

REPORT Meeting Date: 2019-04-25 Regional Council

DATE: April 17, 2019

REPORT TITLE: REGION OF PEEL CLIMATE CHANGE MASTER PLAN UPDATE

FROM: Catherine Matheson, Commissioner of Corporate Services

RECOMMENDATION

That the five outcomes of the Climate Change Master Plan, as outlined in the report to the Commissioner of Corporate Services, titled "Region of Peel Climate Change Master Plan Update", be endorsed in principle.

REPORT HIGHLIGHTS

- The Region of Peel is positioned to drive climate change leadership in municipal government.
- The Region has committed to progressive climate change response through its Climate Change Statement of Commitment.
- The Region is developing a Climate Change Master Plan with five recommended outcomes: i) Reduce Emissions, ii) Be Prepared, iii) Build Capacity, iv) Invest, and v) Report and Monitor.
- The Climate Change Master Plan (the "Plan") will align with the Region's Corporate Social Responsibility Strategy and Long-term Financial Planning Strategy to position the needed climate change initiatives (new and existing), reach critical targets, achieve greater resilience, and enhance service outcomes in support of a resilient Community for Life.
- The Plan will be brought to Council for endorsement in Fall 2019.

DISCUSSION

The 2018 Intergovernmental Panel on Climate Change report warns that rising temperatures are having a profound effect on human and natural systems, including increases in droughts, floods, sea level rise and biodiversity loss. These changes are causing unprecedented risks to vulnerable persons and populations and the risk will increase exponentially in the future if not appropriately managed.

Mitigation of global greenhouse gas (GHG) emissions is vital to help avoid the more catastrophic weather events linked to global average temperature rise above 2 degrees Celsius. The Intergovernmental Panel on Climate Change is calling for a 45 per cent decrease in GHG emissions from 2010 levels by 2030 to keep global warming around a relatively manageable 1.5 degree Celsius increase. Although not the burden of any single entity, as the second largest municipality in Ontario, the Region must be prepared for a changing climate and contribute to slowing the rate of warming by reducing its GHG emissions.

The Ontario Provincial Budget 2019 is focused on advancing private sector investments by reducing energy costs, tax and regulatory burdens, and streamlining government approval processes across Ministries. The notable cut to the Ministry of Environment, Conservation and Parks by 38 per cent may eventually impact Peel's ability to fully address climate change as this ministry is responsible for delivering the Province's Environment Plan, which contains the commitments for fighting climate change. Multiple and recent postings on the Environmental Registry of Ontario (ERO) have spurred debate on how to address the collective threat of climate change; the Region has provided responses to past EROs and is in-process of working with Conservation Authorities (Toronto and Region Conservation Authority and Credit Valley Conservation) to understand implications to their core mandate and permitting responsibilities, which are the subjects of two active ERO postings. The Conservation Authorities are important partners with the Region and provide capacity to address issues like flooding and natural heritage system protection or restoration.

This rapidly evolving policy landscape presents the Region of Peel with an opportunity to build on its climate change experience and provide greater leadership to residents, businesses, and all municipalities. As a front-line service provider to many in the community, the Region will continue to 'lead by example' guided by a record of good governance and fiscal prudence while also responsive to the needs of future generations through a bold climate change plan.

1. Background

Climate Change Commitments

The Region of Peel has been addressing energy management and climate change for over a decade. In 2007, Regional Council adopted the Energy Management Plan, which set the foundation for integrating strong energy management principles into corporate practices. In this same year, the Region increased its capacity to deliver needed adaptation action by providing direct, annual climate change funding to Credit Valley Conservation and Toronto and Region Conservation Authority (a combined total of \$157,425,000 over past 11 years). Evolution on the issue of climate change resulted in Council endorsing the 2013 Energy and Environment Sustainability Strategy (Resolutions 2013 -180 and 2013 – 181) to replace the Energy Management Plan. This strategy provided an enabling framework to reduce corporate GHG emissions, ensure sustainable energy procurement and maintain regulatory compliance. While the Region has made and continues to make incremental progress on these fronts, the science on climate change has continued to evolve and even greater action is needed.

Over the past year, to avoid the more negative climate change projections, local governments around the world are declaring climate emergencies and calling on senior levels of government for a more urgent response. The climate emergency declaration is intended to accelerate municipal action to meet the urgency of climate change impacts and incorporate municipal-wide mobilization of action, including interdepartmental, intergovernmental and regional-wide coordination.

