Adaptation Governance for Local Governments

From Structure to Sustained Implementation

ADVANCING IMPLEMENTATION TRAINING INITIATIVE

ICLEI Local Governments for Sustainability
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CANADA

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ICLEI Canada is part of a global network working to achieve tangible sustainability results through cumulative local actions. We support local governments by providing them with expertise and resources to take action in their communities. To do this, we bring together a wide variety of partners across government, industry, academia, and non-government organizations (NGOs) to build more sustainable, low-carbon, biodiverse, and climate-ready communities.

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We respectfully acknowledge that ICLEI Canada's work happens across Turtle Island which has traditionally been and is home to many diverse First Nations, Inuit, and Métis peoples since time immemorial. We recognize that reconciliation is a fundamental component to building net-zero resilient communities. We are committed to strengthening relationships with Indigenous groups and knowledge keepers, knowing that reconciliation requires ongoing learning, unlearning, reflection, and action. We endeavour to listen to and learn from Indigenous Peoples on an ongoing basis in the process of our work.

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How to Use This Guide

This guide is intended to support reflection, planning, and incremental improvement in local government adaptation governance. It does not prescribe a single "best" model, nor does it assume that local governments are starting from the same place.

Local governments are encouraged to use the guide in a way that aligns with their current context and needs. A suggested approach is to:

1. Review the adaptation governance components
Scan the descriptions of common adaptation governance components to identify which may already be in place locally, even informally, and explore how each component functions in practice and what it enables.

2. Learn from local government adaptation governance pathway examples
Read the five example governance pathways to see how Canadian local governments have combined and sequenced components over time in response to capacity, risk, and political conditions.

Please note: while grounded in real examples of local government experience, these pathways are illustrative rather than prescriptive, as each local government's pathway will be different.

3. Use the selection support tools
Apply the decision support tools to identify a potential anchor governance component based on local government size, capacity, and risk context, and explore different ways to advance in your governance journey.

4. Apply governance components
Use the later sections on leadership commitment, integration into decision-making, and enabling conditions, combined with the earlier sections, to consider practical next steps.

The guide is designed to be revisited as conditions change. Climate adaptation governance is not static; it evolves as risks intensify, capacity changes, and institutional priorities shift. This guide is intended to support that evolution by helping local governments make governance choices that are practical, durable, and responsive to local realities.

Executive Summary

Local governments across Canada are increasingly facing the impacts of climate change, including flooding, heat, wildfire, drought, and extreme weather. While the need for climate adaptation is widely recognized, local governments vary significantly in their capacity, authority, risk exposure, and internal structures for implementing adaptation. As a result, there is no single governance component or pathway that fits all communities.

This guide responds to that reality by documenting ways Canadian local governments are organizing themselves internally to advance climate adaptation. It is informed by a survey of local government practitioners, in-depth interviews with local government staff across Canada (refer to the **What We Heard** inserts throughout), and a review of relevant Canadian and international practices. Together, these sources highlight that adaptation governance is evolving unevenly, often incrementally, and most commonly through combinations of governance components rather than static, standalone models.

The guide identifies a set of common adaptation governance components used by local governments, such as centralized coordination, distributed departmental responsibility, cross-functional teams, integration into risk and asset management systems, and regional collaboration, and illustrates ways these components can be combined and sequenced over time in response to local conditions, political context, and available resources.

Rather than prescribing a single approach, the guide emphasizes flexibility and fit. It includes descriptions of the common governance components used across all shapes and sizes of local government, describes example governance pathways that illustrate different local government governance journeys, and offers practical considerations for strengthening coordination, integration, and continuity. A comparative governance matrix and selection tool are intended to help local governments identify a primary governance anchor and potential reinforcing components relevant to their contexts.

Overall, this guide is designed to support local governments in moving from climate planning to sustained implementation by strengthening internal governance structures within their authority, while remaining responsive to broader provincial, territorial, federal, and Indigenous governance contexts.

Introduction

Communities across Canada now regularly experience and are required to manage responses to the effects of a changing climate. Flooding, heat, wildfire smoke, and unpredictable weather patterns are no longer exceptional events, but continue to increase in severity, and are shaping the ways that local governments plan, allocate budgets, build and maintain green and grey infrastructure, support residents, and manage services and local ecosystems[1,2].

In response to this ongoing, costly, and escalating increase in climate-related hazards and risks[3], many local governments have taken essential steps to develop climate change adaptation plans, using a variety of governance components to embed resilience into their organizations as part of their due diligence in managing this new category of risk. One of the key challenges staff identify is ensuring these plans are structured to be effective beyond individual projects, specific groups of staff, or individual departments.

"Adaptation governance" refers to the mix of internal structures, roles, and processes that guide decisions, shape how departments interact, and structure staff requirements, as well as ways budgets and spending are allocated.

Effective governance design clarifies roles and responsibilities, as well as key service provision expectations. It allocates staff the authority and support they need to address climate risk sustainably through tools in everyday use, such as planning, engineering, emergency management, public works, housing, budgets, and operations, as well as access to data and projections for future conditions that will affect their community[4,5,6].

Local governments have a variety of mechanisms they can tap into to advance adaptation governance planning, for instance: policy and regulatory tools such as integrating adaptation into official plans and zoning, adopting bylaws for hazard zones and resilient development, setting green infrastructure and stormwater standards, and updating procurement policies to require climate-resilient design. They also have access to risk, planning, and technical tools, including corporate risk management frameworks that account for climate hazards, and the use of GIS hazard mapping and resilience dashboards to guide decisions, providing supporting evidence for governance planning decisions such as allocation of responsibility to key departments.

Local governments can also strengthen governance through monitoring, evaluation, and reporting mechanisms, such as adaptation action trackers and reporting tools, which help to reflect the effectiveness of governance approaches and support course correction as needed, as well as budgeting processes that align spending with long-term climate risks, which resource aspects of governance planning, such as staffing and project costs.

The governance components and pathways presented in this guide are informed by desktop research, interviews with local government staff, a pre-interview survey capturing current governance practices, and analysis of Canadian and international examples.

Why Governance is Critical for Adaptation Success

This guide is informed by a survey of local government practitioners, in-depth interviews with local governments across Canada (refer to the **What We Heard** inserts throughout this guide), and presents a collection of relevant Canadian and international practices. Insights from the pre-interview survey of Canadian local government staff reinforce the fact that adaptation governance is a mixed and evolving landscape. Respondents described a wide range of governance arrangements, often combining distributed departmental responsibility, cross-departmental coordination, and varying degrees of system integration.

Many noted that adaptation work is already embedded in practice, but not always formally recognized as adaptation nor governance, using different terminology based on their community's priorities (e.g., operations, health, resilience etc), underscoring the prevalence of hybrid arrangements and uneven levels of institutionalization across local governments. In practice, most local governments do not operate within a single adaptation governance structure. Instead, they combine multiple governance components over time, creating layered or hybrid arrangements that evolve as planning progresses, and as conditions such as climate risks, funding availability, political priorities, and internal capacity change. For example, a local government may use a cross-functional steering group to guide adaptation planning, embed climate risk into asset management and capital programs during implementation, and rely on regional partnerships to address ecosystem-scale or shared risks.

Rather than reflecting a single trajectory, Canadian adaptation governance is therefore best understood through the governance components local governments use and the ways they combine them over time. This perspective provides a foundation for understanding current practice and for supporting local governments in strengthening adaptation governance that aligns with their local context, constraints, and priorities.

Local governments across Canada face similar barriers to climate adaptation action, regardless of size, location, or demographics[7,8]. Staff time and financial resources are at a premium, with work on climate issues often positioned as competing with other pressing community priorities rather than as due diligence for a shifting level of risk that is increasingly affecting planning and operations. Climate impacts and the actions needed for adaptation affect many parts of every organization; as a result, efforts to respond are often distributed across departments and can be fragmented, siloed, and ineffective unless strategic governance is employed to coordinate cross-organizational planning and implementation.

