



Ontario's Climate Change Adaptation Approach

Webinar Dates:

November 16, 2017

November 23, 2017

November 30, 2017

Agenda/Presentation Overview

- Climate Impacts
- Ontario's Response to Climate Change - A brief overview of Climate Ready:
 - Ontario's Adaptation Approach/Strategy
 - Action Plan
 - Ontario's adaptation work to date and ongoing actions
- Ontario's next steps on climate change adaptation:
 - New climate change organization
 - Provincial vulnerability and risk assessment
 - Governance framework
 - Building public awareness
- Survey, Contact Information and Qs&As

Impacts Are Already Being Felt in Ontario



Extreme events

- Freezing rain and ice events
- Storms and frequent floods
- Wildfires



Infrastructure

- Extreme events
- Historical data no longer adequate



Forests/agriculture

- Food security
- Forest composition
- Agriculture



Human Health

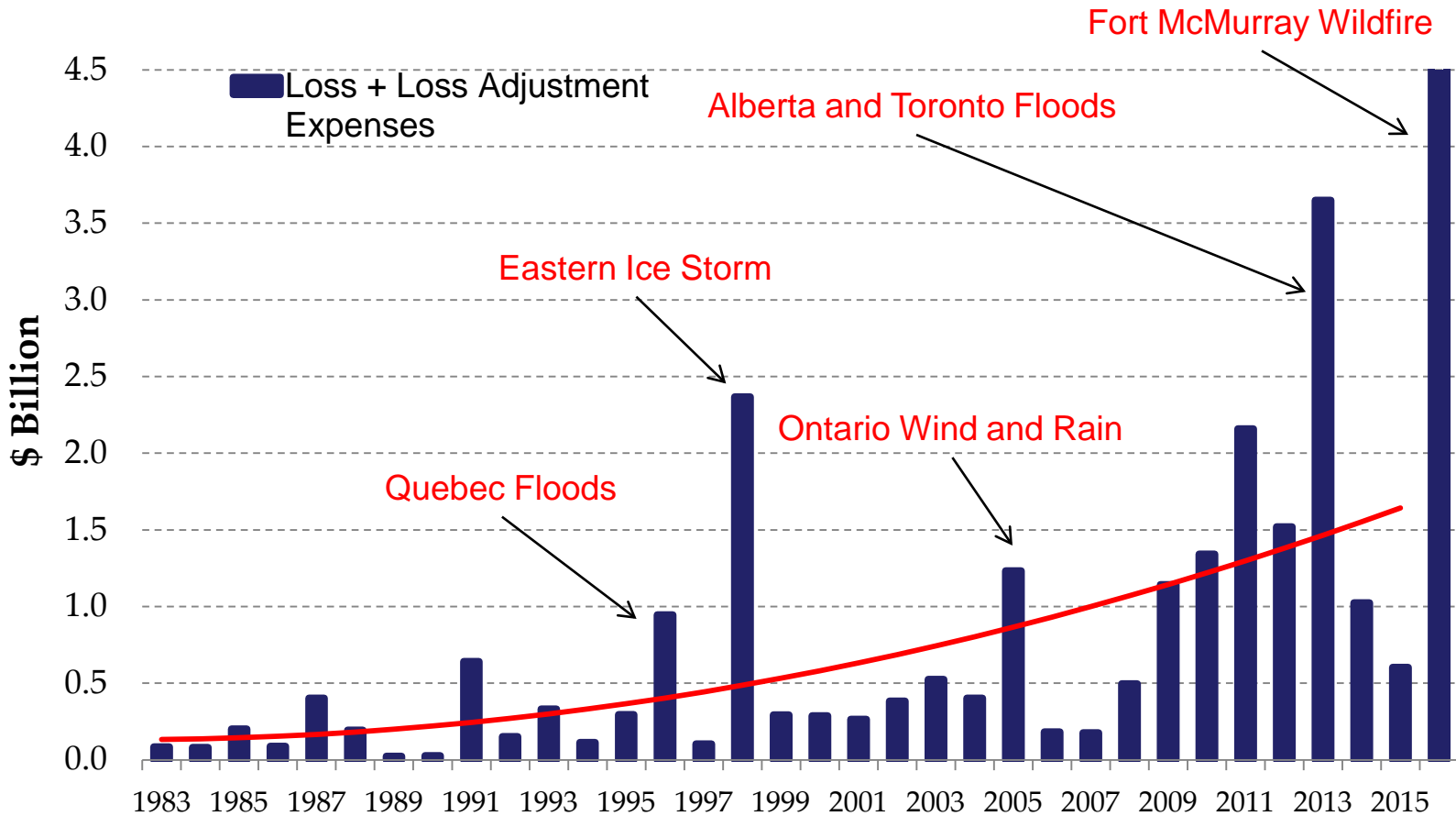
- Lyme disease (Ticks)
- West Nile (Mosquitoes)



