

Council Update on the Climate Change Adaptation Plan



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Development Services

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Background

Climate Change Adaptation Planning

- **Commenced November 2019**
- **Completed several internal and external committee consultation activities**
- **Quarterly reports to Council on Climate Change Adaptation Plan progress**
- **Update to Council today**
- **Questions and comments**



Vision Statement



Vision Statement for the Climate Change Adaptation Plan

“The Town of Essex will **adapt** to changing climate conditions and **embrace** new opportunities for a **healthy, vibrant, and sustainable community** benefiting **residents, businesses and visitors.**”

Assessing Climate Impacts





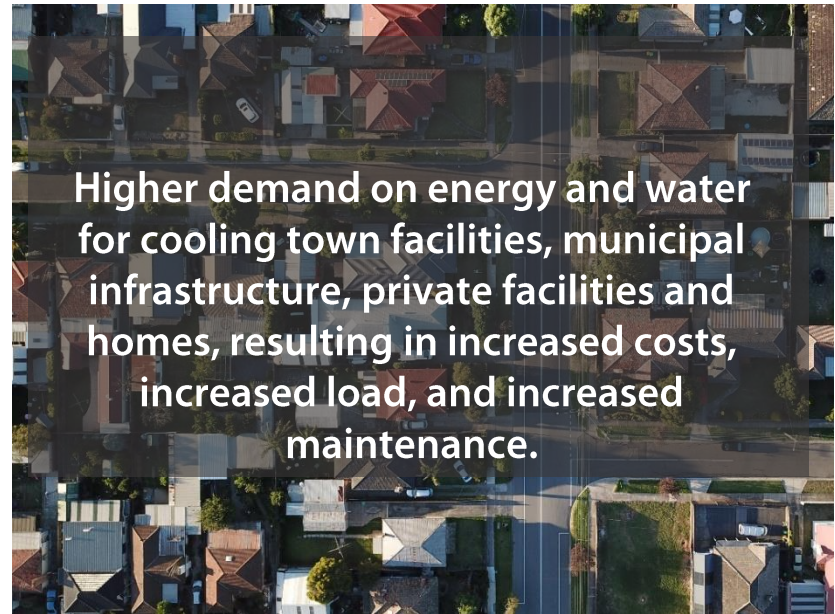
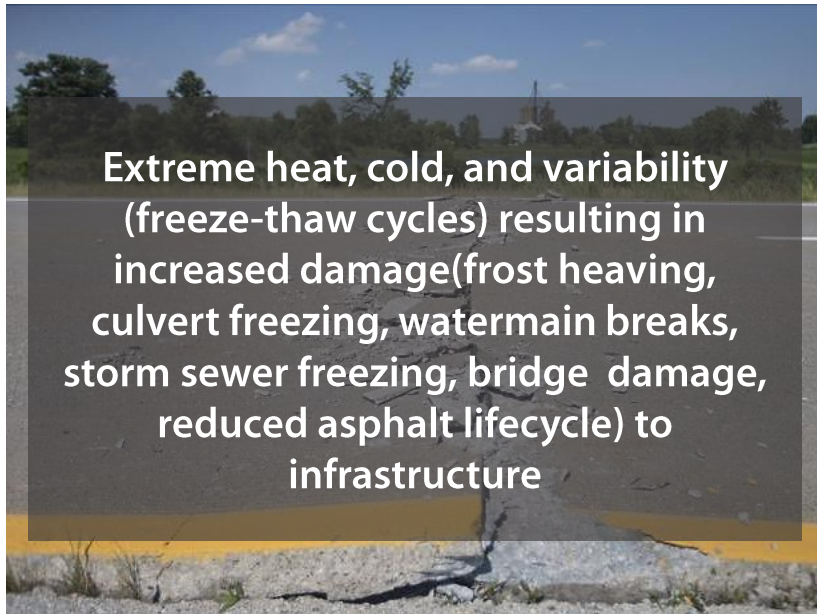
Completed Tasks