Other issues requiring consideration in the structuring of governance include staff turnover or shifts in council priorities, which can slow or eliminate progress unless adaptation work is grounded in processes that can survive such changes. Smaller communities may not have easy access to climate data, technical guidance, or adequate funding, and a few staff members may be fulfilling multiple roles with limited expertise to meet all the demands on their time. Climate impacts are not experienced evenly, with some residents, neighbourhoods, or ecosystems more exposed or less able to adapt, requiring disparities to be reflected in decision-making, imposing greater demands on some departments than others.

This uneven pattern of uptake further underscores the importance of flexible adaptation governance approaches that can work across different levels of municipal capacity and maturity. Some local governments are advancing adaptation through formal strategies and dedicated coordination structures, while others are embedding climate considerations incrementally within existing systems or relying on partnerships to extend capacity.

As adaptation work becomes operational, new governance mechanisms tend to be added rather than replacing earlier ones, resulting in overlapping but complementary roles.

These hybrid arrangements can include centralized coordination, distributed departmental responsibilities, embedded risk management, and partnership-based delivery operating in parallel. This approach allows local governments to adapt governance structures to local political and operational realities, draw on the strengths of multiple approaches, and benefit from practices already tested by peers.

Strategic governance can enable local governments to overcome the barriers outlined above and drive benefits and co-benefits to all aspects of their operations. Despite the barriers, Canadian local governments are finding ways to move forward and realize tangible, sustained benefits from adaptation planning, with many adjusting internal structures, building new partnerships to support adaptation work, or weaving climate considerations into existing planning, procurement, and budgeting processes so that adaptation becomes part of routine practice. In many cases, these same governance mechanisms are also used to advance emissions reduction, enabling local governments to align and integrate resilience, decarbonization, and broader community benefits within shared decision-making systems.

Rather than trying to impose a single model, progress relies on governance structures that reflect local realities, as well as an understanding that different governance components suit different stages of progress. The work on adaptation underway both in Canada and around the world demonstrates that multiple options exist and are in use. This guide provides a set of governance components drawn from Canadian examples, with brief references to international examples, to provide enough information to allow communities to consider their suitability and capacity to adapt them to their own context as their adaptation journey evolves.

It also complements broader provincial and federal frameworks by focusing on what local governments control directly: the internal systems that can ensure adaptation work persists through the arc of planning, resourcing, and implementation over time and during shifts in capacity, political support, emerging crises, and other external influences.



How Municipal Adaptation Governance Works in Practice

A Hybrid and Evolving Reality

Across Canada, local governments are advancing adaptation through a mix of components such as centralized coordination, distributed departmental responsibility, cross-functional collaboration, integration into risk and asset management systems, and regional cooperation. These components are rarely introduced all at once; instead, they tend to emerge incrementally, often in response to specific triggers such as new climate risk information, infrastructure failures, funding opportunities, organizational change, or council direction.

Rather than presenting prescriptive governance "models," this guide therefore identifies a set of core governance components that local governments commonly use and illustrates how these components are being combined and sequenced in practice across Canadian local governments.

Definition of Governance Components

In this guide, governance components are treated as building blocks rather than stand-alone solutions. Each component addresses a particular governance need, such as coordination, accountability, integration, or capacity extension.

While each component may be used as a starting point, no single component is likely sufficient to deliver sustained adaptation outcomes on its own.

Local governments may therefore utilize different components at different stages of their adaptation journey. Some components are more visible during planning, while others become critical during implementation and long-term operation. Understanding the components individually provides a shared language for discussing governance, while understanding how they are combined helps local governments assess where they are, and what they may need to strengthen.

Explore Governance Components and Pathways

In this guide, you can **explore a set of governance components** and understand how they can be used independently or in conjunction to create your own governance pathway. Review **examples of governance pathways** to understand how local governments are combining these components in practice.

These sections are intended to help you recognize your own starting conditions, understand typical pathways of governance evolution, and identify practical options for strengthening adaptation governance within your existing authority, as well as possible constraints.

What is a Climate Lens?

A climate lens is a checklist, tool or framework that local governments use to ensure climate change is considered before approving projects or financial decisions. A climate lens can be applied across organizations, but most commonly finds strong use cases in engineering and finance. On the engineering side, it ensures infrastructure is designed for future weather conditions/climate projections, like bigger storms, extreme weather and/or more extreme temperatures, rather than just what's happened historically. On the finance side, it helps identify whether a project might cost more to maintain, fail sooner, or become a liability due to climate risks that weren't factored into the original business case.

As municipalities face growing pressure to adapt to a changing climate, the climate lens is one of the most practical tools available. It embeds climate thinking directly into the decisions where capital is actually being committed, rather than treating adaptation as a separate or optional exercise that can be value-engineered out. When applied consistently, it can shift a municipality's entire capital program toward greater long-term resilience without requiring a wholesale change in how the government operates.





Core Adaptation Governance Components

Across Canada, several common components are identifiable in the development of governance for local adaptation.

As noted above, local governments rarely adopt a single adaptation governance structure, with most combining multiple governance components over time, adjusting roles, coordination mechanisms, and integration points as adaptation work moves from planning into implementation, and as capacity, risk exposure, and political conditions evolve. The governance components described in this guide should therefore be read as building blocks rather than discrete models. Each component addresses a specific governance function such as coordination, accountability, integration, or capacity extension. The sections that follow describe each component individually, followed by pathways and tools that illustrate how local governments in Canada are combining and sequencing these components in practice.

Component **A**

Dedicated Climate Office/Central Climate Unit

What This Governance Component Looks Like

Some local governments create a dedicated climate or resilience office that serves as a central hub for adaptation work and coordination across departments. These units typically operate with a mandate from senior management or council, and play a key role in setting direction, supporting implementation, and maintaining visibility for climate risks and priorities across the organization. This component is most common in larger local governments where climate adaptation has a high political or public profile, and/or in circumstances or locations where local communities are overtly affected by climate disasters.

The effectiveness of a dedicated climate office is strongly influenced by where it is situated within the municipal structure. Units located within the Chief Administrative Officer's (CAO) or City Manager's Office often have greater authority to convene departments, influence corporate priorities, and align adaptation with budgeting and strategic planning. In contrast, climate units embedded within a single operational department may face challenges securing cross-organizational engagement if that department lacks a clear mandate for corporate coordination. Placement, therefore, affects not only visibility, but also the unit's ability to function as a true corporate anchor rather than a program within one service area.

A central climate office or unit is usually composed of one or more dedicated staff with responsibility for coordinating climate adaptation across the organization. Functions commonly include leading or supporting adaptation planning, convening cross-departmental working groups, tracking implementation progress, preparing reports to senior management or council, and acting as the primary point of contact for external partners and funding programs. While the unit may initiate projects, delivery/implementation often occurs within departments, teams and divisions across the municipality.

When Local Governments Tend to Use This Component

You are most likely to establish this component when climate adaptation is a stated strategic priority, following a climate emergency declaration, major climate event, availability of significant external funding, and/or changes to budgets internally to support staff (typically as a result of the previously mentioned items). It is more feasible where municipal size or complexity warrants centralized coordination and where senior leadership is supportive of dedicating staff and budget to climate functions.

What This Component Could Help You With

A central climate office provides clarity of responsibility and a visible accountability anchor for adaptation. It can reduce fragmentation, accelerate early action, and help ensure consistent messaging and alignment across departments. The unit often plays a critical role in translating high-level climate goals into operational expectations for different service areas.