Changing Weather Patterns

- Winter roads
- Animal migration

Impacts on the Economy



Note: not all extreme weather is climate-change induced

Source: IBC Facts Book, PCS, CatIQ, Swiss Re, Munich Re & Deloitte
 Values in 2015 \$ CAN

Ontario's Response to Climate Change

Climate Ready: *Ontario's Adaptation Strategy and Action Plan (2011)*

- Climate Ready outlined 37 actions to be taken by 10 ministries from 2011-2014.
- Actions in the plan built on existing activities and investments across government – see slide 6 for a complete list of actions.

Ontario's Climate Change Strategy (2015) and Climate Change Action Plan (2016)

- The strategy included a commitment to develop a climate change information and services organization.
- The plan identifies policies and programs to achieve near and long term emission reductions and intended level of investment, and to develop a strategy for adaptation by the end of 2017.

Cap and Trade Program (2016)

- Quantification, Reporting and Verification of Greenhouse Gas (GHG) Emissions Regulation (2017).
- Sector coverage includes about 82% of GHGs in the province; 223 major GHG emitting facilities included.

Ontario's Progress on Climate Change Adaptation

Climate Ready: Ontario's Adaptation Strategy and Action Plan (2011-2014). Actions underway:

Land Use Planning

- Provincial Policy Statement 2014 and the four provincial land use plans (Growth Plan, Greenbelt Plan, Oak Ridges Moraine Conservation Plan, Niagara Escarpment Plan) have been revised to help improve climate resiliency across the province.
- Province is in the process of amending the Planning Act to require climate change policies to be included in official plans.

Infrastructure and Buildings

- Ontario investing \$190 billion over 13 years starting in 2014-15 to expand and renew our infrastructure.
- Infrastructure for Jobs and Prosperity Act, 2015 – enshrines the principle that infrastructure planning and investment must be resilient to the effects of climate change.
- MNRF - \$200 million federal funding over 5 years starting in 2015-16 to update floodplain maps.
- MOECC - \$237,000 for the Home Adaptation Assessment Program, to reduce basement flooding risk in homes.

Indigenous Communities

- Province is funding a project for 40 Indigenous communities to help them collect local community traditional ecological knowledge, and lead the assessment of their community vulnerabilities, in order to develop local adaptation plans. This investment will also help create a Northern Ontario climate change impact study.

Natural Environment and Agriculture

- Grasslands Stewardship Initiative – to plant 50 million trees across the province by 2025, enhance 30,000 ha of grassland by 2036.
- Wetland Conservation Strategy for Ontario 2017-2030 to advance wetland conservation across the province.
- Soil Health Strategy to sustain and support healthy soil into the future.

Public Health

- Province released the Climate Change and Health Toolkit in 2016, to help raise awareness of health impacts of climate change.

Climate Change Projections

- Ontario's investment in climate change projections are available, free of charge, on the Ontario Open Data Catalogue.



Our Next Steps on Climate Change Adaptation

We are taking the next steps to continue to build Ontario's resilience:

New Climate Change Organization

Creating a new climate change organization to provide climate change projection data and analysis, and delivering adaptation services.

Provincial Vulnerability and Risk Assessment

Conducting a provincial risk assessment to determine Ontario's most urgent climate change vulnerabilities and how to best address them.

Governance Framework

Develop a strong governance framework to ensure all-of-government coordination to more effectively identify priorities and implement climate change adaptation actions.

Public Awareness

Provide information to the public on climate impacts and adaptation in order to raise public awareness of the need to adapt and how to adapt.

New Climate Change Organization

The New Organization

Specialization:

- Source for leading-edge, authoritative climate change information and services.

Vision:

- Support the public/private sectors, municipalities, and Indigenous communities in the development of adaptive strategies to build resilience to climate impacts.

