What is climate change and climate action?

Climate change refers to long-term shifts in temperatures and weather patterns. These shifts can be natural from things like changes in the sun's activity or large volcanic eruptions. However, studies show that since the 1800's, human activities have been the main driver of climate change, primarily due to greenhouse gases (GHG) that are created from burning fossil fuels like coal, oil, and gas to power our homes, industries, and vehicles.[1] GHG emissions act like a blanket wrapped around the Earth, trapping the sun's heat and raising temperatures. Notable gases contributing to climate change include carbon dioxide (CO_2) and methane (CH_4). As our climate changes and global temperatures rise, we are experiencing devastating impacts that affect our natural environment, health, and economy.

Climate action is about responding to climate change and involves taking steps to reduce emissions and ensure our community, spaces, and infrastructure can cope with the impacts. Climate actions are often divided into two main categories: mitigation and adaptation. Climate **mitigation** focuses on ways we can slow down or stop climate change by reducing and preventing the release of GHGs into the atmosphere. In contrast to mitigation, **adaptation** actions involve shifting how we do things to live safely with our changing climate.



Municipalities play a crucial role in both supporting climate mitigation and adaptation at the corporate level and encouraging community-based action.

[1] United Nations. **What is Climate Change.**

What is the Climate Action Plan?

In 2019, the County of Brant Council declared a climate emergency and set the objective of becoming net carbon neutral by 2050. To advance this goal, the County of Brant (the County) has developed the Climate Action Plan (CAP). This plan is a road map to help guide the County towards a greener, healthier, and more sustainable future for everyone. The plan supports climate action both at the corporate level and within our community with actions that are cost-effective and meet the needs and priorities of our diverse community.

The recommendations in the plan focus on achieving three broad goals:

1. Decreasing corporate and community emissions through reducing energy use, improving efficiency, and switching to cleaner sources of energy when suitable
2. Fostering resiliency to adapt and cope with the impacts of climate change
3. Promoting overall environmental sustainability

In addition to these overarching goals, the County aims to achieve the following ten measurable targets.

- ☐ Reduce emissions from County owned and operated facilities by 40% by 2035 from the baseline year of 2013.
- ☐ Reduce emissions from County owned and operated facilities by 60% by 2040 from the baseline year of 2013.
- ☐ Offset 50% of electricity used at corporate facilities through generation of renewable energy by 2040.
- ☐ Replace a minimum of 10 gas- or diesel-powered vehicles with hybrid/EV alternatives by 2035.
- ☐ Add a minimum of 5 new EV charging stations in high priority areas throughout the County by 2030.
- ☐ Reduce solid waste disposed in landfill by 20% from 2023 levels by 2035.
- ☐ Plant 55,000 trees throughout the County (public and private land) by 2035.
- ☐ Plant 110,000 trees throughout the County (public and private land) by 2045.
- ☐ Increase tree canopy on all County land to a minimum of 30% by 2050.
- ☐ Add more naturalized areas on County property by reducing mowing requirements by 5% by 2035.

The CAP reinforces and aligns with other important strategies and plans at the County, including the Strategic Plan, Official Plan, Transportation Master Plan, Economic Development Strategy, and the Parks Master Plan. As future plans and policies are developed, the CAP will be considered and reflected.

What is the scope of the CAP?

The actions outlined in the plan are scoped in two categories:

- **County Focused Actions** – These are solutions that can directly reduce corporate GHG emissions and better prepare the County (infrastructure, staff, assets, etc.) to cope with the impacts of climate change.
- **County Led, Community Focused Actions** – These are solutions that the County can adopt to encourage community action to reduce emissions and become more resilient to climate change.

The plan specifically focuses on action items that the County can directly implement and ways the County can encourage community action. However, mitigating and adapting to our changing climate requires other levels of government, businesses, institutions, and community members to act.

Why develop the CAP?

Over the years, the County has taken strides to promote climate action. However, a clear roadmap is needed to determine next steps and outline smart, community-informed actions for the future. This plan will help the County respond to the climate emergency and reach our goal of becoming net carbon neutral by 2050.

Beyond advancing the County's goals and strategic direction, there are clear risks of not taking climate action and developing a plan:

1. Rising costs associated with infrastructure damages. We need a plan to enhance our resilience and ensure that our infrastructure can withstand the challenges posed by changing weather patterns. If we fail to take proactive steps, the financial burden will be substantial. Without adaptation measures, modelling shows that annual costs are projected to increase by an additional $3.3 billion across Ontario municipalities under a medium emissions scenario. [2]

[2] Financial Accountability Office of Ontario, 2023. **CIPI: Summary Report - Estimating the budgetary impacts of changing climate hazards on public infrastructure in Ontario.**

2. Without a plan in place, the County would miss out on important funding. Creating a plan sets the County up to apply for grant opportunities in the future.
3. Rising energy costs. Developing a strategy to reduce GHG emissions and conserve energy will help the County access operational cost savings.
4. Climate change decreases the quality of life for residents and compromises community safety and well-being. An action plan is important to move forward, especially to support vulnerable community members that are disproportionately impacted by climate change.
5. Failing to create an environmentally progressive community. Developing a plan helps the County become a climate champion and encourage community action.
6. Compromising community trust. Engagement shows that most respondents are supportive of the County taking climate action, failure to do so will erode community trust.

And more. The risks of inaction are considerable and developing the CAP is essential to help the County prepare for the future.

How was the CAP developed?

Step 1 – Working with staff across the County to develop the Energy Conservation and Demand Management Plan (ECDMP) 2024-2029.

The first step involved developing the **ECDMP**, a five-year plan that is provincially mandated. Through this plan the County reports on energy consumption and GHG emissions generated at County owned and operated facilities. Beyond reporting, municipalities also outline goals, measures, and specific projects to decrease energy use and GHG emissions. The CAP reinforces and builds upon the actions identified in this plan.

Step 2 – Researching climate impacts and innovative ideas from comparable municipalities and analyzing available data.

To develop the CAP, the County completed significant research and data analysis. The results of this work helped to inform recommendations that will meet the needs of the County. Data helps identify major sources of emissions and the impacts of climate change.

Step 3 – Learning from staff at the County.

Staff across the County support climate action in many ways. Through conversations with staff, the project team collected valuable information on work in progress and the feasibility of new actions to reduce emissions, enhance resiliency, and support

sustainability. With climate change having such expansive impacts and causes, staff across the County must be involved in advancing the solutions.

Step 4 – Connecting, informing, and listening to the community.

The community plays a vital role in directing and encouraging climate action. The community was informed and consulted through different engagement techniques including:

- An online Engage Page featuring three educational videos about climate change, climate action, and the County's plan
- An online survey
- Four pop-up events across the County
- Direct connections with community partners that have a focus on supporting climate action

Through these efforts the County shared important project details, collected insights on community priorities, identified impacts and possible solutions, and ways to reduce barriers and support community action.

Step 5 – Developing the plan.

Findings from the first four phases were compiled to develop the CAP which includes smart, reasonable, and effective action items.

Role of Other Levels of Government

While there are many actions that the County can take to reduce emissions and increase the resilience of our own community, we cannot do it alone. Climate action requires an all-hands-on deck approach – members of the community, businesses, institutions, and other levels of government play an important role in mitigating and adapting to the impacts. The County's CAP aligns with federal and provincial climate plans and actions to support local efforts. A brief overview of how other levels of government are responding is included in the table below:

Provincial	The Province of Ontario has implemented the Made-in-Ontario Environment Plan and is taking steps to protect natural resources and lower greenhouse gas emissions, while helping communities adapt to a changing climate. Investments in clean energy systems and renewable technologies are at the forefront as the province acts to progressively transition from fossil fuels and boost the local economy. For more information on provincial climate action, visit **Ontario.ca.**

Federal

In 2015, the Government of Canada adopted the Paris Agreement, a legally binding international treaty on climate change ratified by 196 national governments. Under this agreement, governments commit to accelerate and intensify the actions and investments needed to limit global average temperature rise and pursue efforts to limit the temperature increase to 1.5 degree Celsius globally.

To build on the momentum of the Paris Agreement, the federal government developed a comprehensive climate action plan, the Pan-Canadian Framework on Clean Growth and Climate Change (2016) in collaboration with provinces and territories, and in consultation with Indigenous peoples. This Framework is a guiding document for Canada to meet its emissions reduction targets, grow the economy, adapt to, and build resilience to a changing climate. Some actions to advance the framework include providing funding opportunities, implementing carbon pricing, and investing in clean technologies. For more information on federal climate action, visit **Canada.ca.**

Reducing emissions and building resilience requires systemic changes driven by supportive policies at both the federal and provincial levels. Policies such as carbon pricing, additional funding to support local efforts, investments to green the electricity grid, modifying the building code, are important steps that are under the purview of other levels of government. The County will work alongside other municipalities to advocate for necessary change at the federal and provincial level.

Overview of the CAP

The CAP is organized in four main sections:

Section 1.0 - Introducing the Plan

Provides background information on the plan and outlines broad goals, the process the County took to develop the plan, and important information surrounding the roles of other levels of government when it comes to climate change.

Section 2.0 - Evaluating Climate Change in the County

This section dives into the findings of the research and data analysis process to outline impacts and key sources of GHG emissions at the County. Community engagement findings are also included within this section.

Section 3.0 - Taking Climate Action

This section outlines short, medium, long-term, and ongoing actions for the County to take to advance our goals and meet outlined targets.

Section 4.0 - Implementing Climate Action

Provides a breakdown of how the proposed actions will be implemented, required resources, and next steps.

Section 2.0 – Evaluating Climate Change in the County

To better understand the current climate emergency and key sources of emissions, the County collected and analyzed research and available data. This section includes information on the impacts of climate change, sources of emissions, waste generation and diversion, and carbon offsets. This section also includes information on community attitudes, priorities, and feedback collected through the community engagement phase.

Evaluating the Impacts

Rising GHG emissions are causing detrimental impacts to our climate and air quality. In addition to these core impacts, our changing climate negatively affects our natural environment, community health and safety, and results in considerable costs. This section provides an overview of available data and research to illustrate the vast impacts of climate change.

Climate

In the County, historical data and future projections show how our climate is changing in different ways:

- **Warmer temperatures** - Past and projected climate data highlights that the County is experiencing warmer temperatures throughout all seasons including warmer summer days and more mild winters with decreased frost days.[3]
- **Increased heatwaves and instances of extreme heat** - Throughout the summer we are seeing more extreme heat and humidity for longer durations. This can lead to more drought like conditions. Projections highlight that in Brant County, the number of heat waves is anticipated to continue climbing from an average of 0.24 per year between 1971-2000 to 4.11 per year in the 2080's.[4]
- **Heavier and unpredictable precipitation** - While total precipitation is anticipated to stay relatively constant, an increase in extreme precipitation events like rainstorms will bring mass amounts of rain in shorter time periods. Torrential rainfall presents an increased risk of flooding and private property damage, soil erosion, and infrastructure damage.

[3] Data from Brantford Weather Station.

[4] Ministry of Health. **Ontario Climate Change Health Modelling Study**.

- **More frequent flooding** - The melting of snow/ice and more extreme rainfall leads to increased flooding. These impacts are felt in our homes, parks, roadways, and waterways.
- **More extreme weather events** - Rising heat is anticipated to lead to more extreme weather impacts such as high winds, droughts, tornados, and severe thunderstorms. Extreme weather events have always been a fact of life in Ontario. And while these events used to happen infrequently, data and modelling shows that they are becoming more common.

These weather-related changes, greatly affect our eco-systems, human health and well-being, and result in considerable economic impacts. Understanding our changing climate can help our community prepare for what is currently happening, what is avoidable, and what is yet to come.

Air Quality

Beyond changing our weather, GHG emissions in our atmosphere contribute negatively to air quality. Scientific research identifies a wide range of health effects associated with exposure to outdoor air contaminants, such as fine particulate matter, ground level ozone, and nitrogen dioxide that are produced through things like industrial activities, burning wood and other materials, and using fossil fuels.[5] When evaluating the levels of these contaminants recorded in Brant, data from 2020-2023 shows constant levels. Air Quality Health Index ratings from 2023 also show: a low health risk on 88% of the days, a moderate risk on 11% of days, and a high risk on less than 1% of days.[6] Overall, the current air quality ratings present low health risks.

While the County can play a role in reducing air pollution, it is important to recognize that air quality is heavily impacted by the actions of industries, residents, and other jurisdictions. For example, industrial activities in a nearby municipality, or wildfires happening in other parts of the country, create air contaminants that are dispersed through weather patterns and degrade air quality across a large area. Although there are many factors outside of the County's direct control, efforts can still be taken to reduce harmful emissions that contribute to air pollution.

Ecosystems and Natural Environment

Research highlights that the changing climate impacts our ecosystems and natural environment in profound ways:

---

[5] Government of Canada. **Health Impacts of Air Pollution in Canada 2021 Report.**

[6] Data from Brantford Weather Station.

- Degrades biodiversity through impacting habitats and changing ecology.
- Presents threats to water quality and supply.
- Reduces wetlands.
- Threatens local pollinators.
- Increases pests and invasive species that harm forests and crops.
- Places direct stressors on certain species of animals causing heat stress and exhaustion, impacting fertility, and other health impacts.
- Increases risk of wildfires due to dryer, drought-like conditions.
- Enhances the spread of certain damaging species such as ticks, mosquitoes, and other pests as they live through the milder winter temperatures.
- Changes soil quality and moisture.

Overall, changes to our climate negatively impact our existing ecosystems and natural environments. Taking steps to mitigate and adapt to these impacts is vital.

Health and Community Well-Being

Changes to our weather patterns, air quality, and natural environment, present considerable health hazards for humans.[7] Adverse health outcomes associated with climate change include:

- Increased incidence of heat-related illness and respiratory and cardiovascular disorders due to rising temperatures and reduced air quality.
- Heightened risk of diseases (such as Lyme disease, West Nile virus) transmitted by mosquitoes, ticks and other vectors are increasing due to rising summer temperatures, shorter winters, ecological changes, increased human exposure, and faster maturation cycles for pathogens.
- Aggravation of allergy symptoms and respiratory conditions due to increased pollen and spore production as summer temperatures increase and the winters become shorter.
- Increased risk of food and waterborne illnesses and the possibility of injury, illness, or loss of life due to damage and weakening of infrastructure from extreme weather events such as flooding, ice, and windstorms.

[7] Government of Ontario. **Ontario Climate Change and Health Modelling Study.**

- Negative health impacts associated with less outdoor activity and more sedentary lifestyles due to increased heat, poorer air quality and weather conditions.
- Climate stress and anxiety. The changing climate and associated negative impacts cause mental stress.

Overall, the health impacts of climate change are considerable and can place an additional strain on our healthcare system. Reducing GHG emissions to slow the rate of climate change and promoting climate resiliency, are necessary to support the well-being of Brant residents.

