Town of Bradford West Gwillimbury

Climate Change Mitigation and Adaptation Strategy

Corporate and Community

Final Plan

2025-2035

Bradford West Gwillimbury
A Growing Tradition

Climate Compass Advisors

Contents

Land Acknowledgement

As visitors on this land, the Town of Bradford West Gwillimbury acknowledges that the land on which we gather today is the traditional territory of the Anishinaabek Nation, which includes Ojibwe, Odawa and Potawatomi Nation, collectively known as the Three Fires Confederacy.

We recognize that the Huron-Wendat, Chippewa and Haudenosaunee Nations have walked on this territory over time. In times of great change, we recognize more than ever the importance of honouring Indigenous history and culture and are committed to moving forward in the spirit of reconciliation, respect and good health with all First Nation, Métis and Inuit people.

Executive Summary

The **Bradford West Gwillimbury (BWG) Climate Change Mitigation and Adaptation Strategy (CCMAS)** is a plan to help both the Town and its residents reduce greenhouse gas emissions (mitigation) and prepare for climate change impacts (adaptation). The strategy sets **net-zero emissions by 2050**, following **Science-Based Targets** to ensure that efforts align with global climate goals.

The strategy is built on a solid foundation, including a **GHG inventory** (measuring current emissions), analysis of climate data, and a thorough **climate risk assessment** to understand future climate challenges. **Community engagement** and **equity** are key, ensuring that all residents, particularly those most vulnerable, benefit from climate action.

The **CCMAS** focuses on four main goals:

1. **Strong Governance:** Build a solid framework to manage climate action.
2. **Resilient Low-Carbon Infrastructure:** Create infrastructure that can withstand climate impacts and reduce emissions.
3. **Thriving Natural Environment:** Protect nature and support biodiversity.
4. **Healthy and Prosperous Community:** Prepare the community for climate change and support sustainable economic growth.

The strategy includes a clear plan for implementation and management, with regular progress reports. Funding will come from various sources, including government grants and green financing, to support projects that reduce emissions and increase resilience.

Through the CCMAS, BWG is working towards a sustainable and climate-resilient future, with both immediate actions and long-term planning to address the challenges of climate change.

Acknowledgments

- Alectra Utilities
- Climate Compass Advisors
- DEI Advisory Committee
- Enbridge Gas
- Green Initiatives Advisory Committee
- Lake Simcoe Region Conservation Authority
- Nottawasaga Valley Conservation Authority
- Simcoe County
- Simcoe County District School Board
- Simcoe Muskoka District Health Unit
- Sustainable Solutions Group
- Town of Bradford West Gwillimbury

Report Prepared by

Climate Compass Advisors Limited

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Introduction

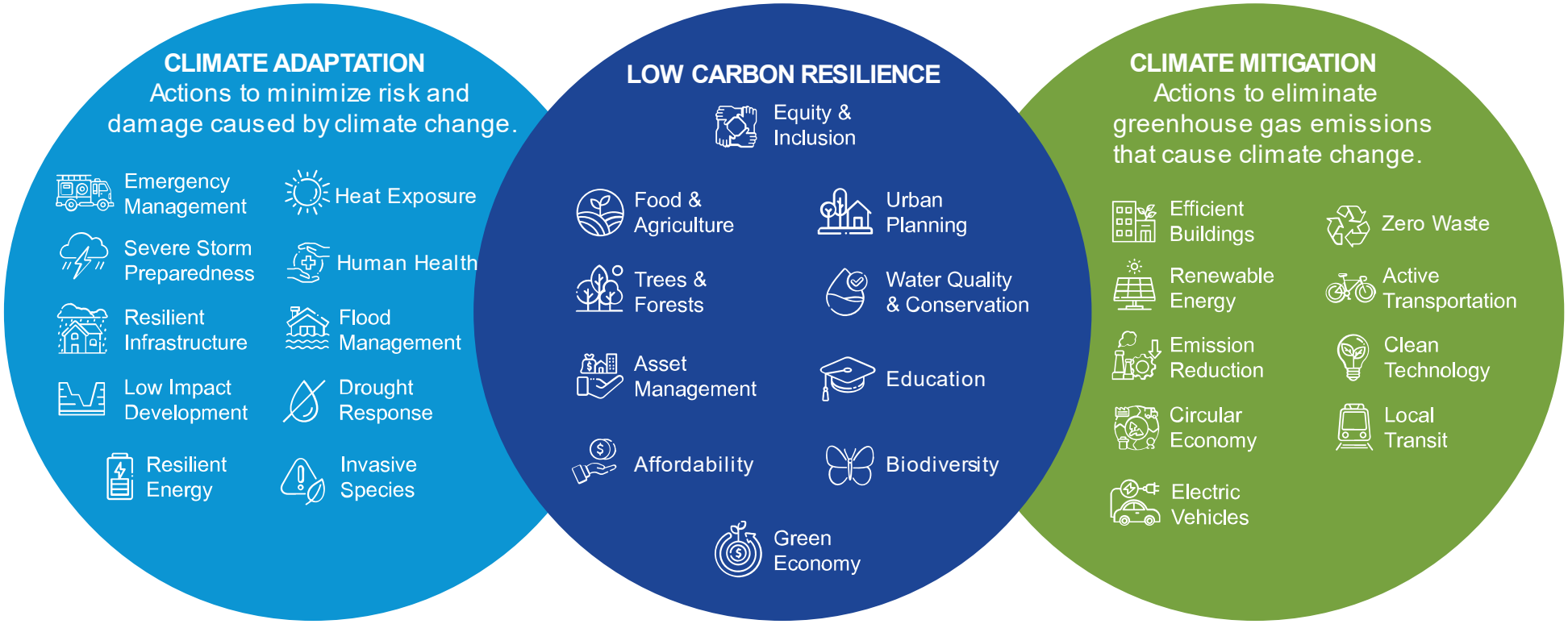
Climate change, driven by human activities that release greenhouse gases, is already impacting Ontario, including the Town of Bradford West Gwillimbury and the broader Central Ontario region. Recent events, such as the 2017 floods, the 2022 derecho storm, the 2023 wildfires across Northern Ontario and Quebec, affecting air quality, and the 2024 flooding, emphasize the urgent need for climate action. Effective climate action requires both adaptation and mitigation:

- **Climate Adaptation** focuses on preparing for and managing climate impacts, including improving infrastructure and expanding green spaces to enhance resilience.
- **Climate Mitigation** aims to limit future climate change by reducing greenhouse gas emissions through energy efficiency and transitioning to renewable energy.
- **Low-Carbon Resilience** are actions that have the ability to increase resilience to climate impacts while minimizing emissions.

By prioritizing both adaptation and mitigation, the Town is committed to creating a sustainable, resilient community that can thrive despite climate challenges, while also contributing to broader global efforts to combat climate change.

Introduction ctd

Figure 1: Diagram of the intersection of climate adaptation, climate mitigation and low carbon resilience



Local Context

The Town of Bradford West Gwillimbury, located along Highway 400 between Toronto and Barrie, is growing rapidly, with its population projected to reach **50,500** by **2031** and **83,470** by **2051**. This growth, along with the region's vulnerability to extreme weather, presents ongoing challenges for the Town's infrastructure, resources, and residents.

Key Historical Climate Events:

- **1954 - Hurricane Hazel** caused extensive flooding, including in **Holland Marsh**, and resulted in **$100 million** in damages across southern Ontario.
- **2007 - Drought** led to water restrictions and low rainfall in neighbouring **York Region**, stressing water resources.
- **2013 - Ice Storm** left over **500,000** people across Ontario without power, disrupting daily life.
- **2016 - Tornado** in Georgina caused widespread damage to property and infrastructure.
- **2022 - Derecho Storm** in across Ontario including York region, Kawartha Lakes, Peterborough county and Durham Region resulted in **$720 million** in damages, with power outages affecting thousands.
- **2024 - Flooding** and severe thunderstorms caused flooding and **widespread power outages** across the Greater Toronto Area.

These events highlight the growing frequency and severity of climate-related risks, which are expected to intensify over time.

To manage these risks and reduce long-term costs, Bradford West Gwillimbury is focusing on a strategy to address both climate adaptation and mitigation.

Understanding the key risks to the Town's services, the economy and social wellbeing under future climate conditions can help to identify and prioritize actions to help adapt and ensure resiliency.

Reducing greenhouse gas (GHG) emissions is crucial not only for addressing the transition risks associated with climate change, but also for improving energy efficiency, lowering costs, and contributing to global efforts to reduce the severity of future climate impacts.

By acting on climate, the Town can lessen future climate disruptions, protect infrastructure, and create a more sustainable, resilient community.

Taking action with Adaptation and GHG reduction is a key part of Bradford West Gwillimbury's strategy to manage both the immediate and long-term challenges of climate change, ensuring a thriving and sustainable future

Summary of Approach

The development of the climate adaptation plan followed a structured five-step approach:

- **Phase 1** - Pre-engagement and Background Review
- **Phase 2** - GHG Inventory and Target Setting
- **Phase 3** - Climate Vulnerability Assessment
- **Phase 4** - Action Planning
- **Phase 5** - Climate Change Mitigation and Adaptation Strategy

Alignment with Existing Efforts

The Town of Bradford West Gwillimbury has built a strong foundation for climate action, with adaptation and mitigation activities already embedded across key municipal plans and services. The Climate Change Mitigation and Adaptation Strategy builds on these existing initiatives, ensuring alignment with the Town's broader goals of sustainability, community resilience, and environmental stewardship.

Key Town documents reviewed include:

- The **Council's Strategic Plan (2023)**, which prioritizes community safety, economic development, urban renewal, and recreation, all intersecting with climate resilience and sustainability.
- The **Official Plan (2021)**, which guides sustainable development and prioritizes the protection of natural resources, healthy communities, and food security.
- The **Asset Management Plan (2022)**, addressing climate impacts on municipal infrastructure, including roads, bridges, and water systems.
- The **Stormwater Management Plan (2016)**, outlining strategies for managing flooding and stormwater infrastructure in the face of climate change.
- The **Corporate Energy Management Plan (2019)**, which emphasizes energy efficiency and the Town's commitment to reducing its carbon footprint.
- The **Cultural Master Plan (2018)**, which integrates environmental stewardship with cultural heritage, and the **Leisure Services Master Plan (2023),** which promotes active living and sustainability.
- The **Transportation Master Plan (2022)**, focusing on sustainable transportation networks and reducing emissions.

In addition to a review of the Town's existing initiatives a comprehensive review of upper levels of government alongside key agencies took place, to understand where alignment in key priorities exist and where partnerships and collaboration could be considered.

Alignment with Existing Efforts (Continued)

Governmental Alignment

At the Federal level, the National Adaptation Strategy (2020) and the Federal Emission Reduction Plan (2022) provide guidance on resilience and emission reduction efforts. The National Building Code of Canada sets technical standards that align with the Town's climate objectives.

Provincially, the Conservation Authorities Act, Municipal Act, Ontario Building Code (2017), Electricity Act, and the Planning Act empower municipalities to manage natural resources, enhance climate resilience, and incorporate sustainability into land use planning, energy systems, and development.

Additionally, **Conservation Authority** Watershed Plans offer detailed strategies for managing local watersheds, ensuring sustainable water resources, and supporting climate adaptation efforts related to water management and flood risk.

Regionally, Simcoe County's Official Plan (2023) and the Simcoe County Corporate Climate Action Plan (2023) focus on sustainable growth, energy conservation, and emission reductions, reinforcing BWG's climate strategy.

Providers, including Health Districts for public health monitoring, Utilities for energy management, First Nations for traditional knowledge and resource management, and local organizations and businesses for implementing climate action. Additionally, non-government organizations like the Invasive Species Centre, faith-based organizations and charities, play important roles in raising awareness and supporting community engagement. This is not an inclusive list, as other partners may also contribute to climate action efforts.

Together, the Town's existing initiatives, alongside federal, provincial, and regional policies, have been incorporated into the CCMAS to ensure that Bradford West Gwillimbury's climate actions are well-supported and integrated into broader regional and national climate efforts.

Co-Benefits of Climate Change

Investing in climate action not only addresses immediate risks but also brings long-term economic and environmental benefits to Bradford West Gwillimbury.

Economic Co-Benefits

Cost Savings: Investing in resilient infrastructure, such as flood defenses, helps avoid costly repairs and disruptions from extreme weather events.

Energy Self-Sufficiency: Renewable energy projects like solar and wind reduce reliance on imported energy, making the community more resilient to price fluctuations.

Job Creation: Green infrastructure projects (e.g., energy-efficient retrofits, renewable energy installations) create local jobs and stimulate the economy.