Mission:

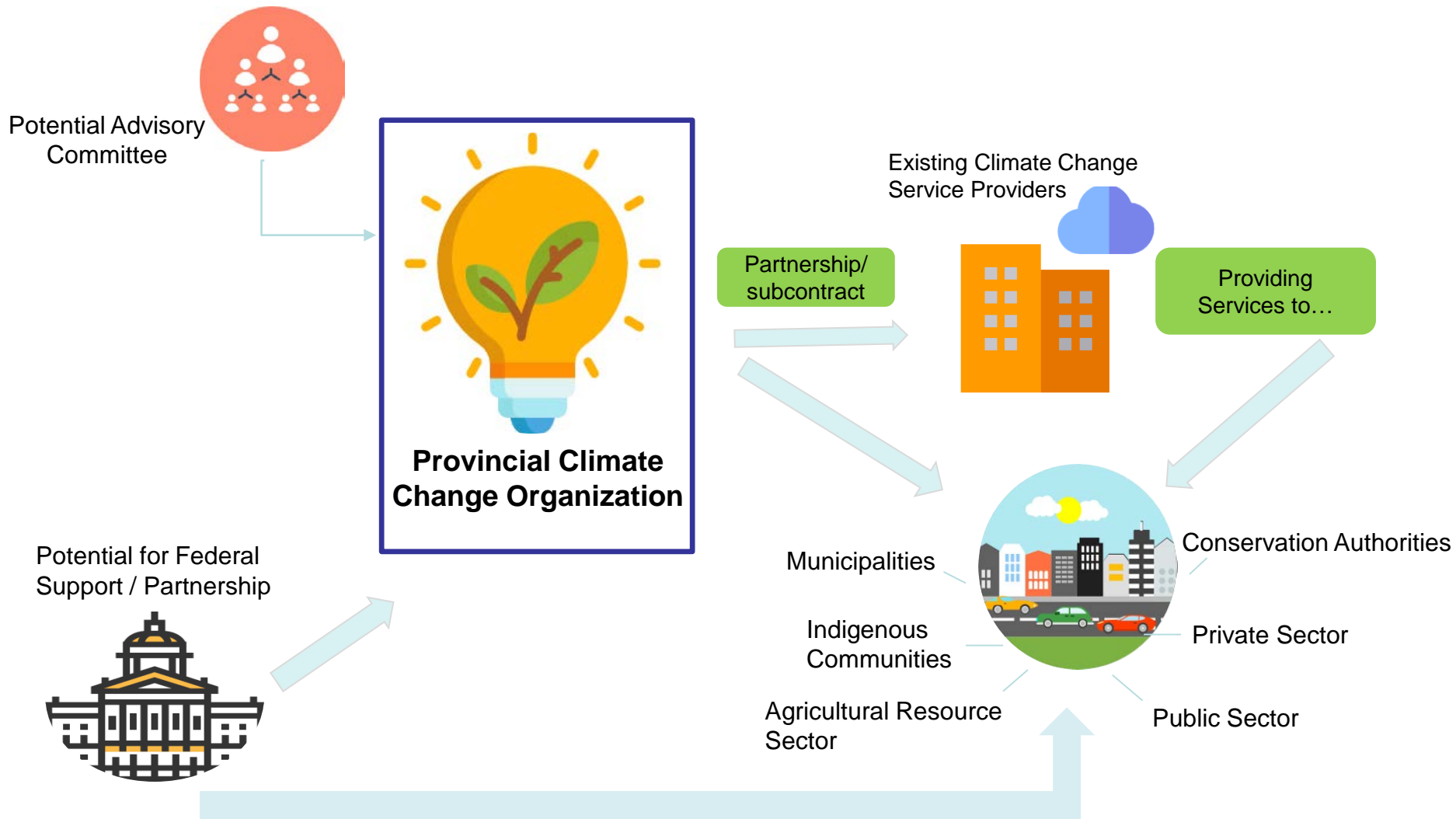
- Offer a range of climate services that enhance understanding and management of climate risks and opportunities, enable effective adaptation action and decision-making, and support a climate services market in Ontario.