Economic and Infrastructure

Beyond the natural and health effects, the financial costs of climate change are significant. Key economic and infrastructure impacts are outlined below:

- Infrastructure underpins people's ability to live, work, play, and stay connected. With more extreme weather events, hotter temperatures, more freeze/thaw cycles, there is an increased risk in damage to public and private infrastructure. The cost of repairs and replacement financially impacts residents, institutions (like the County), and businesses. Since 2009 insured losses in Canada due to severe weather events have averaged $1.4 billion per year.
- Pressure on our stormwater management system (culverts, sewers, storm drains, and pipes), will increase with more intense rainfall and more freeze and thaw cycles. Other water infrastructure, such as surface and groundwater sources, treatment facilities, dams, reservoirs, and aquifers, are also at greater risk of damage. Estimates show that on an annual basis, infrastructure spending on storm and wastewater assets will rise by $1.1 billion provincially in a medium emissions scenario with no adaptation actions.[8]
- As we experience more extreme weather and hotter temperatures, agriculture losses are to be expected including crop failures, damage to infrastructure, and livestock fatalities.

[8] Financial Accountability Office of Ontario, 2023. **CIPI: Summary Report - Estimating the budgetary impacts of changing climate hazards on public infrastructure in Ontario.**

- Higher energy costs are expected as rising heat will result in more cooling days and energy use to keep spaces comfortable. These increased expenses will be felt by residents, businesses, and institutions.
- Rising insurance costs are expected as extreme weather impacts our infrastructure and other assets.
- Property loss from erosion due to heavier rainfall and increased flooding.
- Service interruption and decreased productivity due to extreme weather impacts.
- Increasing costs of supplies and inputs due to climate change impacts (poor growing conditions, rising transportation costs, and more).
- Climate change can make life less affordable for residents by reducing income and increasing expenses. Income is anticipated to shrink as economic growth slows and expenses are anticipated to rise as residents experience higher prices for food, supplies, insurance, energy, and damages.[9]

The widespread impacts of climate change highlight the importance of investing in climate action. To promote productivity, reduce operating and maintenance costs, protect the well-being of the community, and support economic success, the County must take action to mitigate and adapt to climate change.

Exploring Sources of Emissions

Throughout the County, key sources of GHG emissions include buildings, transportation, and waste. This section provides an overview of these emission sources divided into corporate and community sections. Measuring and tracking GHG emission levels will help the County to identify energy- and emissions-intensive activities, prioritize actions, and monitor progress over time.

Note: This section does not provide a full review of all corporate and community emissions. Enhanced data collection is encouraged to determine comprehensive emission inventories more accurately. The County used methodology outlined in the ***Partners in Climate Protection Protocol*** *for calculating emissions from corporate and community sources.[10] This protocol provides municipalities with a set of clear*

[9] The Climate Institute, 2022. **Damage Control: Reducing Costs of Climate Impacts in Canada.**

[10] Federation of Canadian Municipalities and ICLEI. **PCP Protocol: Canadian Supplement to the International Emissions Analysis Protocol**.

accounting and reporting guidelines for developing corporate and community-level GHG inventories.

Corporate Emissions

Corporate emissions refer to those generated from operations that the County has control over. For this analysis, this includes emissions from the following sources:

Buildings	Energy use and emissions generated from County owned and operated buildings such as community centres, recreation facilities, fire halls, outdoor amenities, and more.
Fleet	Emissions created from the gas and diesel used to power on and off-road fleet including cars, trucks, snowplows, trailers, and other vehicles used to support County operations.
Water and Wastewater	Energy consumed to support the operation of water and wastewater treatment plants.
Streetlights and Traffic Signals	Energy used and emissions generated from streetlighting, traffic signals, and park and sport field lighting.

Buildings

As outlined in the County's **Energy Conservation and Demand Management Plan** (ECDMP), County owned and operated facilities represent a considerable source of emissions. Emissions are generated from using different forms of energy including electricity, natural gas, fuel oil, and propane. Heating and cooling spaces and powering lighting and appliances consume a significant amount of energy at these facilities.

In 2023, GHG emissions from County buildings and facilities totalled 1,410 tonnes of CO_2e. In 2013, data shows that emissions from County buildings totalled 1,590 tonnes of CO_2e. Over the ten-year period, emissions from buildings declined by 13%. To achieve our reduction targets, the County must take action to make our facilities more efficient and switch to cleaner sources of energy.

A breakdown of emissions by building and energy type is included in the **appendix**. Across different types of buildings, data shows that recreation facilities use the highest amount of energy and generate the most emissions. Heating and cooling systems and the operation of major equipment (ice making equipment, dehumidification systems, etc.) are energy intensive.

When evaluating sources of emissions by energy type, natural gas represents the most significant contributor. Focusing on ways to reduce natural gas use, transition to electric options, and conserve energy are encouraged across County buildings.

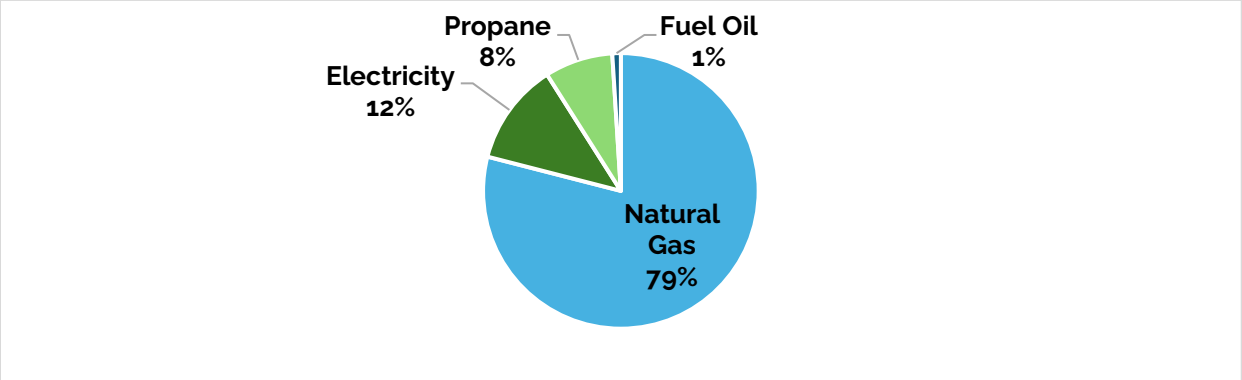


Figure 1- Breakdown of GHG Emissions from Buildings by Energy Type, 2023

Fleet

County fleet is also forecasted to represent a key source of GHG emissions. The County is currently installing tracking devices to record and better understand fuel consumption and associated GHG emissions from the County's fleet. Without these tracking devices, it is difficult to accurately assess fuel consumption. However, based on fuel billing data, it is estimated that the County produced approximately 1,683 tonnes of CO_2e in 2023 through using diesel and gas to power on and off-road fleet and equipment (fire, ambulance, roads, waste processing, etc.)

Approximate GHG Emissions from Diesel and Gas Use (tonnes of CO_2e)	**1,683**

While fuel billing data provides a helpful starting point, moving forward, it will be important to have data that can be disaggregated to understand how each division and piece of equipment contributes to our corporate emissions. Enhancing data collection by adding tracking devices to on and off-road vehicles and updating how fuel billing data is coded/stored, will guide more effective decision-making moving forward.

When evaluating the County's fleet inventory, most on and off-road vehicles leased and owned are gas or diesel powered. In recent years, the County has started to transition to hybrid and electric models when economical and in alignment with the needs of the vehicle. Analysis of the current inventory shows that moving forward there are approximately 10-20 light-duty vehicles in the County's fleet that could be replaced with electric or hybrid options at the end of their useful life. Making this switch will help the County further reduce GHG emissions associated with gas and diesel consumption.

Water and Wastewater

The water and wastewater sector tracks energy consumption and the corresponding GHG emissions generated by municipal water and wastewater infrastructure, such as

lift and pumping stations, reservoirs and storage tanks, and treatment facilities. Emissions in this sector can be produced directly from the combustion of fuels (for example, natural gas used in boilers and furnaces) or indirectly from the use of grid electricity.

The County's wastewater facilities are managed and operated by the Ontario Clean Water Agency (OCWA) and are predominantly powered by electricity with natural gas generators onsite. While the data included below is based on billing data, the County is also adding data loggers to wastewater equipment to harness more accurate information about energy consumption. These loggers will enable operators to pinpoint areas of inefficiency and proactively pursue equipment upgrades.

	Electricity Quantity (kWh)	**Natural Gas (m^3)**	**GHG Emissions (tonnes of CO_2e)**
Water and Wastewater	5,274,008	34,533	**212**

Streetlights and Traffic Signals

The streetlights and traffic signals sector tracks GHG emissions generated using energy for streetlights, traffic signals, and other types of outdoor public lighting. Emissions in this sector are produced indirectly from using grid electricity.

The County has invested in upgrading all streetlighting to energy-efficient LED alternatives. Also, when suitable, the County has added solar lighting to new park spaces to reduce energy consumption associated with this activity. Streetlighting and traffic signals represent a small portion of the County's overall corporate emissions.

	Electricity Quantity (kWh)	**GHG Emissions (tonnes of CO_2e)**
Streetlights and Traffic Signals	1,414,285	42
Parks and Sport Field Lighting	148,359	5
Total	**1,562,644**	**47**

Future Improvements for Corporate Emissions Data

Overall, this data provides a snapshot of the primary sources of County emissions for 2023. According to the information presented, corporate emissions for the year amount to 3,352 tonnes of CO_2e.

It is important to note that this data does not provide a full picture of all corporate emissions. Currently, we cannot separate the waste generated by the community from that produced by County operations; all waste emissions are included in the community section below. In the future, implementing tracking devices on our fleet

and conducting a corporate waste audit will help the County gain a clearer understanding of corporate emissions.

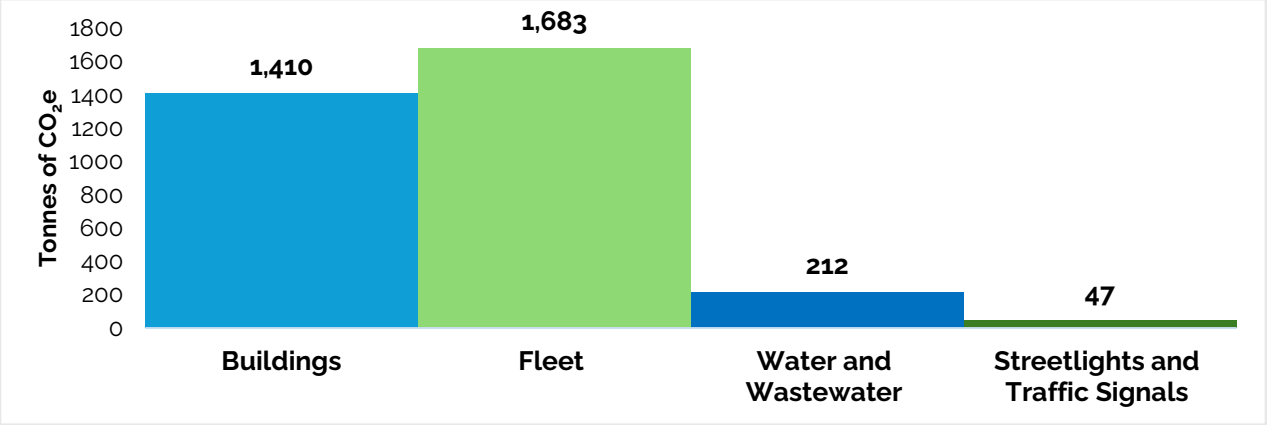


Figure 2 - Corporate Emissions by Sector, 2023

Community Emissions

Sources of community emissions include buildings (residential and non-residential), transportation, and waste. The section below provides an overview of these key sources of emissions and identifies gaps to consider in the future.

Buildings

Emissions from buildings can be produced directly from stationary combustion of fuels (for example, natural gas used in boilers and furnaces) or indirectly from the use of grid electricity. Data collected from utility providers (electricity and natural gas) identify how buildings are using energy and generating emissions throughout the County.

Residential

Electricity consumption in our homes can be attributed to many uses such as lighting, appliances, air conditioners, and anything else that is plugged into wall outlets. Some homes are heated with electricity, although many are heated with natural gas if available. Electricity in the County is provided by two distribution companies, GrandBridge Energy and Hydro One. Data on the amount of electricity consumed by residential customers in 2023 is reflected in the table below.

Natural gas is primarily used for heating with a natural gas furnace, boiler, and/or fireplace. This type of energy is also sometimes used for cooking (stove, barbecue), water heaters, and dryers. Enbridge Gas is the sole supplier of natural gas in the area. Data on residential consumption for 2023 is included below.

Energy Type	Quantity of Energy Used	GHG Emissions (tonnes of CO_2e)
Electricity [11]	238,347,779 kWh	7,150
Natural Gas	23,972,251 m^3	45,308
Total		**52,458**

Provincial data illustrates the top uses of energy in Ontario homes. Based on data from 2019 and 2021, most energy consumed at the residential level is used to heat spaces and water. Investing in alternative heating systems that are more energy efficient and use cleaner forms of energy (such as electricity) is encouraged.

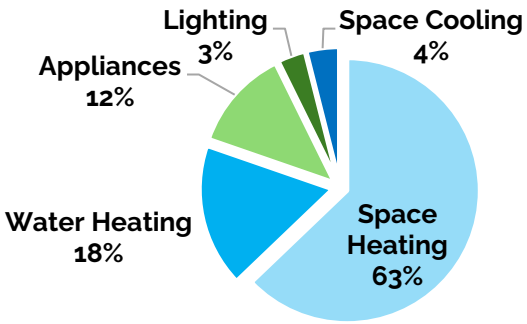


Figure 3 – Overview of End Uses of Energy in Ontario Homes

Non-Residential

In addition, energy used from commercial and industrial buildings represents a considerable source of community emissions. Utility data from non-residential connections shows the following energy use/emission levels in 2023.

Energy Type	Quantity of Energy Used	GHG Emissions (tonnes of CO_2e)
Electricity	348,622,588 kWh	10,459
Natural Gas	35,242,039 m^3	66,607
Total		**77,066**

[11] Total quantity of electricity used from both GrandBridge and Hydro One customers.

For a breakdown of energy use by residential and non-residential connections, check out the **appendix.**

Transportation

Research from other municipalities highlights that transportation is another key source of community emissions. Determining emissions from vehicle traffic within the County limits is complex due to the number of variables such as number of trips, distance of trips, type of vehicle, maintenance levels, fuel type, and more.

Data from the **Transportation for Tomorrow Survey** provides an overview of how community members use their vehicles throughout the County. Information on driving habits, helps the County evaluate emissions generated using the vehicle kilometers travelled (VKT) methodology. Based on the available data and assumptions on vehicles by characteristics and fuel type, the estimated GHG emissions from community vehicle travel is 113,330 tonnes of CO_2e.

