



Adapting to Climate Change in Toronto

Workshop Highlights

November 7, 2005 · Metro Hall

This half-day workshop introduced a project recently begun by the Clean Air Partnership with the City of Toronto. The project will assess current and future climate change impacts on Toronto, and will recommend actions to reduce the city's vulnerability.

The impacts of climate change

Although many governments, industries and individuals around the world are striving to reduce greenhouse gas emissions, there is little doubt that climate change is underway. The evidence is mounting:

- Globally, average temperatures have climbed for 25 years. Nine out of ten of the hottest years on record have occurred since 1995.
- Canada's average temperature increased 1.1°C in the last century. Toronto warmed 2.7°C during the same period (partially due to the urban heat island effect).
- The Arctic ice cap has thinned 46% in the past 20 years, and glaciers around the world are shrinking rapidly.
- The Gulf Stream, which warms the east coast of the US and Western Europe, is weakening due to melting Arctic sea ice.
- Sea surface temperatures in the Gulf of Mexico were significantly higher this year, contributing to the intensity of several hurricanes including Katrina, which devastated New Orleans.
- Extreme weather events such as heat waves, intense rainfall, flooding and ice storms appear to be on the increase in Canada. The insurance industry reports that the costs of these events have multiplied during the last decade, and will continue to mount.
- Smog events – made worse by high temperatures – are on the rise.
- Insect pests and disease-carrying insects are expanding their range into cooler climatic zones.

CAP's adaptation project

The Adaptation project will be completed in the next year, and involves four main tasks:

- A scan of the likely impacts of climate change on Toronto – February 2006
- A report on adaptation strategies in other cities, highlighting lessons for Toronto – May 2006
- Workshops with Toronto decision-makers to discuss the research, and identify key areas where adaptation strategies need to be developed for the City – June 2006
- A menu of adaptation strategies for two key areas of climate impact on Toronto – October 2006

November workshop

Representatives from nine City of Toronto departments, utilities, the insurance industry, the Board of Trade and other organizations participated in CAP's half-day workshop on November 7, 2005. Presentations included:

Introduction to the Adapting to Climate Change Project: Eva Ligeti, Executive Director, CAP

Expected Climate Impacts on Toronto: Joan Klaassen, an Environment Canada scientist, provided a comprehensive picture of climate trends and the ways in which Toronto and other cities are vulnerable to climate change.

Toronto's Heat Health Alert System: Marco Vittiglio discussed Toronto Public Health's heat health alert system to protect vulnerable citizens in response to intensifying heat waves.

A Sustainability Approach to Climate Change: Linda Harvey talked about how the City of Hamilton envisions incorporating climate issues into long-term planning.

Adapting to Climate Change in Ontario Municipalities: David Noble provided observations on how municipalities can fit climate change adaptation options into current municipal operations and planning.

Climate Change Adaptation Planning in Leading Cities: Jennifer Penney provided an overview of several cities that have begun to take action to reduce the impacts of climate change.

These presentations are all available on CAP's website at: www.cleanairpartnership.org

How weather and extreme weather already affects the city

Workshop participants identified and discussed climate impacts which are already being felt in Toronto, including:

- Increase numbers of heat waves and smog days (48 smog days in Toronto this year);
- Increased stress on trees and vegetation and greater water demand during heat waves;
- Brownouts and threat of blackouts from peak energy demand for air conditioning;
- Increase in vector-borne diseases such as the West Nile virus;
- Flooding from intense rainfalls;
- Costs resulting from damage to buildings, roads and other infrastructure from extreme weather. (The intense rainstorm of August 19, 2005 cost more than \$360 million in insurance claims in the north end of Toronto.)

How climate change is already being incorporated into programs

Participants identified a number of policies and programs already in place that would reduce Toronto's vulnerability to climate change:

- The Energy Efficiency Office is conducting building retrofits to reduce CO₂
- The Institute for Catastrophic Loss Reduction is researching ways to reduce the impact of extreme weather events, promoting "Design for Safer Living" to encourage building design to withstand extreme weather; and conducting business continuity planning, which helps business plan for disruptive events.

- Emergency Planning has developed operating procedures for how the City will respond to extreme weather events.
- The Planning department is developing a green roof strategy and green development standards.
- Enbridge Gas Distribution has been undertaking demand side management strategies for more than 10 years.
- Transportation Services is looking at a salt management strategy and at a new technology for street sweepers, which would reduce particulate pollution.
- The Toronto and Region Conservation Authority is investigating stormwater management and heat island reduction benefits of porous paving and green roofs, investigating the impact of invasive species and drought, and promoting sustainable technologies at the Kortright Centre.
- Parks and Recreation is undertaking a water management plan and considering low maintenance planting options.

What more is needed?

Participants suggested that tackling our vulnerability to climate change requires:

- More local data on climate and weather trends;
- More information on how climate could affect our work in the short- and medium-term;
- Building redundancy into infrastructure to decrease vulnerability to extreme weather;
- Improvement of building codes;
- New design standards for wastewater and other infrastructure, to take into account projected changes in weather;
- Education of City staff about climate issues and projections;
- Collaboration among City departments to assess climate effects and discuss ways of incorporating climate into planning and communications.

CAP will continue to work with the City on these issues.

For more information:

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