WECEC Coordinator Monthly Report

– January 2018 –

Ongoing Initiatives

1. Updates

A. Green Speaker Series

Michael Schneider presented to the WECEC in the October meeting to secure his spot with the final Green Speaker Series of 2017 for November 22, 2017 with his energy efficient home. Michael offered insight on how to achieve an energy efficient home even if it is an older home in Windsor.

B. Before the Flood Screening

The screening of "Before the Flood" discussed climate change and the need for action. A total of two screenings were offered along with a panel of environmental experts to facilitate discussion. The first screening was offered to Riverside and Massey High Schools where the students were extremely engaged and passionate to discuss the environment, specifically local environmental actions. The evening panel was well attended where Windsor Essex community members were interested in environmental actions and wanted to learn more about climate change.

C. Environmental Master Plan Public Engagement

Consultation period started November 1st, 2017 and ended January 1, 2018. Originally, 6 dates were set for the engagement, but after feedback from residents two more events were scheduled to capture residents in Riverside and South Windsor.

D. Microbeads in Toiletries Regulations Coming into Force January 1, 2018

The Microbeads in Toiletries Reuglations came into force January 1, 2018 which puts microbeads on the List of Toxic Substances in Schedule 1 of the *Canadian Environmental Protection Act, (1999).* Microbeads are not to be manufactured or imported; for natural health products or non-prescription drugs, the prohibition applies on or after July 1, 2018. The prohibition for the selling of toiletries with microbeads, unless they are natural health products or non-prescription drugs, applies July 1, 2019.

2. Reports to Council

<u>October 26, 2017 – Report 100 of the Windsor Essex County Environment Committee</u>

Your Committee submits the following recommendation:

Moved by D. Coronado, seconded by D. Grant,

WHEREAS, the City of Windsor has committed to enhancing the quality of Windsor's natural environment; and

WHEREAS, the property known as Ojibway Shores and owned by the Windsor Port Authority, has important natural heritage characteristics, including significant wetland, habitat of threatened and endangered species, significant woodlands, significant wildlife habitat, ecological function, diversity, significant species, significant communities, and condition; and

WHEREAS, the 2020 biodiversity goals and targets for Canada include by 2020 at least 17 percent of terrestrial areas are conserved; and

WHEREAS, the Government of Canada is the sole shareholder of the Windsor Port Authority;

THERE BE IT RESOLVED that the City of Windsor request the Government of Canada conserve the significant natural condition, biodiversity and biological function of the Ojibway Shores property as an environmentally protected area.

Carried.

WECEC Budget – Summary

2018 Budget			
Item	**Credit**	**Estimated Expenditure**	**Status**
2018 Budget	$8,000.00		
Pat on the Back		$2500.00	
Green Speaker #1		$1000.00	
Green Speaker #2		$1000.00	
Movie Screening		$2000.00	
Website Hosting and Domain Fee		$450.00	
Earth Day		$35.00	
TOTALS	$8,000	$6,985.00	
NON-ALLOCATED REMAINING		**$1015.00**	

WECEC Coordinator Monthly Report

– January 2018 –

WECEC Work Plan 2018

Strategic Direction #1 – WECEC Collaborations		
GOALS	**ACTIONS**	**TIME FRAME**
Goal: Improve relationships with City and County Councils.	Prepare an annual report of accomplishments and send to City and County Councils, environmental organizations, boards etc.	Yearly
	Continue to have WECEC events in different areas of Essex County	Ongoing
Goal: Improve relationships with other organizations, committees.	Hold a meeting with other environmental organizations and committees to share information	Yearly
	Continue to pursue opportunities for partnering on community education/public awareness	Ongoing
	Hold annual Pat on the Back Awards presenting $2,000 to local environmental organizations and schools.	Yearly
Strategic Direction #2 – Advocacy		
GOALS	**ACTIONS**	**TIME FRAME**
Goal: Provide advice on environmental issues to the City of Windsor, County of Essex and its area municipalities.	Assess issues referred from City and County Councils and respond with suggested recommendations	Ongoing
	Provide recommendations to City and County Councils on environmental matters identified through our own initiative.	Ongoing
Goal: Advocate for environmental groups in Windsor Essex County.	Accept delegations from environmental groups and advocate on behalf of these groups to City and County Councils.	Ongoing
Goal: Provide advice to City and County Council related to Federal and Provincial initiatives.	Develop recommendations related to Federal and Provincial plans, policies and initiatives to be forwarded to City and County Councils.	Ongoing
Strategic Direction #3 – Public Engagement and Education		
GOALS	**ACTIONS**	**TIME FRAME**
Goal: Increase awareness of WECEC by the public.	Maintain a website and Facebook page.	Monthly
	Strategically identify and attend community events	Ongoing
	Maintain a professional display for participation at community events	Ongoing
Goal: Increase engagement of public on environmental issues	Develop environmental education campaigns and messaging to help inform Windsor Essex County residents about environmental issues	Ongoing
	Host free knowledge sharing events with environmental experts highlighting environmental issues.	Ongoing

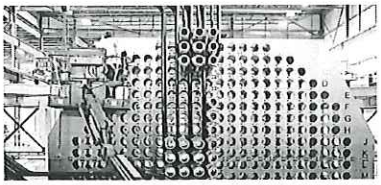
– January 2018 –

List of Priorities (including but not limited to)

- Greening the City – specifically more green roofs and other types of green infrastructure
- Walkability, complete streets, trails, active transportation
- Review of existing tree cutting bylaw
- Pollution issues, cancer causing environmental issues
- Right to Know by-law
- Parkway natural areas
- Awareness of local climate change impacts and threats
- Know Your City tour
- Involvement in surrounding Municipal events and actions
- Invasive species awareness and control
- Youth engagement
- Anti-Idling
- Bike Lanes

Current List of Subcommittees

1. Air
2. Environmentally Sensitive Lands and Issues



ONTARIO'S
LONG-TERM
ENERGY PLAN
2017

Delivering Fairness and Choice

Ontario

9.1

CONTENTS

CHAPTER 3.
INNOVATING TO MEET THE FUTURE

CHAPTER 4.
IMPROVING VALUE AND PERFORMANCE FOR CONSUMERS

2017 Long-Term Energy Plan

Minister's Message

Ontario's 2017 Long-Term Energy Plan is principally focused on the consumer while ensuring a reliable and innovative energy system. *Delivering Fairness and Choice* makes an important commitment: we will strive to make energy more affordable, and give customers more choices in their energy use, ensuring that Ontarians and their families continue to be at the center of everything we do.

Ontarians are benefiting from the years of investment we have made in the province's electricity system. We can be proud of what we have all accomplished. These investments mean we no longer have to worry about brownouts or blackouts. By eliminating coal-fired generation, we now have an electricity system that is more than 90 per cent free of emissions that cause climate change. The phase-out of coal-fired generation and our investments in clean generation have contributed to dramatically improved air quality in Ontario – smog advisories have dropped from 53 as recently as 2005 to zero in 2016. This means that our children can play outside without their health being threatened by smog and air pollution. Our investments are delivering a robust supply of electricity, one that is expected to meet Ontario's electricity demand into the middle of the next decade, and makes us well positioned to plan for and meet future challenges. Our success in building a clean and reliable electricity system means we can maintain our focus on helping Ontarians and their families.