Energy Type	Light Duty	Light Duty Truck	Heavy Duty Truck	GHG Emissions (tonnes of CO_2e)
Gasoline (L)	16,631,963	24,738,375	2,353,335	**100,641**
Diesel (L)	196,111.24	253,791	4,001,534	**12,076**
Propane (L)	157,658	242,255	-	**613**
Total				**113,330**

Further, census data illustrates that 95% of commuters use a personal car, truck, or van to get to work. A small percentage, 5%, use an alternate means including public transit, walking, and biking. A higher reliance on personal vehicles is expected in a more rural municipality.

The County also provides an on-demand, door-to-door public transportation option to help residents travel around the community. Through this program, Brant residents can request rides within the County to nearby destinations. Depending on demand, these rides may be shared with other commuters travelling to similar locations.

Data collected and forecasted for 2024 shows that approximately 27,000 trips are anticipated to be completed throughout the year.[12] Of these rides, roughly 57% are shared rides which mimic carpooling and represent a way to reduce emissions.

Number of Trips	27,000
Distance Travelled (km)	304,205

[12] Due to a change in transit provider 2023 data is not available and 2024 was used for the purpose of this analysis.

Gas Consumption (L)	30,183
Total GHG Emissions (tonnes of CO_2e)	**69**

Looking ahead, efforts to encourage less fuel consumption and personal vehicle commuting, greater use of shared public transportation, active transportation, and greener modes of travel are encouraged.

Waste

GHG emissions are produced through collecting and processing waste. A breakdown of the three key sources is presented below.

1. **On-road vehicle travel to collect and transport waste –** The County contracts waste collection to a third-party vendor. This vendor collects waste from residential and commercial properties throughout the County and transports waste to the Biggars Lane Landfill for processing.
2. **On and off-road vehicles process waste on site –** At the landfill, large vehicles including a compactor, bulldozer, and excavator, are used to process the waste once it arrives at the landfill. Large tanker trucks are also used to transport leachate created on site to a wastewater treatment plant.[13]
3. **Landfill gas (LFG) –** This gas is created when organic waste, like food, paper products, and other biodegradable materials, decompose in the landfill.

Across the three sources of emissions, it is anticipated that roughly 15,792 tonnes of CO_2e are produced from collecting and processing waste in 2023. A breakdown of emissions by sources is included below.

Source of Emissions	GHG Emissions (tonnes of CO_2e)
On-Road Travel[14]	745
Off-Road Travel	Reflected in fleet calculation above.
Landfill Gas[15]	15,047
Total	**15,792**

[13] Leachate is a toxic liquid formed when rainwater filters through waste in a landfill. When this liquid comes in to contact with buried wastes, it leaches, or draws out, chemicals or constituents from the waste.

[14] The County's waste collection contractor estimates that collection vehicles use roughly 23,000 litres of diesel each month to facilitate curb-side collection which equates to 745 tonnes of CO_2e per year.

[15] Estimation calculated using the Methane Commitment Model in the PCP Protocol.

LFG is the main source of emissions associated with waste. As organic waste decomposes in landfills, LFG is created that is comprised of roughly 50% methane and 50% carbon dioxide. Methane is a potent GHG that has over 25 times the global warming potential as carbon dioxide.

LFG collection and destruction systems are often used to collect this harmful gas and destroy most of the methane components through flaring. Currently the Biggars Lane Landfill, which services all of Brant County, does not have a system like this. Beginning in 2025, the current cell of the landfill is being closed and a new expanded cell is being created to meet the growing needs of the community. In the newly expanded area, a vertical connection well network is being installed to collect and destruct methane gas created during decomposition (as required by provincial legislation). The system will attempt to capture 70% of the landfill gas generated from the expansion area during the operating life and post-closure period of the landfill. Moving forward, a 41% reduction in GHG emissions is expected across the entire landfill once the LFG collection and destruction system is added.

Beyond emissions from waste collection and processing, an overview of the waste collected, disposed, and diverted in 2023 is included below.

Total Annual Amount of Solid Waste Collected (tonnes)			
16,093			
Disposed		**Diverted**	
Total Annual Amount Disposed in a Landfill	**10,691**	Total Annual Amount of Solid Waste Diverted	**5,402**
66.4%		**33.6%**	

Analysis shows that the County's rate of disposal and diversion are slightly better than the provincial average of 70% of waste disposed, and 30% diverted. The Province of Ontario has set the following targets to advance waste diversion: by 2020 the province aims to divert 30% of waste from landfills (met), 50% by 2030, and 80% by 2050. To meet the upcoming 2030 objective, the County will need to take strides to enhance diversion and advance a more circular economy.

It is important to note that our waste data accounts for the waste collected by the County from residential and commercial sources with public collection. The amount of waste generated and collected through private collection is not represented in this data. Also moving forward, as of January 1, 2025, the residential blue box program will be provided by Circular Materials Ontario (CMO) and the County will no longer be involved. At this time, it is unknown if residential diversion data will be provided to the County, which may impact the ability to determine an accurate diversion rate in future years.

Agriculture

The County is home to many thriving farms and prime agricultural land. Data shows that in 2021, there were 669 farms and 148,590 acres of farmland.[16] At this time, the County does not have access to data to understand how the agricultural sector produces and offsets GHG emissions. Moving forward, it will be important to quantify and evaluate emissions from this area to help advance comprehensive climate action and best support this sector.

Future Improvements for Community Emissions Data

Overall, this data provides a snapshot of major sources of community emissions in 2023. Based on the information above, community emissions from 2023 total 258,646 tonnes of CO_2e. This data does not offer a complete picture of community emissions. Moving forward, it will be essential to gather information on emissions from the agricultural sector to gain a more comprehensive understanding of community emissions.

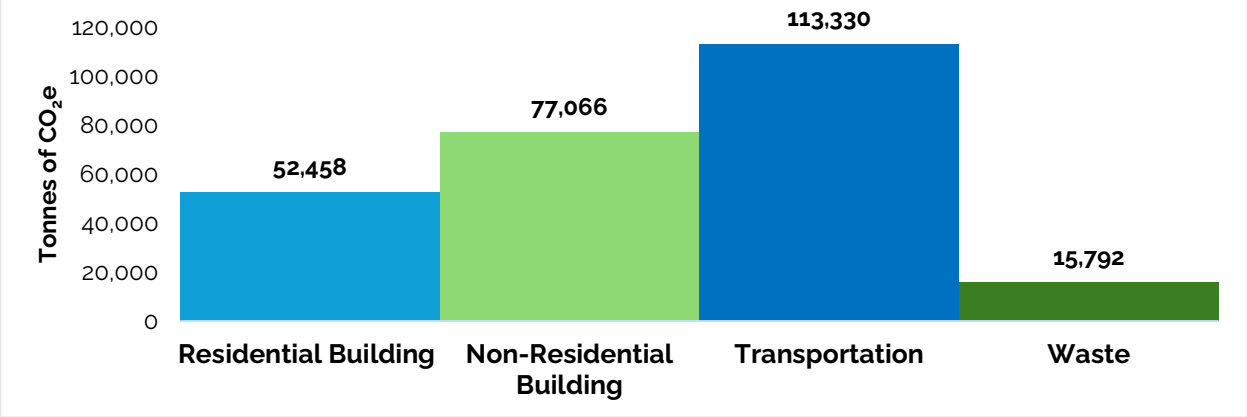


Figure 4 - Community Emissions by Sector, 2023

Carbon Offsets and Avoided Emissions

Becoming net carbon neutral means that GHG emissions produced must be offset by actions that reduce or sequester emissions. Three key carbon offsets are trees, natural areas, and renewable energy.

Trees

Trees provide many environmental benefits and help the County deliver important services, such as wastewater management, useful park spaces, and cool and comfortable facilities. Research illustrates that trees:

- Prevent erosion

[16] Census of Agriculture.

- Provide shade and cooling effects
- Contribute positively to biodiversity
- Enhance mental and physical health and well-being of residents
- Support stormwater management through enhancing infiltration
- Increase perceived property value of neighbourhoods

Trees also play a vital role in mitigating the impacts of climate change by sequestering carbon. Through sequestration, trees pull carbon dioxide out of the atmosphere during photosynthesis and release oxygen, which reduces the warming impacts of this gas.[17] While trees capture carbon, they can also be sources of carbon dioxide. As trees die and decompose, they emit carbon dioxide back into the atmosphere. Since 1990, data shows that more forests are becoming greater carbon sources as there has been a rise in areas burned by wildfire, an unprecedented increase in insect outbreaks, and changing economic demand for wood products. Maintaining the health of trees and forests and investing in continued planting is important.

Data highlighting the value of trees throughout the County is included below:

Statistic[18]	**Tonnes of CO_2e sequestered (per year)**
Annually, the County gives away approximately 700 trees to be planted on private property.	7
Each year the county invests in planting between 500-3,000 trees.	17.5
Assessment shows that 26% of all land in the County (public and private) is covered by tree and shrub canopy.[19]	197,970
Assessment shows that roughly 39% of County property is covered by tree and shrub canopy.	3,513

[17] Government of Canada. **Forest Carbon (canada.ca)**

[18] Data in this table is from the County's i:Tree Canopy Coverage Assessment and Tree Benefits Report.

[19] Canopy refers to the collective cover of branches and foliage of all tree crowns and shrubs in the County (for example, individual trees, groupings of trees, woodlots, etc.) expressed as a percentage of the area of lands in the County.

Natural Areas

Beyond areas covered with trees and woodlands, other naturalized areas like wetlands and grasslands also sequester a significant amount of carbon dioxide. Data from the i-Tree assessment shows how land owned by the County is covered. Based on this data, a significant amount of County property is covered with grass and herbaceous cover and trees and shrubs. A small amount of land is bare soil and impervious material (approximately 12%). Increasing natural forms of ground cover are encouraged to promote carbon sequestration and other benefits including reducing erosion, the heat island effect, and enhancing soil quality.

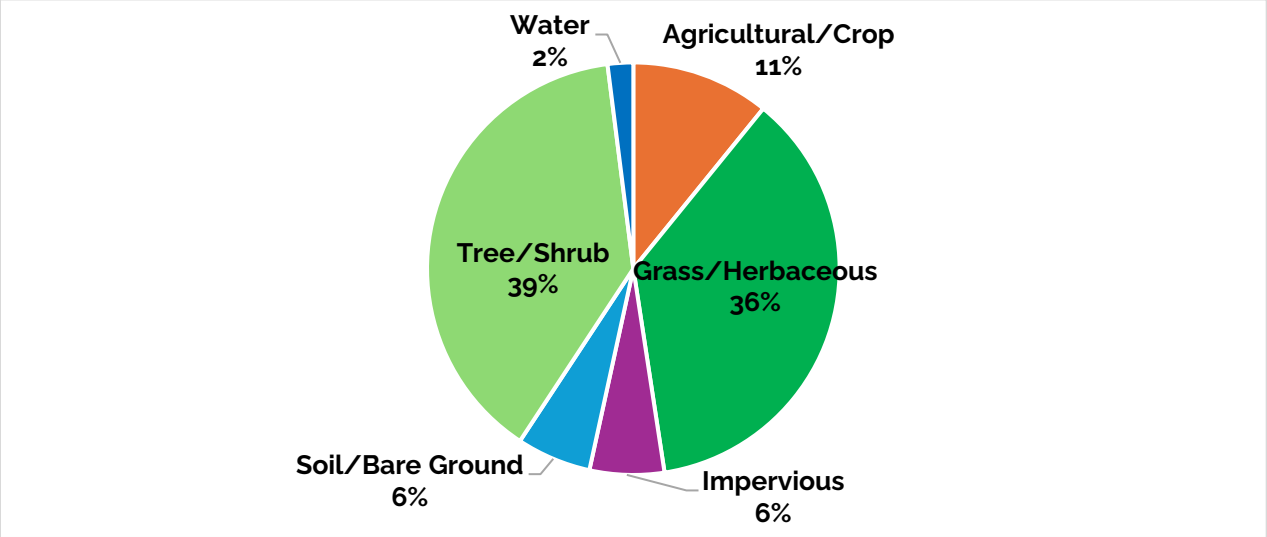


Figure 5 - Ground Cover on County Property

In addition to County property, i-Tree data also provides data on the land coverage for the entire county (public and private land). Based on these findings, the bulk of land is agricultural/crop cover.

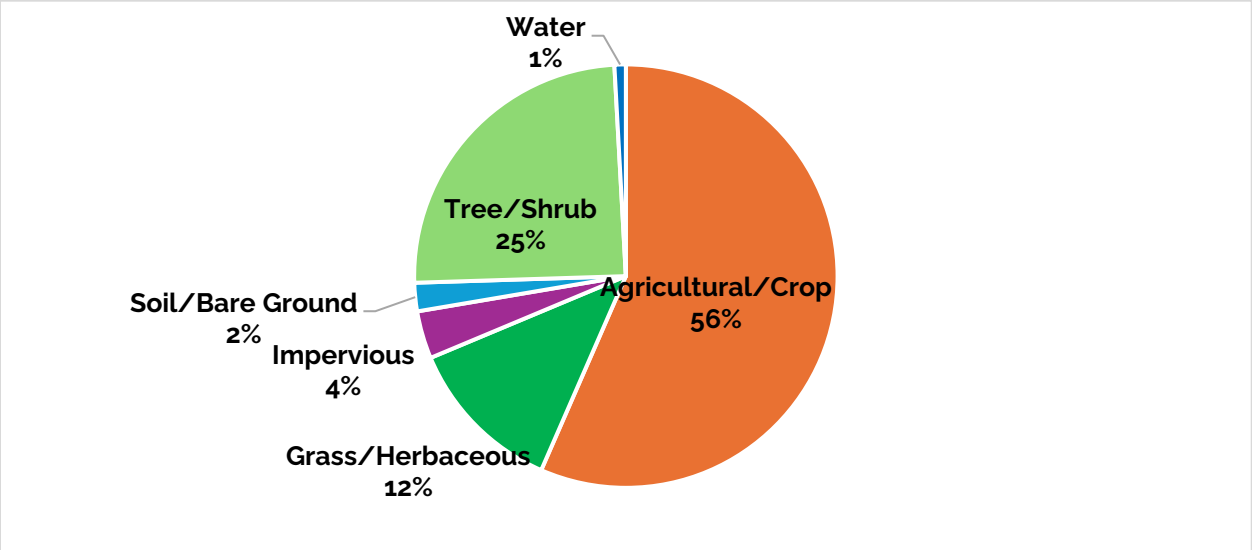


Figure 6 - Ground Cover on Public and Private Property

Renewable Energy Generation

The County has become a municipal leader in generating clean, renewable energy through its commitment to solar projects and partnership with Brant Municipal Enterprises (BME). Specifically, the County has invested in two separate categories of solar projects to support renewable energy generation: Feed-in-Tariff (FIT) and net metering. Through FIT projects, the County produces energy through renewable sources and sells it back to the grid. Through these projects, the County produced approximately 3.4 million kWh of electricity in 2023 which offsets approximately 102 tonnes of CO_2e.