In 2017, by Resolution 2017-891, similar to the declaration of climate emergencies, Regional Council demonstrated its ongoing climate change leadership by endorsing the Climate Change Statement of Commitment (Appendix I). This Statement of Commitment ensures concrete action is taken to mitigate and adapt to the effects of climate change, provides tangible benefits for residents today, and ensures future generations will have access to resources that support a healthy, safe and connected community.

The endorsed Statement of Commitment sets forth the guiding principles and desired outcomes for Council to support a transition to a low carbon and resilient future. It aligns with the Community for Life vision and builds on the foundation of the 20-year strategic outcome to live in a community that is environmentally friendly. It acknowledges the Region's organizational long-term target to reduce GHG emissions 80 per cent below 1990 levels by 2050. Finally, it calls for the development of a Corporate Climate Change Master Plan to further define the Region's corporate responsibility and formalize the Region's position of leadership and comprehensive action plan for addressing climate change.

2. Region of Peel Climate Change Master Plan

The Climate Change Master Plan (the "Plan") proposes to set forth direction for how the Region will manage Regional assets, infrastructure, and services in a changing climate over the next decade, which provides clear comprehensive benefit to residents today and future generations. The Plan will have an organizational focus to compliment and support, not duplicate, the community climate change work being completed by local municipalities and conservation authorities as well as by Regional Waste Operations (through the Roadmap to a Circular Economy in the Region of Peel). The Plan will incorporate related Regional strategies, plans and projects such as the Inflow and Infiltration Strategy and Green Fleet Strategy that are already advancing climate work (see Appendix II for longer list of initiatives). Further, the Plan can strengthen the climate change connection to human health and human services through highlighting opportunities with other strategies that are in development or being implemented, such as the Peel Public Health Strategic Plan 2020-2030 and Peel Housing and Homelessness Plan.

This Plan is being developed following the Region's Corporate Social Responsibility Strategy that promotes consideration for environmental, social and financial benefits. The Plan intends to provide sufficient detail to decision-makers on how the challenge of climate change will be approached, yet still provide subject matter experts the flexibility to customize detailed project and work plans to achieve the intended climate change outcomes. The Plan development will be guided by four principles: balance, transparency, collaboration and innovation.

Staff are aligning the development of the Plan to five recommended outcomes. The proposed primary outcomes are to 'Reduce 'Emissions' and 'Be Prepared', which reflect the imperative to mitigate and adapt to the effects of climate change. The remaining three are supportive to the primary outcomes and are anticipated to enable success by providing direction to 'Build Capacity', 'Invest', and 'Monitor and Report' (see Table 1).

Table 1: Region of Peel Climate Change Master Plan Recommended Outcomes

Outcomes	Description
Primary	
Reduce Emissions	A sustainable community is provided through progressive leadership committed to reducing the organization's GHG emissions to 45 per cent below 2010 levels by 2030; and a sustainable community for future generations is maintained
Be Prepared	A safe, secure and connected community is provided by ensuring Regional services and assets are more resilient to extreme weather events and future climate conditions

Supporting	
Build Capacity	Climate change is considered in all decision-making through organization-wide climate literacy, planning and accountability
Invest	Innovative and sustainable approaches are used to invest in climate change
Monitor and Report	Progress on addressing Regionally funded climate change work is consistently reported, available and widely understood

Using the recommended outcomes of the Plan as a guide, the following sections serve to frame the approach and need for the Region to deepen and accelerate its climate change response.

Outcome: Reduce Emissions - A sustainable community is provided through progressive leadership committed to reducing the organization's GHG emissions to 45 per cent below 2010 levels by 2030; and maintaining a sustainable community for future generations

As the climate continues to rapidly change there is an increasing need to respond with bold solutions that will reduce GHG emissions from the following organizational sources; buildings, fleet and industrial processes. The best available science supports the target setting of 45 per cent reduction of GHGs below 2010 levels by 2030 to avoid dangerous warming in future decades. The Plan will explore fundamental assumptions on how the Region builds and operates infrastructure and assets, including employing net zero emission options.

Outcome: Be Prepared - A safe, secure and connected community is provided by ensuring Regional services and assets are more resilient to extreme weather events and future climate conditions

As extreme weather events are increasing in frequency and intensity across the region, attention needs to be paid to quantifying climate change vulnerabilities of Regionally owned assets and expanding green infrastructure. The Plan will explore the need to develop climate scenarios and other tools to further support capital planning, level of service reviews and weather-related emergencies.