Completed Tasks

Impact, Vulnerability, and Risk Assessments

Collected impact data from ICAT & ECAT, analyzed and developed list of Impact Statements

Examples:



Completed Tasks

Impact, Vulnerability, and Risk Assessments

VA&RA conducted with ECAT and ICAT

- Input received from all Town divisions
- Input received from the following stakeholders:
 - ELK representative
 - ERCA representative
 - ECAT members (Agriculture, Water, Chamber of Commerce)
 - Council Appointee, Councillor Verbeek
- Additional research (ERCA regional data, Environment Canada)

IMPACT STATEMENT	<div><div>X Direct Impact</div><div>O Indirect Impact</div><div>Y Positive Impact</div></div>	Planning Services	VULNERABILITY			RISK					OVERALL RISK	
			SENSITIVITY Will climate impact affect functionality of given department(s)?	ADAPTIVE CAPACITY Can department(s) adjust to projected climate impact with minimal cost and disruption?	OVERALL VULNERABILITY	LIKELIHOOD What is the probability of the climate impact occurring?	CONSEQUENCE Public Health & Safety What are the known or estimated consequences of the climate impact to public safety?	CONSEQUENCE Local Economy & Growth What are the known or estimated consequences of the climate impact to the local economy?	CONSEQUENCE Community & Lifestyle What are the known or estimated consequences of the climate impact to the community?	CONSEQUENCE Environment & Sustainability What are the known or estimated consequences of the climate impact to the environment?		CONSEQUENCE Public Administration What are the known or estimated consequences of the climate impact to public administration?
Increased Urban Heat Island Effect resulting in increased health risks (asthma, hyperthermia, heat stroke, heart complications, mental stress), higher energy demand, infrastructure damage, lower air quality, and lower water quality detrimentally affecting daily lives of residents.	X		S3- Yes, functionality likely to get worse	AC2- No, will require significant costs and staff intervention	V3	L5- Almost Certain, Could occur several times per year	C4- Major, Isolated instances of serious injuries or loss of life	C2- Minor, Individually significant but isolated areas of reduction in economic performance relative to current forecasts	C3- Moderate, General appreciable decline in services	C4- Major, Severe loss of environmental amenity and a danger of continuing environmental damage	C4- Major, Public administration would struggle to remain effective and would be expected to be in danger of	85
Increased chances of heat-related illnesses, disease outbreaks, property damage, and mental stress to workers leading to less productivity, increased number of sick days, reduced worker health and safety, increased backup manpower needs, and increased WSIB claims					###							###/A
Decrease of water supply (dry hydrants/ponds) for firefighting					###							###/A
A decrease in summer precipitation, drier conditions, and more lightning strikes leading to greater grass and forest fire risks resulting in increased fire calls, increased public health costs, and need for implementation of fire bans	O		S1- No, functionality will stay same	AC3- Maybe, will require some costs and intervention	V2	L1- Rare, Unlikely during the next 25 years	C2- Minor, Serious near misses or minor injuries	C2- Minor, Individually significant but isolated areas of reduction in economic performance relative to current forecasts	C2- Minor, Isolated but noticeable examples of decline in services	C3- Moderate, Isolated but significant instances of environmental damage that might be reversed with intensive efforts	C2- Minor, Isolated instances of public administration being under severe pressure	11
An increase in summer temperatures with a decrease of summer rainfall may lead to a decrease in wetland habitat and biodiversity leading to loss of ecosystem services (flood control; air, soil, and water quality; pollination etc.)	X		S1- No, functionality will stay same	AC4- Yes, some slight costs and staff intervention	V1	L5- Almost Certain, Could occur several times per year	C4- Major, Isolated instances of serious injuries or loss of life	C2- Minor, Individually significant but isolated areas of reduction in economic performance relative to current forecasts	C3- Moderate, General appreciable decline in services	C3- Moderate, Isolated but significant instances of environmental damage that might be reversed with intensive efforts	C3- Moderate, Public administration would be under severe pressure on several fronts	75
Drought conditions and less frequent precipitation resulting in ground shrinkage, surface cracks on roadways, concrete heaving and flushing in motorways and building infrastructure, thereby increasing inspections, repair costs, and accident risk to motorists					###							###/A
Higher water temperatures and higher lake levels will lead to an increase in algae blooms, E.coli, hypoxia and invasive aquatic species resulting in reduced water quality, fewer recreational activities and tourism (e.g. beach and marina closures, reduced fishing opportunities, fewer boat launches, closure of waterfront trails), and increased stress on shoreline water infrastructure					###							###/A
Higher demand on energy and water for cooling town facilities, municipal infrastructure, private facilities and homes resulting in increased costs, increased load, and increased maintenance.	X		S3- Yes, functionality likely to get worse	AC2- No, will require significant costs and staff intervention	V3	L5- Almost Certain, Could occur several times per year	C3- Moderate, Small number of injuries	C3- Moderate, Significant general reduction in economic performance relative to current forecasts	C3- Moderate, General appreciable decline in services	C3- Moderate, Isolated but significant instances of environmental damage that might be reversed with intensive efforts	C3- Moderate, Public administration would be under severe pressure on several fronts	75
Hotter drier and heatwaves will lead to decreased use of outdoor recreation			S4- Yes, functionality likely to get worse	AC3- Maybe, will	V3	L5- Almost Certain, Could occur several times per year	C2- Minor, Serious near misses or minor injuries	C3- Moderate, Significant general reduction in economic performance relative to current forecasts	C3- Moderate, General appreciable decline in services	C4- Major, Severe and C3- Moderate, Significant loss of environmental amenity and a danger of continuing environmental damage	C4- Major, Public	