	Estimated Energy Produced Annually (kWh)	**GHG Emissions Offset (tonnes of CO_2e)**
FIT Projects	3,397,898	102

Net metering projects help the County directly reduce electricity consumed at our facilities. These projects help the County avoid GHG emissions associated with using electricity from the grid. Based on the amount of energy produced at the two net metering projects, roughly six tonnes of CO_2e are avoided each year.

	Estimated Energy Produced Annually (kWh)	**GHG Emissions Avoided (tonnes of CO_2e)**
Net Metering Projects	204,037	6

Generating renewable energy is a way for the County to offset energy use and reduce emissions associated with using electricity to power our facilities. Developing a comprehensive plan to add new renewable energy projects, including solar, geothermal, and wind is encouraged in the future.

Opportunities to Enhance Data Collection and Analysis

While this data provides a helpful starting point for planning purposes, this section also highlights gaps in available data and encourages the County to expand their data collection and analysis when it comes to climate change indicators. As the County continues to move forward with climate action, enhancing the collection of climate data will be essential to provide a more complete picture of community and corporate emissions and help advance effective actions.

Community Engagement

Engagement helped the County develop a plan that reflects community priorities, interests, and expertise. An overview of the engagement process and our findings are presented in the section below.

Informing the Community

To help educate the community, the County developed three informational videos that focused on what climate change is and its impacts in the County, the difference between mitigation and adaptation actions, and details about the CAP itself. This important education step paved the way for positive, meaningful engagement.

Community Engagement at Burford Movie in the Parks - Summer 2024

What We Heard

Survey

Staff connected with the community in different ways to learn more about their priorities and ideas when it comes to climate action. A public survey was conducted to gather input from County residents. A total of 176 people participated in the online survey, providing valuable insight into the community's views on climate action. The survey captured participation across a diverse range of age groups, with the highest number of respondents falling within the 50-69 age bracket (43.9%). Participants from a variety of communities within Brant also contributed, including Paris, Burford, St. George, and others.

The online survey provided important insight into the thoughts, priorities, and attitudes of the County. Key findings from the survey reveal that 53.5% of respondents consider addressing climate change and environmental protection to be "very important," with another 24.4% rating it as "important." Furthermore, 72.7% of participants believe that climate change is already affecting the County of Brant, with 27.2% feeling the impacts significantly and 53.6% moderately.

The survey also highlighted the most impactful local effects of climate change, including extreme weather events (storms, floods), heatwaves, and concerns over wildlife and biodiversity, and agricultural productivity. Respondents also share that they are doing various things to reduce emissions, conserve energy, and promote sustainability. Some common actions include reducing and diverting waste, conserving energy and water at home, gardening and planting trees, and switching to cleaner and more energy efficient technologies.

Respondents also highlighted top priorities to consider when developing the CAP. The top five priorities were:

- Protection of natural habitats and greenspaces
- Waste reduction and recycling
- Community education and awareness
- Energy efficiency in buildings
- Renewable energy development

In addition, respondents identified that the top five solutions to explore were:

- Increasing naturalization, ecological diversity, and tree planting
- Supporting local sustainable agriculture practices
- Promoting energy-efficient homes and buildings
- Investing in renewable energy, such as solar and geothermal
- Implementing waste prevention and diversion strategies

Overall, the results of the survey highlight that most respondents are feeling the impacts of climate change and are supportive of the County taking climate action. Community insights on impacts, priorities, and solutions are reflected in CAP action items.

Pop-Up Events

In addition to the online survey, the County hosted four pop-up events in parks across the community (Paris, Burford, St. George, and Cainsville). We spoke with over 25 community members at these events and heard about how climate change impacts them, priorities for the County, and ways they are taking climate action at a household and community level.

Key topics of interest discussed during in-person interactions included waste prevention and diversion, preparation for extreme weather emergencies, sustainable land use, the protection of natural habitats and green spaces, support for biodiversity, and the need for enhanced community education and communication regarding climate-related issues.

Direct Connections with Community Partners

Direct connections with community partners were also an important part of the plan development process. These direct connections allowed members of groups to share their expertise and feedback to help develop the plan. As part of this process, we connected with members from the following organizations:

- Brant for Nature
- Brant Waterways and Tree Coalition
- Brant Land Trust
- Equal Ground Community Garden
- Horticultural Societies (Paris and Glen Morris)
- Ducks Unlimited
- Grand River Conservation Authority (GRCA)
- Six Nations of the Grand River
- Brant Federation of Agriculture

To best meet the needs of diverse groups, the County engaged partners in various ways including small in-person meetings and conversations, phone calls, virtual meetings, and email communication.

Through these connections, we gained valuable insights into the efforts of each group in supporting climate action and environmental initiatives in Brant. All community partners expressed a strong interest in the County advancing this work. Our discussions highlighted the following key themes and priorities:

- **Nature-based solutions:** tree planting and improving community canopy; pollinator planting, more naturalization, and native planting; enhancing biodiversity and removing invasive species.
- **Sustainable development**: protecting agricultural land and preventing urban sprawl; preserving and restoring woodlots, waterways, and wetlands; building more sustainable and resilient neighbourhoods; encouraging more sustainable modes of travel like cycling; and enhancing stormwater and flood management.
- **Education and outreach:** supporting education of staff, Council, and the community; highlighting the necessity of climate action and the benefits associated; reporting on climate impacts of County actions; and finding ways to involve youth and inspire hope and community action.
- **Waste diversion and prevention:** exploring improved composting opportunities for yard waste; advancing an organic waste collection program; adding additional waste/recycling receptacles; and reducing waste from corporate activities.

- **Reducing corporate and community emissions:** building to net-zero standard; improving tracking and reporting on emissions; creating measurable targets to advance objectives; switching to more sustainable modes of transportation; encouraging energy efficient homes and businesses.
- **Supporting agricultural sector:** supporting farmers to reduce emissions and adapt to the impacts of climate change.

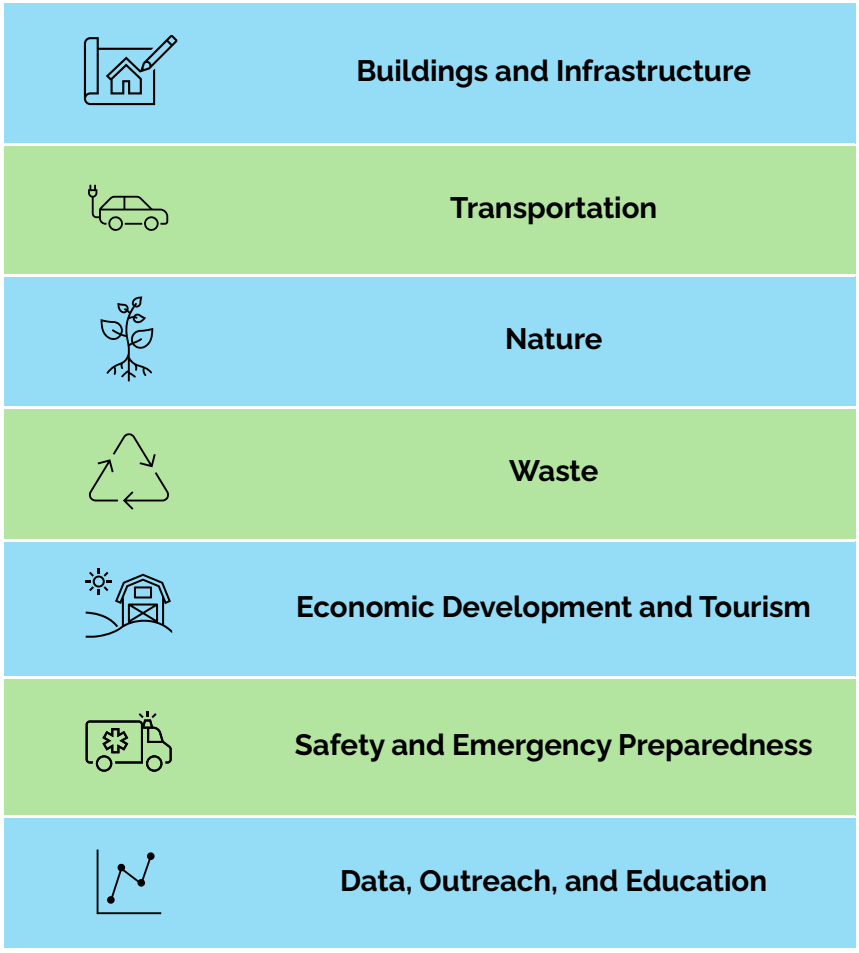
These direct connections enabled the project team to learn from the community. As we move forward with implementing the plan, collaboration with community partners will be essential.

Key Insights and Feedback

Across all forms of engagement, key priorities and concerns emerged as central to the community's vision for climate action. These included a strong focus on promoting sustainable land use practices, enhancing waste diversion and prevention, reducing corporate and community emissions, preparing for extreme weather events, protecting natural ecosystems, and supporting biodiversity. In addition, community members emphasized the importance of educational initiatives to build awareness around climate change and its impact on the County.

Section 3.0 - Taking Climate Action

Research, data analysis, community, and staff engagement all informed the development of smart, reasonable, climate actions to guide the County for years to come. There are 50 action items spanning seven broad themes:



Some actions are corporate focused and involve the County directly reducing their emissions and preparing to cope with the impacts of climate change. Other actions involve opportunities for the County to encourage community led climate action. Overall, the solutions presented aim to:

1. Decrease corporate and community emissions through reducing energy use, improving efficiency, and switching to cleaner sources of energy when suitable (mitigation)
2. Foster resiliency to adapt and cope with the impacts of climate change (adaptation)
3. Promote overall environmental sustainability (environment)

Actions listed below are coded by the goal that they align with and their implementation timelines. Short term implies that actions will be implemented in 1-4 years, medium is 4-7 years, and long-term is 7+. This list does not include all climate actions that the County will take over the plan's horizon – additional solutions will be pursued to advance these goals as budgets and staff capacity permits. As the first

strategy of this nature, it is intended to be a living document that will evolve and transform over time as technologies, priorities, and resources change.

Many action items in this first plan involve creating plans and policies and conducting studies to guide the County through complex processes like retrofitting municipal facilities and diverting waste. Policy and planning work is required to set the County up for success. Once strategies are developed, we will begin to see noticeable changes in emission reductions and climate change resiliency as they are implemented. With many initial actions reflecting policy and plan development, there are less costs associated. As the County begins to implement these plans and policies, significant budgetary impacts are expected to advance actions like retrofitting facilities, constructing net-zero buildings, and purchasing electric equipment.

In addition to plan and policy development, the County is also taking strides on actions with more direct, tangible impacts – such as replacing the County fleet with electric and hybrid options, adding waste, and recycling receptacles, and delivering the tree planting program. The County needs to make progress on both developing strategic plans and implementing physical improvements to direct and inspire staff and the community.

Some proposed actions will have measurable impacts (environmental impacts that can be clearly measured, tracked, and reported) and others will have immeasurable impacts (like education, advocacy, and employing a climate lens). All action items work together to help the County meet our goals, objectives, and targets.

Buildings and Infrastructure

Buildings, including County facilities, residential homes, industries, and businesses, represent a significant source of corporate and community emissions in the County. Efforts to conserve energy, reduce the use of fossil fuels, and incorporate opportunities to generate renewable energy, are all ways to promote more sustainable and cost-effective buildings.

Beyond mitigation, it is important to ensure buildings and infrastructure can cope with the impacts of climate change, including more extreme temperatures and weather events. Constructing resilient buildings supports financial savings and enhances the health and safety of the community.

On a corporate level, the County has made progress on promoting energy conscious and adaptive buildings:

- ✓ The County has recently designed two carbon operational net zero facilities, the Wilkins Family Community Centre that is under construction and the North Paris Fire Station which is in the conceptual design phase. These sustainable buildings will serve as examples to guide future development.

- ✓ County staff adopt a climate change lens and consider the impacts of climate change when designing new infrastructure.
- ✓ The County has invested in renewable energy projects. Notably, the County worked alongside Brant Municipal Enterprises (BME) to add two net-metering solar projects at the Cowan Community Health Hub and the TF Warren Group Community Centre.
- ✓ Through completion of the **ECDMP**, the County has completed retrofits to improve the energy efficiency and resiliency of facilities throughout the County, including building envelope improvements, adding LED lighting, transitioning to more energy efficient appliances, and leveraging technologies like building automation systems (BAS).
- ✓ The County's Basement Flood Prevention Assistance Program subsidizes the cost of outfitting homes to prevent storm water from flooding residential basements. Eligible properties can use funds to install a back flow prevention valve on private stormwater connections or alter driveway entrances to reduce overland flow to the base of driveways.

Moving forward, the County can take additional action to reduce GHG emissions and promote adaptability within this sector. An overview of the objective, targets and action items are listed below.

Objective

Support energy efficient, sustainable, and resilient buildings and infrastructure to reduce GHG emissions and encourage climate adaptation.

Targets

- ☐ Reduce emissions from County owned and operated facilities by 40% by 2035 from the baseline year of 2013.
- ☐ Reduce emissions from County owned and operated facilities by 60% by 2040 from the baseline year of 2013.
- ☐ Offset 50% of electricity used at corporate facilities through generation of renewable energy by 2040.

County Focused Actions

1. Develop a sustainable and resilient building standard for constructing new County facilities.

Timeline: Short Term

Cost: N/A

Goal: Mitigation and Adaptation

The County will develop a sustainable building standard to advance energy conscious buildings that are net-zero or net-zero ready when technically and financially feasible. The standard will be based on requirements from other international standards (such as LEED, Passive House, and BOMA Best). Creating a tailored "Made in Brant" standard allows the County to select design requirements that meet our priorities and build in flexibility as needed. The standard may include requirements for incorporating solar provisions, EV charging stations, using clean sources of energy, and efficiency guidelines for the building envelope and insulation. With facilities representing such a significant source of corporate emissions, striving for net-zero and net-zero ready new builds is a crucial step to meet the County's target of becoming net carbon neutral by 2050.

This approach is smart from a financial perspective as well. As energy costs continue to rise, designing energy conscious buildings will help reduce ongoing operating costs incurred by the County. Also, if buildings are not built to a net-zero or net-zero ready standard now, then major, costly retrofits will be required to reduce emissions and support our 2050 goal. Up-front costs for building green facilities are estimated to be about 2% of total project costs and operational costs on average are 8% lower the first year and up to 14% lower over 5 years with a payback of approximately 7 years. For buildings that could still be standing in 60 years, there is a significant savings over the lifetime of the building, as well as significant emissions, water, and waste savings.