Outcome: Building Capacity - Climate change is considered in all decision making through organization-wide climate literacy, planning and accountability

As the threat of climate change continues to heighten so must the Region's capacity to respond and make informed decisions. The Plan will consider outlining the actions to build capacity through a three-pronged approach that clarifies responsibilities, communicates knowledge, and equips staff.

Outcome: Invest - Innovative and sustainable approaches are used to invest in climate change

There is a clear need to invest more today to safeguard the future and be prepared for the inevitable climate change impacts in the near-term. Investing in climate change will align with

the principles of the Region's Long-term Financial Planning Strategy, consider full lifecycle costs, and embed climate change considerations into capital plans. Peel's recently updated Asset Management policy includes climate change considerations, which informs future capital planning for both new infrastructure as well as state of good repair.

In 2006, Regional Council established Reserve R1288 to dedicate toward energy management and climate change initiatives. This funding is being utilized to support a limited number of climate change initiatives. Future capital plans, fully informed by climate change requirements, will inform sustainable funding requirements. Peel's updated asset management plan ensures eligibility to access federal and provincial infrastructure funding opportunities that require a climate change lens.

Outcome: Monitor and Report- Progress on addressing Regionally funded climate change work is consistently reported, available and widely understood

It is a municipal best practice to validate the value and impact of Regional services and operations for businesses and residents. The Plan will explore comprehensive reporting mechanisms and key performance indicators that can appropriately encompass and connect climate change work by internal departments and the Conservation Authorities. Improving coordination, ensuring alignment to strategic priorities, and enabling reporting efficiencies will be central to defining this outcome.

Approach to Date

In Fall 2018, the Region retained the services of Sustainability Solutions Group to support the development of the Plan. This has been a highly inclusive process, involving all Director Leadership Teams and 87 Regional staff, covering 17 service outcomes. The full achievement of the proposed Plan outcomes will require both organizational-wide commitment and continued leadership from Regional Council; making opportunities to engage with Council and receive feedback highly valued and appreciated.

3. Next Steps

Given Regional Council's endorsement at this stage of Plan development, staff will work towards finalizing the Plan, including seeking stakeholder engagement with partner members of Peel's Community Climate Change Partnership, which has representation from all three lower municipalities and both conservation authorities. The Plan will be brought to Council for endorsement in Fall 2019.

CONCLUSION

C. Math

Through the Plan, the Region of Peel will develop a common language and deep clarity for how to advance the organization's climate change agenda. This will lead to more robust and transparent decision-making; acceleration of the ability to achieve a resilient Community for Life; and deliver those benefits to residents and generations to come.

Catherine Matheson, Commissioner of Corporate Services

Approved for Submission:

J. Sheehy, Acting Chief Administrative Officer

APPENDICES

Appendix I - Climate Change Statement of Commitment Appendix II - Current Climate Change Initiatives

For further information regarding this report, please contact Christine Tu, Director, Office of Climate Change and Energy Management.

Authored By: Christine Tu



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CLIMATE CHANGE STATEMENT OF COMMITMENT

A. PREAMBLE

Climate change is one of the greatest challenges facing our global society. There is clear evidence that human induced climate change is having an increasingly negative impact on the environmental, economic and social conditions of our communities.

Effective responses to these trends will require a strong foundation of governance as well as coordinated action across multiple levels of government, community organizations and businesses.

Thinking about how we plan our communities while managing the impacts of climate change is important as we transition to a low carbon and resilient community. The Region of Peel is committed to leadership and action on this important societal issue, as concrete actions to mitigate and adapt to the effects of climate change will lead to a sustainable community for future generations.

B. PURPOSE

This policy statement is to convey to the residents of Peel Region the strong commitment of Regional Council with respect to climate change governance and action.

The commitment is aligned to Regional Council's vision of a Community for Life for Peel residents and the 20 year outcome to live in a community that is environmentally friendly. In addition, there is alignment with the Government of Ontario and Government of Canada's direction related to climate change and energy efficiency which supports the transition to a low carbon and resilient future.

The principles and outcomes as articulated in this policy will serve to establish a framework for collective action on climate change in Peel Region, as well as guide the Region's own action plans and strategies to mitigate and adapt to climate change.

C. SCOPE

The policy statement outlines Regional Council's commitment to addressing climate change.



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CLIMATE CHANGE STATEMENT OF COMMITMENT

It sets out a framework of principles and expected outcomes that will guide the work of the Region in this important area of public policy.