The New Organization – Structure

THE NEW ORGANIZATION (2018):

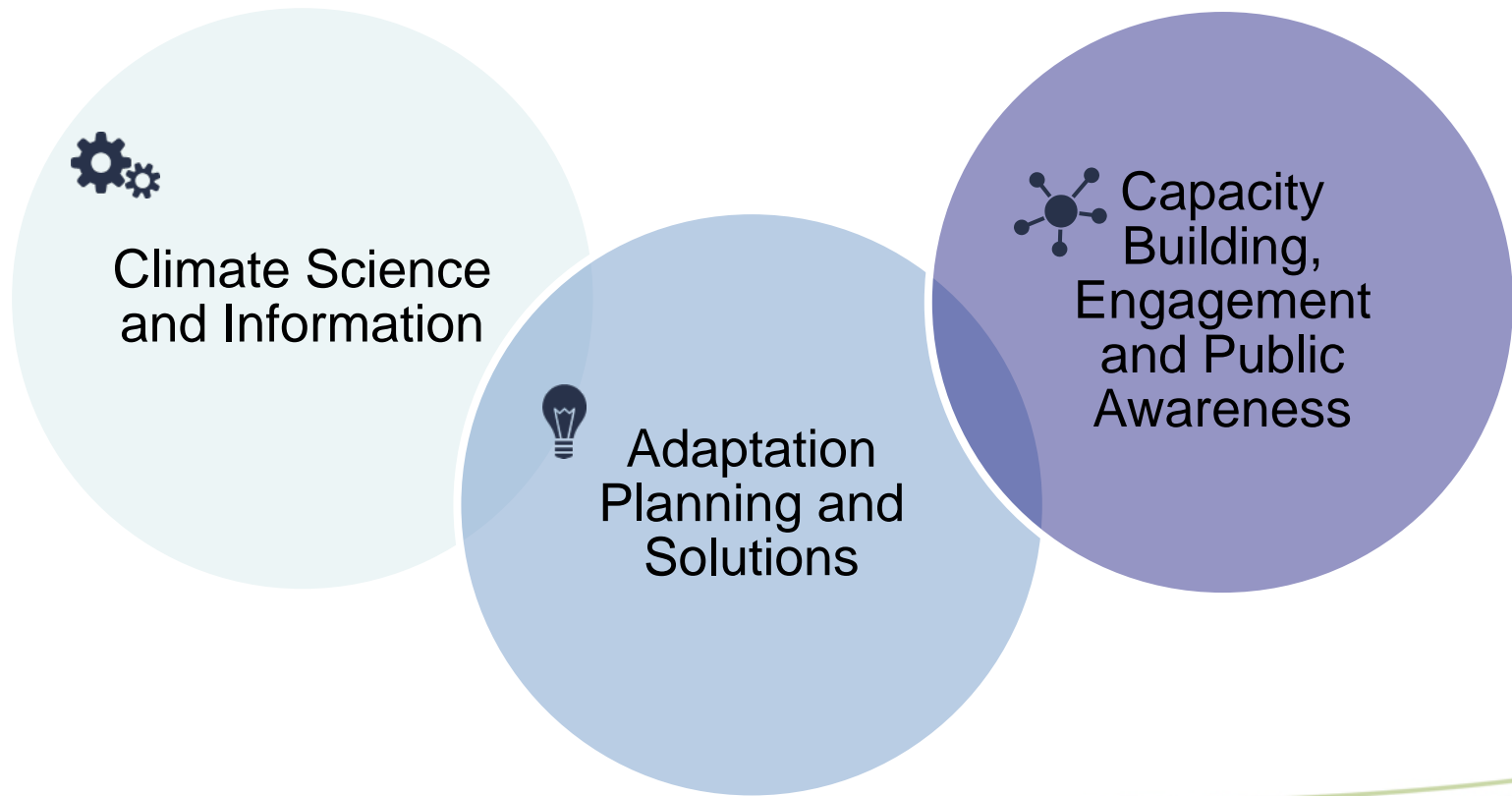
- Independent and not-for-profit organization
- Organizational Structure - Includes Board of Directors, Core Leadership Team (Executive Director), and staff.
- Opportunity to bring together the science of climate impact projections and practical issues around decision-making by aligning policy needs with scientific work/research.
- Collaborate and network with other organizations.
- Partnerships / in-kind contributions and fee for service will be used to partially offset operational costs of the organization.