The standard will also include a resiliency checklist to ensure new County buildings and infrastructure are designed to cope with more extreme weather and other climate change impacts. This will enhance the longevity of assets, reduce costs of repairs and maintenance, and ensure community well-being and safety. When designing new or replacing existing building and infrastructure, staff will evaluate the current and future impacts of climate change and related risks (flooding, high winds, heavier rainfall, more freeze and thaw cycles) and how they will impact the prospective asset. Depending on the risks present, ways to build in adaptation could involve enhancing rain infiltration surrounding buildings, maintaining trees and vegetation to prevent erosion and provide shade, adding enhanced insulation, incorporating renewable energy sources, adding green roofs, and designing spaces that are suitable for disaster response. For new buildings and infrastructure, staff will actively consider the impacts of climate change hazards to design safe, sustainable, and resilient spaces.

2. Create and adopt a strategic approach to retrofit existing County facilities to promote energy efficiency, reduce GHG emissions, and encourage resiliency.

Timeline: Short Term

Cost: $$

Goals: Mitigation and Adaptation

The **ECDMP** outlines specific projects and measures to advance energy conservation and reduce reliance on fossil fuels at County owned and operated facilities. Measures in the ECDMP include installing building automation systems (BAS) to control heating/cooling, enhancing building envelopes, adding efficient light fixtures, and more. The CAP reinforces the implementation of these actions.

As the County continues to invest in improving existing facilities, staff are encouraged to develop a retrofitting strategy that focuses on reducing GHG emissions and supporting energy conservation at facilities that have a useful life exceeding the year 2050. Where possible, buildings should be updated to align with the new sustainable and resilient building standard (mentioned in Action item 1). This strategy will require collaboration between all County departments that are responsible for building management to determine what the lifetime of the buildings are likely to be, and what percentage of buildings need to be retrofitted per year to reach the 2050 target. For example, the County owns approximately 60 buildings and if it is determined that 60% will be decommissioned or sold by 2050, 40% (24) remain that will require retrofits. That means that the County would need to renovate 2.4% or approximately one building every year until 2050. These values are an example of what the building retrofit strategy will determine and what the possible outcome could look like.

The strategy will resemble a green capital forecast and will include a cost-benefit analysis to evaluate the long-term economic benefits of the proposed retrofits including reduced energy costs, maintenance savings, and avoided damage from extreme weather events. This economic analysis will look to include measures like return on investment (ROI), payback period, net-present value, and total cost of ownership for the proposed projects.

Developing and implementing this strategic approach is a significant undertaking that will require additional staff, financial support, and expertise from external consultants. One dedicated staff member focused on climate action will be required to develop the strategy and guide the implementation of all required retrofits. Additional staff within the Engineering and Infrastructure division may also be required to advance the volume of retrofit projects once the strategy is complete. Financial support programs are currently available, such as the Green Municipal Fund, which support deep energy retrofits for municipal facilities. Staff will continue to monitor available funding opportunities.

Beyond reducing emissions and energy consumption when renovating facilities, the County is encouraged to bolster climate resiliency as well. This may involve adding wind protections, incorporating rain-friendly landscaping, and using building materials that are more resilient to temperature fluctuations. At each property, climate risks will be assessed, and efforts will be taken to reduce the specific impacts of climate change.

3. Create a renewable energy roadmap for the County.

Timeline: Short Term

Cost: $

Goal: Mitigation

Generating renewable energy is an important way that the County offsets energy use and mitigates climate change through reducing GHG emissions. Over the past 15 years, the County, alongside BME, has invested in solar energy projects that have produced over 27 million kWh of electricity and generated $4.5 million in revenue over their lifetime.

As the County continues to grow, investing to maintain and grow our renewable energy inventory is essential. To guide this investment, the County and BME will work together to devise a roadmap for renewable energy. This roadmap will outline maintenance requirements, priority areas to add renewable energy sources (such as facilities, county properties and parking lots), and include broader goals for energy production.

As part of this planning work, the County will also explore opportunities to add battery storage sites in suitable locations. Battery storage units support the success of an electricity grid that is powered through renewable energy sources as they allow energy generated to be stored and used during peak demand periods. This will reduce reliance on natural gas plants to supplement energy demand during peak times and support a greener provincial grid.

4. Explore the feasibility of measures to reduce energy consumption from water and wastewater treatment plans.

Timeline: Long Term, Ongoing

Cost: $$$

Goal: Mitigation

Water and wastewater treatment plants currently produce a high amount of GHG emissions due to significant energy consumption and use of natural gas generators. As the County continues to invest in efforts to become net carbon neutral by 2050, it will be important to evaluate opportunities to offset energy used from these facilities.

New technologies are being adopted by other municipalities and explored by the County to reduce energy consumption. For example, Waterloo Region has recently implemented technology to transform wastewater biogas into renewable energy through using two new cogeneration facilities. Now three treatment plants are using 100% of their biogas for heat and electricity, saving $1.5 million annually and reducing 1,900 tonnes of CO_2e. The success of these projects is heavily dependent on the size and scale of the plant and the amount of water processed. As the Brant community grows, the feasibility of cogeneration will continue to be considered as an option to offset energy costs and reduce GHG emissions.

County Led, Community Focused Actions

5. Develop informational resources to help residents access grants and incentives to pursue energy conservation, save on energy costs, and reduce GHG emissions from homes and businesses.

Timeline: Short Term

Cost: N/A

Goal: Mitigation

The County can help share information to encourage residents to pursue energy conservation efforts at home. Specifically, the County can create resources to share information about available green incentives from other levels of government, organizations, and businesses. Incentives to highlight may include available rebates for smart thermostats, grants to switch to electric heat pumps, free insulation upgrades for income qualified homes, and more. There are many grants and incentives available that the County can help highlight for homeowners.

To support community education, the County could also explore partnering with local organizations to offer learning resources and workshops about energy retrofits. At these workshops, community members could learn more about retrofits, offers available, and details on how to apply.

6. Create resources to help residents learn about adapting to the impacts of climate change and promoting resilient homes and businesses.

Timeline: Short Term

Cost: N/A

Goal: Adaptation

The County can also provide resources to help residents create more resilient homes. Information resources could include tips for enhancing climate adaptation such as planting trees, installing efficient AC units, cold climate air-source heat pumps, electric heat pumps, adding strapping to mitigate wind damage, and enhancing building envelopes to bolster insulation and cope with increasing instances of extreme weather. By developing guides, webpages, and social media posts, the County can play an important role in information sharing. When sharing information, attention should be focused on reaching vulnerable populations such as older adults and low-income households. Research shows that these community members are more vulnerable to the impacts of the changing climate.

7. Conduct a feasibility study to explore the value and interest in offering a Property-Assessed Clean Energy (PACE) Financing Program.

Timeline: Medium Term

Cost: $$

Goal: Mitigation

The County will explore the prospect of offering a zero-interest loan to residential property owners to help cover the costs of residential energy efficiency upgrades. Through this program, the County could consider providing a repayable loan to homeowners for eligible efficiency projects. Eligible projects could include solar installation, insulation upgrades, window and door repair and replacement, heat pump installation, and more. The payback term of the loan could be determined and added to the homeowner's property taxes. Through this type of program, the municipality helps in paying for the energy retrofit upfront, and the homeowner pays for it over the time of the loan period, therefore operating at no net cost to the municipality while also not using taxpayer money to provide the program.

This approach has been successfully implemented in several municipalities, including the City of Guelph, City of Hamilton, City of Kingston, and the City of Burlington. As the County evaluates adopting this type of program, there are opportunities to learn from the experiences of other municipalities.

There are funding opportunities available to help the County assess the feasibility of this program and to kickstart implementation. The County is encouraged to access available grant opportunities. To evaluate this prospective program, engagement with the community and exploring a pilot program will also be essential to determine demand and understand how to best meet the needs of residents.

8. Explore developing green building and development guidelines to support sustainable residential, commercial, and industrial development.

Timeline: Medium Term

Cost: $$

Goal: Mitigation and Adaptation

Green building practices offer environmental and social advantages by preserving natural assets and beautifying our spaces, while also delivering economic benefits through lower operating costs for building owners. Many municipalities have developed sustainable design guidelines that outline land use planning standards on how to achieve water conservation, waste reduction, carbon offsetting, energy conservation, maximizing vegetation, and low impact stormwater management measures. The guidelines typically apply to mixed use, medium to high density residential, commercial, industrial, institutional, and public development. Both mandatory and voluntary requirements are often outlined, and some municipalities provide financial incentives to encourage participation (such as development charge and parkland dedication discounts).

The County is encouraged to evaluate the prospect of developing and adopting guidelines to help encourage sustainable building and development practices. Practices could involve planting and landscaping surrounding buildings, energy and water efficiency standards, and provisions for renewable energy. The County is encouraged to devise a standard for their own new developments (as articulated in Action Item 1), prior to developing a broader community standard. Developing and

implementing these guidelines will require additional staff resources and community engagement.

Transportation

Across the County, we use on and off-road vehicles to commute, maintain our properties, remove snow, and more. Data highlights that the transportation sector represents a significant source of both corporate and community emissions. Throughout divisions across the County, staff are taking steps to reduce GHG emissions associated with this sector:

- ✓ As outlined in the **Official Plan**, the County is focused on designing complete communities that are more conducive to living, working, playing, and using active and public transportation.
- ✓ Investing in bike infrastructure (racks and lockers) at County facilities to encourage this sustainable mode of travel.
- ✓ Adding electric vehicle charging stations at new facilities and in high traffic areas (like Downtown Paris and the TF Warren Group Cainsville Community Centre).
- ✓ Developing and operating the Brant Transit program to provide on-demand, shared public transportation across the County.
- ✓ Replacing light-duty fleet with electric and hybrid options when suitable, and prioritizing emission reductions when selecting heavy duty fleet alternatives.
- ✓ Piloting innovative solutions, like AI traffic systems to reduce idling, improve the flow of traffic, and decrease GHG emissions associated with on-road travel.
- ✓ Using technology, like tracking devices and idle timers, to better understand fuel consumption at a corporate level and reduce emissions.
- ✓ Transitioned all streetlighting to efficient LED and are using solar powered options to light our parks and trails when suitable.

To keep moving forward and build on these successes, the County will advance the following objective, targets, and actions.

Objective

Reduce GHG emissions by supporting sustainable transportation and bolstering energy efficiency.

Targets

- ☐ Replace a minimum of 10 gas- or diesel-powered vehicles with hybrid/EV alternatives by 2035.
- ☐ Add 5 new EV charging stations in high priority areas throughout the County by 2030.

County Focused Actions

9. Continue to leverage technology to better understand our corporate emissions from on and off-road fleet and reduce negative practices like idling.

Timeline: Short Term

Cost: $

Goal: Mitigation

Technology can help us better understand fuel consumption and more accurately calculate emissions from on and off-road fleet. The County is encouraged to continue adding Geo Tab tracking devices to all the County's fleet. Once this data is available for analysis, staff will be able to track fuel consumption more accurately by vehicle and division. In addition to tracking devices, the County is also encouraged to investigate how to improve data collection related to fuel billing.

Idle timers have also been effectively added to the County's heavy-duty fleet. These timers are used to turn the vehicle off after it idles for a certain period and help to reduce the negative impacts associated with idling. Continued installation of these tools will help the County save money on fuel and reduce harmful emissions.

10. Optimize the County's on and off-road fleet and encourage the adoption of low-carbon and zero emissions vehicles when suitable and fiscally responsible.

Timeline: Short Term

Cost: $

Goal: Mitigation

Fleet optimization takes a high-level view of the County-wide need for and use of vehicles across departments. This process will look for opportunities to reduce the number of vehicles and ensure the right size of vehicle is used for the job. Adopting this strategy ensures that the County is making holistic decisions when it comes to adding new fleet to our inventory. When replacing or adding new fleet options, the County is encouraged to consider what is the smallest size vehicle that can meet the needs of users and evaluate if there are opportunities to share vehicles with other staff members.

In addition to selecting the right size, when staff are replacing or adding new fleet items, staff will purchase the lowest emissions vehicle when cost-effective and in

alignment with needs. A review of the County's light-duty fleet shows that that there are approximately 10-20 gas powered vehicles that could be replaced with hybrid or EV options at the end of their useful life. Over the next ten years, the County is encouraged to replace existing gas-powered vehicles with hybrid or EV options. While these vehicles are often higher cost compared to traditional gas-powered options, there are opportunities to save on fuel costs.

11. Implement fleet operator training to encourage fuel efficient driving practices and reduce fuel consumption.

Timeline: Short Term

Cost: N/A

Goal: Mitigation

Driving techniques, such as anti-idling, maintaining a steady speed, slowing acceleration, and route planning, can impact fuel consumption. Offering training modules for fleet operators on optimal driving behaviour, will help reduce emissions and save on fuel costs.

12. Support sustainable use of road and trail salt through developing a Salt Management Plan.

Timeline: Short Term

Cost: N/A

Goal: Environment

Salt use on trails and roads can negatively impact water, plants, and animals. The County employs best practices to reduce the harmful impacts of road salt, such as limiting use, creating barriers in storage areas to prevent runoff, using more environmentally friendly alternatives when suitable, and reducing the amount of salt used through brining process. Formalizing these protocols within a Salt Management Plan will reduce these negative impacts and promote environmental and ecological well-being.

13. Continue to use smart technologies to enhance traffic light systems.

Timeline: Short Term, Ongoing

Cost: $$

Goal: Mitigation

Idling at traffic lights for long periods of time can result in a high generation of GHG emissions. Using AI traffic light systems can help to create smarter intersections with enhanced traffic flow. Preliminary pilot studies completed in the County show the value of this technology. Moving forward, the County is encouraged to explore adding this technology at high traffic areas.

14. Prepare a business case to evaluate transitioning to electric maintenance equipment.

Timeline: Medium Term

Cost: N/A

Goal: Mitigation

Staff will monitor market developments and assess the viability of purchasing low carbon/zero emission maintenance equipment. The County will prepare a comprehensive business case to evaluate the costs of this transition, the environmental impacts, and the practicality of making this switch. When exploring electric options, the business case will consider the holistic impacts associated with this technology (including the carbon intensity of switching to electrification, embodied carbon in new equipment, and the mining and disposal of the materials in electric vehicles and small machinery). As part of this evaluation process, staff may conduct a pilot study to evaluate how electric equipment functions and determine if it meets maintenance requirements. Depending on the findings, the County will explore next steps. This may involve creating an inventory of current equipment and developing an implementation plan to guide the transition (budget, timeline, tools that can be converted).

15. Continue to design adaptive roadways and trail systems.

Timeline: Medium Term

Cost: $$

Goal: Adaptation

With heavier rainfall, more freeze/thaw cycles, hotter temperatures, and more extreme weather events, trail and roadway infrastructure are greatly affected. Adopting a climate adaptation lens when constructing and reconstructing roadways is imperative. This could involve decreasing paving on certain roadways to enhance permeability, preventing erosion in flood prone areas, incorporating bioswales in boulevards, and using innovative technologies like bio-resin. Staff will continue to evaluate new technologies and explore ways to make our roadways more resilient to the impacts of climate change.