What to Watch Out For

While this component can be highly effective in early stages, it carries risks if adaptation remains concentrated within the central unit. Departments may view climate as "owned" elsewhere rather than part of their core responsibilities. Dedicated units can also be vulnerable to restructuring or budget cuts if political priorities shift. Explore Toronto's case study to learn how the City restored its central climate office after a gap period.

Typical Obstacles and How Local Governments Overcome Them

A common challenge is over-reliance on the central office for delivery. Local governments that have sustained progress tend to deliberately shift responsibility over time by embedding climate requirements into departmental workplans, capital approval processes, or asset management systems. Another challenge is maintaining momentum during leadership changes; this is often mitigated by pairing the central office with formal cross-departmental governance and system-level integration.

How This Component Typically Evolves

In more mature governance arrangements, the role of the central climate office often evolves from direct implementation toward coordination, monitoring, and support. As climate risk becomes embedded in core systems and services, the unit may focus on maintaining alignment, tracking outcomes, and supporting continuous improvement rather than leading individual actions.

KEY INSIGHT

This component is rarely sufficient on its own. You may find it most effective when combined with cross-functional coordination (**Component C**) and gradual integration into corporate systems (**Component D**), reducing reliance on a single unit, while preserving coordination and accountability.

LEARN MORE

To learn more about how cities are applying Component A, explore the **Toronto,ON** and **Halifax, NS** case studies.

Component **B**

Departmental/ Distributed Leads

What This Governance Component Looks Like

Some local governments distribute responsibility for climate adaptation across departments, rather than centralizing it in a single unit. Adaptation responsibilities may be embedded in existing roles or assigned to named departmental leads within planning, engineering, operations, emergency management, or other service areas. This component is common when resources are limited or when integration with core services is prioritized.

Under this component, climate adaptation is advanced through existing departmental structures, via two common variants:

- **Departmental leads (B1):** Specific staff within departments are formally identified as leads for adaptation-related actions tied to their mandates.
- **Embedded staff (B2):** Climate considerations are incorporated into job descriptions without formal leadership designation, often as one responsibility among many.

In both cases, departments retain primary responsibility for implementation within their service areas.

When Local Governments Tend to Use This Component

This component is often used when municipalities lack the resources or mandate to establish a dedicated climate office, or when leadership prefers adaptation to be fully integrated into service delivery. It is most common in small- to mid-sized local governments and in organizations seeking to normalize climate considerations within routine operations.

What This Component Could Help You With

Distributed responsibility encourages ownership within departments and helps ensure adaptation is considered alongside other operational priorities. It can reduce perceptions that climate adaptation is an “add-on” and support incremental integration into everyday decision-making.

What to Watch Out For

Without coordination, distributed responsibility can lead to uneven progress across departments and limited organizational visibility of adaptation efforts. Staff capacity constraints may also limit the depth or consistency of integration.



Typical Obstacles and How Local Governments Overcome Them

A frequent challenge is fragmentation. You can address this by pairing distributed responsibility with cross-functional coordination mechanisms (**Component C**), and/or by embedding climate considerations into shared systems such as council reporting templates or capital planning criteria.

How This Component Typically Evolves

As adaptation matures, using this component may lead you to introduce stronger coordination and/or system-level integration to improve consistency and accountability, while retaining departmental ownership.

KEY INSIGHT

Distributed responsibility works best when departments have clear mandates and when coordination or system-level integration is in place to support alignment and continuity.

LEARN MORE

To learn more about how cities are applying Component B, explore the **St. Catharines, ON** and **Niagara Falls, ON** case studies.

Component **C**

Cross-Functional Steering/Adaptation Team

What This Governance Component Looks Like

Many local governments establish cross-departmental adaptation or steering teams to coordinate planning and implementation. These teams bring together staff from multiple service areas to align priorities, share information, and maintain organizational focus on climate risks and adaptation actions.

Cross-functional teams are typically composed of representatives from planning, engineering, public works, finance, emergency management, and other relevant departments. They meet regularly and are often supported by a coordinator. Responsibilities may include guiding adaptation planning, monitoring implementation progress, resolving cross-departmental issues, and advising senior management or council.

When Local Governments Tend to Use This Component

This component is commonly established during the development of an adaptation plan or when recognizing the need for stronger internal alignment. It is effective in organizations where climate risks cut across multiple mandates and decisions.

What This Component Could Help You With

Cross-functional teams improve communication and shared understanding, reduce silos, and keep adaptation visible across the organization. They are particularly valuable for translating high-level plans into coordinated action.

What to Watch Out For

Teams require time and coordination; without clear authority or links to decision-making systems, they may struggle to move from discussion to implementation.

Typical Obstacles and How Local Governments Overcome Them

A common risk is over-reliance on informal collaboration. Strengthen this component by establishing clear terms of reference, securing senior management sponsorship, and linking it to budgeting, capital planning, or asset management processes.

How This Component Typically Evolves

As responsibilities shift across departments or systems, the team's role may narrow to coordination, monitoring, or strategic oversight rather than active delivery.

KEY INSIGHT

Cross-functional teams are often an entry point to adaptation governance, but they tend to be most effective when paired with clear accountability and system-level integration.

LEARN MORE

To learn more about how cities are applying Component C, explore the **St. Catharines, ON** case study.



Component **D**

Integration into Risk, Asset, and Capital Systems

What This Governance Component Looks Like

Some local governments advance adaptation by embedding climate risk directly into corporate systems such as asset management, capital planning, budgeting, procurement, and enterprise risk management.[9] This shifts adaptation governance away from standalone structures and towards routine due diligence and operational decision-making. Climate risk considerations are incorporated into asset lifecycle planning, natural asset management, capital project approvals, risk registers, procurement criteria, or financial decision frameworks. Responsibility for adaptation is distributed across systems rather than resting with a single team.

When Local Governments Tend to Use This Component

This component is often adopted where climate impacts pose material risks to infrastructure and services, or where internal buy-in for climate-specific initiatives is limited. It is most common when local governments have strong asset management or financial governance capacity.

What This Component Could Help You With

Embedding adaptation into core systems increases durability and reduces reliance on individual champions. It ensures climate risk is considered consistently in high-impact decisions, particularly those involving long-term investments. Integration into corporate systems furthermore creates opportunities to align adaptation and mitigation investments. This component also comes into play as capital planning and asset renewal processes increasingly consider both emissions performance and climate resilience, allowing local governments to design infrastructure that reduces long-term risk, while lowering carbon exposure and supporting broader sustainability goals.

What to Watch Out For

System integration can be technically complex and resource-intensive. Climate considerations may become less visible as a distinct priority if not supported by formal coordination or reporting mechanisms.



Typical Obstacles and How Local Governments Overcome Them

Address visibility challenges by pairing system integration with cross-functional oversight or centralized monitoring. Capacity gaps may be addressed incrementally, focusing first on high-risk assets or decisions.

How This Component Typically Evolves

As systems mature, expand integration across additional processes or refine decision thresholds and standards.

KEY INSIGHT

System integration is a stabilizing opportunity for adaptation governance, particularly when combined with coordination and clear accountability.

LEARN MORE

To learn more about how cities are applying Component D, explore the **Calgary, AB**, **Montréal, QC**, and **Gibsons, BC** case studies.

Component **E**

Regional or Intermunicipal Governance

What This Governance Component Looks Like

Regional or intermunicipal governance enables collaboration on adaptation planning and implementation, sharing staff, resources, data, and expertise to address common climate risks. Options include collaboration through regional districts or bodies, shared service arrangements, joint plans, or coordinated initiatives, including governance through boards/commissions. Governance may include shared staff, regional adaptation strategies, and collaborative delivery of specific actions or shared services.

When Local Governments Tend to Use This Component

This component is most common among smaller local governments, where there is a leading regional district or upper tier municipality, or where climate risks cross jurisdictional boundaries, such as watersheds, coastal zones, or wildfire-prone regions.