Property Value Growth: Green spaces and climate-resilient neighborhoods boost property values and attract new businesses.

Environmental Benefits:

Improved Air Quality: Transitioning to clean energy and increasing energy efficiency reduce emissions, leading to better air quality and public health.

Support for Pollinators & Agriculture: Tree planting and habitat restoration protect pollinators, enhancing crop production and biodiversity.

Biodiversity Protection: Sustainable land and water management preserve ecosystems, supporting wildlife and recreational opportunities.

Water Management: Green infrastructure like permeable pavements and rain gardens improves water quality, reduces runoff, and mitigates flooding.

Beautification: Expanding green spaces, parks, and tree planting enhances the aesthetic appeal of the town, improving residents' quality of life.

Co-Benefits of Climate Change (Continued)

Social Benefits:

Public Health: Reducing air pollution and creating green spaces improves respiratory health, mental well-being, and reduces healthcare costs.

Social Well-being: Parks and public green spaces encourage physical activity, social interaction, and overall well-being.

Protection of Vulnerable Populations: Measures like cooling centers and energy-efficient homes protect seniors and low-income families from extreme heat and rising energy costs.

Equity & Inclusion: Ensuring climate action benefits all residents, especially marginalized groups, promotes social equity and strengthens community resilience.

Greenhouse Gas Emissions

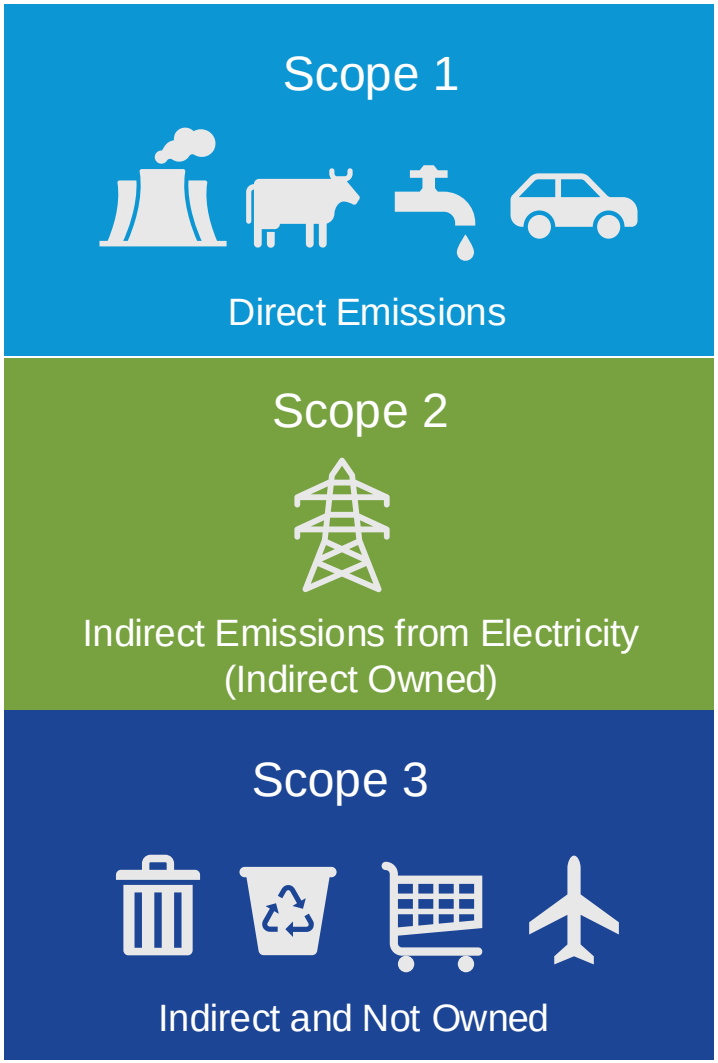
Greenhouse gas (GHG) emissions are a major driver of climate change, and understanding their sources is key to developing effective climate action strategies. For the Town of Bradford West Gwillimbury (BWG), addressing both corporate and community emissions is crucial for achieving its climate goals.

- **Corporate emissions** refer to those produced directly by the municipality and are within the municipalities full financial control, such as from municipal buildings, fleet vehicles, and operations.
- **Community emissions** stem from activities within the broader town, including transportation, residential heating, residential waste and industrial processes.

GHG emissions are categorized into three “scopes” to clarify the source and responsibility of each emission type:

- **Scope 1** includes direct emissions from owned or controlled sources (e.g., municipal fleet vehicles, heating systems).
- **Scope 2** covers indirect emissions from the consumption of electricity.
- **Scope 3** encompasses all other indirect emissions that occur in the value chain, such as those from waste management, employee commuting, or the production of goods consumed in the community.

Figure 2: Diagram of the Emission Scopes

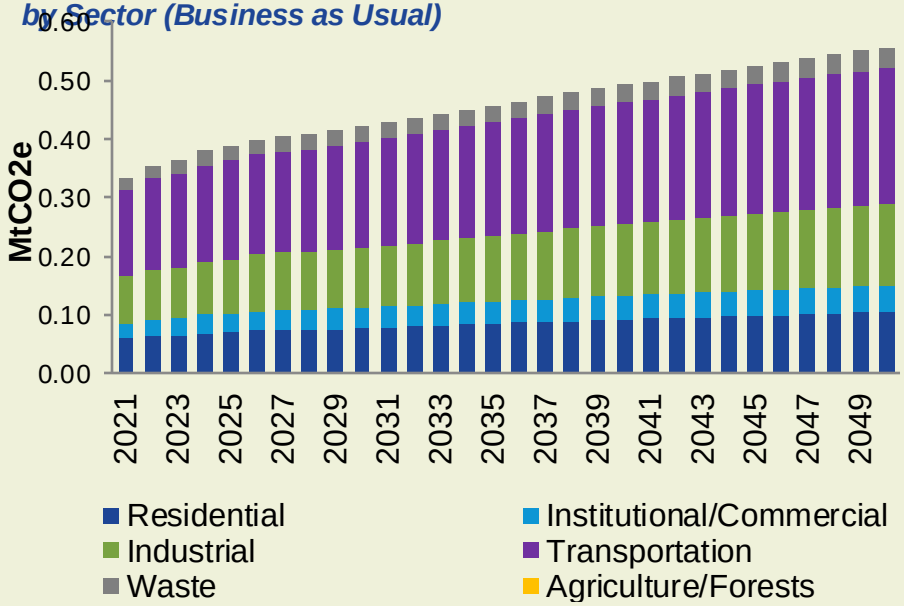


Community Greenhouse Gas Inventory

To support the CCMAS, a comprehensive corporate and community GHG inventory and report was developed using 2021 as a baseline for BWGs community and corporate target setting.

The Town of Bradford West Gwillimbury's community GHG inventory reveals that transportation is the largest source of emissions, contributing 43.6% of the total, primarily from gasoline-powered vehicles (based on 2024 actuals). The industrial sector accounts for 24.9 %, while residential buildings contribute 17.5%.

Figure 3 BWG Community Emissions inventory and Projection by Sector (Business as Usual)



Sector (2021)	tCO2e	%
Residential	58,435	17.5%
Institutional/Commercial	24,979	7.5%
Industrial	83,195	24.9%
Transportation	145,296	43.6%
Waste	21,873	6.6%
Agriculture/Forests	(-174)	-0.1%
TOTAL	**333,604**	

Community Greenhouse Gas Inventory (by fuel source)

Baseline Community Inventory

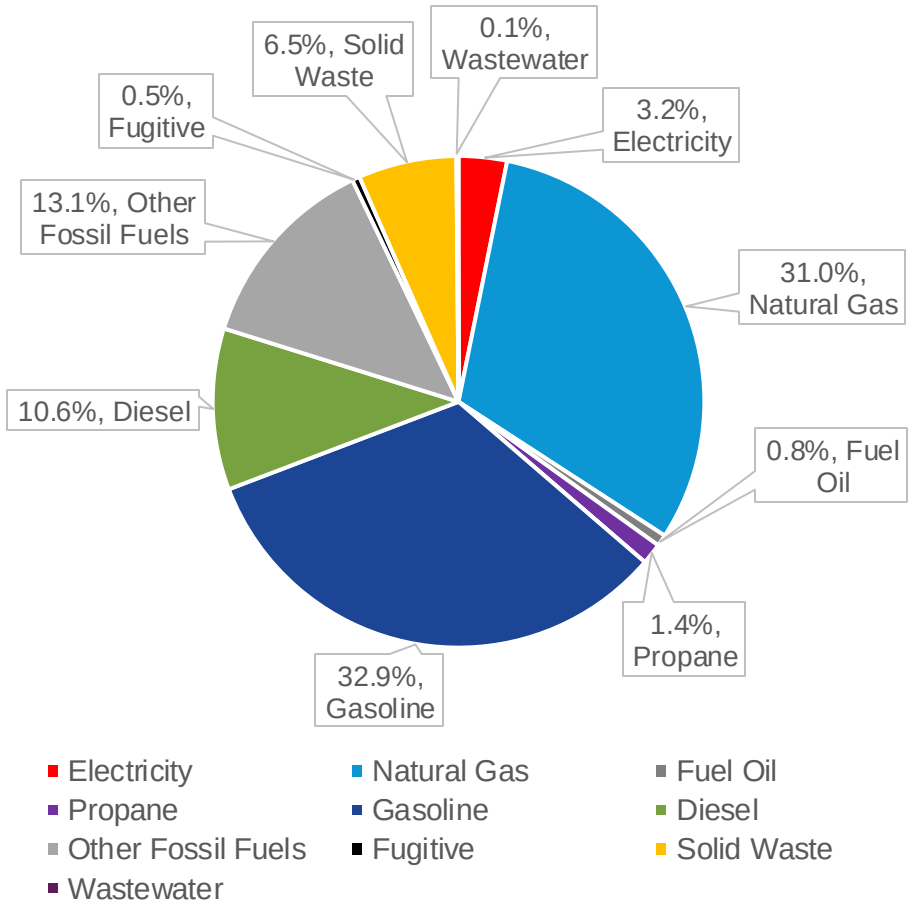
When looking at the inventory in terms of fuel source, Gasoline and natural gas are the biggest sources of emissions, each represent 33% of emission source.

Ontario's low-carbon electricity, largely resulting from nuclear and hydro energy sources, offers significant opportunities for reducing emissions, particularly through vehicle electrification and the growing use of heat pumps. These changes could have a substantial impact on GHG reductions.

BWG's agricultural and forestry lands currently offset about 0.05% of the Town's emissions (2021 data), and this benefit could increase with efforts to preserve and expand these natural areas.

However, with minimal intervention, emissions are projected to rise due to population growth. This underscores the urgency of incorporating emission reduction measures into new developments to reduce the need for costly retrofits in the future and ensure the town can meet its GHG reduction targets.

Figure 4 BWG 2021 Community Emissions inventory and by Fuel Source (tCO2e)



Corporate Greenhouse Gas Inventory

Bradford West Gwillimbury's (BWG) corporate GHG inventory reveals that corporate buildings are the largest source of emissions (57%), followed by waste (26.4%) and fleet (16.8%). Natural gas is the major fuel source, accounting for 39% of emissions (Figure 6) based of 2021 actuals.