D. POLICY STATEMENT

Regional Council will ensure concrete action is taken to mitigate and adapt to the impacts of climate change, to provide tangible benefits for residents today, and ensuring future generations will have access to resources that support a healthy, safe and connected community.

The following principles are reflective of Council's oversight to ensure progress in addressing climate change:

Engagement: Establishing a coordinated and collective approach to addressing climate change, since no one institution can solve this complex issue.

Balanced Approach: Strategies and actions will strike a balance between growth and environmental stewardship.

Transparency: Ensuring that the residents of Peel are aware of the long term outcomes expected by Council and receive regular reporting of progress.

Innovation: Encouraging innovative approaches and technologies to have the maximum impact on climate change.

The following are the expected outcomes:

- 1: Progress is made in addressing climate change, through:
 - Council Oversight: This policy clearly outlines Council's position with respect to climate change and the expected outcomes. To support this direction, a climate change lens is applied to ensure that direction pursued in one area does not have unintended consequences on climate change. As well, regular reviews are conducted of climate change plans and strategies to ensure that progress is being made in relation to targeted outcomes and metrics.
 - Management Execution: The Regional administration develops and implements a complementary policy direction and a climate change



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CLIMATE CHANGE STATEMENT OF COMMITMENT

master plan to realize the vision and expectations of Regional Council.

- Public Disclosure/Accounting: Council reports annually to the community on climate change actions and impacts. As well an annual corporate inventory of greenhouse gas (GHG) emissions is provided in relation to a clearly established target and baseline.
- 2: Reduce the carbon footprint of Regional Operations and ensure Regional infrastructure can adapt to the effects of climate change.
 - Develop and use green standards to further reduce emissions and support adaptation in our communities
 - Respond to changes in the climate through adaptation programs and a service sustainability approach
- 3: Implement collective, community action related to climate change.
 - Together with our community partners, advance targeted measures in the form of a Peel Climate Change Strategy to achieve collective impact
 - Work with Region of Peel funded agencies, boards, and third party vendors to ensure alignment to the outcomes of this policy

APPENDIX II REGION OF PEEL CLIMATE CHANGE MASTER PLAN UPDATE

Regional Municipality of Peel

Climate Change Mitigation and Adaptation related Strategies and Projects

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STRATEGIES	DESCRIPTION
Official Plan Policy	 Overarching theme is sustainability, or meeting the needs of the present, without compromising the ability of future generations to meet their needs Region's environmental imperative seeks to reduce greenhouse gas (GHG) emissions and other pollutants while promoting best practices of sustainable development Recognizes the Region as municipal leaders in energy efficiency, citing support for policies to reduce reliance on carbon-based fuels, investing in renewable generation, and promoting energy conservation and demand management programs
Peel Climate Change Strategy (2011)	 Recognizes the urgent need to respond to climate change at the local level Defined the potential impacts of climate change in Peel Included mitigation strategies to reduce GHG emissions and adaptation strategies to prepare for and avoid community impacts
Energy Conservation and Demand Management Plan (2014)	 Produced in accordance with O.Reg. 397/11. Four goals for energy planning: Reduce GHG emissions to 80% below 1990 levels; Ensure sustainable energy procurement; Educate employees through energy awareness workshops; and Proactive and responsive planning and leadership Update coming in July 2019
Corporate GHG Inventories	 Includes energy and GHG emissions data for buildings and street lighting, vehicle fleet, wastewater and waste Completed using Partners for Climate Protection (PCP) method, an initiative of the Federation of Canadian Municipalities (FCM) and ICLEI
Corporate Climate Change Statement of Commitment (2017)	 Endorsed by Regional Council Outlined principles of Engagement, Balanced Approach, Transparency, and Innovation for Council to ensure progress on addressing Climate Change Outlined expected outcomes of Council Oversight, Management Execution, and Public Disclosure/Accounting Acknowledges GHG reduction target and need for annual reporting