We have already taken steps through Ontario's Fair Hydro Plan to make the electricity system as affordable as possible. Ontario's Fair Hydro Plan reduced electricity bills for residential consumers by an average of 25 per cent and will hold any increases to the rate of inflation for four years. These benefits aren't limited to residential consumers; as many as half a million small businesses and farms are also benefiting from the reduction. Lower-income Ontarians and those living in eligible rural and northern communities are receiving even greater reductions, as much as 40 to 50 per cent. These measures were the right thing to do. They're better for Ontario, and fairer for families.

Delivering Fairness and Choice would not have been possible without your suggestions and advice. This Plan is the product of the most extensive consultations and engagements my ministry has ever undertaken. Thousands of organizations, communities, businesses and citizens wrote to us. Hundreds came to the 17 open houses that were held across the province. We also engaged with representatives of more than 100 different First Nation and Métis organizations and communities.

In written submissions and at meetings, you told us that affordability is a top priority and that you wanted more control and choice over how you use and pay for electricity. Our government has listened to what you had to say. *Delivering Fairness and Choice* recognizes that a retired couple in London uses energy differently than a condo-dweller living in Vaughan. Pricing pilots are underway to help inform new electricity pricing plans that could give consumers greater choice, and the ability to reduce their monthly electricity bills.

Delivering Fairness and Choice ensures that consumer protection remains a top priority for this government. We have already given the Ontario Energy Board the authority to prohibit disconnections when customers are more vulnerable, such as over the winter months. We will now give added protection to consumers living in condominiums and other multi-unit residential buildings who are billed for electricity by private companies that provide metering services to their unit. These consumers will benefit from increased oversight of fees charged by those providers. Consumers will also benefit from the Board's new *Consumer Charter*, which ensures all energy consumers have the right to a fair, reasonable and timely process for resolving their complaints.

On another front, the Ministry of Energy is working with local distribution companies to redesign electricity bills to give consumers easily accessible information they find valuable and can use. The electricity bill is, after all, the most common way for consumers to receive information about their electricity system.

Ontario is helping consumers keep pace with rapidly changing technology. The costs of new wind and solar energy installations are coming down, and new smart grid and storage technologies are becoming more readily available. Updates to the Province's net metering framework will increase the ability of consumers to generate their own renewable electricity and receive a credit on electricity bills for any extra power they send to their local distribution company.

All of this is possible because Ontario has a stable electricity system that produces a steady supply of electricity. *Delivering Fairness and Choice* is using this opportunity to move ahead with innovative ideas for managing the system and reducing costs. Initiatives such as Market Renewal will ensure the province has appropriate sources of electricity at the lowest possible price. This initiative could save Ontarians up to $5.2 billion over a 10-year period.

Energy is key to the well-being and prosperity of the people of Ontario. Our plan will ensure we can all depend on a clean and reliable supply of affordable energy to power our households and businesses for many years to come. From this position of strength, we are able to make an important commitment to Ontario's energy consumer: that we will strive to give consumers more choices in their energy use and ensure that Ontarians and their families will continue to be at the heart of everything we do.

Glenn Thibeault
Minister of Energy

EXECUTIVE SUMMARY

Overview

The 2017 Long-Term Energy Plan, *Delivering Fairness and Choice*, builds on the years of investment that Ontarians made to renew and clean up the province's electricity system. As a result of phasing out coal-fired electricity generation in 2014, emissions for Ontario's electricity sector are forecast in 2017 to account for only about two per cent of the province's total greenhouse gas emissions. The province's robust supply of electricity will be sufficient to meet Ontario's foreseeable electricity demand well into the next decade. This leaves the province well positioned to plan for and meet future challenges.

Ontario's success in building a clean and reliable energy system means we can renew our focus on helping Ontarians and their families. That is the key priority of *Delivering Fairness and Choice*. The government has already brought in a number of measures to reduce electricity costs. The *Fair Hydro Act, 2017* reduced electricity bills for residential consumers by an average of 25 per cent and will hold any increases to the rate of inflation for four years. Ontario's Fair Hydro Plan is also helping as many as half a million small businesses and farms. Lower-income Ontarians and those living in eligible rural and northern communities are receiving even greater reductions, of as much as 40 to 50 per cent. *Delivering Fairness and Choice* will continue our focus on managing electricity system costs over the long term.

Since the release of the 2013 Long-Term Energy Plan (LTEP), Ontario has taken a number of measures to combat climate change. These include the passage of the *Climate Change Mitigation and Low-Carbon Economy Act, 2016*, the introduction of Ontario's cap and trade program, and the release of the first Climate Change Action Plan. *Delivering Fairness and Choice* builds on the province's leading role in the global fight against climate change

Stantec Consulting Ltd.
100-140 Ouellette Place, Windsor ON N8X 1L9

December 4, 2017
File: 165620132

Attention: Ms. Averil Parent
Coordinator
Windsor Essex Environment Committee
c/o 350 city hall square west
Windsor, ON N9A 6S1

Dear. Ms. Parent

Reference: Notice of Study Commencement
Class Environmental Assessment – Combined Sewer Overflow Control In The Riverfront Area West of Caron Avenue, City of Windsor

The City of Windsor has initiated a Municipal Class Environmental Assessment (Class EA) to investigate and report on the preferred means of controlling combined sewer overflows (CSOs) in the study area along the Riverfront lands extending from the C.M.H. Woods Pumping Station at Caron Avenue west to the Lou Romano Water Reclamation Plant (LRWRP). The Class EA will also include revisiting wet weather flow conditions at the LRWRP to determine if any CSO control alternatives may also help to alleviate wet weather flows at the plant. A copy of the Notice of Study Commencement for the project is attached.

This study is being carried out in accordance with the planning and design process for Schedule 'C' projects outlined in the Municipal Class Environmental Assessment (October 2000, as amended in 2007 and 2011), which is approved under the Ontario Environmental Assessment Act. The Class EA planning process includes public and agency consultation, an assessment of the potential effects of the proposed improvements, and the identification of measures required to mitigate any adverse effects. Upon completion of the study. an Environmental Study Report (ESR) will be prepared and made available for a 30-day public review period.

On behalf of the City of Windsor, we are inviting you to participate in this project and to assist us in identifying the environmental. social and cultural values your community may have within the Project Area. A reply by January 18. 2018 would be appreciated so that we may consider your comments early in the design stage. A comment form is enclosed to facilitate your input.

If you have any comments or concerns regarding this project and wish to provide input into the Study, please contact either the undersigned or one of the individuals named in the enclosed material.

Regards.

STANTEC CONSULTING LTD.