Figure 5 BWG 2024 Corporate Emissions inventory and Projects (Business as Usual)

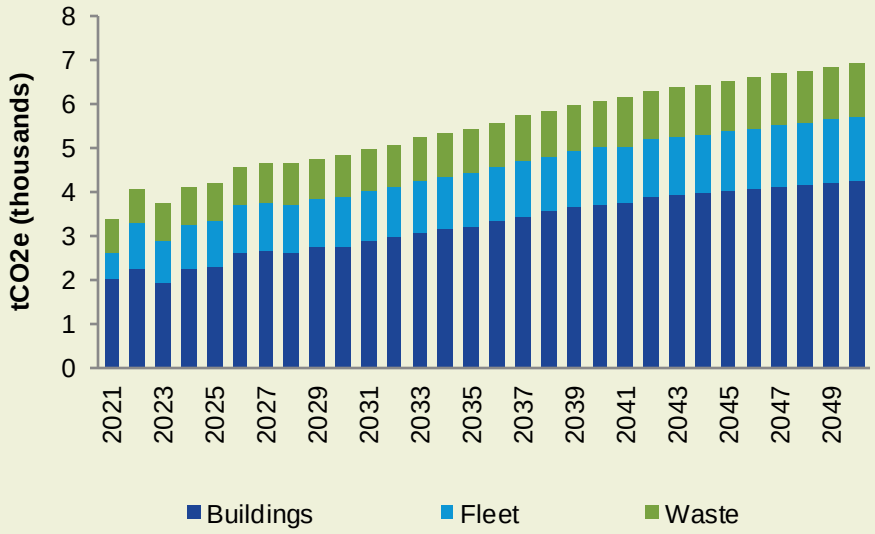
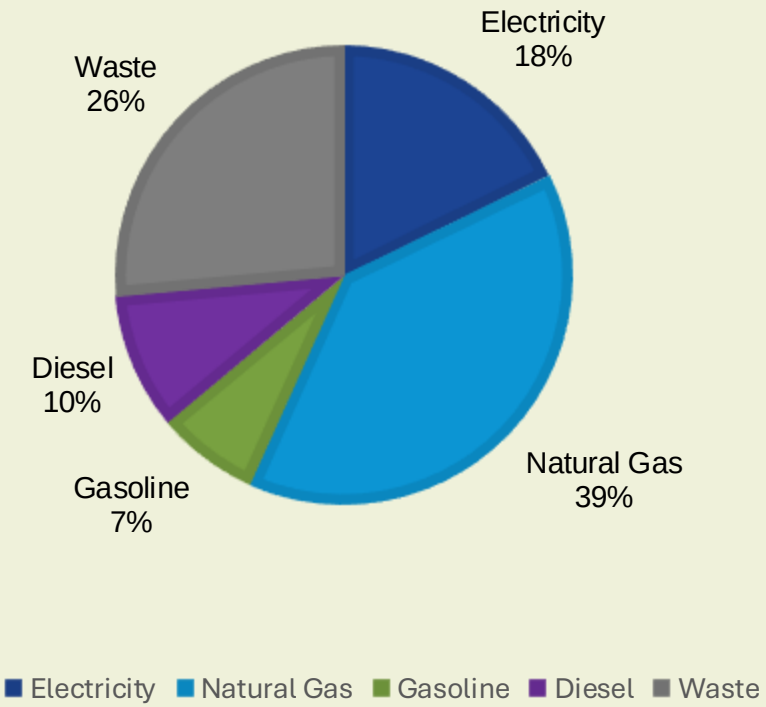


Table 2 BWG 2021 Corporate Emissions inventory and Projects by Sector (Business as Usual)

Sector (202)	tCO2e	%
Buildings	2,014	56.7%
Fleet	598	16.8%
Waste	938	26.4%
TOTAL	**3,550**	100.0%

Corporate Greenhouse Gas Inventory (Continued)

Figure 6 BWG 2021 Corporate Emissions inventory by Fuel Source



If no interventions are introduced, emissions are expected to rise due to the town's projected growth and the increase in municipal services associated with this growth.

To mitigate this, BWG should prioritize **reducing emissions from corporate buildings** by replacing gas-powered HVAC systems with energy-efficient alternatives, such as heat recovery or ground-source heat pumps, and exploring renewable energy options.

Electrifying the corporate fleet and expanding waste diversion programs, like composting and recycling, will also help lower emissions at a relatively low cost.

Additionally, any new buildings proposed for BWG's portfolio should consider the long-term impact on emissions. Design criteria should focus on net-zero emissions capabilities to avoid future retrofit costs and reduce reliance on carbon-intensive energy sources.

By taking these steps, BWG can reduce emissions now and in the future, while ensuring the town remains on track to meet its climate action goals and avoid unnecessary costs down the road.

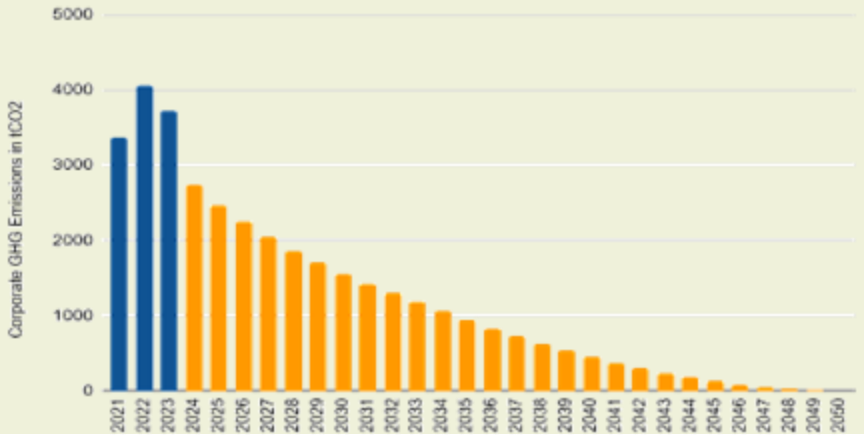
GHG Reduction Targets

To align with global climate goals, many municipalities, are setting targets of net-zero emissions by 2050.

This goal is informed by the latest climate science and endorsed by international frameworks, such as the Science-Based Targets Initiative (SBTi), which sets emission reduction pathways consistent with the latest IPCC reports.

Bradford West Gwillimbury's (BWG) proposed GHG reduction targets are grounded in the science-based carbon budgets, ensuring alignment with global efforts to limit climate change. These targets include an annual emissions reduction trajectory that balances cost considerations with the goal of achieving net-zero emissions by 2050. Interim targets have been set for 2030 and 2040 to track progress and ensure that BWG stays on track toward long-term climate goals.

Figure 7 A science-based trajectory for the corporation, Town of Bradford West Gwillimbury



Interim GHG reduction targets (2030, 2040) are designed to focus on actions BWG can take now, like improving energy efficiency and using more renewable energy, which make quicker progress. Long-term targets take more time because they depend on bigger changes (for example decarbonization of the provincial electricity system and new technologies that aren't fully ready yet.)

Table 3 Science Based Corporate Targets for BWG

Target Year	Corporate GHG Emissions (tCO2e)	Corporate Reduction Target
2021	3,365	n/a
2030	1,560	53%
2040	451	87%
2050	0	100%

Table 4 Science Based Community Targets for BWG

Target Year	Community GHG Emissions (tCO2e)	Community Reduction Target
2021	333,123	n/a
2030	156,014	53%
2040	45,083	86%
2050	0	100%

Carbon Budget

While BWG has full control over its corporate emissions and can directly implement reduction actions within its operations, community-wide emissions reductions will depend on external factors, such as partnerships with other levels of government, local businesses, and residents. BWG's role will extend beyond its own direct actions to include supporting and advocating for emission reduction initiatives outside its direct control. By engaging and collaborating with the community, BWG can help facilitate broader action and drive the collective effort needed to meet its climate goals.

To further guide emissions reductions, BWG has identified an allowable carbon budget, which enables transparent tracking of greenhouse gas (GHG) emissions across the municipality leveraging the C40 Convergence and Contraction methodology, which, in conjunction with the SBTi's guidance for cities, sets a science-based framework for managing emissions and achieving net-zero targets.

Table 5 Five-year and Total Carbon Budget for BWG

Carbon Budget	Corporate GHG Emissions (tCO2e)	Community GHG Emissions (tCO2e)
Next five years – 2025-2030 (tCO2e)	24,176	1,322,713
Total- 2025-2050 (tCO2e)	13,747	2,365,600

A carbon budget offers clear boundaries for allowable emissions over a set period, helping BWG monitor its progress, adjust strategies when necessary, and maintain accountability. This approach not only ensures consistency in emissions tracking but also provides a measurable framework for achieving long-term climate objectives.

Priority Areas for GHG Reduction

Bradford West Gwillimbury's greenhouse gas inventories identify key emissions sources, with transportation, buildings, and energy use as the largest contributors. To meet net zero by 2050 targets, BWG must focus on both current emissions and future growth, ensuring sustainable development.

Priority areas for action include:

- **Electrification of transportation**
  Transitioning to electric vehicles will significantly reduce emissions from the transportation sector, the largest source of BWG's community emissions. In addition to electrification, encouraging active transportation (cycling, walking) and increased use of public transit will reduce car dependency and further lower emissions.
- **Energy efficiency and renewable energy**
  Improving energy efficiency in buildings and infrastructure, along with investing in renewable energy sources like solar and wind, will help reduce reliance on fossil fuels and transition to a cleaner, more sustainable energy system.
- **Waste diversion**
  Expanding composting and recycling programs will reduce methane emissions from landfills and help lower the community's overall carbon footprint.
- **Preserving and expanding forest cover and agriculture**
  Forests and agricultural lands act as natural carbon sinks, offsetting emissions while supporting biodiversity and resilience against climate change impacts.

Climate Projections

Climate Data for Bradford West Gwillimbury

The climate data used for the Bradford West Gwillimbury Climate Change Mitigation and Adaptation Strategy was obtained from ClimateData.ca, a trusted source of regional climate information.

The data includes:

- **Historical Data (1971-2000):** This provides insight into past climate trends and variability in the region.
- **Current Data (2011-2040):** This reflects recent and ongoing climate conditions, including observed temperature and precipitation patterns.
- **Near Future (2041-2070):** This projection covers the next few decades, helping to anticipate medium-term climate trends and their potential impact on the community.
- **End of Century (2071-2100):** This long-term projection reflects future climate conditions under a high-emissions pathway (RCP 8.5), providing a scenario for the far future.

Given that critical services and major infrastructure typically have a lifecycle of 50 years, climate risks for Bradford West Gwillimbury were assessed with a focus on long-term risks. This includes considering potential impacts well beyond the near future, ensuring that both current and future climate conditions are integrated into infrastructure planning, energy resilience, and the overall strategy for mitigating and adapting to climate change.

What is RCP 8.5?

An RCP or Representative Concentration Pathway represents a greenhouse gas concentration trajectory (not emissions) adopted by the Intergovernmental Panel on Climate Change (IPCC). These pathways describe various climate change scenarios, each contingent on the amount of greenhouse gases emitted in the coming years. RCPs are a reference for climate modeling and research and help to understand potential outcomes based on different emission levels. These scenarios guide policy decisions and underscore the need for sustainable practices to safeguard our planet's future.

RCP 8.5, one of four potential future pathways, represents a "business as usual" or "high emissions" scenario, leading to significantly higher temperature increases, greater impacts, and increased adaptation costs.

Why RCP 8.5?

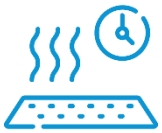
Using the RCP 8.5 scenario for Bradford West Gwillimbury's Climate Change Mitigation and Adaptation Strategy is crucial because global GHG emissions are still trending upwards, aligning with this high-emissions pathway. Assuming new policies and investments will reverse this trend is not yet prudent, making RCP 8.5 the most reliable basis for planning.

Climate Projections Key Insights [1]

Under the RCP 8.5 scenario, the climate trends for the town of Bradford West Gwillimbury are projected using values from 1971-2000 as a baseline compared to future projections for 2071-2100. This comparison points towards a significant increase in temperatures and changes in precipitation patterns:

Mean Annual Temperature: A significant rise in the mean annual temperature is anticipated, reaching 13°C by the end of the century, compared to the historical average of 9 °C.

Extreme Cold Days: The occurrence of extremely cold days will become less frequent, with days below -15°C decreasing from 14 to just 1 days per year, and days below 0°C reducing significantly from 132 to 73 days, indicating much milder winters.



Dry Days: The number of consecutive dry days is expected to increase by 31% by the end of the century, indicating a substantial shift towards longer dry periods in the future climate conditions of the area.

Ice and Snow: The number of potential ice days per year in BWG is projected to decrease by 20.3 days, leading to potential challenges for winter activities and ecosystems adapted to historical snow conditions, but also reducing some of the winter heating energy demands.

Extreme Heat Days: There will be a dramatic increase in the number of extremely hot days, with those over 25°C expected to jump from 81 to 131days per year, and days over 35°C increasing from 11 to 56 days annually.

Precipitation: Predictions show a 9.7% increase in overall annual precipitation. Extreme single-day rainfall events are projected to increase in intensity by up to 15.5% above the current maximum.

Growing Season: The growing season (days above 5 °C) in for BWG is projected to extend significantly, from 83 days to approximately 123 days by the end of the century. This increase of 40 days allows for a longer duration of plant growth and agricultural productivity.

Frost: The average last frost date is expected to be earlier in the year from the average of April 29 to April 4. This change may impact planting season as well as weight restrictions on roadway during the freeze-thaw period.

[1] We wish to thank ClimateData.ca for providing the climate information used in this paper. ClimateData.ca was created through a collaboration between the Pacific Climate Impacts Consortium (PCIC), Ouranos Inc., the Prairie Climate Centre (PCC), Environment and Climate Change Canada (ECCC) Centre de Recherche Informatique de Montréal (CRIM) and Habitat7.

Climate Vulnerability & Risk Assessment

The Town of Bradford West Gwillimbury hosted a virtual Climate Vulnerability Workshop that brought together both municipal staff from various departments and external agencies. Participants included representatives from utilities, school boards, conservation authorities, local non-profits, and Simcoe County, among others. This collaborative group worked together to assess the climate risks facing the community.