Potential Partnership Opportunities



New Climate Organization Scope of Potential Services

- Three categories of potential services that the new organization may provide:



Scope of Potential Services



Climate Science and Information

- **Consolidate and improve regional climate projections** (forecasting climate variables such as temperature and precipitation).
- **Consolidate and improve projections for climate change scenarios/impacts** (a simplified description of future climate change impacts).
- **One window access** provide access to an authoritative one-window source of information and services to ensure decision-makers have access to relevant local climate impact information.



Adaptation Planning and Solutions

- Risk and opportunity assessments
- Conduct demonstration and pilot projects such as pilots of adaptive practices
- Provide direct programming services to communities with limited capacity and resources to help them identify and address climate risks.



Capacity Building, Engagement and Public Awareness

- Help build capacity through case studies, training, workshops, webinars, tutorials for adaptation planning
- Build awareness of the risks of a changing climate through education and outreach initiatives

Potential Clients/Users

Variables to determine future conditions:

Air temperature; Rainfall (mean / heavy); Wind speed; Relative humidity; Solar Radiation; TEK;

Public Sector

Municipalities / CAs

Indigenous
Communities

Agricultural /
Resource Sector

Private
Sector
(Insurance, Financial
Services)

LOCAL/REGIONAL IMPACTS AND DATA TRANSLATIONS

Promoting Local Adaptive Solutions

Ministries and Agencies (Metrolinx/OCWA) will have access to all information and data and could procure direct services for:

- Adaptive Solutions
- Risk Assessments
- Case Studies

- Drought / Flood Risk Mitigation Strategies
- Erosion Hazard Management Strategies
- Infrastructure Risk Assessment Integrating Impacts in Official Plans
- Case Studies

- Community risk assessment
- Remote Community Climate Change preparedness
- Community use of TEK
- Drought / Flood Risk Mitigation Strategies
- Case Studies

- Crop Planning
- Pest Management
- Mine Closure Plans
- Species Planning for Replanting
- Forest Fire Planning
- Case Studies

- Insurance Sector Policies/Rates
- Long-term Tourism Investment Planning
- Professional Associations
- Investment Community (TPB, OPB and OMERS)
- Case Studies

New Organization - Next Steps

Phase 1: Establishment & Business Planning (2017-18)

- Board members selected and incorporate organization
- Hire remaining core leadership team
- Develop detailed business plan
- Priority project and service needs analysis informed by feedback from Indigenous community groups, partner agencies as well as stakeholders

Phase 2: Service Delivery (2018-21)

- User interface goes live
- Expand service delivery
- Scientific gap analysis in order to target future science investment
- Explore funding partners
- Deliver on provincial climate change risk assessment
- Make available science/data and tools
- Launch case studies, pilot projects, workshops

Provincial Vulnerability and Risk Assessment

Provincial Risk Assessment

Climate Change Risk Assessment:

- An assessment of current and potential climate impacts, existing and future vulnerabilities to those impacts, and the magnitude of and the likelihood of the risks that will occur as a result.
- Can be used to compare or prioritize identified risks to inform the allocation of adaptation resources.

Ontario's province-wide climate change risk assessment will:

- Help Ontario decision-makers know more about the extent and magnitude of short- and long-term climate change vulnerabilities and risks.
- Can help direct adaptation priorities and investments where they will be most needed.
- Will identify long-term vulnerabilities and risks, and will help identify potential future hazards to populations, ecosystems, and infrastructure.

Components of the risk assessment will include:

- An assessment of current-day vulnerability, risks and opportunities, as well as current levels of adaptation across regions of Ontario, including (but not limited to: the natural environment, with an emphasis on the boreal forest and water resources; public assets and infrastructure; financial and business services; agriculture; and human health and wellbeing.)
- An assessment of future adaptation levels and vulnerability and how climate and socio-economic changes may alter climate-related risks and opportunities.
- A prioritization of risks and opportunities for which additional action is needed in the next five years.
- The ministry is in the process of procuring consulting services with appropriate expertise to undertake the risk assessment for 2017-2018.

Survey / Contact Information / Qs&As

Survey:

- MOECC wants to hear from you!
- We will be emailing a survey following the webinar to get your feedback on your climate change information and service needs.
- Please take the time to fill out the survey:
<https://www.surveymonkey.com/r/AdaptOn>

Environmental Registry (ER):

- Participants can also provide comments on the ER.

Contact Information:

- If you have any questions or comments please email the Adaptation Team at OntarioAdapts@Ontario.ca.
- **Ending the Webinar Session with Questions and Answers**