APPENDIX II REGION OF PEEL CLIMATE CHANGE MASTER PLAN UPDATE

Roadmap to a Circular Economy (2017) Green Fleet	 Developed to ensure that Peel's waste management system can handle continuous growth to reach the 75% diversion target by 2034. Aspirational goals: A circular economy with zero waste from residential sources in the Region of Peel; and Zero greenhouse gas emissions from residential waste management. Outlines 15 actions to reduce GHG emissions in the Region's fleet
Strategy (2018)	 (excluding Police) Short-term actions include identifying and capitalizing on idling reduction opportunities, right vehicle sizing, high ethanol content and biodiesel fuel, electric light-duty vehicles, and compressed natural gas heavy-duty vehicles. In the long term the strategy highlights the potential for renewable natural gas (RNG) in heavy duty vehicles and increasing prevalence of battery electric vehicles
Water Efficiency Strategy (2013)	The strategy looks to reduce community peak water demands, meet legislative water efficiency requirements, keep water demands consistent with the GTA and manage water system loss. *Currently being updated*
Sustainable Transportation Strategy (2018)	 Builds on 2012 Active Transportation Plan 2018-2022 timelines Provides a framework for how the Region will: increase the current 37% share of trips by walking, cycling, transit, carpooling and telework in Peel Region, to achieve a 50% sustainable mode share by 2041, accommodate growth in a way that prioritizes environmental, societal and economic sustainability, and contribute to a Regional transportation system that is safe, convenient, efficient, multi-modal, well-integrated and sustainable.
Community Vulnerability Assessments (2016-2018)	 Community-based vulnerability assessments competed across a variety of sectors: Natural Systems, Community Services and Assets, Agricultural Systems, Climate Trends and Future Projections, and Water Infrastructure Systems
Inflow and Infiltration (I/I) Reduction and Mitigation Strategy (In Progress)	 Aims to reduce the risk of basement flooding during severe weather events (caused by sewer backups). Identifying mitigation plans in target areas for both inflow and infiltration across Peel Implemented new sanitary sewer design and construction standards to ensure new and rehabilitated infrastructure works to reduce the risk of sewer back-ups due to severe weather events.
Wastewater Energy Security and Initiatives Study (In Progress)	Evaluating technical solutions for district energy, heat recovery, on-site generation, treatment capacity constraints, and power reliability.

APPENDIX II REGION OF PEEL CLIMATE CHANGE MASTER PLAN UPDATE

Peel Housing and Homelessness Plan (In Progress)	 Provides direction for new affordable housing units with consideration for sustainable building design
2020-2030 Peel	 Includes climate change as a priority and potential health impacts
Public Health	
Strategic Plan	
(In Progress)	

PROJECT TYPES	DESCRIPTION
High-Performance New Construction	LEED certification achieved for new builds in Paramedics and Affordable Housing building portfolios
Renewable Energy	Solar photovoltaics for electricity generation, solar thermal collectors for domestic hot water production, and solar walls for space heating applications
Electric Vehicles and Infrastructure	Electric vehicles have been added to the municipal fleet. Electric vehicle charging stations installed across Regional facilities for staff and fleet use
Enhancing Energy Performance in Existing Buildings	Capital upgrades and recommissioning work carried out across all building portfolios to enhance the efficiency of lighting, heating, ventilation, air conditioning, building envelope, and process loads
Street Lighting	Collaborated with Area Municipalities to convert street lights and traffic signals to Low Emitting Diode (LED) technologies
Sustainable Procurement	Bi-weekly waste collection contracted to two vendors with compressed natural gas fueled refuse trucks
Regional Roads Stormwater Management	Implemented low impact development (LID) technologies in the Mississauga Rd. expansion for better stormwater management
Regional Facilities Stormwater Management	Installed on-site stormwater management features (bio-swales, green roofs, etc.) at Paramedics, Community Recycling Centre, and Long Term Care sites.



Climate Change Master Plan

A bold path forward

Director, Office of Climate Change and Energy Management, Corporate Services Christine Tu,