What This Component Could Help You With

Regional governance increases efficiency, reduces duplication, and makes the most of limited capacity, allowing local governments to access expertise and advance adaptation that would be difficult to pursue independently.

What to Watch Out For

Regional arrangements can be complex to manage and may limit local control. Progress may depend on sustained commitment across multiple partners.

Typical Obstacles and How Local Governments Overcome Them

Strengthen regional governance by formalizing agreements, clarifying roles, and aligning regional efforts with local implementation responsibilities.

How This Component Typically Evolves

Regional collaboration may begin with planning support and expand into shared implementation or long-term governance as trust and capacity grow.

KEY INSIGHT

Regional governance is often a capacity multiplier and is most effective when paired with clear local ownership and selective system integration.

LEARN MORE

To learn more about how cities are applying Component E, explore the **Dufferin, ON** and **Capital Regional District, BC** case studies.



Governance Components Compared

Figure 1 - Governance Component Comparative Summary

Component A: **Central Climate Office/Staff**	Component B: **Distributed/ Departmental Leads**	Component C: **Cross-Functional Team**	Component D: **Embedding Risk**	Component E: **Regional Governance**
Establishes a dedicated team or staff responsible for coordinating climate action across departments/teams. This unit typically oversees strategy development, implementation tracking, funding coordination, and reporting to senior leadership and council.	Embeds responsibility for climate action across multiple municipal departments, with each department leading actions related to its core services. Climate considerations are integrated into existing planning, infrastructure management, and operational processes.	Brings together representatives from multiple departments to coordinate climate initiatives, share information,and align priorities. These teams often function as steering committees or working groups that guide climate implementation.	Integrates climate considerations into corporate decision-making systems, such as asset management, infrastructure planning, procurement, and corporate risk registers. Instead of being treated as a standalone initiative, climate risk becomes part of routine municipal planning and investment decisions.	Involves collaboration between municipalities, regional districts, Indigenous governments, and other partners to address climate risks that cross municipal boundaries. These partnerships may take the form of regional climate collaboratives, inter-municipal committees, or shared planning initiatives.
Pros: Provides **clear accountability and leadership** for climate action across the organization. Enables **specialized expertise and capacity** focused on climate planning and implementation. Improves **coordination of projects, funding, and reporting** across departments.	***Pros:*** Builds ownership of climate action within operational departments. Integrates climate adaptation into core service delivery and infrastructure planning. Can be implemented with limited new resources or staffing.	***Pros:*** Encourages collaboration and knowledge sharing across departments. Helps break down silos and align priorities between service areas. Supports coordinated implementation of climate strategies.	***Pros:*** Integrates climate adaptation into long-term infrastructure and financial planning. Aligns climate action with existing municipal risk management frameworks. Supports evidence-based decision-making using climate risk assessments	***Pros:*** Enables coordination on shared climate risks and ecosystems. Allows pooling of resources, expertise, and funding across jurisdictions. Supports more consistent and strategic regional adaptation planning.
Cons: Risk of organizational silos if climate responsibilities become isolated from operational departments	***Cons:*** Coordination can be slower and inconsistent without strong corporate oversight.	***Cons:*** Requires strong facilitation and clear mandates to avoid becoming purely advisory or discussion-focused.	***Cons:*** Requires technical capacity, data, and risk analysis tools, which may be challenging for smaller municipalities, as well as strong buy-in at the outset.	***Cons:*** Governance and decision-making can be complex due to differing priorities and authorities across partners.

What We Heard

Halifax Regional Municipality, NS

Climate Adaptation Governance in Halifax Regional Municipality: Building a System That Moves

What Embedded Governance Actually Looks Like

Halifax Regional Municipality (HRM) is widely regarded as one of Canada's most advanced municipalities when it comes to climate adaptation, and for good reason. With a dedicated 27-person Environment and Climate Change team, six cross-departmental working groups, a CAO-level executive sponsor, and a dedicated Climate Action Tax generating millions annually, HRM has built a governance model that doesn't just plan for climate action, it funds, coordinates, and delivers it. This is a story about what it takes to move from intent to implementation at scale.

Governance as Infrastructure

HRM's Environment and Climate Change team is organized into five sub-teams: Clean Energy, Climate Adaptation, Environment, Climate Governance, and Collective Impact. The Climate Governance team manages six cross-departmental working groups, including Resilient Critical Infrastructure, Greening Transit, Net Zero Buildings, Greening Fleet, and Finance, each bringing together management-level staff from relevant departments on a monthly or bi-monthly basis. These working groups are where HalifACT—HRM's climate action plan—actions are assigned, barriers are resolved in real time, and accountability is shared across the organization.

A critical component of the model is the executive sponsor structure. The CAO holds formal responsibility for escalating issues when working groups hit roadblocks, making climate adaptation explicitly centre-of-desk, not a side-of-desk concern. The working groups were launched with a formal convening that included the CAO, ensuring decision-makers understood the weight of the commitment from day one.

HRM's Climate Governance team is also trained in Prosci change management methodology, a deliberate investment in ensuring that the governance model is supported by the skills needed to actually shift organizational behaviour.

Barriers and How They're Being Overcome: Solving the Delta Problem

One of the most persistent barriers to climate adaptation implementation is cost: when a project reaches the end of life or needs to be replaced, standard municipal budgets cover like-for-like replacement, leaving infrastructure or capital costs just as vulnerable as before. HRM solved this through the Climate Action Tax, a dedicated levy on property taxes that funds the delta between a standard replacement and a more resilient option. It also funds climate risk and resilience assessments, and the integration of those findings into projects across the local government.

This funding mechanism transforms the governance conversation. Rather than asking departments to absorb the cost of doing things differently, the Environment and Climate Change team arrives with resources, making buy-in significantly easier to achieve and removing the financial barrier that commonly engineers climate adaptation out of capital projects.

KPI development remains a genuine challenge. HRM currently tracks largely process-based indicators—how many adaptation actions are on track, in progress, or delayed—but lacks the data infrastructure to measure outcomes like changes in permeable surface cover or stormwater managed through green infrastructure. This is a known gap being actively worked on, and one shared by nearly every municipality in Canada.

Key Outcomes and Learnings: The Working Group Model Delivers When the Right People Are in the Room

HRM's working groups have enabled concrete progress: a critical infrastructure climate vulnerability and risk assessment for all municipally owned assets, work toward a Sustainable Building Policy that will formalize climate resilience requirements for capital projects, and cross-divisional problem-solving that would otherwise take months of email threads.

The key to their effectiveness is not format, but rather who is in the room. HRM has been deliberate about including management-level staff who are both close enough to front-line work to understand project realities, and senior enough to make decisions without escalation. This reduces friction and allows working groups to resolve issues live rather than deferring them.

The most transferable lesson from HRM for smaller municipalities: you do not need a climate action tax to run effective working groups, but you do need to invest in the *why*. Getting departments bought into a shared vision is more important than the mechanics of how the group runs. And when things don't work

perfectly, when a green infrastructure project fails or an action stalls, that is data, not proof that something (adaptation) doesn't work. As HRM's Shannon Fernandes put it: we don't look at a potholed road and swear off roads forever.

Looking Ahead

HRM is completing a community-wide Climate Change Vulnerability and Risk Assessment, a recognized gap from the original HalifACT process. A cost-of-climate-change modelling project is also underway, quantifying the return on investment for specific adaptation actions, which is expected to substantially strengthen the business case for adaptation.

Another area of action is the shift of climate change from a formal Council priority to a "lens." This presents a governance challenge: how can HRM formalize a climate lens and apply it consistently across capital planning, asset management, and operations? The team is working hard on this task.