16. Convert heavy duty fleet to low emissions options as they become available.

Timeline: Medium Term, Ongoing

Cost: $$$

Goal: Mitigation

As heavy-duty on and off-road fleet reaches the end of its useful life, the County will prioritize replacing equipment with low-emission, fuel-efficient alternatives. This approach is already in practice at the County and will continue moving forward.

In addition, the County will explore replacing natural gas ice resurfacing machines, with electric options at the end of their useful life. Research shows that electric equipment reduces GHG emissions associated with natural gas use, decreases maintenance and fuel costs, and improves indoor air quality for arena users.[20]

County Led, Community Focused Actions

17. Emphasize sustainability when exploring and adopting public transit solutions within the County of Brant.

Timeline: Short Term

Cost: $

Goal: Mitigation

Based on the County's population and division between rural/urban spaces, adopting a unique public transportation system is required. A full bus or rail system throughout the County would be inefficient and not meet community needs. While balancing unique needs, staff are encouraged to also prioritize reducing emissions when exploring and adopting public transit solutions. This could involve a shuttle/fixed rural bus route to/from Brantford from downtown locations or sustainable enhancements to the existing on-demand transit model (like using EV and hybrid vehicles).

18. Add infrastructure to encourage community use of electric vehicles.

Timeline: Short-Term, Ongoing

Cost: $$

Goal: Mitigation

The County has been investing in infrastructure to make our communities more EV-friendly. To support EV use throughout the County, charging stations will continue to be added in high-volume areas – like downtown cores. Over the next five years, the County will add a minimum of five EV charging stations across high traffic areas throughout the County. Staff will prioritize locations based on visitor traffic, proximity to charging stations, community feedback, and staff expertise. Staff are also encouraged to work with surrounding municipalities to make sure chargers are placed strategically to enhance travel in and around the County and other tourism destinations. As part of the sustainable building standard (action item 1 above), new County facilities may be required to be designed for compatibility with EV charging stations. Staff are encouraged to explore available grants and incentives to add this infrastructure.

[20] Health Canada, 2021. **Best practices for improving air quality in ice arenas.**

19. Develop an anti-idling campaign to roll-out in key areas.

Timeline: Medium Term

Cost: $

Goal: Mitigation

Idling generates significant GHG emissions that can be easily prevented. To promote anti-idling, the County plans to develop an educational campaign. This campaign may include investing in signage in key areas and sharing information on social media to raise community awareness and reduce GHG emissions associated with idling. In the future, the County will consider the potential costs and benefits of implementing an anti-idling bylaw for enforcement.

20. Expand use of active transportation options through investing in infrastructure and information sharing.

Timeline: Medium Term, Ongoing

Cost: $$$

Goal: Mitigation

Biking, walking, scootering, and rolling, are all great forms of exercise. Beyond supporting our physical health, these modes of travel also reduce GHG emissions associated with gas and diesel vehicles. To encourage active transportation, the County can enhance information sharing about current options. The County will explore what informational resources will work best to inform the community, which could include an online information hub or an interactive route map. Beyond communication, the County can also invest in infrastructure to support active transportation. This may involve continual investment into transportation networks including trails and bike lanes, adding bike racks and lockers in high traffic areas, and more.

In alignment with the County's Official Plan, when possible, staff will strive to support more complete communities that are walkable. Decreasing the dependence on vehicles will promote a thriving, healthy, and connected community and reduce GHG emissions in the long-term.

Nature

Our natural assets, such as green spaces, woodlots, wetlands, trees, and bodies of water, contribute positively to the environment and our community. They provide spaces to play, live and learn, create shade during hot days, and help us become more resilient to climate change by enhancing water infiltration and stormwater management, improving soil quality, and reducing erosion. Trees, plants, wetlands, and grasslands also provide mitigation effects by sequestering carbon from the

environment and producing oxygen. Investing in nature-based solutions will help the County both mitigate and adapt to climate change.

To date, the County has taken steps to protect and grow our natural environment. An overview of ongoing actions is presented below:

- ✓ Developing the Good Forestry Practices By-Law, the Parks Use By-Law, the Street Tree Bylaws, Environmental Impact Study Guidelines, and the Tree Protection and Enhancement Policy. This suite of by-laws, guidelines, and policies aim to regulate the removal, protection, enhancement, and maintenance of trees throughout the County.
- ✓ Supporting tree planting on public and private property through community planting events, tree giveaways, and planting programs administered by local organizations.
- ✓ Greening corporate horticulture practices to shift away from annual planting and move towards planting more native, perennial species to promote biodiversity, conserve water, and decrease maintenance requirements.
- ✓ Adopting land-use policies as part of the **Official Plan** to preserve, maintain, restore, and enhance the Natural Heritage System, protect farmland, and focus population and employment growth within the boundaries of existing urban and rural settlement areas.
- ✓ Working with developers to ensure site plan applications are in alignment with climate change policies in the Provincial Planning Statement and Official Plan regarding maximizing vegetation, green infrastructure, and greenspaces. This may involve requiring applicants to complete a Landscape Plan, working with them to obtain a 30% tree canopy coverage at maturity, and planting native wildflower/pollinator gardens rather than grass manicured lawns, where feasible.
- ✓ Working with developers to incorporate green infrastructure and meet certain tree planting requirements when planning new residential subdivisions.

There are areas to grow in this sector and the objective, targets and action items provide direction on next steps.

Objective

Create a more resilient community and reduce or offset carbon emissions through preserving and supporting our green assets and ecosystems. Increase naturalization and ecological diversity, protect natural habitats, wetlands, and green spaces, and support tree planting.

Targets

- ☐ Plant 55,000 trees throughout the County of Brant (public and private land) by 2035.
- ☐ Plant 110,000 trees throughout the County of Brant (public and private land) by 2045.
- ☐ Increase tree canopy in the County of Brant to a minimum of 30% by 2050.
- ☐ Add more naturalized areas on County property by reducing mowing requirements by 5% by 2035.

County Focused Actions

21. Protect, maintain, and improve natural and agriculture areas through advancing sustainable land use planning and the policies within the Official Plan.

Timeline: Ongoing

Cost: N/A

Goal: Mitigation, Adaptation, and Environment

The County's Official Plan provides direction for where and how the municipality will grow over the next 30-years. This plan outlines important policy directives to guide sustainable and manageable growth that will help mitigate GHG emissions and advance climate change adaptation. Some key policy directives are highlighted below:

- The County continues to protect valuable farmland. The Plan recognizes that agriculture is an important part of what makes the County special. Through policies in this plan, the County outlines limits for development on these lands.
- The Natural Heritage System is comprised of natural land (such as woodlots, wetlands, and bodies of water). As per the Official Plan, development on this land is heavily restricted.
- When a development is near a protected natural area, the County will work with developers to design an approach to protect the natural environment (for example, requiring setbacks, planting buffer strips, completing a tree protection plan, and more).
- The plan also outlines tools that can be used by the County to foster sustainable development and growth. This may include requiring developers to complete Environmental Impact Studies, Tree Protection Plans, and Landscape Plans.

To build on these policies, the County will continue to explore ways to protect the natural environment through sustainable planning decisions. As noted above (action item 8) the County will explore creating sustainable development guidelines for new residential, industrial, and commercial development in the medium term.

22. Invest in efforts to reduce GHG emissions associated with maintaining our parks and natural spaces.

Timeline: Short Term

Cost: $$

Goal: Mitigation

Throughout the County there are many community parks, garden beds, trails, and greenspaces, for the community to enjoy. These assets provide areas for recreation, connection opportunities, and beautify our County. Maintaining these spaces, involves mowing lawns, planting, and watering, which all use energy and generate GHG emissions. The County is encouraged to investigate creative opportunities to reduce emissions associated with maintaining these natural spaces.

The County will explore streamlining mowing requirements at parks and natural spaces by retiring and naturalizing areas that are currently mown when suitable and in alignment with park uses. This may involve naturalizing areas bordering woodlots/tree lines and adding pollinator patches, rain gardens, community garden spaces, and food forests. This shift will reduce GHG emissions associated with using gas-powered maintenance equipment, sequester carbon, enhance the permeability of ground cover, support the well-being of pollinators, and promote ecological diversity.

In addition to decreasing mowing requirements, the County will also explore horticulture practices to reduce emissions. Staff will aim to reduce watering requirements of County gardens and planters through actions such as self-watering planters and hanging baskets and planting drought resistant species. These efforts will help conserve water, support the health of plants, and reduce GHG emissions associated with frequent watering.

In addition, the County can continue to replace annuals, with perennial plants when possible. Redesigning garden beds to use native perennials and shrubs instead of annuals will reduce staff time, costs, organic waste, and emissions associated with replanting annuals every year. Perennials can also establish deeper and strong root systems that will require less frequent watering.

In addition, as noted in action item 14 above, the County will complete a business case to explore the feasibility of replacing gas-powered tools with electric options.

23. Design County parks, natural spaces, and other properties to adapt to the impacts of climate change.

Timeline: Short Term, Ongoing

Cost: N/A

Goal: Adaptation

Outdoor infrastructure is particularly vulnerable to the changing and more extreme weather conditions associated with climate change. When developing and modifying existing outdoor infrastructure, the County will consider climate related impacts and design resilient spaces to meet the changing needs of community members. This may involve incorporating design features such as permeable landscaping, reducing heat island impacts, preservation of existing trees, natural and constructed shade structures, water refill stations, water play features, wind resistant designs, solar lighting, and more. Staff will continue to perform technical studies of sites to assess and address the main climate risks (for example, erosion, flooding, high winds, etc.) and take steps to promote resiliency and encourage community safety.

24. Encourage biodiversity in County parks and natural spaces.

Timeline: Short Term, Ongoing

Cost: $

Goal: Environment

Invasive species and loss of biodiversity is a clear concern highlighted through community engagement. To encourage biodiversity on public property, the County will continue to monitor and control invasive species in parks and public natural areas. This may involve removal, remediation of land, planting native species, and organizing community invasive species removal efforts. To formalize our commitment to biodiversity, the County will explore adopting the **Ontario Biodiversity Strategy Goals** and advance implementation across County owned land.

To address global diversity loss, leaders from 190 nations, including Canada, agreed to protect 30 percent of land and water by 2030 at the United Nations Convention on Biological Diversity in 2022. This is known as the 30x30 Target. The County is encouraged to explore how our lands contribute to this target to support biodiversity and climate resiliency. By working alongside Ontario Nature, the County can assess municipal protected and conserved land and explore ways to help advance this international target.

25. Develop and implement the Community Forest Strategy to enhance tree planting and tree preservation throughout the County.

Timeline: Short Term

Cost: N/A

Goal: Mitigation, Adaptation, and Environment

In 2025, the County will develop the Community Forest Strategy to create a plan to advance long-term goals to grow, manage, and preserve trees. This strategy will

present detailed actions for the County and community to meet our tree planting and canopy targets. Actions could include opportunities to incentivize planting on private property, tree maintenance and preservation, and more.

26. Create additional wetland habitats on County property.

Timeline: Medium Term

Cost: $

Goal: Mitigation, Adaptation, and Environment

Wetlands are valuable natural resources that capture and store carbon, help adapt to flooding and increased rainfall and offer habitats for diverse species. Taking action to conserve and expand wetland habitats provides important mitigation and adaptation benefits. The County is encouraged to support efforts of conservation organizations, such as Ducks Unlimited, and create additional wetlands on County property. Wetland creation will contribute to the County's target of increasing naturalized areas.

County Led, Community Focused Actions

27. Support community efforts to naturalize lawns and other spaces through information sharing.

Timeline: Short Term

Cost: $

Goal: Mitigation, Adaptation, and Environment

Naturalizing lawns and adding pollinator friendly gardens are ways the community can help support biodiversity, climate mitigation, and adaptation. To help support community action, the County can develop informational resources (such as guides, videos, website content, and portraying examples in County spaces) to help encourage community members to advance this practice at home.

Recognizing that traditional lawns are the norm, it will be important for the County to help support this transition by providing education on the benefits of switching, details about the Yard Maintenance Bylaw, and the difference between purposeful naturalization and lack of maintenance. Education will be an important first step to help advance greater naturalization. The County can play an important role in showcasing examples of naturalized lawns and spaces on public property to help encourage community uptake.

28. Explore boulevard planting processes for residents and businesses.

Timeline: Short Term

Cost: $$

Goal: Mitigation, Adaptation, and Environment

Boulevard gardens are a way that other municipalities naturalize and beautify neighbourhoods. The County is encouraged to explore developing a process to support planting in boulevards and road allowances to promote native pollinators, enhance water infiltration, and encourage biodiversity. To successfully implement this type of program, a review of existing bylaws would be required. A clear process and set of approvals would also be crucial to preserve sightlines and safety for road and sidewalk users, protect underground utilities, and ensure vegetation is native to the area. Requirements could involve an approval process, a specific list of permitted species, and maintenance requirements. The County is encouraged to pursue community engagement to assess interest in this program and then advance next steps.

In addition to exploring ways to support gardens, the County will also look to implement an Adopt a Tree program to encourage more boulevard trees within neighbourhoods. Through this program, residents could request to have a tree planted in the boulevard fronting their home. The resident would then adopt the responsibility of watering and caring for the tree.

29. Continue to support programs offered by conservation authorities and other organizations to help property owners improve their natural assets and support climate action.

Timeline: Short Term, Ongoing

Cost: $$

Goal: Mitigation

The Brant Grow Green program is administered by the Grand River Conservation Authority (GRCA) and the Long Point Conservation Authority (LPCA). Through this opportunity, property owners with two or more acres can apply to plant trees on their private property. Currently, the County is contributing $9,800 annually to the GRCA to support this program. In 2023, the Grow Green program supported the planting of 4907 trees on private lands. To meet the canopy coverage target, the County is encouraged to expand contributions to this program in the future.

In addition, the County is encouraged to continue supporting the Rural Water Quality Program (RWQP). This program is delivered by the GRCA and funded by the County. The RWQP helps landowners support rural water quality by providing support and financial subsidies for select projects such as tree planting, planting to prevent erosion and run-off, manure storage, crop cover, and decommissioning old wells. The GRCA estimates that this program has helped farmers prevent roughly 100,000 kg of phosphorus from entering streams, buffer 70 km of stream banks from livestock, and plant nearly 1,000 hectares of trees in riparian and sensitive groundwater areas.

The County will also share information with residents to help them learn more about available programs to protect the natural environment on their property. For

example, Ducks Unlimited provides various grants and programs to help support wetland conservation and restoration on private property.