Completed Tasks

Risk Prioritization

What climate change impacts have been identified as priorities for the Town of Essex?

Examples:

- Heat stress to residents, services, agricultural production
- Infrastructure damage from flooding
- Shoreline infrastructure damage
- Emergency resilience to extreme weather events

Completed Tasks

Impact, Vulnerability, and Risk Assessments

Public outreach activities conducted (Total responses : 57)

Essex Climate Adaptation Team Feedback Form

The Town of Essex is seeking ongoing feedback from the community to inform the work of the Essex Climate Adaptation Team.

Learn more at www.essex.ca/ECAT

For questions about the how your feedback will be used, please contact the Town's Climate Change Analyst, Niharika Bandaru, at nbandaru@essex.ca or 519-776-7336 ext 1148.

What is your name? *

First and last name.

Where do you live in the Town of Essex?

Address or general location.

Would you like to receive email updates about the work of the Essex Climate Adaptation Team?

☐ Yes

☐ No

In what ways have you noticed or experienced the impacts of climate change in the community?

What recommendations do you have on how the Town should adapt to the impacts of climate change?



Completed Tasks

Impact, Vulnerability, and Risk Assessments

Public outreach activities conducted (Total responses : 15)

Climate Impacts Vulnerability Exercise

The Climate Impacts Vulnerability Exercise presents six different fictional characters designed to represent some common attributes of Town of Essex citizens. Respondents will read the biographies of each character, including their employment, family life, hobbies, and life goals, then complete the exercise to identify how their chosen character would be impacted by climate change.

The **character biographies** are available online at www.essex.ca/ECAT

Which Town of Essex ward do you live in?

- ☐ Ward 1
- ☐ Ward 2
- ☐ Ward 3
- ☐ Ward 4

What is your age?

- ☐ Under 18
- ☐ 18-29
- ☐ 30-39
- ☐ 40-49
- ☐ 50-59
- ☐ 60-69
- ☐ 70 or older

What gender do you identify with?