PRIMARY GOVERNANCE ELEMENTS

A Dedicated climate division

C Cross-functional coordination

D System integration

RELATED PATHWAY

Pathway 3

What We Heard

City of Toronto, ON

Climate Adaptation Governance in Toronto: From Resilience Strategy to Coordinated Action

A Decade of Learning What Works

Over the past 15 years, the City of Toronto has moved through several governance iterations of climate adaptation governance: a first adaptation plan in 2008, a cross-divisional resilience working group, a Chief Resilience Officer funded through the 100 Resilient Cities program, and a period with a small (relative to the City of Toronto) coordinating team and further climate staff distributed across every major division in the organization—think a centralized decentralized approach. Each phase taught the City something new. A new governance structure approved by Toronto's City Council in December 2025 reflects that accumulated learning.

Governance: Finding the Right Centre of Gravity

Toronto's current model is built around a Climate Resilience Team of five staff within the Environment, Climate and Forestry Division, serving as the central hub of expertise and coordinator for climate adaptation across the City's many divisions, agencies, and corporations. In December 2025, City Council formally endorsed this approach and established the next phase: a senior-level Oversight Table with a Terms of Reference, supported by Working Tables of subject matter experts drawn from across the organization.

The model is intentionally neither fully centralized nor fully distributed. The central team sets direction, facilitates coordination, provides climate data resources and risk information, and champions the work at a corporate level, following the priorities of the overarching climate strategies, while significant expertise and implementation responsibility remains with the divisions who know their portfolios best. As one team member put it, the goal is to get everyone pointing at the same north star, without trying to do everything from one office.

Council endorsement has been pursued in deliberate stages, first requesting backing for climate resilience as a corporate priority, then reporting back on progress, and now setting out the governance framework and next steps. This staged approach has kept the work from feeling overwhelming to decision-makers and built buy-in incrementally.

Barriers and How They're Being Overcome: Coordination Gaps and Conflicting Mandates

Toronto's central governance challenge has not been a lack of activity, as divisions across the City have long been doing climate-relevant work. The need has been for alignment: a collective vision and goals for the City's climate resilience work, increased visibility into what other divisions are doing, coordination of effort, and a centralized group of staff to keep the work moving and track progress.

Toronto's 2019 Resilience Strategy, guided by an externally funded Chief Resilience Officer, did create a centralized set of goals with climate as one of a range of key issues. However, the coordination function was separated from a divisional structure and did not have ongoing funding and resources, making it hard to maintain continuity and track progress. In 2020, attention shifted to the pandemic and plans to determine how climate resilience work would move forward were put on hold.

The new governance structure, supported by a team that was staffed up in 2022, directly addresses this. The Oversight Table provides senior-level accountability and cross-divisional visibility. The working tables create space for subject matter experts to develop recommendations for citywide adaptation priorities, specific actions that are needed, and support implementation, as well as to surface operational tensions that can hamper progress, like competing urban forestry and greening mandates.

Measuring success remains an acknowledged challenge. The team is exploring how to embed climate resilience indicators into the development of a full adaptation action plan, targeted for 2027.

Key Outcomes and Learnings: Governance as an Ongoing Process, Not a Fixed Structure

Perhaps the most transferable insight from Toronto's experience is this: governance needs to be designed to evolve. The December 2025 Council report was not an endpoint, it was a milestone and rally point into the next part of Toronto's journey. The Terms of Reference for the new Oversight Table will include provisions for revisiting the structure as the City learns what works and what's needed as contexts change. Both staff interviewed were clear that the framework they are putting in place is a starting point, not a finished product.

A second key lesson is the value of coordinated senior engagement. In December 2025, seven City divisions presented to Council together on three Staff Reports related to City action on climate resilience and extreme heat, an unusual display of cross-divisional alignment that helped leadership understand both the breadth of the work and the importance of a central coordinating function.

For other municipalities, the Toronto story reinforces the benefits of deliberate governance infrastructure, and that building it, step by step, with Council buy-in at each stage, is a viable and effective approach that can be replicated across local governments of all sizes.

Looking Ahead

In early 2026, Toronto was working to kick off its climate resilience Oversight Table and develop its Climate Change Action and Adaptation Plan by 2027. The team has also flagged Indigenous climate leadership and co-creation as a significant priority and acknowledged gap, recognizing that meaningful reconciliation in adaptation planning requires structural thinking the City is working through.

PRIMARY GOVERNANCE ELEMENTS



A Dedicated climate office



C Cross-functional coordination



D System integration

RELATED PATHWAY



Pathway 3

Five Common Adaptation Governance Pathways

The five pathway stories that follow are composite narratives drawn from interviews with a diverse selection of Canadian local governments, supported by survey findings and research. They illustrate common trajectories through which local governments have organized and evolved their adaptation governance over time.

These pathways are not prescriptive models, nor are they mutually exclusive categories. Most local governments will recognize aspects of more than one pathway in their own experience. The intent is not to classify municipalities, but to offer archetypal patterns that can help staff reflect on where they are now, what starting conditions resonate most strongly, and which governance shifts may be helpful next.

A practical way to engage with the pathways is to review the common starting conditions described for each and identify where there might be alignment to your local context. If several conditions resonate, that pathway may provide a useful reference point. Where multiple pathways feel relevant, you can draw selectively from each, combining governance components in ways that reflect their specific capacity, risk context, and political environment.

Pathways 1-4 describe common routes through which local governments have established and operationalized adaptation governance in different contexts.

Pathway 5 reflects situations where adaptation governance is anchored at a regional scale, either through a regional district or upper-tier authority, or through collaboration among smaller municipalities to extend capacity.

The purpose of these pathways is to help you:

- See how governance components are often combined rather than used in isolation.
- Understand common sequencing and decision points.
- Reflect on which governance components may be most useful to strengthen next, given their current context.

References to specific local governments are included to ground the pathways in practice, while keeping the focus on transferable governance patterns rather than recommending or replicating any single approach.

