



# Planning Policy for Climate Change Resilience

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## IPCC reports

- warmer temperatures
- more extreme precipitation
- more winter storms for mid-latitude regions



## Canada: models, projections

- extreme precipitation → more **flooding**
- warmer temperatures → more heat waves; wildfire
- winter storms → more heavy blizzards; ice storms



## Policy response

- **course of action** chosen by public authorities
- **"adjustments"** → deliberate changes to practices



## Objectives

- reduce **exposure** and **vulnerability** to climate-related stress
- **respond** effectively to climate hazards
- **recover** quickly from residual negative impacts



Official plan



Development conditions



Community improvement plan



Zoning bylaws



Site plan control



Plan of subdivision



## The study

- content analysis of 63 climate change plans
- 8 principles; 46 indicators



fact base	monitoring & evaluation
goals	inter-organizational coordination
policies	participation
implementation	organization & presentation

## Findings

- mitigation predominant; adaptation secondary
- weak monitoring & evaluation
- stakeholder engagement good; public consultation weak

# Questions?

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## Climate Change, Floods, and Municipal Risk Sharing in Canada

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**climate  
policy**

■ synthesis article

### The tools of climate adaptation policy: analysing instruments and instrument selection

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Governments have a key role to play in the process of climate adaptation, through the development and implementation of public policy. Governments have access to a diverse array of instruments that can be employed to adapt their operations and influence the behaviour of individuals, organizations, and other governments. However, the choice of policy instrument is political, because it affects the distribution of benefits and costs, and entrenches institutional procedures and resources that are difficult to redepoly. This article identifies four key governing resources that governments employ in the service of adaptation and analyses these resources using criteria drawn from the policy studies literature. For each category, specific policy instruments are described, and examples are provided to illustrate how they have been used in particular jurisdictions. The article also discusses instrument selection, focusing on trade-offs among the instrument attributes, processes for setting the stage for instrument choice, jurisdictional constraints on instrument selection, and ways to avoid negative vertical and horizontal policy interplay.

**Policy relevance**  
Adaptation is a nascent field of public policy, and courses of action to reduce vulnerability and build adaptive capacity are in its infancy. This article contributes to policy development and analysis by identifying the range of policy instruments available to governments and analysing concrete ways in which they are employed to implement adaptation policy objectives. Taking stock of these adaptation tools and comparing their behavioural assumptions and attributes helps to illuminate potential policy options, and to evaluate their technical viability, political acceptability, and economic feasibility. Providing examples of how these instruments have been implemented successfully in other jurisdictions offers ideas and lessons for public officials.

Keywords: adaptation policy; climate change; policy instruments; public policy

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#### 1. Introduction

Climate adaptation – the process of adjustment to actual or expected climate and its effects – is a vast field of activity involving both private and public actors and undertaken through a variety of means (IPCC, 2014). Armed with the legal authority, technical capacity, and resources to mandate or facilitate adaptation across sectors and scales, governments have a key role to play in this process through the development and implementation of public policy (Burton, Huq, Lim, Pilifosova, & Schipper, 2002). Indeed, the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) refers to ‘policy’ as one of many ‘adaptation opportunities’, defined as ‘enabling factors that enhance the potential for actors to plan and implement actions to achieve their adaptation objective(s)’ (Klein et al., 2014, pp. 908–909). ‘Government policies and programs’ are singled out among

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## Toward the Climate-Resilient City: Extreme Weather and Urban Climate Adaptation Policies in Two Canadian Provinces

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**ABSTRACT** Extreme weather events, such as unusually high or low temperatures, severe winds and heavy precipitation, pose a threat to people and property in cities, and are expected to become more frequent and intense as a result of climate change. Managing this risk requires effective climate adaptation policies – strategic courses of action designed to strengthen urban resilience to climate-related stress. City governments have a key role to play in adaptation policy design, but they appear to face challenges in marshalling political commitment and technical capacity. This article examines elements of urban climate adaptation policy targeting extreme weather and analyzes the policy development process in two major Canadian cities, Toronto and Halifax.

Extreme weather events, such as scorching heatwaves, violent windstorms and flooding triggered by heavy precipitation, pose a serious threat to people and property in communities, and they are expected to become increasingly frequent and more intense as a result of climate change (McBean 2004, Solomon et al. 2007). Managing this risk requires effective climate adaptation policies – strategic plans designed to reduce the vulnerability of community populations, assets and operations, and to strengthen their resilience to climate-related stress (Henstra and McBean 2009, Prasad et al. 2009).

Cities are an important locus of action for climate adaptation, as dense populations and complex, interdependent infrastructure networks make urban areas particularly vulnerable to extreme weather (Hart 2004, Mehli 2006). Moreover, city governments appear to have a wide range of tools they could draw upon to reduce vulnerability and strengthen resilience to extreme weather events. Although many national and regional governments have set out broad policy objectives for climate change adaptation, there remains a considerable “adaptation deficit” – a vacant policy space that could be occupied by proactive city governments (Burton 2005). Indeed, many cities around the world have begun formulating plans for climate adaptation, and analysts have identified significant urban initiatives in both

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