Jian Li. Ph.D., P. Eng., PE
Project Manager
Phone: (519) 966-2250
Fax: (519) 966-5523
jiian.li@stantec.com

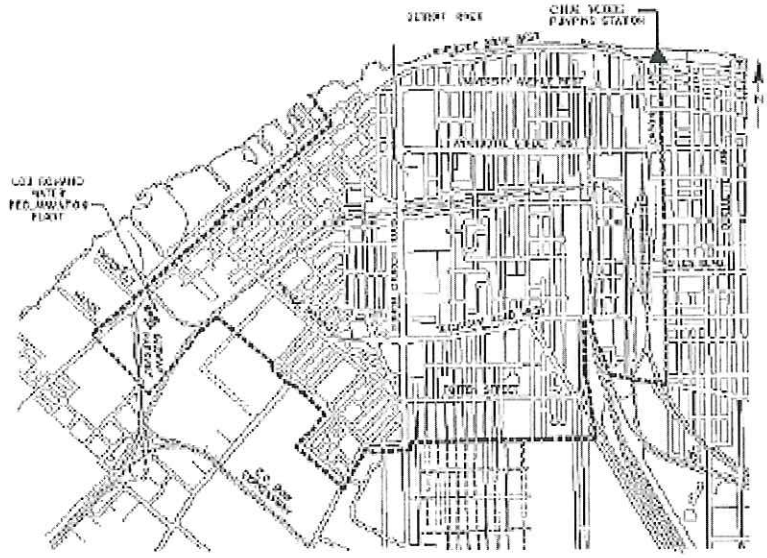
Attachment: Notice of Study Commencement, Response Form

c. Mr. Ed Valdez, Manager of Process Engineering & Maintenance, City of Windsor

THE CITY OF WINDSOR
ONTARIO, CANADA

NOTICE OF STUDY COMMENCEMENT CLASS ENVIRONMENTAL ASSESSMENT COMBINED SEWER OVERFLOW CONTROL IN THE RIVERFRONT AREA WEST OF CARON AVENUE

The City of Windsor has initiated a Municipal Class Environmental Assessment (Class EA) to investigate and report on the preferred means of controlling combined sewer overflows (CSOs) in the study area along the Riverfront lands extending from the C.M.H. Woods Pumping Station (CMHWPS) at Caron Avenue west to the Lou Romano Water Reclamation Plant (LRWRP). The Class EA will also include revisiting wet weather flow conditions at the LRWRP to determine if any CSO control alternatives may also help to alleviate wet weather flows at the plant.



This Class EA is the final piece in an overall pollution control strategy that was set out in the Windsor Riverfront Pollution Control Planning Study (PCP Study). The PCP Study, which was completed by the City in 1992, established a pollution control plan for the Riverfront area consisting of four main recommendations to reduce CSOs and other pollutant loadings to the Detroit River. Three of the recommendations in the PCP Study, namely increased pumping capacity at the CMHWPS, upgrading and expansion of the LRWRP, and facilities to control CSOs in the Riverfront area east of Caron Avenue have been put in place.

This Class EA will assess alternative means of providing CSO control in the study area to meet the requirements set out in Ministry of Environment and Climate Change Guidelines "Procedure F-5-5". A variety of potential CSO control options will be assessed to select the preferred option. The preferred option will then be further refined with an evaluation of alternative design concepts leading to selection of a recommended design.

The study is being undertaken in accordance with the planning and design process for 'Schedule C' projects outlined in the Municipal Class Environmental Assessment (June 2000, as amended in 2007, 2011 and 2015) under the Ontario *Environmental Assessment Act*.

A key component of the study will be consultation with interested stakeholders. Public Information Centres (PIC) will be held during the course of this project. The PICs will be held to review existing study area conditions, present and discuss study findings, and provide an assessment of alternative solutions and design concepts. Notice of planned PICs will be advertised. Anyone wishing to be directly advised of planned PICs should contact one of the project team members listed below.

If you wish to comment on this project, have your name added to the project mailing list, or have any questions about this project, please contact one of the individuals identified below:

Dr. Jian Li, P. Eng.
Consultant Project Manager
Stantec Consulting Ltd.
140 Ouellette Place, Suite 100
Windsor ON N8X 1L9
Tel.: (519)966-2250 x 240
E-mail : jian.li@stantec.com

Mr. Ed Valdez, P. Eng.
Manager of Process Engineering & Maintenance
City of Windsor
4155 Ojibway Parkway
Windsor, Ontario N9C 4A5
Tel.: (519) 253-7111 x 3366
E-mail : evaldez@city.windsor.on.ca

Under the *Municipal Freedom of Information and Protection of Privacy Act* and the *Ontario Environmental Assessment Act*, unless otherwise stated in the submission, with the exception of personal information, all comments will become part of the public record and will be released, if requested, to any person.

Community Emissions Reduction Planning: A Guide for Municipalities

DRAFT

Ontario

9.3

Contents

Guide for Readers

This Guideline has been prepared to support provincial land-use planning direction related to the completion of energy and emissions plans. The plans will typically include community-wide and municipal/corporate greenhouse gas (GHG) inventories, the setting of emissions reduction targets, and the development of strategies to reduce GHG emissions.

The Government of Ontario has established provincial GHG reduction targets of 15% below 1990 levels by 2020, 37% below 1990 levels by 2030, and 80% below 1990 levels by 2050. This Guideline describes how the activities of municipalities are vital to achieving these targets and for planning low-carbon communities..

The Guideline has two core objectives: to educate planners, other municipal staff, citizens, and stakeholders on the municipal opportunities to reduce energy and GHG emissions (in particular for land-use policy); and to provide guidance on methods and techniques to incorporate consideration of energy and GHG emissions into municipal activities of all types. To support the second objective, a detailed planning process is described.

The Guideline is divided into three modules.

Part A:
Rationale and Context for Emissions Planning

Part B:
The Energy and Emissions Planning Process

Part C:
Tools and Resources

Throughout the Guideline there are:

- Example practices from municipalities;
- Summary tables;
- Illustrations from studies and academic literature; and
- Tools or methods that can be used to support analysis.

Acronyms

ACRONYM	DEFINITION
BAU	Business as usual
CCAP	Climate Change Action Plan (Ontario)
CDM	Conservation and Demand Management Plan
CEEP	Community energy and emissions plan
CEEM	Community energy and emissions model
CEIP	Community energy investment plan
CNCA	Carbon Neutral Cities Alliance
CO2e	Carbon dioxide equivalents
CURB	Climate action for urban sustainability (GHG model)
DPA	Development permit area
EUI	Energy use intensity
FCM	Federation of Canadian Municipalities
GHG	Greenhouse gas emissions
GMF	Green Municipal Fund
GPC	Global Protocol for Community-Scale GHG Emissions Inventories
HDD	Heating degree days
ICLEI	ICLEI – Local Governments for Sustainability
IPCC	Intergovernmental Panel on Climate Change
LAP	Local Action Plan
IRR	Internal rate of return
LGOP	Local Government Operations Protocol
LIC	Local improvement charge
MOECC	Ministry of Environment and Climate Change
MAC	Marginal abatement cost
MCA	Multi-criteria analysis
MPAC	Municipal Property Assessment Corporation
NGO	Non governmental organization
NPV	Net present value
OCP	Official Community Plan
PACE	Property assessed clean energy
PCP	Partners for Climate Protection
PPMF	Programs, protocols, methods and frameworks
PPS	Provincial Policy Statement
ROI	Return on investment
SCC	Social cost of carbon

Executive Summary

THE CONTEXT

This Guideline is intended to help municipalities in Ontario develop quantitative, targeted strategies for supporting their communities in making the transition to a low carbon future. The increasing role of municipalities in responding to climate change is a long term, global trend that began in Ontario nearly 30 years ago.