Figure 2- Governance Pathways' Flexibility

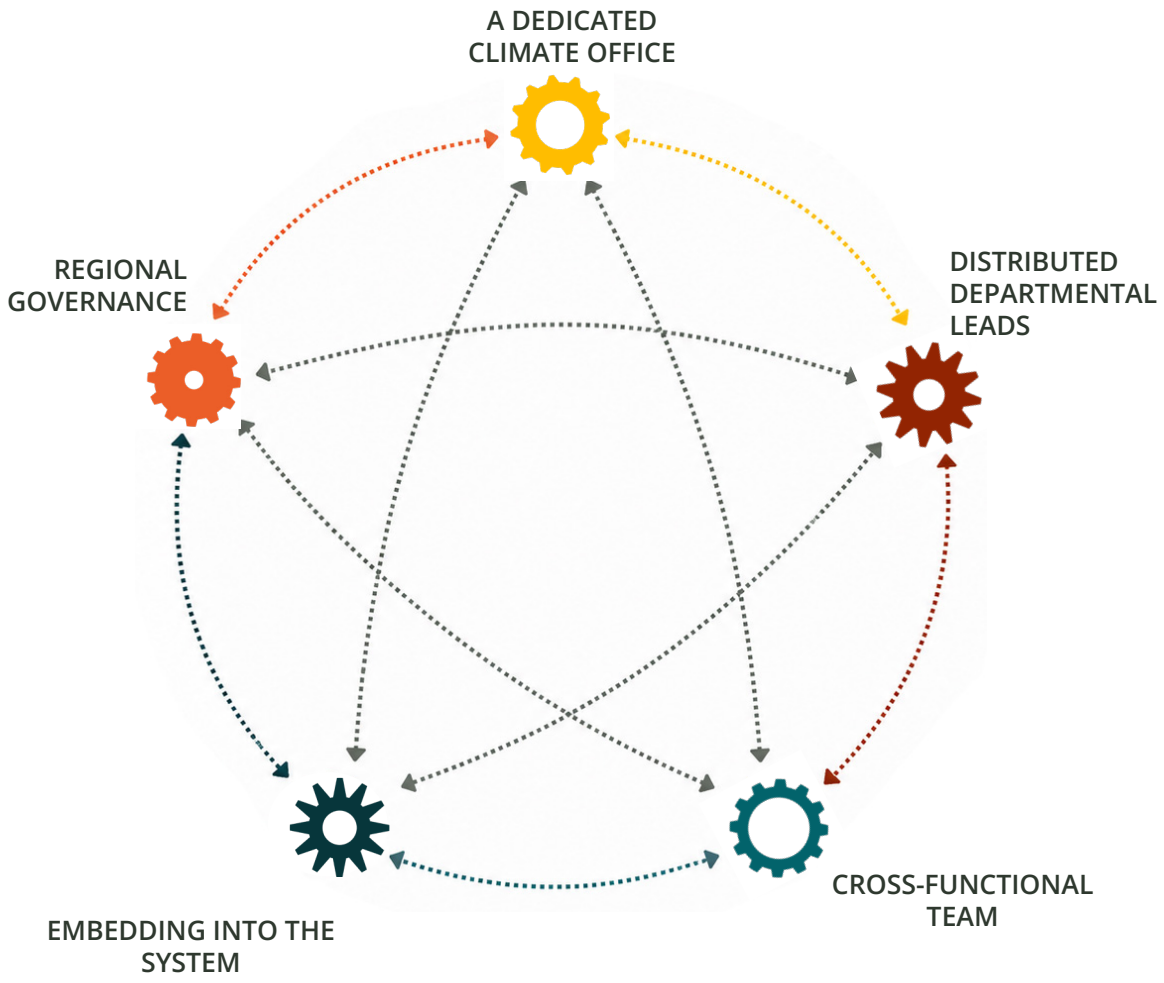


Figure 2 illustrates that no one pathway is the right way for every local government, team or staff. Evolving over time and making your own pathway is what will lead to success, adapting even if certain governance components are determined over time to not work as effectively as others. It is also okay to return to prior components that you may have moved away from for a variety of reasons (funding, triggers, priorities, capacity, resources, etc).

What We Heard

City of Fredericton, NB

Building a Climate-Ready Organization One Relationship at a Time: Lessons from Fredericton

When a single staff member is responsible for climate adaptation across an entire municipality, how that person is positioned within the organization matters enormously. For the City of Fredericton, placing the climate role (environmental strategist and program manager) within Corporate Services, rather than in a technical department like Engineering, has made all the difference.

Governance: Priority Positioning

Fredericton operates with an environmental strategist and program manager embedded in Corporate Services who oversees climate adaptation and mitigation among other responsibilities—this is a division that also oversees finance, procurement, and real estate. This positioning gives the role a cross-departmental mandate from the outset. Rather than being seen as an engineering or infrastructure concern, climate adaptation is framed as an organization-wide priority that touches every department.

A key structural tool has been the integration of a **climate lens** into Council decision-making. Every Request for Decision report that goes to Council and every line item in the capital budget includes a section in which the project manager identifies climate impacts, and the environmental strategist and program manager review and verify them. This means Councillors receive transparent information about how each project either increases resilience, reduces it, or involves a trade-off with other priorities, such as housing or safety.

Barriers and How They're Being Overcome

The model is not without its challenges. With only one dedicated staff member, the risk of being stretched too thin is real, particularly when new and unfamiliar hazards emerge, like the extended drought and wildfire conditions the region experienced as recently as 2025, in addition to existing climate impacts like flooding, which required rapid pivoting and planning.

Two other notable barriers have been internal buy-in across departments, which has been uneven with some departments not engaged in integration of climate adaptation considerations. Secondly, staff from other departments often come to the environmental strategist and program manager after a project is already designed or built, asking what could have been done differently, rather than taking an approach of co-creation and support. The response has been to proactively insert the adaptation role earlier, requesting a seat at the table during project planning, not just at the reporting stage.

Coordination across departments has largely been relationship-driven rather than structurally mandated. While this has worked to an extent, the adaptation officer has become the de facto go-to person on climate matters, which can create inefficiencies. Cross-departmental conversations tend to happen one-on-one, rather than collectively, and past attempts to establish standing working groups have not been sustained.

Key Outcomes and Learnings

Despite these constraints, meaningful progress has been made. The climate lens in capital budgets and Council reports has normalized the expectation that climate risk is considered in every major decision. New working relationships with the City's Emergency Management Officer and Inclusion Office are expanding the adaptation program's reach into emergency preparedness and community equity, both identified as priorities for the upcoming adaptation plan update.

Fredericton's experience points to a few clear takeaways for similarly sized communities:

- **Positioning matters.** A climate role in a cross-departmental division like Corporate Services has broader organizational reach than one siloed in a technical department.
- **Dedicated staff make a difference.** A full-time focus on adaptation allows for the relationship-building and coordination that part-time responsibility rarely sustains.
- **Embed climate thinking in existing processes.** Integrating a climate lens into budget cycles and Council reports creates accountability without adding entirely new workflows.
- **Framing is strategic.** In a shifting political environment, framing adaptation work around safety, risk reduction, resilience, health and cost savings, rather than climate change explicitly has helped maintain cross-partisan support.



Looking Ahead

Fredericton is preparing to update its adaptation plan and hopes to formalize a working group that will continue beyond the planning process itself, embedding collaborative governance into the structure of the plan, not just the process of creating it.

PRIMARY GOVERNANCE ELEMENTS

B2 Embedded staff

D Targeted integration

RELATED PATHWAY

Pathway 4

From Planning to Embedded Practice

Common Starting Conditions

Mid-sized local governments with moderate capacity, an approved adaptation plan, and concern about implementation momentum.

Typical Sequencing of Governance Components

Cross-functional steering → Distributed departmental leads → Integration into core systems (C → B1 → D)

In some mid-sized Canadian cities, the evolution of adaptation governance has been driven by the question: once the climate adaptation plan is approved, how do we avoid losing momentum? Adaptation can risk becoming an "side of desk" activity, a scenario that was recently exacerbated by COVID, which drove staff turnover and escalated competing operational pressures. An example of how this could be addressed is how **St. Catharines, ON** established cross-departmental adaptation teams, bringing together staff from planning, engineering, public works, finance, community services, and environmental sustainability. The intent was not to create a new layer of bureaucracy, but to keep adaptation visible and coordinated as implementation began. The presence of a dedicated climate coordinator in this context was described as critical, providing a single point of contact, convening meetings, tracking progress, and helping to translate the adaptation plan into department-specific actions.

As implementation progressed, responsibility began to shift. Rather than the adaptation team delivering projects directly, departmental leads emerged within engineering, planning, and operations, each taking ownership of actions relevant to their mandates. Climate considerations began appearing more routinely in council reports, internal work planning, and discussions about infrastructure renewal. Staff noted that this shift helped normalize adaptation as part of "how decisions get made," rather than as a separate initiative competing for attention.

Over time, components of adaptation became increasingly embedded in core systems. Asset management discussions began to reference climate risk, particularly for stormwater, roads, and facilities. Budget conversations, while not supported by dedicated adaptation line items, are increasingly considering climate implications. Annual progress reporting to council also created an accountability loop, requiring departments to reflect on what had advanced and what had stalled.

This evolution did not eliminate the need for coordination. In some cases, the original cross-functional team has continued in a lighter role, focused on alignment and reporting; in others, coordination became more informal, relying on relationships built during the planning phase.