Utilizing the ICLEI BARC methodology, participants identified 28 priority climate impacts, such as increased temperatures, extreme weather events, and ecosystem disruptions. 12 of these impacts were classified as highly vulnerable. The collective input from municipal staff and external stakeholders was crucial in ensuring a well-rounded, community-wide perspective.

Key Vulnerabilities Identified

- **Health and Well-being:** Increased risks of heat-related illnesses, particularly among vulnerable groups, and limited access to essential services during extreme weather events.
- **Natural Environment:** Spread of invasive species, habitat loss, and changes to terrestrial and freshwater ecosystems.
- **Energy and Infrastructure:** Rising energy demands during heatwaves, more frequent storms, and infrastructure challenges due to extreme weather events.

Risk Assessment Results

Through a collaborative scoring process, participants identified the most pressing risks for Bradford West Gwillimbury:

1. Increased energy demand during heatwaves, straining electricity grids.
2. Severe storms and flooding, causing infrastructure damage.
3. Heat-related health impacts, especially for vulnerable populations.
4. Spread of invasive species, threatening biodiversity.

These findings directly shaped the Climate Change Mitigation and Adaptation Strategy by:

- **Prioritizing actions** in high-risk areas, such as strengthening healthcare systems and upgrading infrastructure.
- **Engaging a broad range of stakeholders** to ensure the strategy addressed diverse community needs.
- **Incorporating equity** to ensure vulnerable populations receive targeted support.
- **Assessing feasibility**, ensuring recommended actions are both financially and physically achievable.

Engagement Approach

To support the CCMAS, an Engagement Plan was developed with a focus on inclusive and equitable stakeholder engagement. The plan aims to ensure broad community participation, prioritize diverse perspectives, and strengthen the Town's resilience to climate change through collaboration with various participants.

Participant Identification and Analysis:

Participants were identified based on their interest and influence in climate issues, including:

- Residents
- Community organizations
- Advisory committees
- Municipal employees
- Service providers (e.g., conservation authorities, utilities, school boards, health departments)
- Government agencies (e.g., County, Health District)
- Non-profit organizations
- Indigenous communities (First Nations and Peoples)

Engagement Objectives:

The plan's key objectives were to:

1. **Value stakeholder** input and incorporate diverse perspectives.
2. **Encourage broad participation,** especially from underrepresented groups.
3. **Align** the Town's climate action goals with participant feedback.
4. **Foster collaboration** to create actionable, community-supported strategies.

Engagement Approach (Continued)

Engagement Activities and Timeline:

The engagement process will unfold in phases, with key activities such as:

- **Invitations to Participate:** Personalized email invites to technical stakeholders and community representatives.
- **Community Survey:** A digital survey to gather community input on interest and preparedness.
- **Workshops and Sessions:** Virtual workshops on climate vulnerabilities, decarbonization, and adaptation strategies.
- **Public and Stakeholder Sessions:** Information sessions to review and gather feedback on the draft strategy.
- **Council Presentation:** A final presentation to town council for strategy endorsement.

The plan emphasizes inclusive engagement, particularly for marginalized and vulnerable groups, ensuring equitable access to participation and that the strategy's outcomes benefit all community members, especially those most affected by climate change. This approach aims to foster a resilient, adaptive community committed to tackling climate challenges together.

Community Feedback

The Town of Bradford West Gwillimbury conducted a community survey to understand public opinions on climate change, preparedness, and support for climate action. The results provide key insights into the community's readiness to address climate issues and help guide the Town's CCMAS

Key Findings

- **Preparedness and Extreme Weather:** Residents have faced extreme weather but feel underprepared. Strengthening community resilience and emergency preparedness is needed.
- **Leadership and Action:** There's strong support for town leadership in climate action. However, barriers like affordability and lack of understanding hinder broader participation.
- **Emission Reduction:** Confidence in local and global emission reduction efforts is mixed, suggesting a need for clearer communication and tangible action.
- **Willingness to Act:** Many are already reducing their carbon footprint and are willing to take more action, especially in waste reduction and energy efficiency.
- **Barriers:** Key barriers include affordability, lack of understanding, and political factors.
- **Funding Priorities:** Residents prioritize protecting greenspaces, planting trees, and waste reduction as climate action measures.

Implications for BWG's Strategy

1. **Leadership and Action Plans:** Set clear, ambitious climate goals and take visible leadership in addressing climate change.
2. **Green Infrastructure:** Prioritize investments in greenspaces and tree planting to enhance both resilience and emissions reductions.
3. **Resilience Building:** Improve infrastructure to better prepare for extreme weather events.
4. **Incentives for Action:** Offer financial incentives for energy-efficient upgrades, renewable energy, and sustainable transport.
5. **Community Support:** Leverage existing local networks to foster community-based climate action.
6. **Focus on Education:** Educate residents on climate change and available solutions to overcome barriers

Incorporating a Climate Equity Lens

What is Climate Equity?

Climate equity means ensuring fairness in how we address climate change. It recognizes that all people—regardless of gender, race, income, or other factors—should have equal access to a healthy environment and the resources needed to protect themselves from climate impacts.

Climate equity acknowledges that climate change disproportionately impacts marginalized communities. Low-income individuals, racial minorities, the elderly, and people with disabilities are often the most vulnerable to climate events and the disruptions caused by climate action efforts. Addressing these disparities is essential in the Town of Bradford West Gwillimbury's Climate Change Mitigation and Adaptation Strategy (CCMAS).

Embedding equity principles into the CCMAS, the Town of Bradford West Gwillimbury helps to ensure that its climate action efforts are fair, inclusive, and effective—addressing the needs of the most vulnerable and fostering a resilient future for all.

Equity Considerations

- **Disproportionate Impact:**
  Climate change affects vulnerable groups more severely, due to factors like poor housing, limited healthcare, and challenges in emergencies.
- **Inclusive Planning:**
  Involving marginalized groups ensures climate action strategies meet their specific needs and concerns.
- **Vulnerability Assessments:**
  Prioritize actions in areas most vulnerable to climate change, considering factors such as income, age, and location.
- **Data-Driven Approach:**
  Use demographic, health, and resource data to ensure fair distribution of resources and targeted climate action.
- **Localized Measures:**
  Tailor climate actions to each community's unique challenges and promote cross-community collaboration.
- **Indigenous Engagement:**
  Integrate Indigenous knowledge into climate action for culturally relevant solutions and stronger community resilience.
- **Reconciliation:**
  Climate change exacerbates challenges for Indigenous communities. Incorporating their knowledge supports both climate action and reconciliation.

Goals

The Town of Bradford West Gwillimbury's goals for the CCMAS, are shaped by technical assessments and community input, focusing on resilience, sustainability, and the well-being of all residents.

Goal 1: Strong Governance

Build a strong, integrated governance framework that incorporates climate resilience across municipal services, promotes community engagement, and fosters collaboration to address climate change effectively.

Goal 2: Resilient Low-Carbon Infrastructure

Create and maintain infrastructure that can withstand climate impacts while reducing greenhouse gas emissions, supporting sustainable urban development, and advancing renewable energy solutions.

Goal 3: Thriving Natural Environment

Safeguard natural areas, promote biodiversity, and support sustainable land use practices to enhance the town's resilience to climate change and improve environmental health.

Goal 4: Healthy and Prosperous Community

Strengthen community preparedness for climate impacts, improve public health, and support economic resilience through sustainable practices and green job creation.

Objectives

The objectives of the Town of Bradford West Gwillimbury's CCMAS, align with the overarching goals of strengthening governance, building resilient infrastructure, protecting the natural environment, and fostering a healthy, prosperous community. The following 13 key objectives have been identified as critical to positioning BWG as a climate-ready community. These objectives are the result of comprehensive background research and extensive public and stakeholder engagement. In the following sections, each goal and objective area is discussed in detail, with a focus on how equity considerations are integrated into the strategy.

Goal 1: Strong Governance

- **Objective 1.1:** Embed climate resilience into municipal services and decision-making.
- **Objective 1.2:** Promote transparency and active community engagement in climate actions.
- **Objective 1.3:** Foster cross-departmental and community provider collaboration on climate change initiatives.
- **Objective 1.4:** Advance climate education and awareness for residents and stakeholders.

Goal 2: Resilient, Low-Carbon Infrastructure

- **Objective 2.1:** Build infrastructure that is both resilient to climate impacts and reduces greenhouse gas emissions.
- **Objective 2.2:** Ensure urban development is sustainable and equitable, with climate resilience at the core.
- **Objective 2.3:** Invest in renewable energy solutions and green technologies to reduce reliance on fossil fuels.

Goal 3: Thriving Natural Environment

- **Objective 3.1:** Protect and restore natural areas to support biodiversity and climate resilience.
- **Objective 3.2:** Increase public awareness of the environmental importance of natural spaces and resources.
- **Objective 3.3:** Promote sustainable land use practices that mitigate climate change and preserve ecosystems.

Goal 4: Healthy and Prosperous Community

- **Objective 4.1:** Strengthen community preparedness and resilience to climate impacts.
- **Objective 4.2:** Promote health and well-being by addressing climate-related health risks and reducing exposure.
- **Objective 4.3:** Foster economic resilience through green jobs, sustainable businesses, and climate-smart investments.

Goal 1: Strong Governance

Strong governance is vital for ensuring that both climate adaptation and mitigation efforts are effectively implemented across the community.

Equity Lens Considerations

When implementing actions around good governance, equity considerations should include:

- Inclusive Decision-Making- Engage marginalized communities in climate action planning to ensure their needs are addressed.
- Fair Resource Allocation-Direct resources to the most vulnerable areas to reduce inequality.
- Climate Justice- Ensure climate actions benefit all residents, especially vulnerable populations.

Objective 1.1: Embed Climate Resilience in Municipal Services

Embedding climate resilience in municipal services ensures that climate risks are proactively addressed in all areas of local government, allowing the town to adapt to climate impacts and reduce vulnerability to extreme events.

Objective 1.2: Promote Transparency and Community Engagement

Transparency and engagement ensure that all community members are informed, involved, and invested in climate actions, fostering trust and collaboration in both adaptation and mitigation efforts

Objective 1.3: Foster Interdepartmental Collaboration

Collaboration across departments allows for a more cohesive approach to addressing climate change, ensuring that both adaptation and mitigation measures are aligned with the town's overall goals and policies.

Objective 1.4: Advance Climate Education and Awareness

Raising awareness and educating the community about climate change builds support for both adaptation and mitigation initiatives, empowering residents and businesses to take action in their own lives

Goal 2: Resilient Low-Carbon Infrastructure

Developing resilient, low-carbon infrastructure is key to both adapting to climate impacts and reducing emissions for future sustainability.

Equity Lens Considerations

When implementing actions around Resilient Low Carbon Infrastructure, equity considerations should include:

- Affordable Solutions: Prioritize energy-efficient, resilient infrastructure in vulnerable communities, balancing upfront costs with long-term savings to reduce financial burdens.
- Inclusive Investments: Design climate-ready infrastructure that benefits underserved areas, ensuring equitable distribution of reduced operating costs and increased resiliency.
- Support for Low-Income Households: Offer financial assistance and incentives for energy-efficient upgrades, ensuring affordable, climate-resilient solutions for all residents.

Objective 2.1: Build Resilient Infrastructure and Reduce Emissions

Resilient infrastructure is critical to withstanding climate impacts such as floods and heatwaves, while also reducing emissions through energy-efficient designs and low-carbon materials. This reduces both vulnerability and greenhouse gas emissions.

Objective 2.2: Ensure Sustainable and Equitable Urban Development

Sustainable urban development ensures that new infrastructure and communities are resilient to climate impacts, while equitable development provides fair access to resources and opportunities for all residents, especially vulnerable populations.

Objective 2.3: Invest in Renewable Energy Solutions

Investing in renewable energy reduces the town's reliance on fossil fuels, lowering greenhouse gas emissions while enhancing energy resilience and sustainability, key components of both climate mitigation and adaptation.

Goal 3: Thriving Natural Environment

A healthy natural environment is essential for both climate resilience and mitigation. Protecting natural areas and promoting sustainable practices ensures that ecosystems can continue to provide critical services, such as carbon sequestration, water filtration, and natural disaster mitigation.

Equity Lens Considerations

When implementing actions around a Thriving Natural Environment equity considerations should include:

- Inclusive Decision-Making: Engage marginalized communities in climate action planning to ensure their needs are addressed.
- Fair Resource Allocation: Direct resources to the most vulnerable areas to reduce inequality.
- Climate Justice: Ensure climate actions benefit all residents, especially vulnerable populations.