https://climateclock.net/

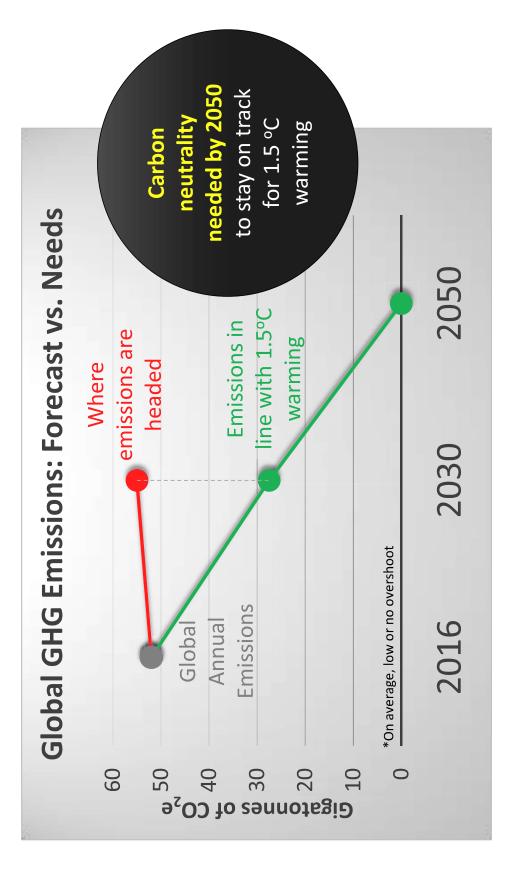
Difficult decisions

Leaders face pressure from all angles



Next decade matters

The world is not on track to limit the temperature rise to 1.5 °C



Data Source: IPCC Special Report on the impacts of global warming of 1.5°C (2018)

Graphic Source: World Resources Institute

Next decade matters

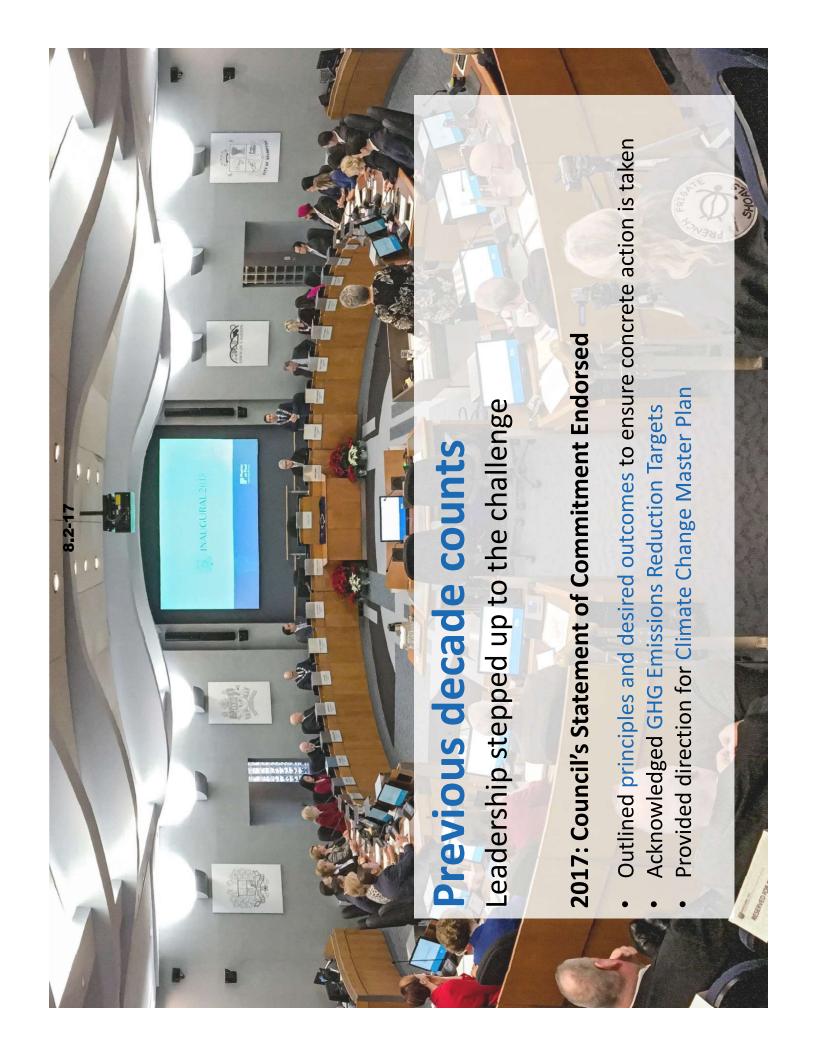
The Region is not immune to the effects of climate change