The Guideline is intended to support Ontario municipalities for two key purposes:

1. To support actions under Ontario's Five Year Climate Change Action Plan 2016-2020 (CCAP). CCAP envisions a significant role for municipalities in the fight against climate change with two new funding programs: the Municipal Action Plan Program which supports community GHG reduction planning, and the Municipal GHG Challenge Fund which supports community GHG reduction projects. The Guideline will serve as a resource tool for municipalities that are participating in these two programs.
2. New policy direction in the Growth Plan for the Greater Golden Horseshoe, 2017 (Policy 4.2.10.2) made under the Coordinated Provincial Plans Review encourages municipalities to develop GHG reduction plans, through official plan conformity, to develop strategies to reduce greenhouse gas emissions within their communities, to complete greenhouse gas inventories for a range of sources, and to establish interim and long-term greenhouse gas reduction targets that support provincial targets and reflect the goal of low-carbon communities and to monitor progress towards the achievement of these targets.

Beyond providing guidance on how to comply with these new mandates, the Guideline also helps municipalities of all sizes and contexts understand their influence on greenhouse gas emissions, and how to plan their communities so that the goal of reducing greenhouse gas emissions is aligned with other community social and economic goals and can be used to provide direction on other provincial policies related to climate change.

The Provincial Policy Statement, 2014 (PPS) contains policies related to climate change. For example, Section 1.8.1 states "Planning authorities shall support energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions, and climate change adaptation through land-use and development patterns." Municipalities or planning authorities are required to amend their official plans to be consistent with PPS policies including policies on climate change.

The recent amendment of the Planning Act through Bill 68 (Modernizing Ontario's Municipal Legislation Act, 2017) includes as a matter of provincial interest "the mitigation of greenhouse gas emissions and adaptation to a changing climate".

Further, the Building Better Communities and Conserving Watershed Act, 2017 (Bill 139) will amend the Planning Act to support climate change action by requiring climate change mitigation and adaptation policies in municipal official plans. The Guideline could be used to carry out a background study to identify actions that reduce greenhouse gas emissions and to inform climate change mitigation policies in municipal official plans.

THE PIVOTAL ROLE OF MUNICIPALITIES

Municipalities have a pervasive if mostly indirect impact on the level of greenhouse gas emissions in the community, although the GHG impacts of municipal land-use and infrastructure policies and practices are often not recognized.

Many municipal planning decisions made today will still be having environmental impacts well into the future. In the case of infrastructure investments and land-use plans, particularly those related to intensification in urban areas, density in greenfield areas and the creation of complete, low-carbon communities, the environmental consequences continue for centuries. This leads to "lock-in": a situation where past decisions limit the options and increase the costs for future decisions. In the context of community energy and emissions planning, this makes the longest term decisions among the most urgent.

ALIGNING MUNICIPAL GOALS AND OBJECTIVES

There is very often alignment between the priority goals and aspirations of community planning and the objective of lowering greenhouse gas emissions. In fact, a great deal of the moderation of greenhouse gas emissions growth that has already taken place has been a side effect of trends and measures that have been driven by goals other than GHG emission reduction. For example, energy efficiency developments can be key elements of strategies for local economic development, job creation and self-reliance. Public health policy advocates promote a variety of measures that also reduce greenhouse gas emissions, including active transportation infrastructure, green roofs, urban forestry, and reduced emissions from fossil fuel combustion.

THE ENERGY AND EMISSIONS PLANNING PROCESS

Community energy and emissions planning begins by developing a quantitative understanding of the community's greenhouse gas emissions (the inventory) and systematically identifying the ways in which municipalities can, and often already do, influence the level of community emissions.

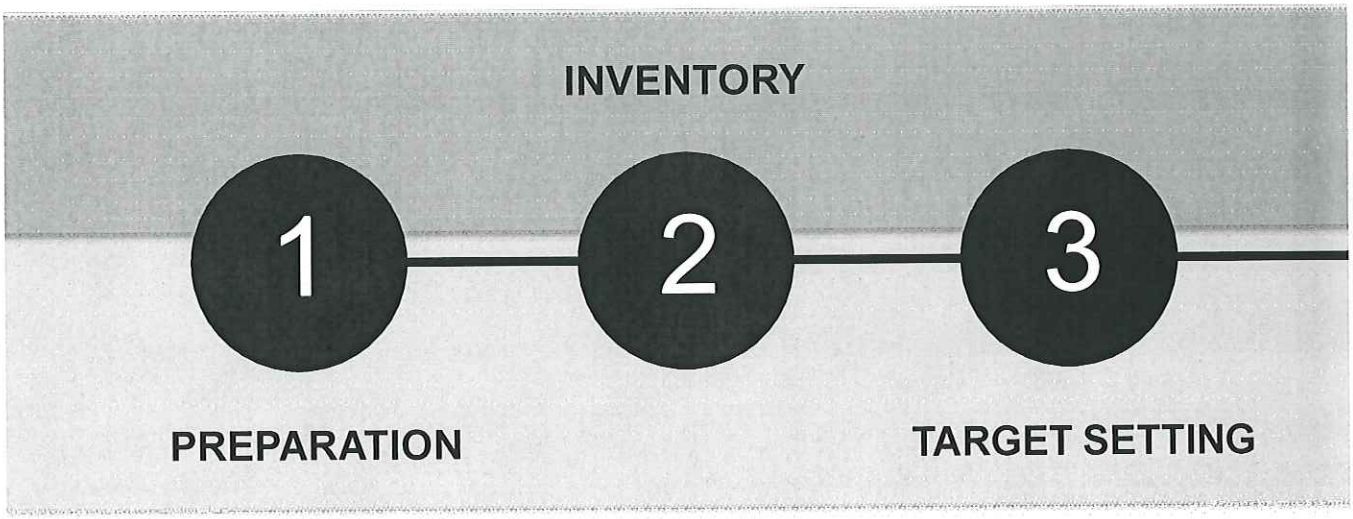
6 Stages to a Low-Carbon Municipality

Community Process

Set up a steering committee.

Identify & establish the partnerships needed to produce the emissions inventory.

Engage influencers & stakeholders in setting the target. Or, explain the rationale of the current target.



Develop a terms of reference, identify the governance structure and complete a situational analysis that describes the planning context.

Undertake a GHG inventory (corporate and community). Analyse municipal expenditures and spheres of influence.

Establish short, medium and long-term GHG targets.