Objective 3.1: Protect and Enhance Natural Areas

Protecting and enhancing natural areas, such as wetlands, forests, and riparian zones, helps to preserve the ecosystems that buffer the town from climate impacts. These areas play a vital role in carbon storage and water management, both of which are essential for climate resilience and mitigation efforts.

Objective 3.2: Increase Awareness of Environmental Importance

Increasing awareness of the value of natural spaces and environmental stewardship is crucial for fostering a community-wide commitment to sustainability. When residents understand the importance of protecting the environment, they are more likely to adopt practices that support both adaptation and mitigation goals, such as reducing waste and conserving resources.

Objective 3.3: Promote Sustainable Land Use Practices

Sustainable land use practices help to reduce emissions from urban sprawl and protect valuable natural resources. By encouraging responsible development, the town can reduce its environmental footprint and enhance its ability to adapt to climate change, all while maintaining biodiversity and ecosystem health.

Goal 4: Healthy and Prosperous Community

Focusing on community health and economic resilience is critical for ensuring that all residents can thrive in a climate-changed world.

Equity Lens Considerations

When implementing actions around a Healthy Prosperous Community considerations should include:

- Equal Access to Resources: Ensure all communities, especially vulnerable ones, benefit equally from climate actions like better health, jobs, and emergency support.
- Support for the Most Affected: Focus on helping communities most at risk from climate change, including low-income groups, seniors, and people with disabilities.
- Inclusive Planning: Involve all community members, especially those from marginalized groups, in decisions about climate actions to ensure their needs are met.

Objective 4.1: Strengthen Community Preparedness and Resilience

Building community preparedness helps residents respond to climate emergencies and reduces the long-term impacts of climate change on health and well-being. This strengthens the town's overall adaptive capacity.

Objective 4.2: Promote Health and Well-Being

A healthy population is better able to cope with climate change impacts, such as heat waves and poor air quality. Promoting health initiatives that reduce climate risks ensures that residents are resilient in both short-term and long-term scenarios.

Objective 4.3: Foster Economic Resilience

Economic resilience ensures that the town's economy can recover from climate shocks, such as extreme weather events, while supporting the transition to a green economy that mitigates future climate risks. This includes promoting green jobs and sustainable industries.

Key Performance Indicators

Key Performance Indicators (KPIs) are essential for tracking the progress of climate actions in Bradford West Gwillimbury. They allow the Town to monitor its climate goals, ensure transparency, and make data-driven adjustments. The following KPIs, aligned with BWG's climate strategy, focus on governance, sustainable infrastructure, a thriving natural environment, and a healthy community. Data for these KPIs can be gathered from existing public sources, providing a cost-effective and transparent way to measure progress.

Proposed KPIs, Rationale, and Data Collection:

Goal 1: Strong Governance

- **1.1 Equity in Climate Policies:**
  Ensures climate actions benefit all residents, especially vulnerable groups.
  Data Collection: Policy reviews and planning documents.
- **1.2 Collaborative Efforts:**
  Tracks partnerships that enhance climate action.
  Data Collection: Collaboration agreements and climate initiative records.

Key Performance Indicators (Continued)

Goal 2: Sustainable Low-Carbon Infrastructure

- **2.1 Resilient Infrastructure:**
  Measures infrastructure designed to withstand extreme weather events.
  Data Collection: Municipal project reports and planning documents.
- **2.2 GHG Reduction**
  Tracks emissions reductions from improved infrastructure.
  Data Collection: Energy audits and sustainability assessments.
- **2.3Key Infrastructure Maintained:**
  Ensures critical infrastructure is climate-resilient.
  Data Collection: Inspection and maintenance records.
- **2.4 Building Retrofits:**
  Measures retrofits for energy efficiency and climate resilience.
  Data Collection: Building permits, energy audits, and retrofit records.

Goal 3: Thriving Natural Environment

- **3.1 Green Space Increase:**
  Supports biodiversity and carbon sequestration.
  Data Collection: GIS maps and park development records.
- **3.2 Ecosystem Restoration Projects:**
  Tracks restoration efforts that enhance local ecosystems.
  Data Collection: Project reports, Conservation Authority KPIs.
- **3.3 Tree Canopy Expansion:**
  Increases urban tree cover for climate benefits.
  Data Collection: Municipal Tree planting and canopy assessment records, Conservation Authority KPIs

Goal 4: Healthy and Prosperous Community

- **4.1 Heat-Related Health Incidents:**
  Reduces heat-related health issues in vulnerable populations.
  Data Collection: Public health records and hospital reports.
- **4.2 Support Programs for Vulnerable Groups:**
  Ensures at-risk groups benefit from climate action.
  Data Collection: Community program and service records.
- **4.3 Community Engagement:**
  Measures resident participation in climate initiatives.
  Data Collection: Event registrations and survey responses.

How to Read the Actions Key

To review the CCMAS Action Plan, start by examining the outlined adaptation actions, incorporating an equity lens specific to each focus area. The plan includes cost estimates and timelines for each action item (refer to the legend below for further details). Additionally, it identifies the designated lead for each action and outlines a preliminary list of Town and community partners who can contribute expertise or support the successful implementation of each action.

Cost	
Low	0-100k
Medium	100k-800k
High	800k+

Priority	
Low	1-3 years
Medium	4-7 years
High	7+ years

Status	
Identified (I)	Project goals and scope are defined, budget has been identified.
Started (S)	The project has officially launched, and initial tasks are underway.
In Progress (P)	Key activities and milestones are actively being worked on.
Completed (C)	All project objectives are achieved, and deliverables are handed over.
Operational (O)	The project is fully functional and being maintained or used as intended.

Actions- Good Governance

Good governance actions help the Town implement the CCMAS effectively by integrating a climate lens into decision-making, monitoring, and tracking across all municipal services.

Ref	Action	Description	Lead	Partner	Cost	Priority	Status
1	**Integrate Climate Lens into Municipal Operations**	Ensure all municipal planning and development incorporates a climate lens, integrating climate considerations into every operation from infrastructure to policy. Track progress on climate action through regular Council reports.	Growth Services	-	Low	High	s
2	**Climate Change in Asset Management**	Integrate climate risks into asset management strategies to strengthen infrastructure resilience. Update the municipal asset management plan to incorporate both mitigation and adaptation measures, ensuring that assets are prepared for current and future climate challenges.	Asset Management	-	Med	High	s
3	**Climate Reserve Fund**	Subject to the availability of municipal funding and upper-tier grants, establish a dedicated fund to support local climate projects, incorporating a process to assess priorities. Leverage grants and a revolving model (reinvesting savings from energy efficiency) to ensure sustained funding.	CAO	-	High	High	
4	**Qualified Staff and Training**	Recruit qualified personnel for climate strategy oversight and provide ongoing training for municipal employees, ensuring capacity to integrate climate action into all municipal functions.	CAO	-	Med	High	

Good Governance Actions

Ref	Action	Description	Lead	Partner	Cost	Priority	Status
5	**Climate Advisory Committee**	Expand the Green Initiatives Advisory Committee to oversee climate strategies, ensuring diverse input on both mitigation and adaptation efforts.	Council	CAO	Low	Med	I
6	**Fostering Inclusive and Collaborative Climate Action**	Facilitate consultations with residents, stakeholders, and rightsholders for inclusive climate strategy development. Collaborate with neighboring municipalities, regional organizations, and First Nations to strengthen collective climate efforts.	CAO		Low	Med	
7	**Regular Progress Reporting**	Develop a transparent system for tracking and sharing updates on climate initiatives, including regular progress reports. Integrate considerations for third-party reporting through programs like FCM's Partners for Climate Protection.	CAO		Low	Med	
8	**Sustainable Procurement**	Develop and adopt policies that prioritize environmentally friendly, socially responsible, and climate-ready procurement in municipal projects. This approach will ensure that the materials, services, and contractors chosen contribute to sustainability, reduce environmental impacts, and support resilience to climate change, aligning procurement practices with broader climate goals.	Procurement		Med	Med	
9	**Promote Equity in Climate Initiatives**	Ensure climate actions are developed to address the needs of marginalized and underserved populations by involving them in the planning process. Engage with community organizations and local leaders regularly to identify specific challenges these groups face, such as access to resources and housing. Tailor climate actions to address these issues and ensure that all communities benefit equally from mitigation and adaptation efforts. Create opportunities for ongoing feedback to maintain inclusive, long-term engagement.	CAO		Med	Med	

Actions- Resilient Low Carbon Infrastructure

Resilient low-carbon energy actions focus on reducing emissions and increasing resilience across key sectors, including energy and buildings, transportation, urban planning, waste management, water and wastewater systems, and stormwater management.

Corporate- Municipality-led measures to reduce emissions and build resilience in its operations and services.

Ref	Sector	Corporate Actions	Cost	Priority	Lead	Partner	Status
10	**Buildings and Energy**	**Energy Resilience Planning**: Implement backup power solutions and ensure critical infrastructure is energy-resilient during extreme weather.	High	Medium	Facilities		
11	**Buildings and Energy**	**Municipal Building Energy Efficiency Upgrades**: Retrofit municipal buildings, prioritizing electrification and energy efficient efficient HVAC systems, heat pumps, heat recovery, increased air tightness, and Building Automation Systems (BAS), align these replacements with the asset management replacement schedule to ensure maximum cost recovery.	High	High	Facilities	Utility	I
12	**Buildings and Energy**	**Renewable Energy Deployment**: Install solar panels and smart grid systems in municipal buildings to offset grid reliance, reduce operation costs and reduce emissions.	High	Medium	Facilities		
13	**Buildings and Energy**	**Net-Zero Ready Corporate Building Standard**: Develop and implement a corporate standard ensuring all new municipal buildings and major retrofits are designed to be net-zero ready, incorporating climate resilience measures such as floodproofing, heat stress mitigation, and renewable energy systems.	Low	High	Facilities		

Actions- Resilient Low Carbon Infrastructure ctd

Corporate- Municipality-led measures to reduce emissions and build resilience in its operations and services.

Ref	Sector	Corporate Actions	Cost	Priority	Lead	Partner	Status
14	**Transportation**	**Fleet Electrification**: Transition municipal fleets to electric vehicles, prioritizing small and light-duty vehicles first, and install supporting EV charging infrastructure.	Low	High	Fleet	Facilities	
15	**Transportation**	**Public EV Charging Network**: Install Level 2 and 3 EV chargers at key municipal and public locations to support broader EV adoption while increasing access for residents who live in multi residential buildings and don't have access to these amenities.	Medium	Medium	CAO	Facilities	
16	**Transportation**	**Road Infrastructure Maintenance Program**: Enhance regular road maintenance, including repairs to potholes, culverts, and storm drainage systems, to improve road safety and resilience to extreme weather events.	Medium	Medium	Transportation Services		S
17	**Transportation**	**Active Transportation Support**: Install bicycle racks and secure lockers at municipal facilities to support employees and visitors arriving by cycling or other active transportation modes.	High	Medium	Facilities		S
18	**Transportation**	**Staff Transportation Initiatives**: Encourage municipal staff to reduce vehicle use, promote carpooling, and adopt active or public transportation.	Low	Medium	Transportation Services	Communications	
19	**Transportation**	**Comfort Amenities at Facilities**: Provide water fountains and shade structures at key municipal facilities to support outdoor activity and active transportation users.	Medium	High	Facilities		

Actions- Resilient Low Carbon Infrastructure ctd 3

Corporate- Municipality-led measures to reduce emissions and build resilience in its operations and services.

Ref	Sector	Corporate Actions	Cost	Priority	Lead	Partner	Status
20	**Urban Planning**	**Zoning Adjustments for Resilience**: Mandate official plan and zoning policies to align with watershed plans, reducing flood risks and improving stormwater management.	Low	High	Planning	Conservation Authority	
21	**Urban Planning**	**Green Development Standards**: Develop and Enforce standards to ensure all new developments integrate climate mitigation and adaptation measures including measures that support the uptake of energy efficiency, renewable energy, urban heat island mitigation, stormwater management, and green infrastructure.	Medium	High	Growth Services	Engineering, County, Conservation Authority	
22	**Urban Planning**	**Building Code Advocacy**: Advocate for stronger climate requirements in provincial and federal building codes.	Low	Medium	Growth Services		
23	**Waste Management**	**Municipal Recycling and Compost Programs**: Expand recycling and compost facilities in public parks and buildings to reduce landfill use.	High	High	Facilities		
24	**Waste Management**	**Promote Waste Reduction through Procurement**: Implement sustainable procurement policies to prioritize the purchase of products and services that reduce waste, improve energy efficiency, and support the circular economy. Focus on reusable, recyclable, or compostable materials and encourage suppliers to adopt sustainable practices.	Low	High	Procurement	CAO	
25	**Waste Management**	**Single-Use Plastics Free Municipal Buildings**: Make BWG municipal buildings free of single-use plastics to lead by example and reduce waste generation.	Low	Medium	Facilities		
26	**Waste Management**	**Develop a Green Events Policy**: Create a green events policy for BWG to reduce waste and energy consumption at town-led events by encouraging sustainable practices such as reusable dishware, waste sorting stations, and energy-efficient setups.	Low	Medium	Events	Facilities	

Actions- Resilient Low Carbon Infrastructure ctd 4

Corporate- Municipality-led measures to reduce emissions and build resilience in its operations and services.