Waste

To mitigate climate change and support the environment, adopting solutions to prevent, reduce, and divert waste are encouraged. These actions will reduce emissions from solid waste, littering, increase the longevity of our landfill, and promote a more sustainable, circular economy. The County has taken a variety of measures to prevent, reduce, and divert waste over the years:

- ✓ Offer backyard composters to help residents divert organic food waste from the landfill.
- ✓ Piloted a **FoodCycler Program** where residents could purchase a FoodCycler device at a subsidized rate to divert food waste from the landfill.
- ✓ Provide discounted rain barrels and offer educational materials to encourage water conservation (like informational brochures).
- ✓ Promote the **Recycle Coach Tool** to help residents learn about what waste should be disposed, recycled, and composted.
- ✓ Offer yard and hazardous waste collection days to divert these items from our landfill.
- ✓ Adopt unique recycling approaches to reuse road products (gravel, asphalt) and extend the lives of our gravel pits.

There are opportunities for the County to take additional action to reduce emissions from this sector.

Objective

Reduce and prevent waste, enhance waste diversion, and promote a more circular economy.

Targets

- ☐ Reduce solid waste disposed in landfills by 20% from 2023 levels, by 2035.

County Focused Actions

30. Prioritize waste prevention, reduction, and diversion throughout the development of the County's Solid Waste Management Master Plan (SWMMP).

Timeline: Short Term

Cost: N/A

Goal: Mitigation

The County is developing a Solid Waste Management Master Plan (SWMMP) which will provide strategic direction and explore new ideas and service levels to support the solid waste program. The goal is to create a plan to advance a sustainable, service-focused, and economically viable program for the future. This plan is anticipated to be complete by late 2025. During plan development, the County will consider alternatives to decrease emissions through advancing waste diversion, prevention, and reduction. Actions to explore may include a Pay-As-You-Throw (PAYT) collection model, bi-weekly collection, an organic waste collection program, increased yard waste collection, and other diversion programs. Through developing the SWMMP, staff will work together to consider how to best meet our waste reduction targets and promote a more circular economy.

31. Conduct a corporate waste audit to understand the amount of waste generated from municipal facilities and implement actions to reduce waste.

Timeline: Short Term

Cost: $$

Goal: Mitigation

Currently, the County has information on the total quantity of waste disposed in the landfill. However, we do not have disaggregated data to show how much of this waste is created from County facilities and operations, versus the broader community. Moving forward, the County will conduct a corporate waste audit to understand the amount of waste being generated from corporate activities and facilities. This information will help identify key sources of waste, pinpoint opportunities for reduction, diversion, and prevention, and better understand corporate GHG emission levels.

32. Investigate opportunities to reduce emissions from the waste collection process.

Timeline: Short Term

Cost: N/A

Goal: Mitigation

Weekly waste collection produces a significant amount of GHG emissions. As the County explores a new waste management contract to begin in mid-2027, staff will ask proponents submitting a request for proposal (RFP) to outline environmental initiatives and sustainable options for the County's consideration. This may include using cleaner fuel alternatives, enhancing route planning, and purchasing lower-emission collection vehicles. Additional costs may be associated with eco-friendly opportunities. The next RFP is slated to be released in late 2025.

County Led, Community Focused Actions

33. Enhance waste diversion at County parks and facilities through measures like adding additional recycling receptacles and dog waste collection units.

Timeline: Short Term

Cost: $$

Goal: Mitigation

The County is encouraged to review current waste receptacles provided at County parks and facilities to ensure there are both garbage and recycling options available. To help divert waste from the landfill, the County will also add unique recycling options to County facilities. Through partnering with **Terracycle**, the County can add recycling receptacles for unique items to County recreation facilities. This could include razors, certain makeup containers, and toothbrushes. This will help divert waste from landfills and encourage a more circular economy.

Staff will also investigate adding dog waste receptacles to certain high traffic parks and trail areas. These collection devices help to divert waste from the landfill and the waste collected is also used to generate biogas – a renewable energy produced from raw materials like manure, plant material, and food waste.

34. Partner with community partners to support waste prevention, reduction, and diversion.

Timeline: Short Term

Cost: $

Goal: Mitigation and Environment

Work alongside community partners to support waste prevention, reduction, and diversion. This could involve organizing zero-waste challenges, developing an education campaign, planning community clean-up events in the spring, and more.

35. Expand participation in the backyard composting program.

Timeline: Short Term

Cost: $

Goal: Mitigation

To reduce barriers to composting, the County is encouraged to invest in promoting the backyard composting program and enhancing subsidization of the units. Develop educational materials to help residents learn about the program, how to effectively compost, and encourage uptake will help encourage residents to adopt this approach. In addition to expanding uptake in this program, continue to investigate implementing an organic waste collection program as part of the SWMMP process described above (action item 30).

36. Encourage the community to advance a more circular economy.

Timeline: Medium

Cost: $

Goal: Mitigation

The County can create a community handbook or other education resources to share information on promoting a circular economy. Materials could encourage practices like donating clothing, hosting neighbourhood item swaps, lending equipment to neighbours, repairing versus replacing, hosting bike rodeos, and more. Sharing this information will encourage action on a community level. There are also many opportunities for specialized recycling throughout the County. For example, e-waste donation areas, thrift stores and second-hand stores, and furniture and household product donation centres. Sharing this information with the community will help residents advance a more circular economy.

To increase engagement, The County of Brant handed out plantable bookmarks.

Economic Development and Tourism

The County is home to a wide range of industry, with manufacturing, agriculture, and tourism being key economic sectors. To support a community-wide approach to climate change, it is important to consider ways to help these sectors reduce emissions and cope with the impacts. Specifically, this section highlights ways that the County can support more sustainable businesses, help provide farmers and agricultural sector with valuable information and support eco-friendly tourism.

A guiding principle in the Economic Development Strategy focuses on supporting sustainable climate action. As outlined, we will strive to foster a resilient and environmentally responsible local economy by embracing practices that not only combat climate change but also create economic opportunities.

Objective

Create an environment that supports sustainable and resilient businesses, manufacturing, agricultural, and tourism practices.

County Focused Actions

37. Remove barriers to encourage more businesses that support green technology, a circular economy, and innovation.

Timeline: Medium Term

Cost: N/A

Goal: Mitigation

There are barriers, like zoning limitations, preventing recycling-based businesses from setting up shop in the County. Specifically, recycling businesses are not permitted in all employment zones (M). Businesses with recycling focus are limited to zones M4 - energy and industrial waste. The County will explore how to make our community more suitable and attractive for these eco-friendly industries by reviewing the employment zones, and where these unique businesses fit.

38. Explore supporting indoor spaces that can accommodate large-scale events, festivals, markets, and more.

Timeline: Long Term

Cost: $$$

Goal: Adaptation

As our weather becomes more unpredictable and the instances of extreme weather increase, the County should ensure there are indoor spaces suitable for hosting large scale events and activities. Spaces could be both publicly and privately owned. These community events bring a myriad of economic and social benefits to the

County and the needs of these events should be considered throughout facility design.

County Led, Community Focused Actions

39. Support businesses and their efforts to become more sustainable and adaptable.

Timeline: Short Term

Cost: $

Goal: Mitigation and Adaptation

Taking climate action can help businesses access important benefits including cost savings, attracting new business, and becoming more resilient. Sharing information and resources is one important way that the County can help businesses advance sustainability and become prepared for the future. The County is encouraged to collaborate with partners to create a green business hub on the **Economic Development microsite**. This hub could include resources for local business and industries to take climate action and promote sustainability. In addition to an online hub, the County could consider hosting informational sessions to help businesses learn about topics like sustainable technologies, energy conservation, adapting to the impacts of climate change, and accessing available climate action grant opportunities. These sessions could also support business networking and information sharing related to sustainable practices.

The County will implement the Green Community Improvement Plan outlined in **the Economic Development Strategy.** This program will offer funding to help businesses advance energy conservation and environmental sustainability initiatives such as building improvements. The County will also continue to highlight and reward sustainable businesses through the **Salute to Brant Program**. Sharing success stories helps to promote a cultural shift towards conservation within the local business community.

In the future, the County will explore ways to incentivize larger industries to conserve energy, reduce GHG emissions, and become more resilient. Financial incentives, such as grants and rebates and information sharing are opportunities to consider.

40. Help local farmers access resources to support sustainable agriculture.

Timeline: Short Term

Cost: $

Goal: Mitigation and Adaptation

The County can play an important role in providing support, coordination, and access to resources to help the agricultural community advance sustainable practices, including livestock and manure management, energy conservation and fuel switching, soil conservation and carbon sequestration, and on farm energy

production. The County will promote available resources and programs such as the Clean Farms Program and the Agricultural Stewardship Initiative. These programs provide farmers with tools and financial resources to help minimize their environmental footprint through actions like empty pesticide container recycling program, energy efficiency improvements, erosion controls, soil health planning, and more. The County can also share resources from organizations, like the Ontario Soil and Crop Improvement Association, and Agriculture and Agri-Food Canada.

In addition to sharing resources and information, the County will collaborate with local farmers to explore the best ways to help support environmental sustainability and emission reductions from the agricultural sector. As outlined in the Economic Development Strategy, this may involve exploring ways to encourage the adoption of innovation and technology for precision agriculture.

41. Support sustainable events and tourism.

Timeline: Medium Term

Cost: $

Goal: Mitigation and Adaptation

To support sustainable special events the County will create and publish a sustainable event guide for staff, community partners, and residents hosting neighbourhood and community events. The guide can help encourage eco-friendly modes of travel (carpooling, bike, EV vehicles) within and around the County, encourage ways to reduce and divert waste from events, and include information about planning for extreme weather and creating a resilient event plan.

In addition, as mentioned above, the County will add more EV charging stations in downtown cores. This will help to support economic development and eco-tourism while also mitigating local emissions. In addition, the County will work with surrounding local municipalities to develop an EV corridor to encourage day trips and tourism.

As the County continues to implement the Economic Development Strategy, staff will continue to explore sustainable tourism initiatives.

Safety and Emergency Preparedness

Risk assessment shows that the top five hazards for Brant are flooding, winter weather, chemical spills, thunderstorms, and tornados. As climate change continues to increase the prevalence of extreme weather conditions, it is important the County and community are prepared. The County has made significant strides to support effective and efficient responses to weather-related emergencies, including:

- ✓ Developing County-wide emergency response plans and completing mock emergency training with staff on an annual basis.

- ✓ Mapping flood zones and other hazards and using spatial data to become better prepared for emergencies.
- ✓ Creating online webpages, videos, and social media content to promote emergency preparedness, such as instructions for developing 72-hour emergency kits and sharing information on types of hazards in the community.
- ✓ Publishing and promoting information on heating and cooling centres throughout the County to help residents cope with more extreme temperature conditions.

The CAP reinforces the continuation of these efforts to ensure the County is prepared to cope with climate change hazards.

Objective

As climate change continues to result in more extreme weather events, the County is encouraged to strengthen community preparedness.

County Focused Actions

42. Invest in additional infrastructure and equipment to promote effective responses to weather emergencies.

Timeline: Medium-Long Term

Cost: $$$

Goal: Adaptation

Additional infrastructure, such as new technologies and evacuation and response centres, are important to support the County's response to weather related emergencies. Moving forward, the County is encouraged to develop a large indoor space to accommodate an evacuation and reception centre. In addition, the County will invest in equipment to enhance resiliency such as back-up generators, automated sandbag machines, and other safety equipment. The County will monitor grants to support this action.

County Led, Community Focused Actions

43. Explore ways to encourage neighbourhood emergency preparedness and resiliency.

Timeline: Short Term

Cost: N/A

Goal: Adaptation

The County provides educational resources to help residents become prepared on a household level, such as sharing how-to information on developing 72-hour emergency kits. To support a more resilient community, there are opportunities for the County to help promote preparedness on a neighbourhood level as well. The County's Climate Action Coordinator will explore partnering with the Community Emergency Management Coordinator to evaluate ways to educate the public. This could involve developing informational guides, videos, website, and social media content. Staff will assess approaches from other municipalities and explore adopting a solution to advance neighbourhood preparedness in Brant.

Data, Outreach, and Education

Beyond the specific themes mentioned above, a significant part of supporting climate action involves ensuring that the County and community have the right skills, data, knowledge, and resources to engage in this work and advance effective decision-making. So far, the County has taken different steps to support climate change data, outreach, and education:

- ✓ In reports to Council, there is a section where Staff are asked to outline the environmental impacts of the proposed initiative (policy, report, plan, project, etc.) Information in this section helps Council understand the range of impacts associated with a specific direction.
- ✓ The County shares climate change and environmental resources on social media.
- ✓ In alignment with provincial requirements, staff complete an Energy Conservation and Demand Management Plan every five years and publish GHG emissions data from County owned and operated facilities each year. These plans propose retrofits to enhance energy efficiency and reduce GHG emissions at County facilities.
- ✓ Staff adopt a climate change lens when designing new buildings, infrastructure, programs, strategies, plans, and policies. This is evident in our new carbon operational net zero buildings (like the Wilkins Family Community Centre) and major plans like the Official Plan, Economic Development and Tourism Strategy, and Parks Master Plan.

As the County moves forward, there are opportunities to improve climate change data, outreach, and education opportunities for staff and the community. These changes will contribute to a corporate culture that is supportive of sustainability and climate action.

Objective

Become a climate leader and incorporate climate change considerations across the County. Encourage improved community understanding and involvement in climate action.

County Focused Actions

44. Enhance data collection, monitoring, and reporting to better understand corporate and community emission level.

Timeline: Short Term

Cost: $$

Goal: Mitigation

While this inaugural plan outlines corporate and community emissions, there are opportunities to improve how this data is collected, disaggregated, and used to make decisions and monitor progress. As mentioned in the **data analysis** section above, there are some notable gaps in available data on corporate and community emissions. For example, emissions from the agricultural sector, breakdown of emissions from County fleet, and waste data cannot be disaggregated to determine corporate and community sources. Improving available data will help the County advance meaningful recommendations to meet our corporate goals. It is recommended that the County hire a consultant to complete a comprehensive baseline emissions inventory of corporate and community emissions for 2025. This data will be the guide to set further targets and benchmarks. Once this data is available, staff will refine existing targets and set ambitious, measurable goals that will culminate in corporate carbon neutrality by 2050.

The County will also explore how to leverage available digital tools to track and showcase the County's journey towards the 2050 target. Results can be published on an annual basis to promote transparency and inspire action.

45. Incorporate climate action as a strategic priority in reports, plans, strategies, and policies developed across the County.

Timeline: Short Term

Cost: N/A

Goal: Mitigation and Adaptation

To advance meaningful change across the corporation, new plans, approaches, strategies, and policies must consider climate change. The proposed Climate Action Coordinator will be well poised to help staff across the organization employ a climate change lens and advance the goals and targets included within the CAP. As part of this work, the coordinator could host internal workshops with select divisions to help them consider how to incorporate climate change considerations into the technical aspects of their plans and ongoing work. Divisions will be best prepared to modify

their own work and may benefit from dedicated time and goals to discuss integrating climate change with each other in a facilitated setting. The coordinator could also review plans, policies, and strategies while they are being developed and ensure climate action considerations are reflected.