ADVANTAGES

This pathway supports continuity beyond plan approval and helps climate risk become a routine consideration in municipal decision-making. By gradually shifting responsibility into departments while maintaining coordination, you reduce reliance on a single champion and increase institutional resilience.

CHALLENGES

Progress can slow over time if integration remains informal or dependent on individual staff capacity. Without clear expectations or system-level hooks, embedded practices may weaken during staff or leadership changes.

International Pathway 1 Example

Copenhagen, Denmark

(population ~800,000)

Governance components: Cross-functional coordination (C); Departmental responsibility (B1); System integration (D)

Following severe cloudburst flooding in 2011, Copenhagen adopted a comprehensive Cloudburst Management Plan that required coordination across planning, engineering, transportation, and parks departments. Early implementation relied on cross-departmental steering to align priorities and funding. Over time, adaptation measures such as cloudburst boulevards, green corridors, and blue-green infrastructure were embedded into routine capital planning and urban redevelopment projects. Responsibility for delivery rests within departments, while coordination ensures alignment across systems.

Copenhagen illustrates how municipalities can move from plan approval to durable implementation by gradually embedding adaptation into infrastructure standards, design guidelines, and long-term capital programs.[10]

Risk as the Doorway to Integration

Common Starting Conditions

Medium- to high-capacity local governments with mature asset management and enterprise risk processes, but uneven internal buy-in for climate-specific initiatives.

Typical Sequencing of Governance Components

Integration into risk and asset systems → Distributed responsibility → Cross-functional coordination (D → B1/B2 → C)

In some large Canadian cities, adaptation governance did not begin with a standalone adaptation plan or a new climate committee, but instead emerged through a focus on risk. In **Calgary, AB** and **Montréal, QC**, staff described growing concerns about infrastructure reliability, service disruptions, and long-term financial exposure linked to flooding, heat, and extreme weather. Framing climate impacts as operational and financial risks helped shift adaptation from a "policy issue" to a core management concern.[11,12,13] In some cases, this risk-based framing has also enabled alignment between adaptation and mitigation priorities, particularly where infrastructure investments can simultaneously reduce emissions and improve resilience.

Early work in Calgary and Montréal focused on embedding climate considerations into asset management, capital planning, and enterprise risk management systems, as engineering and infrastructure teams began assessing climate exposure alongside lifecycle costs and maintenance needs. This approach resonated internally, because it aligned with existing decision frameworks and avoided language that some departments perceived as political or abstract.

As risk awareness spread, distributed roles emerged across departments. In some cases, climate responsibilities were embedded into existing positions; in others, departmental leads took on accountability for integrating climate risk into their service areas. Over time, staff began to recognize the need for stronger coordination to resolve trade-offs between departments and align priorities across systems.

Only later did more formal cross-functional coordination structures emerge through groups that helped connect risk assessments to broader policy objectives, reconcile departmental approaches, and support consistent reporting. By the time coordination was formalized, climate risk had already gained legitimacy as a core operational issue.

ADVANTAGES

This pathway builds strong internal credibility and allows adaptation to influence major investment decisions early. By grounding adaptation in risk and asset management, you can avoid treating climate considerations as optional or peripheral.

CHALLENGES

Without visible coordination, integration can remain uneven, with some departments advancing faster than others and gaps persisting across systems.

International Pathway 2 Example

Rotterdam, Netherlands

(population ~660,000)

Governance components: Integrated risk and asset systems (D); Distributed implementation (B1/B2); Cross-sector coordination (C)

Located largely below sea level, Rotterdam has framed climate adaptation primarily as a risk management and infrastructure challenge. Early governance efforts focused on integrating climate projections into flood defence systems, water management, and spatial planning frameworks. Rather than creating a standalone adaptation office, the City embedded resilience criteria within engineering, water management, and urban design processes. Over time, cross-sector coordination mechanisms strengthened to align adaptation with urban redevelopment and sustainability goals.

Rotterdam demonstrates how grounding adaptation in material risk and infrastructure investment can build legitimacy and institutional durability before broader coordination structures fully mature.[14]

What We Heard

City of Calgary, AB

Climate Adaptation Governance at the City of Calgary: Building a Risk-Based Framework at Scale

About the Project: A Large City Finding Its Governance Model

The City of Calgary is one of Canada's largest municipalities and known nationally as a leader in climate change. Climate adaptation work is coordinated through a dedicated Climate and Environment (C&E) business unit, which houses two distinct functions working in parallel: a technical Climate Adaptation team that develops tools, processes and policies, and serves as subject matter experts across the organization, and a Governance and Reporting team focused on integrating climate outcomes into corporate decision-making, enterprise risk management, and financial disclosure. Calgary's governance story is one of a sophisticated city in active transition, building the structures needed to move adaptation from a specialized function to an organizational norm.

Governance: Distributed Delivery, Centralized Expertise

Calgary's governance model is defined as distributed with centralized support. Implementation of climate adaptation takes place across many parts of the organization, with the C&E team providing the tools, processes, and subject matter expertise that enable other business units to act. Cross-departmental working groups and project teams form on an as-needed basis, convened around specific initiatives rather than as a standing structure.

The governance structure as it currently stands emerged from a broader corporate restructuring that identified climate adaptation falling through the cracks between divisions. Climate financial reporting requirements also highlighted gaps, prompting the creation of a formal climate governance framework. Notably, climate and environment is recognized as one of ten core corporate risks, placing it at the same level as other significant organizational risks and anchoring the work within the City's enterprise risk management processes.

A Council-approved climate strategy and obligations under the City Charter require Calgary to maintain and update both its mitigation and adaptation plans, providing a degree of continuity that isn't dependent on political will alone.

Barriers and How They're Being Overcome: Formalizing What Relationships Have Built

By the team's own assessment, Calgary's governance model is grounded in a continual improvement mindset and continues to evolve. Much of what has been accomplished so far has been driven by relationship-building rather than formal triggers, with the exception of the Sustainable Building Policy, which requires a climate risk assessment. For most other project and capital decisions, there is no consistent mechanism that brings climate adaptation into the process. Closing this gap is a central focus of the Governance and Reporting team's work.

Two structural tensions also shape the current model. First, business units across the corporation do not always distinguish between mitigation and adaptation, and with separate internal teams responsible for each, this can create confusion for partners trying to understand who to engage and when. Second, the governance function has not yet matured to fully support integration into cross-corporate processes. Currently, this work is largely enabled through relationships between project teams and technical climate professionals, while the future state is one where climate-related risk considerations are systematically embedded within corporate processes and decision-making. Realizing this outcome will require strong leadership commitment, coordinated processes and systems across the organization, and enhanced collaboration among business units to align priorities, integrate efforts, and support successful implementation.

Key Outcomes and Learnings: Risk as the Language of Buy-In

Calgary's most effective strategy for building internal buy-in has been grounding climate adaptation in financial risk. By quantifying the impact of specific climate hazards on specific services and asset components, the City is translating exposure into dollars. The governance team has found that this language resonates consistently across business units: once partners understand their own risk exposure, they want to do more.

The service-level risk assessment approach developed with Calgary Transit illustrates this well. Rather than assessing individual assets or projects, the team looked at how climate change would affect transit service delivery as a whole, capturing both physical asset risk and future service design implications. This approach brought climate into strategic planning earlier and more meaningfully than project-by-project engagement, where recommendations can often be value-engineered out at a later stage.

Calgary has also found success placing climate experts—who would otherwise all work under one team—across departments. This has been especially effective when climate staff are embedded directly within facilities teams. Having a climate-knowledgeable person working within a unit, rather than being called in from outside, has accelerated uptake and normalized climate thinking in day-to-day decision-making.