Ref	Sector	Corporate Actions	Cost	Priority	Lead	Partner	Status
27	**Water, Wastewater and Stormwater**	**Urban Flood Mitigation Measures**: Upgrade drainage systems, install permeable surfaces, and improve stormwater infrastructure for flood resilience.	High	Medium	Infrastructure Services		S
28	**Water, Wastewater and Stormwater**	**Enhanced Outfall and Basin Maintenance**: Use early-detection technologies to prevent clogging and flooding.	High	Medium	Infrastructure Services		
29	**Water, Wastewater and Stormwater**	**Methane Capture Systems**: Install methane recovery systems in wastewater treatment plants for renewable energy generation.	High	Medium	Infrastructure Services		
30	**Water, Wastewater and Stormwater**	**Energy-Efficient Wastewater Upgrades**: Retrofit wastewater systems with energy-efficient equipment and renewable energy solutions.	High	Medium	Infrastructure Services		S
31	**Water, Wastewater and Stormwater**	**Water-Efficient Infrastructure**: Retrofit municipal buildings with water-efficient technologies such as low flush toilets, pool covers, grey water recovery to minimize energy and water use.	Medium	Medium	Facilities		I

Actions- Resilient Low Carbon Infrastructure ctd 5

Community Actions: Efforts to engage residents, businesses, and organizations in supporting climate goals.

Ref	Sector	Community Actions	Cost	Priority	Lead	Partner	Status
32	**Buildings and Energy**	**Neighborhood Energy Projects**: Support community-led energy projects, like microgrids and district energy systems, to improve local resilience.	High	Medium	Utility	CAO	
33	**Buildings and Energy**	**Home Energy Retrofit Incentives (PACE)**: Work with upper levels of government and local utilities to explore programs that could fund residential retrofits, such as flood-proofing, insulation, and energy-efficient appliances.	Med	High	CAO	Utility	
34	**Buildings and Energy**	**Heat Pump Adoption in Buildings**: Promote the installation of heat pumps in residential buildings to electrify heating systems, reduce reliance on fossil fuels, and expand access to air conditioning, enhancing comfort during heat waves.	Low	High	Growth Services	Communications	
35	**Buildings and Energy**	**Energy and Resiliency Education for Businesses**: Develop and deliver workshops or informational campaigns to educate local businesses about energy efficiency strategies and building resiliency measures, such as weatherproofing, energy-efficient lighting, and HVAC system upgrades.	Low	Medium	Economic Development	Board of Trade/Utilities	

Actions- Resilient Low Carbon Infrastructure ctd 6

Community Actions: Efforts to engage residents, businesses, and organizations in supporting climate goals.

Ref	Sector	Community Actions	Cost	Priority	Lead	Partner	Status
36	**Transportation**	**Active Transportation & Trails**: Continue to implement the Town's Active Transportation Plan, and Trail Strategy to expand walking and cycling infrastructure considering climate adaptation measures like increased shading and access to water, launch campaigns promoting walking and cycling with safety tips, maps.	High	High	Transportation Services	Communications Conservation Authority	S
37	**Transportation**	**Carpooling and Ride-Sharing Platforms**: Use and promote apps to connect residents, reduce single-occupancy vehicle use, and offer ride-sharing incentives such as priority parking spaces or dedicated driving lanes.	Low	Medium	Transportation Services	Communications	
38	**Transportation**	**EV Promotion Programs**: Host educational campaigns and events like those offered by Plug N' Drive to increase EV adoption.	Med	Medium	Transportation Services	Communications	
40	**Transportation**	**Public Transit Awareness**: Advocate for reduced cost and other incentives to encourage public transit use.	Med	Medium	Transportation Services	County	S
41	**Transportation**	**Work-from-Home Support**: Advocate for businesses to help employees set up energy-efficient home offices.	Low	Low	Economic Development	Communications	
42	**Transportation**	**Active Transportation-Friendly Business Recognition Program**: Develop a program to recognize and support businesses that promote active transportation by offering free water bottle refills, bike repair stations, and other amenities for cyclists and pedestrians.	Low	Low	Economic Development	Transportation Services	

Actions- Resilient Low Carbon Infrastructure ctd 7

Community Actions: Efforts to engage residents, businesses, and organizations in supporting climate goals.

Ref	Sector	Community Actions	Cost	Priority	Lead	Partner	Status
43	**Urban Planning**	**Compact Community Growth**: Develop mixed-use neighborhoods centered around public transit and walkability.	Med	High	Planning		I
44	**Urban Planning**	**Green Spaces for Climate Resilience**: Expand parks and natural areas that double as flood buffers.	High	Medium	Recreation	Planning Conservation Authroity	
46	**Waste Management**	**Community Education on Climate Action**: Host workshops to teach energy-saving techniques, recycling, and sustainable transportation practices.	Low	Medium	County	Library	
47	**Waste Management**	**Waste Reduction Campaigns**: Engage the public with educational drives on waste minimization and composting.	Low	Medium	County	Communications	
48	**Waste Management**	**Host Reuse and Community Yard Sale Days**: Organize community-wide reuse events or yard sale days to promote the reuse of items and reduce waste entering landfills.	Med	Medium	Communications	Communications	
49	**Waste Management**	**Promote Reduction of Single-Use Plastics**: Launch campaigns to encourage residents and businesses to reduce the use of single-use plastics by switching to reusable or compostable alternatives.	Low	Medium	County	Communications	
50	**Water and Wastewater**	**Stormwater Fee and Incentives**: examine the feasibility of introducing a stormwater fee to fund green infrastructure like rain gardens and permeable pavement, offering discounts to those adopting these solutions.	Med	High	Infrastructure Services	Finance	
51	**Water and Wastewater**	**Naturalized Stormwater Projects**: Promote the installation of rain gardens, green roofs, and bio-retention cells in neighborhoods to manage stormwater naturally.	High	Medium	Growth Services	Infrastructure Services Conservation Authority	
52	**Water and Wastewater**	**Resilient Road Design:** Incorporate innovative road designs, such as permeable pavements and improved drainage systems, to reduce flooding during heavy rainfall.	High	Medium	Growth Services	Infrastructure Services	

Actions- Thriving Natural Environment

Thriving natural environment actions aim to protect and enhance ecosystems across key sectors, including biodiversity and natural areas, green infrastructure, urban forestry, and education and awareness initiatives.

Corporate- Municipality-led measures to reduce emissions and build resilience in its operations and services.

Ref	Sector	Corporate Actions	Cost	Priority	Lead	Partner	Status
53	**Biodiversity and Natural Environment**	**Promote Sustainable Development Practices:** Work with developers and landowners to encourage development practices that minimize negative impacts on sensitive ecosystems. Offer guidelines for sustainable development that prioritize habitat protection, such as low-impact design and conservation-focused land use policies.	Medium	High	Planning	Conservation Authority	
54	**Biodiversity and Natural Environment**	**Implement Energy-Efficient Lighting Standards**: Set lighting standards to reduce upward glare, improve energy efficiency, and protect migrating wildlife.	Low	Medium	Engineering	Transportation Services	S
55	**Biodiversity and Natural Environment**	**Optimize Winter Salt Use**: Use smart sensors and weather forecasting to reduce winter salt usage while ensuring road safety.	Medium	Medium	Transportation Services		
56	**Biodiversity and Natural Environment**	**Develop Landscape Design Guidelines**: Create guidelines for green infrastructure, native plantings, and sustainable landscaping in new developments prioritizing native and drought tolerant species.	Low	High	Growth Services	Conservation Authority	
57	**Biodiversity and Natural Environment**	**Incorporate Natural Assets into Municipal Planning**: Integrate natural assets into the Town's Asset Management Plan to promote long-term sustainability.	Medium	High	Asset Management	Conservation Authority	
58	**Biodiversity and Natural Environment**	**Create Pollinator Habitats:** Plant native, pollinator-friendly gardens in parks at at municipal facilities areas to support local ecosystems.	Medium	Medium	Parks	Conservation Authority	

Actions- Thriving Natural Environment ctd 1

Corporate- Municipality-led measures to reduce emissions and build resilience in its operations and services.

Ref	Sector	Corporate Actions	Cost	Priority	Lead	Partner	Status
59	**Green Infrastructure**	**Implement Low Impact Development and Green Infrastructure technology on Municipal Property**: Incorporate green infrastructure solutions on municipal property such as green roofs, permeable pavement, and bioswales to increase wildlife habitat, support urban cooling and to safeguard communities from flooding.	High	Medium	Facilities	Infrastructure Services	
60	**Green Infrastructure**	**Promote Green Space Connectivity**: Ensure the integration of green corridors and parkland in new developments to enhance ecological connectivity.	High	High	Planning		
61	**Urban Forestry**	**Tree Protection By-Laws**: Implement and enforce by-laws to protect existing trees on private properties.	Low	High	Parks	By-law Enforcement	
62	**Urban Forestry**	**Conduct Regular Tree Inspections**: Set up an ongoing inspection program for trees to identify conflicts with infrastructure and ensure public safety.	Medium	Medium	Parks		
63	**Urban Forestry**	**Establish Seed Collection and Nursery Partnerships**: Collaborate with nurseries to collect native seeds and grow them for urban forestry efforts.	Low	Medium	Parks		
64	**Urban Forestry**	**Create a Tree Compensation Program**: Develop a program to compensate for the removal of trees affected by new development projects.	Low	High	Planning	Parks	
65	**Urban Forestry**	**Implement Proactive Tree Care**: Develop a proactive tree pruning and maintenance program to ensure healthy urban forests.	Medium	High	Parks	Communications	
66	**Urban Forestry**	**Develop an Urban Forest Management Plan**: Create a long-term management plan that incorporates climate vulnerabilities, community tree equity, tree health, invasive species management and heat mitigation strategies.	Medium	High	Parks	Planning	

Actions- Thriving Natural Environment ctd 2

Community Actions: Efforts to engage residents, businesses, and organizations in supporting climate goals.

Ref	Sector	Community Actions	Cost	Priority	Lead	Partner	Status
67	**Biodiversity and Natural Environment**	**Protect Groundwater and Wells**: Encourage sustainable water use practices, protect local groundwater sources, and monitor well conditions.	High	Low	Conservation Authority	Planning	
68	**Biodiversity and Natural Environment**	**Facilitate Wetland Protection and Restoration**: Facilitate community involvement in wetland protection and restoration projects by seeking partnerships with NGOs and funding and promoting volunteer opportunities.	High	High	Conservation Authority	Parks	
69	**Biodiversity and Natural Environment**	**Preserve Water Quality**: Offer guidance and seek partners who can provide incentives for residents and businesses to adopt practices that improve water quality, such as reducing runoff, managing stormwater, and minimizing chemical use near water sources.	High	Medium	Conservation Authority	Infrastructure Services	
70	**Biodiversity and Natural Environment**	**Promote Pollinator Habitat Creation**: Encourage residents, farmers and businesses to plant native, pollinator-friendly gardens through educational campaigns and incentives.	Low	Medium	Conservation Authority	Communications	I
71	**Biodiversity and Natural Environment**	**Ecological Offsetting Program-** Explore the creation of an Ecological Offsetting Program in collaboration with local Conservation Authorities to balance unavoidable natural heritage losses with gains within the same subwatershed**.**	Medium	Medium	Conservation Authority	CAO	I
72	**Green Infrastructure**	**Promote Installation of Green Infrastructure on Private Property**: Encourage residents and businesses to implement rain barrels, rain gardens, permeable pavements, green roofs, and other green infrastructure technologies.	Medium	Medium	CAO		

Actions- Thriving Natural Environment ctd 3

Community Actions: Efforts to engage residents, businesses, and organizations in supporting climate goals.