When preparing Council reports, the County can create a tool to help staff quantify the climate impacts of their proposed actions. Incorporating this data helps members of council understand how different decisions impact the corporate objective of becoming net carbon neutral by 2050. The emissions implications could be added to the environmental impacts section of the report. Staff from the Corporate Strategy Team could provide resources and guidance to help staff include this information within reports.

46. Develop an internal climate action working group to advance implementation of climate actions across the County.

Timeline: Short Term

Cost: N/A

Goal: Mitigation, Adaptation, and Environment

As outlined in the ECDMP, creating an internal working group will help promote cohesive and smart climate action across the County. This working group can meet periodically to share information on projects they have ongoing and evaluate the implementation of the CAP. Staff from this group could come from departments/divisions across the County and the Corporate Strategy team can take the lead in developing the group and planning meetings.

47. Develop and offer climate change learning opportunities for staff, leadership, and elected officials.

Timeline: Medium Term

Cost: $

Goal: Mitigation, Adaptation, and Environment

Improving training and learning opportunities will help encourage greater consideration of climate change throughout all departments. The County is will leverage existing training opportunities and create additional learning resources as needed.

48. Incorporate sustainability considerations into procurement processes.

Timeline: Medium Term

Cost: N/A

Goal: Mitigation

The County will explore ways to integrate sustainable procurement practices into purchasing policies to reduce the environmental impact of products and services,

promote resource efficiency, and support the local green economy. This may involve developing criteria for environmentally friendly products and services and prioritizing low-emission options. Staff will evaluate solutions that apply to a wide range of purchases, from large construction projects to office supplies.

County Led, Community Focused Actions

49. Develop an energy and climate change page on the County website.

Timeline: Short Term

Cost: N/A

Goal: Mitigation, Adaptation and Environment

The County's website is a key communication tool used to share information with residents. Creating a climate change page will improve information sharing and community education. The webpage could include link to the CAP, lists of local resources, data on emissions, and tips for taking climate action at home and within the community.

50. Offer educational opportunities for community members on select topics.

Timeline: Short Term

Cost: $

Goal: Mitigation, Adaptation, and Environment

As mentioned throughout the plan, education is an important way to empower community climate action. The County is encouraged to partner with local organizations to create learning opportunities for community members. This may involve self-serve options like guides or more interactive sessions like workshops, open-houses, and community networking sessions. Building community capacity will help ensure residents have the knowledge they need to advance climate action.

Section 4.0 - Implementing Climate Action

The final section of the CAP outlines resources required, implementation timelines, and an approach for updating the plan moving forward.

Resources Required

To implement the action items and reach our goals, targets, and objectives, resources will be required in terms of leadership, staff, and funding.

Leadership

To maintain momentum with this plan and meet our targets, strong leadership that prioritizes environmental stewardship will be required throughout the County. The elected council sets priorities for the County and assigns areas of focus for staff. With strong elected leaders that speak up for climate change targets and other environmental initiatives, the County will continue to make progress toward becoming net carbon neutral and fostering a more resilient community. Internally, senior leadership can also prioritize environmental awareness and responsibility to create a culture focused on sustainability.

Staff

It is highly recommended that a permanent dedicated resource be added to deliver and monitor the CAP and provide guidance and direction to advance sustainability and climate action across the County. A full-time Climate Action Coordinator will ensure we have the time, knowledge, and skillset to fully advance climate and environmental work.

The work outlined in the CAP will require staff time and ongoing monitoring, support, grant seeking, and implementation. Many of the initiatives suggested in this report can be undertaken by a person in this role such as preparing a sustainable and resilient building standard, developing a retrofitting strategy, managing data collection and reporting, reviewing policies, facilitating employee and community training, and more. This role can also prepare grant applications for climate initiatives, manage the implementation of this plan, create future climate and energy plans, foster collaboration, action, and an environmental mindset across the corporation. This role is recommended to be added in 2025. Beyond this specific position, additional staffing requirements at the County may be required as the CAP is implemented.

As staff work to advance actions outlined in the CAP, they will also leverage expertise from BME. Collaborating with BME will enhance the County's efforts in developing resilient and efficient buildings, improving renewable energy capacity, and achieving our emission reduction targets.

Funding

Actions recommended within this plan are a combination of current initiatives, expanded initiatives, policy review or creation, and new initiatives. The level of funding required for this work will vary across actions as some are already funded through the regular budget process and work plans, some may be fully incorporated into existing staff roles, and some initiatives will require additional staff or funds to implement. Several of the actions suggested within this plan will have long term savings over the lifetime of the project but may require additional up-front costs. To cover associated costs, the County will explore and apply for available grants. In addition, staff will bring forward future budget requests for Council to review and approve.

When preparing funding plans for medium- and long-term actions, the County will develop financial models to project the savings from energy efficiency, infrastructure resilience, and reduced GHG emissions. Using standard economic calculations like discounting, payback period, return on investment, and net present value, will help the County analyze the benefits and costs of taking climate action.

Grants

Grants continue to be an attractive source of funding for environmental initiatives. The urgency to address climate change at all levels of government is increasing and many grant programs are opening to facilitate this work at the municipal level. Programs like the Federation of Canadian Municipalities' Green Municipal Fund offers grants and loans for various environmental projects often aimed at new and emerging technologies and linked to specific emission reduction targets or other environmental improvement metrics.

Future Budget Requests

In addition to accessing available grants, additional budget requests will be required to implement the recommendations included in the plan. Staff will bring forward future budget requests to fund short, medium, and long-term action items as needed.

Implementation Timeline

To guide the implementation of the CAP, the County has listed actions as short (1-4 years), medium (4-7), and long term (7+ years). Phasing in the implementation of actions allows the County to solidify required processes and policies, build staff capacity, and obtain required funding and resources. To guide short term recommendations, the project team has prepared a rough implementation timeline that is included in the **appendix section**. This timeline is subject to change based on available resources, grant opportunities, staff capacity, updated data, and technological trends.

Updating the Plan

The CAP is not intended to be a static document, but rather a living roadmap that is routinely updated and refined to align with new data, technologies, and priorities. At a minimum, it is recommended the CAP be reviewed and updated every five years. This will help ensure the document remains up to date, useful, and effective. Regular updates will ensure the following:

- Tools proposed in the plan are effectively reducing emissions as expected.
- Emission reductions are on track to reach targets.
- Most up-to-date tools and technologies are used.
- Review of resources required to implement programs.
- Provide more detail to medium- and long-term actions.
- Most elected councils will be able to see the plan reviewed within the four-year terms in office.
- Plan is reflective of current Council priorities.

At each five-year mark, emission data should be compared to emission reduction targets and discussion on progress toward those targets should be included. If progress is not being made, the County will need to explore additional actions to move in the right direction.

Beyond the Plan

The CAP will guide the County to 2035 and beyond. This plan is a starting point, but there are many additional actions that the County can explore in the coming years to respond to the climate emergency. In addition to recommendations listed, staff are encouraged to advance other actions that support the broad goals and targets identified in the plan as they become available.

Appendix

Energy Consumption Breakdown County Buildings

Building Type	Electricity Quantity (kWh)	Natural Gas (m^3)	Fuel Oil (L)	Propane Quantity (L)	GHG Emissions (tonnes of CO_2e per year)
Recreation Facilities	3,864,615.40	343,237.74	-	-	750.80
Customer Service, Community Centres, Halls	1,350,471.30	161,134.11	2,400.30	16,871.00	375.00
Roads	153,314.80	30,445.93	1,644.30	44,705.70	135.80
Fire Halls	161,943.40	44,844.51	-	8,209.50	101.30
Libraries	195,965.80	20,010.87	-	-	42.90
Outdoor Amenities	146,882.00	-	-	-	4.40
Total	**5,873,192.70**	**634,206.11**	**4,044.60**	**69,786.20**	**1,410.21**[21]

Energy Consumption Breakdown Community Buildings

Electricity

Residential[22]

Year	Electrical Quantity (kWh)	Number of Connections	Electrical Quantity per Connection (kWh)	GHG Emission (tonnes of CO_2e)	GHG Emissions (tonnes of CO_2e per connection)
2023	238,347,779	128,336	1,857	7,150	0.06

[21] Data from 2023.

[22] Data from GrandBridge and Hydro One.

Non-Residential[23]

Year	Electrical Quantity (kWh)	Number of Non-Residential Connections	Electrical Quantity per Connection (kWh)	GHG Emission (tonnes of CO_2e)	GHG Emissions (tonnes of CO_2e per connection)
2023	348,622,588	20,145	17,306	10,459	0.52

Natural Gas

Residential

Year	Natural Gas Quantity (m^3)	Number of Residential Connections	Natural Gas Quantity per Connection (m^3)	GHG Emission (tonnes of CO_2e)	GHG Emissions (tonnes of CO_2e per connection)
2023	23,972,251	11,722	2,045	45,308	3.87

Non-Residential – Commercial and Industrial

Year	Type	Natural Gas Quantity (m^3)	Number of Non-Residential Connections	Natural Gas Quantity per Connection (m^3)	GHG Emission (tonnes of CO_2e)	GHG Emissions (tonnes of CO_2e per connection)
2023	Commercial	17,669,056	998	17,704	33,394	33.46
2023	Industrial	17,572,983	110	159,754	33,213	301.96
2023	Total	35,242,039	1,108		66,607	

[23] Data from GrandBridge and Hydro One.

Implementation Timeline for Short Term Actions

The table below illustrates cost estimates and the proposed timeline for delivering the short-term actions items in the CAP. This information is subject to change and are intended to provide an overview of the prospective cost of advancing climate action work at the County.

Action Item	2025	2026	2027	2028	Description of Cost
1. Sustainable and resilient building standard.					Staff time to develop.
2. Strategic approach to retrofit existing County facilities.		$150,000			Staff time and consultant to develop strategy.
3. Develop renewable energy roadmap.					Staff time to develop.
5. Informational resources about energy conservation and reducing GHG emissions.					Staff time to develop.
6. Informational resources about climate resilient homes and businesses.					Staff time to develop.
9. Leverage technologies to support reduction in fleet emissions.		$25,000	$10,000	$10,000	Cost of added technologies and annual maintenance.
10. Optimize fleet and replace with EV and Hybrid Options.	$20,000	$20,000	$20,000	$20,000	Added cost of replacing fleet with hybrid and EV options.
11. Introduce fleet operator training.					Staff time to develop, administer, and participate in training.
12. Develop Salt Management Plan					Staff time to develop.
13. Smart technologies to enhance flow of traffic.			$50,000	$50,000	Cost of adding new AI traffic systems.
17. Prioritize sustainable public transit options.			$50,000		When next RFP for service to be issued. May come with an additional cost.
18. Add EV infrastructure.		$15,000	$ 30,000	$30,000	Cost for equipment, install and maintenance.

21. Advancing sustainable land use planning and the policies within the Official Plan.					Ongoing delivery by staff. No added cost incurred.
22. Reduce GHG emissions associated with maintaining our parks and natural spaces.			$50,000	$50,000	Cost to switch to horticulture practices, invest in naturalization projects to reduce mowing, costs of new energy efficient tools etc.
23. Design County parks, natural spaces, and other properties to adapt to the impacts of climate change.					Additional costs incorporated into respective project budgets.
24. Encourage biodiversity in County parks and natural spaces.	$10,000	$10,000	$10,000	$10,000	Operating costs associated with invasive species management.
25. Develop Community Forest Strategy.					$50,000 budgeted for plan development. Implementation costs TBD.
27. Support community efforts to naturalize lawns and other spaces.	$5,000	$5,000			Promotional costs.
28. Explore adopting a boulevard planting process for residents and businesses.	$25,000	$25,000	$25,000	$25,000	Staff time for permitting and approval process
29. Enhance support for the Brant Grow Green Program.	$20,000	$20,000	$20,000	$20,000	Currently $9,800 budgeted each year. Increase to $20,000 per year.
30. Prioritize waste reduction, prevention, and diversion through Solid Waste Management Master Plan (SWMMP).					$100,000 funding approved in 2024 for plan to be completed Q3 2025.
31. Conduct a corporate waste audit.		$150,000			Cost to hire consultant to complete this work.
32. Investigate opportunities to reduce emissions from the waste collection process.					Costs of approaches to be considered as part of RFP process for new waste collection contract.

33. Enhance waste diversion at County parks and facilities		$50,000	$50,000		Cost of purchasing and installing additional receptacles.
34. Partner to support waste reduction, diversion, and reuse.	$10,000	$10,000	$10,000	$10,000	Cost to support different initiatives.
35. Expand participation in the backyard composting program.		$10,000	$10,000	$10,000	Increase subsidy on units and promotional plan with videos on proper use.
39. Support businesses to become more sustainable and adaptable.		$10,000	$10,000	$10,000	Cost of learning events, resources, etc.
40. Help local farmers access resources to support sustainable agriculture.	$10,000	$10,000	$10,000	$10,000	Promotional costs.
43. Support community preparedness.					Staff time to evaluate and develop solution.
44. Enhance data collection, monitoring, and reporting on climate action indicators.	$100,000				Consultant support to evaluate data and create collection and monitoring procedure.
45. Incorporate climate action as a strategic priority.					Staff time to review and incorporate.
46. Develop an internal climate action working group.					Staff time to develop and coordinate.
49. Develop an energy and climate change webpage.					Staff time to develop and update.
50. Offer educational opportunities for community members.		$10,000	$20,000	$20,000	Cost of hosting learning events, hiring facilitators, etc.
Resources					
Additional Staff member - Climate Action Coordinator.	$50,000	$100,000	$100,000	$100,000	Salary of full time Climate Action Coordinator to mid 2025.
Approximate Annual Cost	$230,000	$600,000	$455,000	$355,000	**By year four, medium term items will begin, and annual cost is anticipated to increase.**

Roadmap to Net Carbon Neutral

2023		2035		2040		2050	
Corporate	3,352	**Corporate**	2,716	**Corporate**	2,148	**Corporate**	2,148
Community	258,646	**Community**	285,423	**Community**	252,994	**Community**	198,546
Offset	198,072	**Offset**	198,630	**Offset**	199,743	**Offset**	203,973
Net Emissions	63,926	**Net Emissions**	89,509	**Net Emissions**	55,399	**Net Emissions**	-3,279

Assumptions:

- Community emissions in 2035, 2040, and 2050 are adjusted to account for population growth forecasts.
- Community emissions in 2035 – Assumption of a 5% decline in per capita emissions based on 2023 per capita emission rates.
- Community emissions in 2040 – Assumption of a 20% decline in per capita emissions based on 2023 per capita emission rates.
- Community emissions in 2050 – Assumption of a 45% decline in per capita emissions based on 2023 per capita rates.
- Corporate and offset emission values are based on achieving emission targets outlined in the CAP (building emission reductions, tree planting, renewable energy investments, etc.)