Technical Process

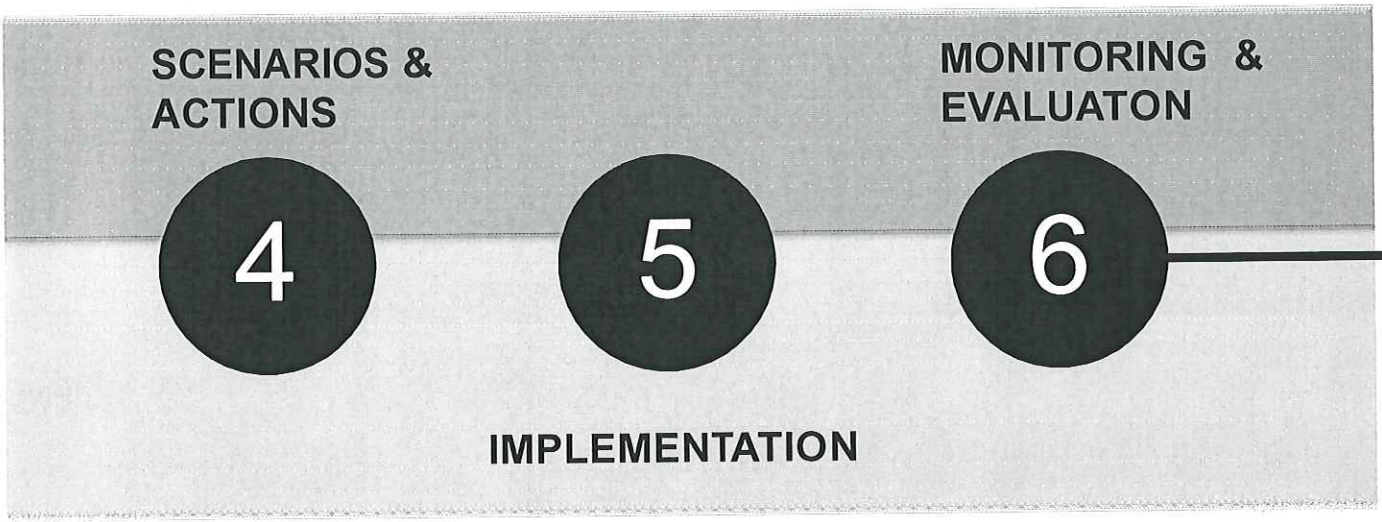
LEVEL OF COMPLEXITY FOR IMPLEMENTATION

- BASIC
- INTERMEDIATE
- ADVANCED

Work with influencers & stakeholders to identify alignments/conflicts between planning goals & aspirations.

Implement identified policies, partnerships, bylaws & other opportunities identified in the plan. Deploy the support of influencers & stakeholders.

Work with partners to share data, assess progress, and continuously improve the plan.



Complete a business as usual scenario and identify low carbon actions. Develop low carbon scenarios that include the actions. Undertake analysis of the co-benefits associated with the scenarios.

Identify policies and mechanisms to implement the preferred low carbon scenario. Integrate the community energy and emissions plan with the Official Plan and other policies, plans and strategies. Develop an investment strategy.

Develop and implement a monitoring and evaluation plan.

BASIC

INTERMEDIATE

ADVANCED

The Guideline includes six stages in the development of a community energy and emissions plan (CEEP) and each stage builds on the preceding one. Tasks are described for each of the stages, with detailed methodological guidance and references to complementary existing tools and resources. Tasks give rise to outcomes and the combination of all the outcomes constitutes the community energy and emissions plan. Municipalities may also elect to apply methods other than those described in this guideline in order to achieve the outcomes described in Table 2.

This Guideline recognizes the varying complexities of municipal efforts in undertaking community energy and emissions planning. The Guideline has been developed to allow for flexibility for municipalities across the province to participate in programs and undertake actions based on local circumstances. To this end, the Guideline describes three streams for each stage: basic, intermediate and advanced. Municipalities can choose the stream, or combination of streams, that best suits their context. The outcomes for each stage are similar; however, the process to arrive at those outcomes varies. For simplicity, this Guideline assumes a general correlation between the population of the municipality and the sophistication of the approach, but small municipalities may also elect to choose the intermediate or advanced stream depending on resources and ambition.

Engagement

The engagement process should involve a steering committee with diverse stakeholders from within the local government and more broadly in the community. The structure of this committee will vary according to the context of the municipality. Various municipal staff, decision-makers, stakeholders and the public will also be involved throughout the planning process. There are numerous ways to structure engagement in planning process inputs, plan content development, document reviews, and other aspects of the planning process.

Table 1. Suggested roles in the development of a CEEP

	Public	**Steering committee**	**Municipal staff**	**Council**
Terms of reference (Stage 1)		Participate	Lead	Approve
Plan development (Stages 2–6)	Participate	Participate	Participate	Participate
Draft CEEP	Review	Review/Recommend	Review	Review
Final CEEP				Approve

Municipal operations

The Guideline describes the method for completing a GHG inventory and strategies to reduce GHG emissions from local government operations. GHG emissions from local government operations are typically a small portion of the total GHG emissions from a community. Understanding and managing these GHG emissions is important firstly in terms of reducing costs, secondly to demonstrate leadership and thirdly to learn about the implementation of strategies first hand. In developing the corporate GHG inventory, the municipality should follow the accounting protocols of the Federation of Canadian Municipalities and ICLEI-Local Government for Sustainability's Partners for Climate Protection program or the Local Government Operations Protocol. While the corporate and community GHG inventories are undertaken separately, the CEEP as a whole applies an integrated lens to corporate and community GHG emissions.

THE ENERGY AND EMISSIONS PLANNING OUTCOMES

Each of the six stages of the CEEP have specific outcomes. In combination, these outcomes form the municipality's community energy and emissions plan, which incorporates the GHG inventory and GHG emissions reduction targets. The CEEP supports the actions under the CCAP, including requirements of the Municipal GHG Challenge Fund and the climate change policies of the Growth Plan for the Greater Golden Horseshoe, 2017, as well as supporting municipalities in the implementation of other provincial direction related to climate change action and identifying a low carbon pathway that delivers multiple community benefits.

Table 2. The stages and outcomes of the CEEP

Stage	Required outcomes	Relative level of effort	Page reference
Preparation	Terms of reference Situational analysis that describes the current planning context	20%	56
Inventories	GHG inventory (corporate and community) Spheres of influence analysis Financial inventory	15%	63
Target setting	GHG targets	5%	90
Actions and alternative scenarios development	Actions catalogues Scenarios Analysis of co-benefits	25%	97
Implementation	Policies and mechanisms analysis Integration with the Official Plan and other policies, plans and strategies Investment strategy	30%	127
Monitoring and evaluation	Monitoring and evaluation plan	5%	148
Community Energy and Emissions Plan			

CONCLUSION

The Government of Ontario has established provincial GHG reduction targets of 15% below 1990 levels by 2020, 37% below 1990 levels by 2030, and 80% below 1990 levels by 2050. These targets require a transformation in the energy system and built environment, a transformation which can result in multiple other societal benefits, for example on health and economic development. At the municipal scale, the official plan and other existing municipal planning tools implicitly influence GHG emissions by determining land-use patterns, transportation and transit options, and other characteristics of the built environment and can be used to create complete, low-carbon communities. The community energy and emissions planning process quantifies these relationships and identifies strategies to reduce GHG emissions while considering additional benefits for employment, economic development, improved health outcomes and others. This Guideline is a step-by-step approach to developing a GHG inventory, identifying GHG targets and developing a community energy and emissions plan.

an

Considering climate change in the environmental assessment process

Learn how to consider climate change impacts when preparing an environmental assessment.

---

1. Introduction

Environmental assessment is a planning and decision-making process used to promote environmentally responsible decision-making. In Ontario, this process is governed by the *Environmental Assessment Act*. The purpose of this act is the betterment of the people of the whole or any part of Ontario by providing for the protection, conservation and wise management in Ontario of the environment.

The *Environmental Assessment Act* sets out a process that requires proponents to consider impacts on the environment which is broadly defined to include the natural, social, economic, cultural and built environments. The *Act* also ensures that interested persons have an opportunity to **comment** on undertakings that may affect them.