By mid-century the Region is projected to be warmer, wetter and wilder



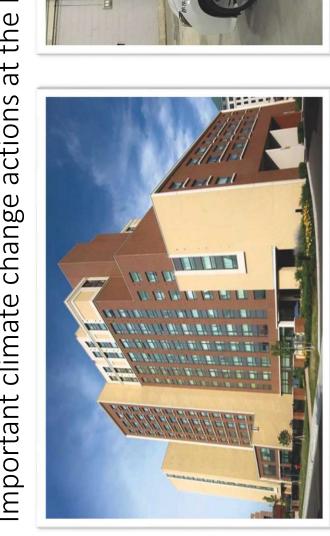






Previous decade counts

Important climate change actions at the Region





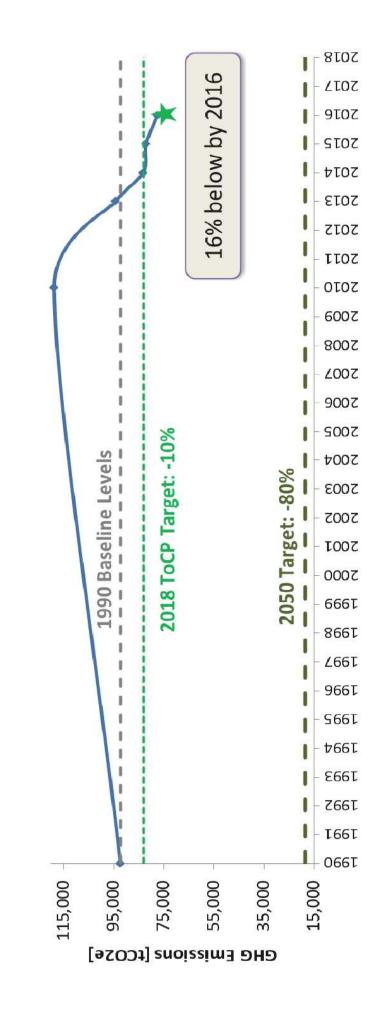




8.2-19

Previous decade counts

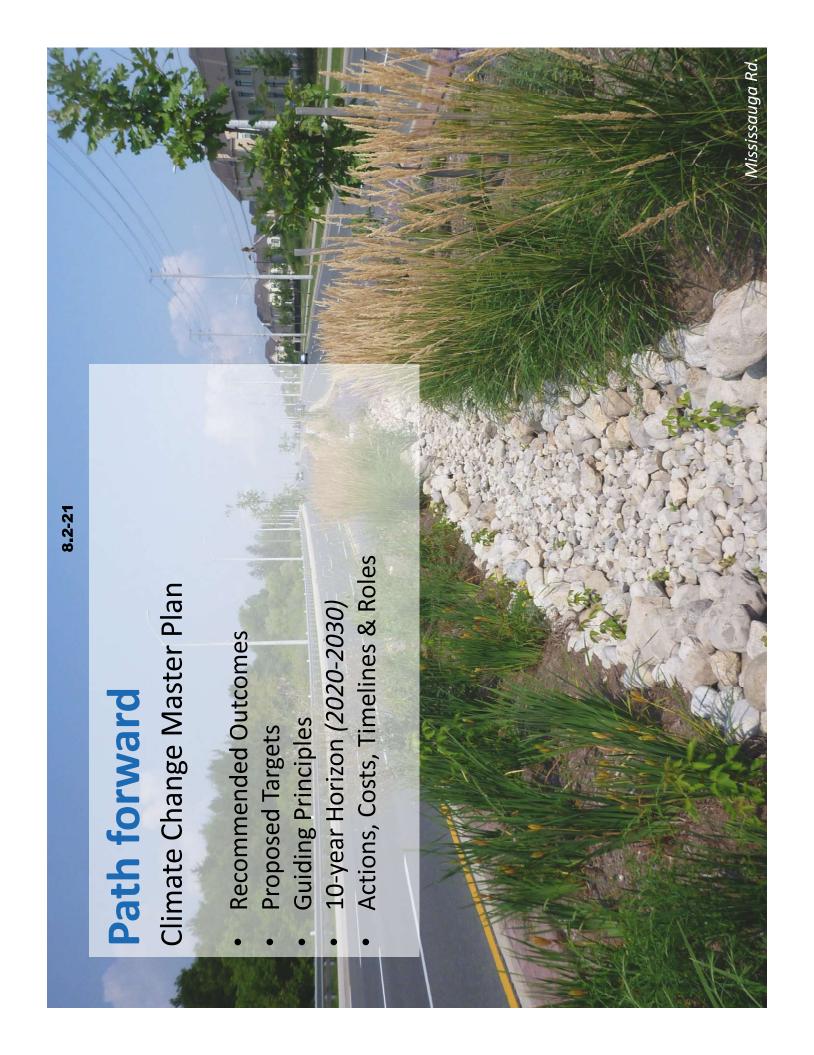
The Region's Organizational GHG Emissions are dropping



And counts even more!