Ref	Sector	Community Actions	Cost	Priority	Lead	Partner	Status
73	**Green Infrastructure**	**Enhance Riparian Buffers**: Strengthen riparian vegetation along water bodies to protect ecosystems and water quality.	High	High	Conservation Authority	Holland Marsh DSJMSB	I
74	**Green Infrastructure**	**Implement Shoreline Protection Measures**: Protect local shorelines by planting vegetation buffers, preventing erosion, and preserving habitats.	High	High	Conservation Authority	Holland Marsh DSJMSB	I
75	**Education and Awareness**	**Support Citizen Science Programs**: Support and promote citizen science programs to monitor wildlife, track invasive species, and report findings to relevant authorities.	Low	Medium	Conservation Authority	Communications	I
76	**Education and Awareness**	**Educate on Regenerative Farming Practices**: Facilitate workshops and resources to farmers and residents on regenerative farming practices that enhance soil health, sequester carbon, and improve water retention. Promote sustainable land use to reduce environmental impact.	Low	Medium	OFA, OMAFRA	Conservation Authority, NGOs, Planning	I
77	**Education and Awareness**	**Promote Stewardship Education**: Facilitate workshops on planting native species and creating habitats for wildlife.	Low	Medium	Conservation Authority	NGOs, Planning,	I
78	**Education and Awareness**	**Launch Salt Reduction Awareness Campaigns**: Run public campaigns to educate on reducing salt use and promoting alternatives.	Low	Medium	Conservation Authority	Communications	I
79	**Education and Awareness**	**Organize Invasive Species Removal**: Host and promote volunteer events to remove invasive species from natural areas and restore native habitats.	Low	Medium	Conservation Authority	Communications	I
80	**Education and Awareness**	**Organize Community Tree Planting Events**: Participate in or organize community tree planting initiatives to increase urban canopy coverage.	Medium	High	Parks	Conservation Authority, NGOs	I
81	**Urban Forestry**	**Support Tree Planting on Farms and Rural Roads**: Encourage agricultural stakeholders to plant trees for environmental benefits such as slope stability and soil conservation.	Medium	High	Conservation Authority	NGOs, Planning,	

Actions- Thriving Natural Environment ctd 4

Community Actions: Efforts to engage residents, businesses, and organizations in supporting climate goals.

Ref	Sector	Community Actions	Cost	Priority	Lead	Partner	Status
82	**Urban Forestry**	**Develop a Tree Care Volunteer Network**: Create or join a volunteer network that provides tree care during extreme weather events, such as droughts or heatwaves.	Low	Medium	Conservation Authority	Parks	
83	**Urban Forestry**	**Encourage Tree Adoption**: Participate in tree adoption programs to care for newly planted trees in urban areas.	Low	Medium	Parks		
84	**Urban Forestry**	**Increase Private Property Tree Planting**: Partner with an NGO to launch a program to plant trees on private properties to enhance the community's tree canopy and contribute to climate adaptation efforts.	Medium	High	Conservation Authority, NGOs	Communications	I

Actions-Healthy Prosperous Community

Healthy, prosperous community actions focus on supporting health and well-being, strengthening emergency preparedness, and promoting economic prosperity across the municipality.

Corporate- Municipality-led measures to reduce emissions and build resilience in its operations and services.

Ref	Sector	Corporate Actions	Cost	Priority	Lead	Partner	Status
84	**Health and Wellbeing**	**Community Hubs for Emergencies**: Equip community hubs like libraries and community centers with emergency supplies and establish protocols for their use during extreme weather events, ensuring accessibility for all residents.	Medium	Low	Facilities,	Recreation, CAO, Fire	
85	**Health and Wellbeing**	**Green Space Equity Initiative**: Conduct an assessment to identify areas lacking green spaces and tree canopy cover, prioritizing the development of parks and green spaces in underserved neighborhoods.	Medium	High	Parks		
86	**Health and Wellbeing**	**Develop a protocol for responding to extreme weather during community events:** and train staff to recognize weather risks, implement safety measures, and communicate effectively with attendees.	Low	High	Events	Communications	
87	**Health and Wellbeing**	**Municipal Staff Training and Protocols for Heat Exposure**: Implement training programs for municipal staff on recognizing and responding to heat-related illnesses and establish protocols for outdoor work during extreme heat.	Low	Medium	HR	All relevant DH's	
88	**Health and Wellbeing**	**Neighbour Support Programs**: Establish buddy systems where residents, especially seniors, check in on each other during extreme weather events, facilitated by local community groups.	Medium	Medium	CAO	Communications	

Actions-Healthy Prosperous Community ctd 1

Corporate- Municipality-led measures to reduce emissions and build resilience in its operations and services.

Ref	Sector	Corporate Actions	Cost	Priority	Lead	Partner	Status
89	**Emergency Preparedness**	**Cooling Shelter Program**: Establish cooling shelters in public buildings like community centers, libraries, and schools, ensuring they are equipped with air conditioning, water, and seating during heat events.	Medium	High	County, EOC	Facilities/Library	
90	**Emergency Preparedness**	**Coordinate and share emergency alerts:** Work with local agencies to share alerts for floods, power outages, weather warnings, and health advisories.	Low	High	County, EOC, SMDHU	Communications	
91	**Emergency Preparedness**	**Integrate By-Laws to Regulate Maximum Temperatures in Rental Buildings**: Implement by-laws requiring landlords to maintain indoor temperatures below a certain threshold during heatwaves, with support for installing cooling systems.	Low	High	SMDHU	By-law Enforcement	
92	**Emergency Preparedness**	**Organize Emergency Planning Drills**: Conduct biannual emergency response drills involving emergency services, schools, businesses, and residents to improve preparedness for extreme weather events.	Low	Medium	County, EOC		
93	**Emergency Preparedness**	**Complete Streets Policy**: Adopt a Complete Streets policy to ensure all roadways provide safe access for pedestrians, cyclists, motorists, and transit users.	Low	Medium	Planning		
94	**Economic Prosperity**	**Heat Pump Installations**: Partner with local utilities to offer subsidies and incentives for installing heat pumps, particularly in low-income, rental, and dense housing areas.	Medium	High	CAO	Utility	
95	**Economic Prosperity**	**Partner with Economic Development Agencies**: Integrate climate resilience into local economic strategies by supporting climate-smart entrepreneurship.	Medium	Medium	Economic Development		
96	**Economic Prosperity**	**Support Energy Efficiency For Local Businesses**: Educate and promote initiatives that support businesses adopting energy-efficient technologies and renewable energy systems.	Low	Medium	Economic Development	Utilities, Board of Trade	

Actions-Healthy Prosperous Community ctd 2

Community Actions: Efforts to engage residents, businesses, and organizations in supporting climate goals.

Ref	Sector	Community Actions	Cost	Priority	Lead	Partner	Status
97	**Health and Wellbeing**	**Energy Assistance Programs**: Work with upper levels of government and local utilities to explore programs to assist low-income households with energy costs, including subsidies for energy-efficient appliances and home retrofits.	High	High	County of Simcoe, Utilities	CAO, Planning, Communications	
98	**Health and Wellbeing**	**Expand Resources for the Homeless**: Establish an outreach team to connect homeless individuals with shelters and services during extreme weather events, ensuring shelters are equipped to handle increased demand.	High	High	County of Simcoe,	Facilities, Provincial Government, NGOs	
99	**Health and Wellbeing**	**Support Local Food Networks**: Promote and support community gardens, farmers' markets, and Community Supported Agriculture (CSAs), and organize food drives to ensure food security during emergencies.	Medium	High	CAO	Communications, Facilities	I
100	**Health and Wellbeing**	**Grow Your Own Garden Workshops**: Host workshops to teach residents how to grow their own food, providing guidance on sustainable gardening practices for urban and home settings.	Low	Medium	Recreation	NGOs	
101	**Health and Wellbeing**	**Promote Home Energy Efficiency**: Launch a campaign to educate residents on energy-efficient appliances and home improvements, offering guides and workshops on how to implement these upgrades.	Low	High	Utilities	CAO, Communications	
102	**Health and Wellbeing**	**Vector-Borne Disease Awareness Campaigns**: Raise awareness about Lyme disease and West Nile virus through local workshops, social media campaigns, and other outreach efforts.	Medium	Medium	SMDHU	Communications	

Actions-Healthy Prosperous Community ctd 3

Community Actions: Efforts to engage residents, businesses, and organizations in supporting climate goals.

Ref	Sector	Community Actions	Cost	Priority	Lead	Partner	Status
103	**Emergency Preparedness**	**Develop Emergency Toolkits Education Material**: Distribute information on emergency preparedness toolkits detailing climate risks and emergency preparedness, consider including multilingual resources, available at community centers and online.	Low	High	Fire	Health district, County, Utilities, conservation Authorities	
104	**Emergency Preparedness**	**Emergency Kit Preparation Drives**: Organize drives to help residents assemble emergency kits, providing checklists and guidelines for necessary supplies.	Medium	Medium	Fire	Health district, County, Utilities, conservation Authorities	
105		**Support Emergency Communication Efforts**: Encourage the community to share emergency alerts and information through social media, local networks, and word of mouth.	Low	High	Fire, Communications	Health district, County, Utilities, conservation Authorities	
106	**Economic Prosperity**	**Celebrate Local Green Businesses**: Promote local green businesses through word-of-mouth, social media, and patronage, and organize events to showcase sustainable products and services.	Medium	Low	Economic Development	Board of Trade, NGOs	
107	**Economic Prosperity**	**Educate Local Businesses About Insurance for Climate Risks**: Work with the Chamber of Commerce to educate businesses about securing insurance coverage for power outages, flooding, and other climate-related disruptions.	Low	High	Economic Development	Board of Trade, NGOs	
108	**Economic Prosperity**	**Develop Agricultural Resilience Programs**: Collaborate with farmers to implement sustainable water management techniques and crop diversification, providing financial incentives and technical support.	Medium	High	OFA, OMAFRA	Conservation Authority, NGOs, Planning, Economic Development	

Maintaining & Monitoring

The monitoring and implementation framework outlines the roles and responsibilities of politicians, Town staff, and the community in identifying annual projects and priorities, tracking performance, and seeking efficiencies through coordinated collaboration. This approach ensures a strategic and effective response to climate challenges, promoting continuous improvement and resilience.

| Roles & Responsibilities

Effective implementation of the CCMAS requires a clear management framework, where roles and responsibilities are clearly defined to ensure coordinated efforts. This approach promotes collaboration, reduces duplication, and ensures resources are allocated efficiently, strengthening the town's ability to manage the impacts of climate change while reducing emissions.

Mayor & Council

- Provide overall decision-making authority and set the strategic direction for climate change action.
- Approve budgets for climate initiatives.
- Establish policies and priorities for climate action.
- Oversee budget allocation for climate change projects.

Chief Administrative Officer (CAO)

- Ensure that climate change action remains a priority for the town.
- Ensure climate considerations are incorporated into the annual budget planning process.

Department Heads

- Align departmental activities with climate change action objectives.
- Identify the resources and budgets required for climate-related projects, both annually and in long-term forecasts.
- Present business cases for climate projects to support overall climate goals.
- Track costs and savings from climate change initiatives.
- Manage funds allocated for climate action projects.

Roles & Responsibilities (continued)

Departmental Staff

- Develop and implement specific climate change action projects.
- Estimate costs, timelines, and key milestones for climate action initiatives.
- Build partnerships with stakeholders and Rightsholders.
- Establish a technical working group of key Town staff and service providers (County, Conservation Authorities, Health district, utilities etc.), to support collaboration,
- Monitor project progress, track sustainability metrics, and engage the community through regular outreach and feedback sessions.

Green Initiatives Advisory Committee

- Identify community priorities for climate change action.
- Review and help implement actions outlined in the Climate Change Action Plan.
- Facilitate collaboration with external stakeholders, including government, NGOs, and academic partners.
- Seek funding opportunities and support the integration of best practices in climate action.

Providers

- Participate in the technical working group to support collaboration, share data, and exchange technical expertise for the effective implementation of the CCMAP
- Support the Develop and implement specific climate change action projects

Community

- Participate in surveys, workshops, and other engagement activities to inform the town's climate change priorities and planning process.
- Support climate change action by engaging in community-led initiatives and adopting sustainable practices.

| Maintaining, Monitoring & Updating

Monitoring and reporting are essential for tracking climate action progress, ensuring accountability, and informing decision-making. These practices help identify successes, address challenges, and optimize resources, while keeping the community engaged.

Annual Reporting

The Town of Bradford West Gwillimbury should conduct annual monitoring and reporting on climate actions, including a corporate and GHG inventory, aligned with the budget cycle to ensure initiatives remain on track. Each year, the community should be engaged to understand current climate priorities, which can be incorporated into the town's community survey and budget planning process.

Five-Year Review

Every five years, a comprehensive review of the latest climate data and climate risk assessment should be conducted, updating GHG reduction targets and adapting strategies in line with the latest IPCC recommendations to ensure continued relevance and effectiveness.