The Ministry of the Environment and Climate Change (ministry) has developed codes of practice (codes) to provide guidance on key aspects of the environmental assessment process. The codes include:

- Preparing and reviewing terms of reference for environmental assessments in Ontario
- Preparing and reviewing environmental assessments in Ontario
- Consultation in Ontario's environmental assessment process
- Using mediation in the environmental assessment process
- Preparing, reviewing and using class environmental assessments in Ontario

Together, the codes of practice:

- Set out the ministry's expectations for the content of a variety of environmental assessment documents and provide guidance on the roles and responsibilities of all participants in an environmental assessment process
- Provide clear direction to proponents, environmental assessment practitioners, and other stakeholders involved in the environmental assessment process on terms of reference, environmental assessments, consultation, and mediation

- Promote the transparency of government involvement and the decision-making process when projects must meet the requirements of provincial environmental assessment legislation

This guide is a companion to the codes of practice and sets out the ministry's expectations for considering climate change in the preparation, execution and documentation of environmental assessment studies and processes (see also Table 1).

This guide also supports the province's Climate Change Action Plan by outlining how environmental assessment processes and studies can incorporate climate change impacts considerations.

This guide covers the consideration of:

- the impacts of a project on climate change
- the impacts of climate change on a project
- various means of identifying and minimizing negative impacts during project implementation

A climate change consideration during the environmental assessment process results in an undertaking or project:

- that has taken into account alternative methods to reduce its greenhouse gas emissions and negative impacts on carbon sinks
- that has been planned in a manner that takes into account future changes in climate and the impacts a changing climate could have on the project

Table 1: Use of Guide in relation to environmental assessment processes

Environmental Assessment process	Refer to this guide	Climate change mitigation consideration	Climate change adaptation consideration
Environmental Assessment (i.e., "individual")	Yes	Yes	Yes
Class Environmental Assessment projects	Consult Guide if approved class environmental assessment has no climate consideration method or method does not meet ministry expectations	Consideration scaled to the significance of the project's potential environmental effects. Screening criteria, class environmental assessment methodology may	Consideration scaled to the significance of the project's potential environmental effects Screening criteria, class environmental assessment methodology may

Table 1: Use of Guide in relation to environmental assessment processes

Environmental Assessment process	Refer to this guide	Climate change mitigation consideration	Climate change adaptation consideration
		support consideration.	support consideration.
Renewal / Major Amendment of Approved Class Environmental Assessments	Yes	Mitigation methods in Guide to be considered for use in approved class environmental assessment processes	Adaptation methods in Guide to be considered for use in approved class environmental assessment processes
Environmental Assessment projects under Waste, Transit, Electricity regulations	Yes	Consideration scaled to the significance of the project's potential environmental effects	Consideration scaled to the significance of the project's potential environmental effects

Planning and climate change impacts in Ontario

Climate change in provincial policy statement

The directions and methods outlined in this guidance will complement and support the climate-focused policies of the 2014 Provincial Policy Statement. The 2014 Provincial Policy Statement issued under the *Planning Act* advises planning authorities of the need to consider development that reduces greenhouse gas emissions and reduces the potential risk of climate change related events like droughts or intense precipitation. A partial listing of applicable policies in the 2014 Provincial Policy Statement include:

- Policies 1.6.2, 1.6.6.7 — Encourage green infrastructure (e.g. permeable surfaces) and strengthen stormwater management requirements
- Policy 1.8 — Require the consideration of energy conservation and efficiency, reduced greenhouse gas emissions and climate change adaptation (e.g. tree cover for shade and for carbon sequestration)
- Policy 3.1.3 — Requires consideration of the potential impacts of climate change that may increase the risk associated with natural hazards (e.g.flooding due to severe weather)

For a complete description of the statements above, please refer to the 2014 Provincial Policy Statement issued under section 3 of the *Planning Act*.

Using this guide

A proponent should consult this guide when preparing a terms of reference for an environmental assessment, when preparing an environmental assessment study, or

when planning projects carried out as part of a class environmental assessment or other streamlined environmental assessment process.

Proponents should seek to determine as early as possible in the environmental assessment process whether there are likely to be relevant climate change considerations associated with the project that should be addressed in more detail. The ministry expects proponents to take into account:

- the project's expected production of greenhouse gas emissions and impacts on carbon sinks (climate change mitigation)
- resilience or vulnerability of the undertaking to changing climatic conditions (climate change adaptation)

during the assessment of alternatives to the undertaking and alternative methods of implementing the undertaking stages of the environmental assessment. In concluding an environmental assessment study, the proponent should also include a discrete statement in their study report detailing how climate change was considered in the environmental assessment.

In some cases, particularly with projects being planned under streamlined environmental assessment processes, a proponent might conclude that an undertaking is sufficiently minor in scale and short in lifespan that a climate change consideration cannot be practically carried out or is not applicable. In this instance, the proponent should provide a rationale in the environmental assessment documentation as to why the consideration of climate change could not be completed or is not applicable.

Ontario environmental assessment processes where proponents are expected to give consideration to climate change are briefly described below.

Environmental assessments

An environmental assessment (i.e. "individual" environmental assessment) is a term that describes both a study that is conducted to assess the potential environmental effects of a proposed undertaking, and the resulting report that includes documentation of that analysis. The environmental assessment report documents the results of the study and includes both positive and negative potential environmental effects. Key components of an environmental assessment process and of the resulting report include:

- consultation with government agencies, Indigenous communities and the public
- consideration and evaluation of alternatives
- management of potential environmental effects

Conducting an environmental assessment promotes good environmental planning before decisions are made about proceeding with a proposal.

The first step in the application for approval to proceed with an undertaking under the *Environmental Assessment Act* is the approval of a terms of reference by the Minister of the Environment and Climate Change. The terms of reference creates a framework for the environmental assessment and acts as a roadmap for reviewers and interested parties. Once approved, the proponent relies on the terms of reference to guide the preparation of the environmental assessment. Therefore, it is critical that the terms of reference consider climate change, particularly in identifying environmental components, identifying alternatives, and describing the existing environment and potential effects of the undertaking.

The proponent can start preparing the environmental assessment when the terms of reference is approved. The planning process for an environmental assessment must be documented in its entirety in the environmental assessment report. The environmental assessment must provide a plan that sets out how and when all commitments, including impact management measures, made in the document will be fulfilled and how the proponent will report to the ministry about compliance. The environmental assessment must be submitted by the proponent to the ministry for review and approval. For greater detail on the environmental assessment process, see the ministry's Code of practice: Preparing and reviewing environmental assessments in Ontario.

Streamlined environmental assessments

Streamlined self-assessment processes are available for certain classes of projects that are carried out routinely and have predictable environmental effects that can be readily managed. Streamlined environmental assessment processes in Ontario include those established by regulation (for electricity projects, transit projects and waste management projects) and those approved as part of a class environmental assessment.

A class environmental assessment is a planning document prepared by a proponent that must be approved under the *Environmental Assessment Act*. Once approved, the class environmental assessment serves as the process guiding document and can therefore be used to plan projects subject to the class, as defined in the document.

These streamlined processes provide an efficient, timely and environmentally responsible approach to the planning of these projects. As with environmental assessments, public notification/consultation with interested persons, government agencies and Indigenous peoples and communities is integral to these processes.