- ☐ Male
- ☐ Female
- ☐ Non-binary
- ☐ Prefer not to disclose
- ☐ Other

How long have you lived in the Town of Essex?

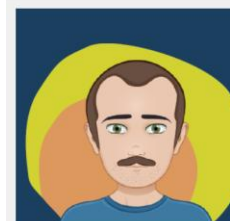
- ☐ Less than 2 years
- ☐ Between 2 and 5 years
- ☐ Between 5 and 10 years
- ☐ Between 10 and 20 years
- ☐ More than 20 years

For which character would you like to complete the Climate Vulnerability Assessment for?

- ☐ Darryl (Winegrower)
- ☐ Gary (Farmer)
- ☐ Maria (Retiree)
- ☐ Mona (Student/Firefighter)
- ☐ Lisa (Janitor)
- ☐ Dylan (Researcher)

For each question below, please indicate whether the character you picked would have high, medium, or low vulnerability to that particular climate change impact.

Darryl, 48 year old winegrower from Colchester



Darryl

Age: 48 | Location: Colchester
Job Title: Winegrower
Family: Married, 3 children
(Ages 19, 17, 9)

Family: Married, three children (aged 9, 17, 19).

Bio: Darryl's family has grown grapes for wine production in Colchester for over 20 years, which he inherited after university. In 2014 and 2019, extremely cold periods in the winter destroyed his grape buds and he spent the following year rebuilding the vines. His farm has an irrigation system; but, excessive precipitation in early spring can damage

Maria, 75 year old retiree from McGregor



Maria

Age: 75 | Location: McGregor
Job Title: Retired
Family: Widowed, 1 child, 2 grandchildren

Family: Widowed, one child and one grandchild

Bio: Maria has been living in a retirement home for the last three years. She moved to Canada in her thirties from Romania with her husband and one daughter, and lived in Windsor-Essex County since. She is severely diabetic and cannot drive; so she walks to local shops, or relies on family and friends to take her to the mall or stores outside of McGregor. She likes to spend time with her grandkids, who do visit her often, but she would like to take them to local



Dylan

Age: 32 | Location: Essex
Job Title: Researcher
Family: Divorced, one child (Age: 2)

Family: Divorced, one child (aged 2)

Bio: Dylan is a single parent who grew up in Essex. He travels often for his work as a contracted researcher, sometimes internationally, as his daughter stays in the care of his retired parents. He plans to find a full-time job locally, but is worried about the rising childcare costs until his daughter is old enough to go to school. Dylan rents a

Completed Tasks

Established Vision and drafted Corporate and Community Objectives

Used guidance and feedback from ICAT & ECAT members to create a Vision and Objectives for the CCAP:

- Corporate Objectives
- Community Objectives





Current Tasks: Adaptation Planning

Finalize Objectives



Set Goals/Action Items



Assign Tools and Programs
(Regulations, Plans, Standards
& Codes, Operational Changes
etc.)



Current Tasks

- **Finalizing Corporate and Community Objectives**

- **Set Goals/Action Items**

Set specific goals and define action items to help accomplish each objective

- **Assign Tools and Programs**

- Identify possible drivers and constraints
- Assign tools to address each action within risks
- Create corresponding programs to package risks, actions items, and corresponding tools



What's Next : Adaptation Planning

Develop Reporting System
(Frequency and template of
reporting updates/progress)



Gap Analysis and Prioritization



Draft Climate Change Adaptation Plan



What's Next?

- **Develop Reporting System**

Frequency and template of reporting updates/progress

- **Gap Analysis and Prioritization**

Perform a gap analysis and prioritization

Establish implementation schedule

- **Drafting Climate Change Adaptation Plan (CCAP)**



Final Tasks



Implementation

January, 2021

Present Adaptation Plan to Council

February, 2021

Council Adoption

Implementation

Updates Through Reporting System

Questions?

Thank You.