Ten-Year Update

Every ten years, a full update to the CCMAS should assess the vision, objectives, and governance structure to ensure alignment with evolving climate science and community priorities.

Public Dashboard

A publicly accessible dashboard should be developed to track progress and provide transparency on climate action goals and priorities.

3rd Party Reporting

Participating in third-party climate reporting programs offers Bradford West Gwillimbury (BWG) several key benefits, ensuring greater transparency, rigor, and support in climate action efforts:

- **Federation of Canadian Municipalities** - Partners for Climate Protection (PCP): Supports the development of effective climate action plans with tools to set targets, track emissions, and assess progress.
- **Global Covenant of Mayors for Climate & Energy:** Offers a global framework for climate action, helping BWG align its efforts with best practices, access resources, and demonstrate leadership in addressing climate change.
- **Cities Race to Resilience & Race to Zero:** Provides resources, networking, and guidance to help BWG build climate resilience and meet its climate goals.
- **Climate Disclosure Project (CDP):** Enables benchmarking against global sustainability standards, ensuring transparent tracking of climate progress while enhancing accountability and performance.
- **Task Force on Climate-related Financial Disclosures (TCFD):** Aligns BWG with international climate reporting standards, improving financial transparency and helping mitigate climate-related financial risks. TCFD can be integrated with CDP, streamlining reporting efforts.

- BWG should consider participation in the PCP, Cities Race to Resilience, while also exploring the Task Force on Climate-related Financial Disclosures (TCFD) in the near future. This approach aligns with emerging regulatory requirements. Notably, TCFD reporting can be integrated within CDP, streamlining the process and enhancing accountability in climate-related disclosures.

Grants and Loans that Support Climate Action

Exploring various grants and external funding opportunities can help seed adaptation actions and alleviate the financial burden on BWG taxpayers. Below is a list of current funding opportunities currently available to the Town of BWG that could be leveraged to support actions identified in the Implementation Plan. It is recommended that this list be reviewed regularly to maximize the potential of aligning funding with priority actions.

Grants could include:

- **Eco Canada – Training and Wage Subsidy for Environmental Jobs**
  Could be used to support: Building green job capacity, contributing to BWG's economic resilience and sustainability goals.
- **FCM Green Municipal Program (GMF)**
  Could be used to support: Could be used to support: Energy-efficient upgrades, asset management, waste management, tree planting, and water conservation projects to reduce emissions and improve resilience.
- **FCM Local Leadership Climate Adaptation**
  Could be used to support: The development of climate adaptation plans, strengthening BWG's resilience to climate impacts.
- **Government of Ontario - Great Lakes Local Action Fund**
  Could be used to support: Water quality and climate resilience projects, benefitting BWG's natural area protection and water management efforts.
- **Government of Ontario - Ministry of Energy - Municipal Energy Plan Program**
  Could be used to support: Creating energy efficiency plans, reducing energy consumption, and promoting renewable energy initiatives in BWG.
- **Government of Ontario - Emissions Performance Program (EPP)**
  Could be used to support: Industrial GHG reduction projects, helping BWG meet its emissions reduction targets.
- **Infrastructure Canada - Disaster Mitigation Fund (DMAF)**
  Could be used to support: Resilience-building projects such as stormwater system upgrades to adapt to climate impacts.

EV ChargeON Program – Government of Ontario
Could be used to support the installation of electric vehicle (EV) charging infrastructure.

Grants and Loans that Support Climate Action ctd

- **Infrastructure Canada - Natural Infrastructure Fund**
  Could be used to support: Green infrastructure projects that improve environmental protection and increase community resilience to climate change.
- **Ministry of Sport - Community Sport and Recreation Infrastructure Fund (CSRIF)**
  Could be used to support: Sustainable retrofits for community sport and recreation facilities, aligned with BWG's green development goals.
- **NRCAN Canada Greener Homes Initiative**
  Could be used to support: Home energy retrofits, reducing emissions and energy consumption in residential buildings.
- **NRCAN Greener Homes Neighbourhood Pilot**
  Could be used to support: Deep energy retrofits for community housing, aiding BWG in achieving its GHG reduction targets.
- **Province of Ontario - Ontario Transit Investment Fund (OTIF)**
  Could be used to support: Low-carbon transit infrastructure projects, reducing transportation-related emissions in BWG.

Funding Mechanisms

To effectively implement climate action strategies, the Town of Bradford West Gwillimbury (BWG) should consider developing dedicated funding mechanisms to support the long-term implementation of the Climate Change Mitigation and Adaptation Strategy (CCMAS). Sustainable funding will ensure the success of climate action initiatives. The following options are recommended:

- **Revolving Climate Reserve:** A self-sustaining fund replenished through revenues such as fines or taxes, used to finance ongoing climate action projects. This model has been successfully implemented in cities like Edmonton and Whitby.
- **Green Bonds:** Financial instruments designed to raise capital for environmental projects. BWG could explore market feasibility, collaborate with financial experts, and structure bonds for climate initiatives, as seen in Ottawa and Vancouver.
- **Municipal Tax Levy:** A dedicated property tax increase to fund climate actions. This would require community consultations, legislative changes, and clear communication of the benefits, as practiced in cities like Peterborough and Halifax.
- **Grants and Loans:** External funding from government or international sources to support climate initiatives. BWG can prioritize identifying and applying for relevant grants to supplement local funding.

| Strategic Funding Recommendations

To ensure the effective implementation of the CCMAS, BWG should prioritize the following actions:

1. **Establish a Revolving Climate Funding Mechanism:** Create a specific funding mechanism for climate action projects, initially seeded with grants or project cost offsets and maintained from operational efficiencies to help create a way to monitor, and track the financial benefits of climate projects while also ensuring these benefits are reinvested into the implementation of the CCMAS to ensure the long-term financial sustainability of climate related initiatives.
2. **Prioritize Grants and External Funding:** Actively seek external funding opportunities to support climate initiatives, supplementing identified budgets to help reduce the costs of incorporating a climate lens.
3. **Consider a Municipal Tax Levy or Dedicated Fee:** Explore the option of a tax increase or a dedicated fee, such as a stormwater management fee, to fund climate action initiatives addressing extreme weather and climate risks.

These strategic funding mechanisms will ensure that BWG has the resources needed to implement and sustain its climate action efforts.

Conclusion and Looking Forward

Bradford West Gwillimbury (BWG) is already feeling the effects of climate change, with extreme weather events like heatwaves and storms becoming more common. To address these challenges, the town is focusing on both adapting to current conditions and reducing future climate risks.

The Climate Change Mitigation and Adaptation Strategy (CCMAS) takes a comprehensive approach, including actions for both the Town's operations and the broader community. The strategy is informed by a thorough climate risk assessment and a detailed GHG inventory, setting clear, science-based targets for reducing emissions and working towards net-zero by 2050. Interim goals for 2030 and 2040 will help keep progress on track.

In addition to its emissions reduction targets, the CCMAS is driven by four overarching goals:

- **Goal 1:** Strong Governance
- **Goal 2:** Resilient Low-Carbon Infrastructure
- **Goal 3:** Thriving Natural Environment
- **Goal 4:** Healthy and Prosperous Community

Equity is at the heart of the plan, ensuring that climate actions benefit all residents, particularly vulnerable groups. The town will continue to engage the community, monitor progress, and adapt strategies as necessary.

Through these actions, Bradford West Gwillimbury is not only addressing the climate challenges of today, but also building a more resilient and sustainable future for all.

Glossary

Adaptation
Adjusting social, economic, and environmental practices to minimize the negative impacts of climate change and capitalize on new opportunities.

Asset Management
A strategy for managing infrastructure and other assets to optimize performance, reduce costs, and ensure resilience to climate risks.

Carbon Budget
The total allowable amount of greenhouse gases (GHGs) that can be emitted to stay within a target global temperature limit (e.g., 1.5°C or 2°C).

Carbon Footprint
The total GHG emissions resulting from human activities, typically measured in carbon dioxide equivalent (CO2e).

CDP (Carbon Disclosure Project)
An organization that encourages transparency in environmental impacts, helping cities and businesses disclose their GHG emissions and climate-related risks.

Climate Change Mitigation
Efforts to reduce or prevent GHG emissions to limit global warming, including transitioning to renewable energy, improving efficiency, and reducing fossil fuel dependence.

Climate Resilience
The ability of a system or community to withstand, adapt to, and recover from climate impacts, such as extreme weather events or rising sea levels.

Climate Vulnerability
The degree to which a system or community is at risk from and unable to cope with the negative effects of climate change.

Energy Efficiency
Using less energy to perform the same tasks, which reduces GHG emissions and helps achieve sustainability goals.

Energy Poverty
A condition in which individuals or communities lack access to affordable, reliable, and clean energy services. Energy poverty disproportionately affects low-income and rural populations, exacerbating social inequality.

Equity
The principle of fairness in climate actions, ensuring that all communities, especially vulnerable populations, benefit from climate policies and actions.

Glossary (Continued)

Emission Reduction Targets
Quantifiable goals for reducing GHG emissions within a set timeframe to help meet climate commitments.

EV (Electric Vehicle)
A vehicle that runs entirely on electricity stored in batteries, producing zero tailpipe emissions and contributing to the reduction of GHGs when powered by renewable energy sources.

Fossil Fuels
Natural energy sources derived from organic materials, including coal, oil, and natural gas. Burning fossil fuels for energy is the largest contributor to GHG emissions and global warming.

GHG (Greenhouse Gas)
Gases, such as carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O), that trap heat in the atmosphere and contribute to global warming.

GHG Inventory
A comprehensive record of GHG emissions produced by a community, organization, or sector, covering sources like transportation, buildings, and waste.

Green Development Standards
Guidelines or certifications, like LEED, that promote sustainable building and infrastructure practices to minimize environmental impacts.

Green Infrastructure
Natural and semi-natural systems, like parks, wetlands, and green roofs, designed to enhance environmental sustainability, improve resilience, and mitigate climate change effects.

IPCC (Intergovernmental Panel on Climate Change)
An international scientific body that assesses climate change and its impacts, providing evidence-based recommendations for global action.

Low-Carbon Resilience
Combining efforts to reduce carbon emissions with strategies that build resilience to climate impacts, focusing on sustainable and adaptive practices.

Mitigation
Actions aimed at reducing or preventing the emission of GHGs to limit global temperature rise and reduce the impacts of climate change.

Net-Zero Emissions
A state where the amount of GHGs emitted is balanced by an equivalent amount of GHGs removed or offset, achieving no net increase in global warming.

Glossary (Continued 2)

Partners for Climate Protection (PCP)
A Canadian program supporting municipalities in reducing GHG emissions and taking climate action through planning and implementation.

PIEVC (Public Infrastructure Engineering Vulnerability Committee)
A framework to assess the vulnerability of public infrastructure to climate change and develop strategies for adaptation.

PHEV (Plug-in Hybrid Electric Vehicle)
A vehicle that combines an internal combustion engine with an electric motor and battery. It can be charged via an external source, reducing reliance on fossil fuels and lowering GHG emissions.

RCP (Representative Concentration Pathways)
Scenarios used by the IPCC to project different climate futures based on varying levels of GHG emissions.

Renewable Energy
Energy from sources that are naturally replenishing, such as solar, wind, and hydroelectric power, which have low or no GHG emissions.

Rights Holders
Individuals or communities with legal, cultural, or moral claims to resources that may be impacted by climate change, often involved in climate planning processes.

Sustainable Development
Development that meets current needs without compromising the ability of future generations to meet their own needs, balancing environmental, economic, and social factors.

Science-Based Targets
Climate targets that are based on the latest scientific data, often aligning with IPCC recommendations to limit global warming to 1.5°C or 2°C.

TCFD (Task Force on Climate-related Financial Disclosures)
A framework for companies and municipalities to disclose climate-related financial risks, promoting transparency and informed decision-making.

Transition Risks
Risks arising from the global transition to a low-carbon economy, including regulatory, market, and technological shifts that affect carbon-intensive industries.

Glossary (Continued 3)

Urban Resilience
The capacity of cities and urban areas to anticipate, prepare for, and respond to climate change impacts while maintaining functionality and sustainability.

Vulnerable Groups
Populations that are more susceptible to climate impacts due to socio-economic, geographic, or health factors, often including low-income groups, elderly individuals, and marginalized communities.

Vulnerability Assessment
The process of identifying and evaluating the risks of climate change on a community, infrastructure, or ecosystem to guide adaptation actions.

Low-Carbon Infrastructure
Infrastructure designed to minimize GHG emissions, incorporating energy-efficient technologies, renewable energy, and sustainable materials.

Bradford West Gwillimbury
A Growing Tradition

Climate Compass Advisors

Backcover