Some class environmental assessment processes may already include climate change considerations in the process of determining the potential environmental effects for any given project.

Content of this guide

The content of this guide is generic in nature and not dedicated to any specific type of project. The guide provides ideas on how to incorporate climate change considerations into the environmental assessment process and documentation. It also provides examples of climate change mitigation and adaptation efforts. Case studies are provided with detailed examples of how climate change can be considered in project planning. Specifically, the guide provides environmental assessment proponents and practitioners with:

- Several approaches to considering climate change in project planning
- A concise and select overview of tools and methodologies from the field of climate change adaptation and project resiliency research
- Examples of how climate change impacts have been incorporated into project planning and how climate change vulnerability has been assessed for existing built and ecological components of the environment

This Guide does not limit a proponent's choice of methodologies, approaches and modelling information. This guide will be updated and amended when appropriate to reflect future policy changes or new approaches for consideration of climate change in environmental assessment.

How we're adapting to climate change

Find out what we're doing to adapt to climate change and protect you from its negative impacts.

Taking action to adapt to a changing climate

Our climate is changing, with more frequent and extreme events like flooding, forest fires, ice and wind storms, dry land and warming winters. The effects of climate change increase the risks to our health and costs to homes and businesses, economy and society. Understand the impacts of climate change on Ontario.

Our actions to put a cap on the greenhouse gas pollution that businesses can emit, along with our carbon market, work with our Climate Change Action Plan to move Ontario toward a low-carbon economy.

We know climate change is already affecting Ontario. As we reduce our greenhouse gas pollution, we must still adapt and prepare for the worst of climate change. Building on our existing efforts, we are taking further action to help Ontario residents adapt to a changing climate by:

- Creating a new climate change adaptation organization to help build local adaptation capacity, enhance networks and take action
- Working with climate change adaptation experts to undertake a provincewide risk assessment of the effects of climate change to better understand vulnerabilities and prioritize our actions
- Developing an enhanced all-of-government approach to climate change adaptation
- Sharing information on the effects of climate change in order to help Ontario residents better understand the current and future effects of a rapidly changing climate

These steps will help Ontario continue to build a resilient province, where our communities and businesses can thrive in the face of a changing world.

A new climate change organization

As a first step, we will create a new climate change organization. This organization will be a one-window source for leading-edge climate projection data and adaptation information and services.

While climate change projection data is available, it is not always easy to find, understand or use. Municipalities, Indigenous communities, conservation authorities, as well as government and the private sector, vary widely in their capacity to undertake the technical analysis to understand the implications of climate change and use the analysis to make climate-smart decisions.

The organization will work with decision-makers in communities, private businesses, and government to facilitate adaptation learning, capacity building and initiatives across Ontario. It will partner and work with Ontario's many climate change adaptation experts and existing service delivery agents to help build local adaptation capacity, enhance networks and take action.

Over the past 10 years, we have invested in research to refine climate projections for the province. The new organization will work with experts to continue to review and improve on Ontario climate change projections, and to make use of this data along with other information, to better understand the implications of climate change and local actions that can be taken to adapt.

The new organization, working with existing providers and learning from future program users, will also have the potential to offer a wide range of services that could include:

- Training and regional workshops on climate data, risk assessment processes, and adaptation planning
- Connecting users with experts and providing examples of best practice adaptation solutions
- Helping municipalities, Indigenous communities or private sector companies perform risk assessments, either on their own or with existing service providers. This might involve analysing regional climate data, training on how to carry out a vulnerability and risk assessment, or undertaking the actual risk assessment
- Building capacity and awareness through outreach efforts

All Ontario sectors, municipalities, Indigenous communities, provincial ministries and agencies, and people across the province, would have access to the data, analysis and services and programs created by the organization through a one-stop online platform.

Provincial climate change risk assessment

We will also undertake a provincewide risk assessment of the effects of climate change, a first for Ontario.

This is an assessment of current and potential effects of climate change, existing and future vulnerabilities to those effects, and the magnitude and the likelihood of the risks that will occur as a result.

Will we see more extreme rain storms? Will drought become a more significant threat than increased rain storms, and if so, when? Are there specific regions and populations that are more vulnerable, and which public infrastructure assets will be most at risk in the next 10, 20 or 50 years?

We need to understand current and future vulnerabilities and risks in order to prioritize our actions, because some risks will be greater than others. Risk assessment can help us set priorities and direct our investments towards areas where they will be most needed.

This risk assessment will build on the work done by the Office of the Fire Marshal and Emergency Management, which produces, on an on-going basis, a provincial Hazard Identification and Risk Assessment (HIRA) that identifies and assesses public safety hazards. The provincewide climate change risk assessment will help to identify long-term vulnerabilities and risks as climate change continues to evolve, and will help identify potential future areas of risk to agriculture, infrastructure, ecosystems, public health and safety, businesses and the financial sector across the province.

A whole-of-government approach

The changing climate and extreme weather events impact almost all provincial ministries as well as their service partners like agencies and local institutions. We are working towards developing a more strategic and coordinated whole-of-government approach to managing climate change risks.

We will look to develop an approach that will incorporate climate change considerations into all corners of government and help us manage climate change risks that may impact our policies, programs and services. Government leadership on climate change adaptation is critical for the future financial and economic well-being of our province.

Raising public awareness

We also plan to share information on the effects of climate change with the public. It is important that Ontario residents gain a real understanding of how a changing climate will affect our homes, businesses, environment and communities, and what we can do to adapt.

The new organization will play an important role in building awareness. It will provide access to information and analysis on how climate change could affect Ontario, now and in the future. But it will also bring it closer to home — with local information that helps people better understand how a changing climate could affect them. Understanding what a changing climate could mean to them, their children or grandchildren will encourage people to act.

Our goal is to encourage each person, each community, and each sector to understand the importance of preparing and acting. Together, we can help protect Ontario from the effects of a changing climate.

How we are already protecting people in Ontario

We have already taken significant steps to help Ontario adapt to climate change. This commitment is shared by partners across the province; a wide range of adaptation measures are being undertaken by municipalities, conservation authorities, businesses, organizations, Indigenous communities and so many others. It is important that, together, we continue to build on progress made.

Our actions to date have been guided by the Expert Panel on Climate Change Adaptation, established in 2007 to advise us on how Ontario could become more resilient and better prepared for the effects of a rapidly changing climate.

Based on the Expert Panel's advice, we released Climate Ready: Ontario's Adaptation Strategy and Action Plan (2011-2014), which contains 37 actions and serves as a solid foundation upon which we will continue to build our adaptation work and resiliency — including integrating adaptation into our policies and programs.

We have made good progress on the actions outlined in Climate Ready, including:

Climate change projections

- Over the past decade, we have invested in research to refine high-resolution regional climate projections for the province, available at no cost on

the Ontario Open Data Catalogue, Ontario Climate Change Projections data portal by York University and the Ontario Climate Change Data Portal by the University of Regina. These include annual and seasonal average temperature and precipitation projections, as well as extreme climatic indicators such as heat waves, across the province for the 2030s, 2050s and 2080s. We continue to invest to ensure these regional climate projections are up-to-date and robust.