From collaboration towards resilience





Path forward: Outcome # 1

The Region can Reduce Emissions

committed to reducing the organizational GHG Emissions are 45% below 2010 levels by 2030; and sustainable community for future generations A sustainable community is provided through progressive leadership

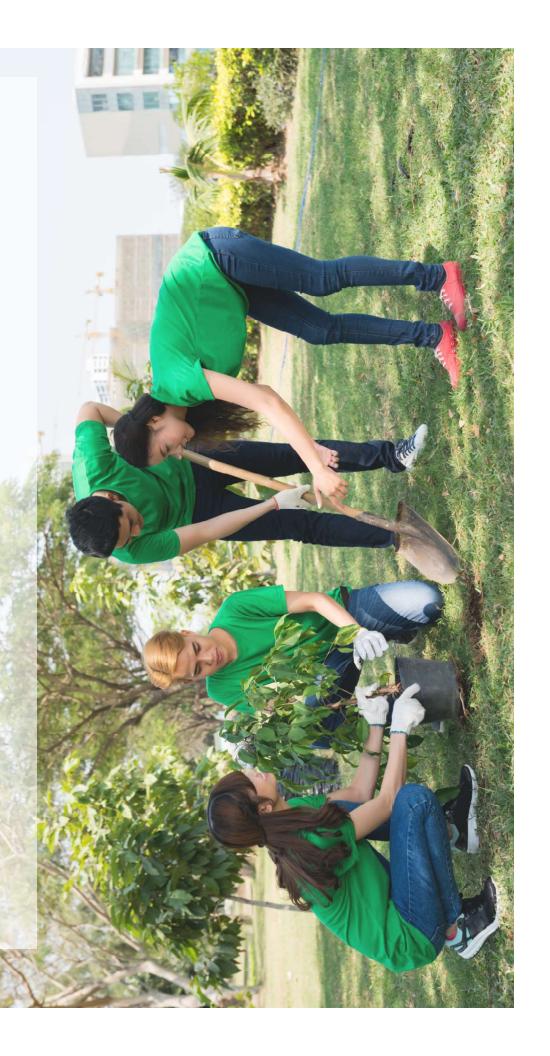




Path forward: Outcome # 2

The Region can Be Prepared

A safe, secure and connected community is provided by ensuring Regional services and assets are more resilient to extreme weather events and future climate conditions



Path forward: Outcome # 3

The Region can Build Capacity

Climate change is considered in all decision making through organization-wide climate literacy, planning and accountability







Path forward... recommended outcomes

#1 Reduce Emissions

#2 Be Prepared

#3 Build Capacity

#4 Invest

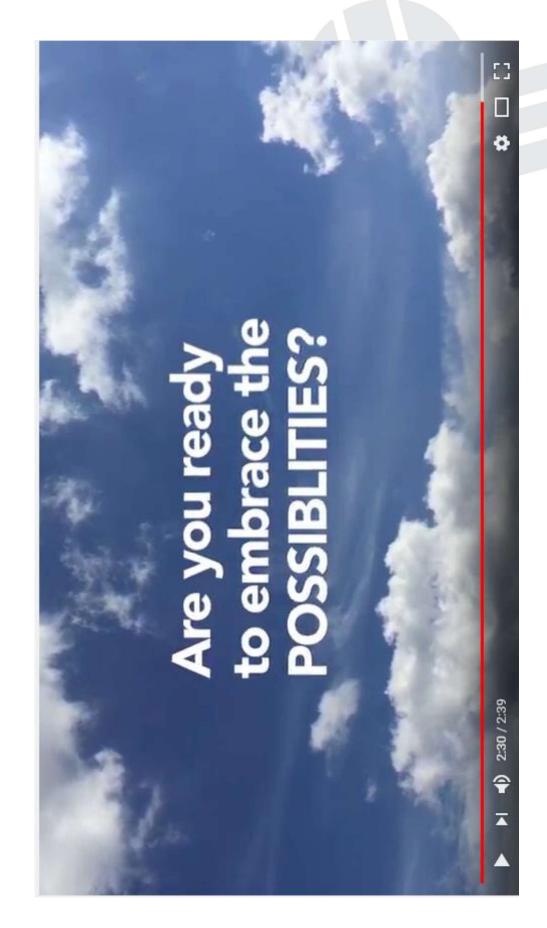
#5 Monitor & Report

Climate Change Master Plan for approval by Council, Fall 2019



Climate Change in Peel Region

https://youtu.be/g57fbUv4wyE



Community for Life

Living

Thriving

Leading



People's lives are improved in their time of need.



Communities are integrated, safe and complete.



Government is future-oriented and accountable.

Thank You!

Office of Climate Change and Energy Management