Public health

- We released the Ontario Climate Change and Health Toolkit in 2016 to help raise community awareness of the health impacts of climate change, identify local vulnerabilities, and support a more resilient health system that can manage emerging health risks.
- In 2016, we also developed the Harmonized Heat Warning and Information System (HWIS) - Standard Operating Practice to reduce health vulnerability to heat and heat-related illnesses. This enables regional authorities such as public health units to use consistent communication and notifications for heat events to better protect residents and vulnerable populations.

Far North and Indigenous communities

- We have been working closely with Indigenous communities to address concerns around the effects of climate change. We have created bilateral tables with Indigenous partners to exchange information, and identify opportunities for partnership and collaboration.
- Through Ontario's Green Investment Fund, 40 Indigenous communities are in the process of collecting their community traditional ecological knowledge, leading the assessment of their communities' vulnerabilities to climate change, and developing adaptation plans. This investment will also help create a Northern Ontario climate change impact study.
- We have made it a priority to connect a number of remote First Nation communities to Ontario's electricity grid. Shorter winter road seasons in the Far North of Ontario mean there is a shorter timeframe for delivering diesel fuel by trucks; as a result, fuel has to be flown in, which increases costs. Electrical grid connections, where viable, will improve the quality of life in the affected communities and enable their economic development.

Natural environment and agriculture

- We are taking steps to increase the overall amount of natural cover in Ontario to help native species and ecosystems adapt to climate change. Initiatives already underway include a commitment to plant 50 million trees across the

province by 2025, creating, maintaining and enhancing 30,000 hectares of grassland by 2036 through the Ontario Grasslands Stewardship Initiative, and releasing A Wetland Conservation Strategy for Ontario 2017-2030 to advance wetland conservation across the province.

- Through recent amendments to the *Municipal Act, 2001*, and the *City of Toronto Act, 2006*, municipalities will be required to put a policy in place to protect and enhance their tree canopies and natural vegetation by March 1, 2019. This mandatory policy is an opportunity for municipalities to consider how climate change affects trees (e.g. increased number and extent of wildfires, new diseases), as well as how protecting trees can help increase the climate resiliency of communities.
- Other initiatives include the Ministry of Natural Resources and Forestry's strategic framework Naturally Resilient (2017-2021) that will guide our continuing actions on sustainable natural resource management in Ontario, and help make Ontario more resilient to the effects of climate change.
- Healthy soil strengthens Ontario's capacity to produce food in a changing climate because it protects crops from weather and temperature extremes, retains moisture during dry periods and improves infiltration during wet periods. This is why we are working collaboratively with farmers, industry, community partners and Indigenous communities to develop an Agricultural Soil Health and Conservation Strategy that will sustain and support healthy soil into the future.
- Through the Pollinator Health Action Plan and in partnership with external stakeholders, we are working to build the resilience of managed and wild pollinators to better withstand the effects of a changing climate.

Land use planning

- In 2014, we updated the Provincial Policy Statement to require municipalities to consider the effects of climate change in planning for resilient communities. This includes planning for new or expanded infrastructure and strengthening protection of natural areas, including wetlands. Municipalities and other planning authorities must undertake long-term planning on a watershed basis.
- We've updated provincial policy direction on land use planning in the Greater Golden Horseshoe to support resilient communities. In May 2017, we updated the four provincial land use plans – the Growth Plan for the Greater Golden Horseshoe, the Greenbelt Plan, the Oak Ridges Moraine Conservation Plan and the Niagara Escarpment Plan. Revised policies in these plans are helping to make communities less vulnerable to the effects of climate change. For example, communities in the Greater Golden Horseshoe must now undertake stormwater management planning, including low impact development and

green infrastructure. In addition, the plans also require the consideration of the effects of climate change in planning for new or expanded infrastructure and incorporate strengthened protection for natural and key hydrological areas.

- We are working to enhance the understanding of the ways which climate change affects communities in the Great Lakes. As part of this, we are funding the Great Lakes Climate Change Adaptation Project led by ICLEI — Local Governments for Sustainability, to increase climate change resilience for Great Lake communities. Sixteen communities are learning to use climate data to identify local vulnerabilities, assess risks and develop adaptation plans while 12 communities are learning how to move from planning to implementation on adaptation actions.

More than ever, many local and municipal governments are including adaptation in their official plans, developing adaptation plans, and taking actions, including assessing the capacity and condition of culverts and bridges to prevent washouts and road disruptions, and supporting green infrastructure projects such as raingardens and green roofs.

- Our province's floodplain mapping has been recognized as the most comprehensive and progressive in Canada in a recent report by the Intact Centre on Climate Adaptation in October 2016, where Ontario received the highest score in its ability to limit potential flood damage.
- The province continues to actively work with Public Safety Canada to administer the National Disaster Mitigation Program with federal funding of $200M over five years starting in 2015. This includes opportunities to update floodplain mapping. To date, the federal government has approved 72 projects in Ontario, including 29 floodplain mapping projects undertaken by municipalities and conservation authorities on behalf of municipalities.

Infrastructure and buildings

Our province's existing infrastructure has an estimated value of $550 billion. It includes buildings, transportation systems, telecommunications, water supply and sanitation facilities and more. These public assets are vital to a strong and healthy province. They also have long operational lifetimes and are sensitive to climate volatility over decades.

We are in the midst of the largest infrastructure program in the province's history — investing $190 billion over 13 years starting in 2014-15 to expand and renew our infrastructure to improve the lives of Ontarians. The effects of climate change are a prime consideration for this investment because we recognize it is more practical and

less expensive to manage climate risks early than to react after the fact with disaster relief and rebuilding efforts.

An independent study commissioned by the Federal Emergency Management Agency, for example, found that the investment return in the United States was $4 in cost savings for every $1 spent on disaster mitigation. Studies in Australia have found a return of 3:1 from investments in disaster mitigation, and in the United Kingdom, 5:1.

For this reason, we are building climate change considerations into infrastructure project decisions, including through the planning, procurement, building, operating and maintaining phases.

- The *Infrastructure for Jobs and Prosperity Act, 2015*, enshrines the principle that infrastructure planning and investment should be designed to be resilient to the effects of climate change. The upcoming Long Term Infrastructure Plan will build upon this principle and lay out our vision for evidence-based planning and investment decisions to build resilient infrastructure across Ontario.
- Ontario's next Long-Term Energy Plan (2017) will build on the current activities underway and pursue further actions to strengthen the ability of the energy sector to anticipate the effects of climate change and integrate those insights into operational and infrastructure planning.
- We are also beginning to address vulnerabilities in key sectors, including energy. Many Ontario residents have personal stories of ice or wind storms that have downed hydro lines and cut the flow of electricity into their homes or communities. Ontario's Smart Grid Fund is supporting innovative projects that will help increase energy system reliability and resiliency to homes and businesses while providing economic development opportunities and creating jobs.
- In recent years, we have implemented a number of new tools such as the Ministry of Transportation's online Intensity-Duration-Frequency application that can be used for rainfall intensity forecasts for updates to existing, or the planning of new, highways and roads.
- We funded the Home Flood Protection Assessment program, developed by the Intact Centre on Climate Adaptation at the University of Waterloo. The program helps homeowners reduce risk and minimize damage of flooding through free web-based check-lists, tips, how-to videos and information, and fee-based assessments and action plans. The program is currently being rolled out in 4,000 homes in Burlington, which could inform its broader delivery across Ontario.