Looking Ahead

Calgary is deepening its work on enterprise risk management, developing a more sophisticated climate accounting and governance framework that maps climate risks across the organization's full risk ecosystem. The service-level risk assessment approach is being expanded to additional services, with the goal of building a consistent method for bringing climate adaptation into long-term service planning. The team is also actively working to identify and create the formal triggers in capital planning, asset management, and corporate reporting that will move adaptation beyond relationship-driven progress toward a durable organizational requirement.



PRIMARY GOVERNANCE ELEMENTS

- **B1/B2** Distributed responsibility
- **C** Emergent coordination
- **D** Integrated risk and asset management

RELATED PATHWAY

Pathway 2

What We Heard

Town of Gibsons, BC

Climate Adaptation Governance in the Town of Gibsons: Natural Assets as a Governance Foundation

Small Town, National Leader

The Town of Gibsons on BC's Sunshine Coast is a community of approximately 4,800 residents and one of Canada's most recognized leaders in climate adaptation. Where many municipalities have spent the last decade focused primarily on emissions reduction, Gibsons has built its climate work around natural asset management (NAM) as a core governance and adaptation strategy. The result is a model that is deeply integrated, consistently funded, and genuinely resilient to political change based on the clear success of the integration.

Governance: Integration Without Silos

Gibsons' governance structure is lean by design: a Director of Infrastructure Services and a dedicated Natural Asset Technician anchor the climate adaptation function, with a CAO who has championed natural assets and climate resilience for over 13 years. The town's CFO, with a background in climate action, ensures resilience is embedded in financial planning and asset management decisions. Climate change is integrated into the Official Community Plan and corporate strategic documents, making it a standing Council priority rather than a discretionary commitment.

The Town's small size is itself a governance advantage; with no departmental silos to navigate, cross-functional collaboration happens organically. Even the planning department, where regulatory constraints create some limitations, maintains active working relationships with the infrastructure and natural assets team.

Barriers and How They're Being Overcome: Building Funding Pipelines Off of Leadership

Securing project funding is the most consistent challenge for many local governments across Canada, but Gibsons has a strong track record of attracting grants and external support, aided by its national profile and well-documented history of results. That track record itself has become a governance asset: a demonstrated history of successful adaptation makes it increasingly difficult for future councils to move away from the approach, and continues to allow for external funding to enter the town to continue to build on momentum.

Key Outcomes and Learnings: Measuring What Matters

Gibsons has done more work on adaptation KPIs than almost any municipality of its size in Canada. Metrics include tracking resident calls related to drainage during rainfall events, monitoring culvert performance during atmospheric river events, measuring tidal infiltration into the filtration system, and tracking seawall closures due to coastal flooding. The Source to Sea study quantified the stormwater and watershed benefits of specific interventions, including wetland restoration and deforestation prevention, in avoided cost terms. In the next phase of capital and program planning, there is ideation for a distributed network of weather stations across the Town of Gibsons to be installed, including stations with varying tree canopy coverage, providing granular data to inform both urban forestry planning and infrastructure decisions.

The most transferable lesson from Gibsons is not about resources, it is about recognition. Getting the right people in senior leadership and operations to genuinely understand the value of natural asset management is what makes everything else possible. A dedicated natural asset technician role embedded in official plans and supported by an empowered CAO and Council direction, provides the institutional backbone that allows adaptation work to persist and grow. This approach provides a showcase of how other local governments of any size can leverage the experience of Gibsons to empower their own communities to adapt for climate change.

PRIMARY GOVERNANCE ELEMENTS

C Internal coordination

D Integrated risk and asset management

RELATED PATHWAY

Pathway 2 Risk-led integration

Pathway 5 Governance layering

Central Capacity as a Catalyst, Not the Endpoint

Common Starting Conditions

Large local governments with high public visibility that experience significant media scrutiny, strong civic advocacy, frequent public reporting expectations, and national or international climate commitments, along with political attention to climate change and access to dedicated funding.

Typical Sequencing of Governance Components

Central coordination → Cross-functional steering → System integration → Rebalancing (A → C → D → refinement)

Central capacity can help elevate climate adaptation on the local government agenda, coordinate early planning efforts, and provide a clear point of accountability. In cities such as Toronto, ON and Halifax, NS, adaptation governance accelerated following climate emergency declarations, new political mandates, or significant internal or external funding; local leaders responded by establishing central climate or resilience coordination functions, often with dedicated staff and a clear mandate to drive action across the organization. Staff described these offices as critical for cutting through silos and creating clarity and momentum during early stages, particularly when public expectations were high.

As implementation expanded, it was recognized that central teams could not deliver adaptation alone, and formal cross-departmental working groups were created to support implementation across planning, engineering, finance, and operations. Over time, climate considerations were progressively embedded into capital planning, budgeting, and policy processes, reducing reliance on the central office for day-to-day delivery. In some local governments, this process also integrated emissions reduction targets and activities, enabling central climate offices to coordinate both resilience and decarbonization objectives.

In some cases, the role of the central office continues to evolve, shifting toward monitoring, coordination, and support, rather than leading implementation directly, helping departments integrate climate risk into their systems while maintaining alignment with corporate priorities.

ADVANTAGES

This pathway supports speed and coherence at scale, particularly in politically visible contexts. Central coordination provides early momentum and clarity, while integration ensures durability over time.

CHALLENGES

If central capacity is reduced before integration is sufficiently institutionalized, progress can slow or fragment.

International Pathway 3 Example

Auckland, Aotearoa New Zealand

(population ~1.7 million)

Governance components: Indigenous partnership and co-governance conditions; Distributed implementation across departments (B); Regional-scale coordination (E).

Auckland's climate strategy, Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan, provides an example of adaptation governance shaped by formal Indigenous partnership structures. The plan commits to embedding mātauranga Māori and Te Ao Māori principles across climate action. The Independent Māori Statutory Board, established under national legislation, supports and influences Council decision-making, including on environmental and climate matters, and appoints members to key committees. Climate and resilience actions are implemented by Council staff across existing departments, demonstrating how co-governance and distributed implementation can operate together at a metropolitan scale.

Auckland illustrates a version of Pathway 3: central coordination operates within a co-governance framework in which distributed departmental implementation and Indigenous partnership structures shape how adaptation authority is exercised across the metropolitan system.[15]



International Pathway 3 Example

New York City, USA

(population ~8.47 million)

Governance components: Dedicated Climate Office (A); Cross-functional coordination (C)

New York City's Mayor's Office of Climate & Environmental Justice (MOCEJ) serves as a central climate office with a formal mandate to coordinate adaptation and climate resilience across the municipal system. MOCEJ leads citywide initiatives such as AdaptNYC, works closely with the New York City Panel on Climate Change, and supports agencies in applying climate risk information to infrastructure planning, land use, public health, and capital investment decisions.

In 2025, the MOCEJ evolved, bringing a number of existing (sustainability, resilience, and climate policy) and new (urban agriculture, utility coordination, environmental coordination and environmental remediation) offices under its umbrella to better coordinate and act on climate change in NYC. The Office functions as both a strategic driver and coordination hub, ensuring consistency across departments/offices, while maintaining accountability to mayoral and Council priorities. This illustrates how a dedicated central unit, supported by cross-departmental collaboration, can accelerate adaptation in large, complex local government organizations, while progressively embedding climate risk into routine decision-making.

New York City illustrates a version of Pathway 3, in which strong centralized mayoral authority and formal inter-agency coordination accelerate alignment and standard-setting across a large and complex municipal system.[16]

What We Heard

St. Catharines, ON

Climate Adaptation Governance in St. Catharines: Building a Team That Lasts

From Plan to Practice and Back Again

The City of St. Catharines, a lower-tier municipality in Ontario's Niagara Region, made a deliberate governance choice when developing its Corporate Climate Change Adaptation Plan: build the implementation structure into the plan itself, not as an afterthought. Approved in 2021, the plan was anchored by a cross-sectoral Climate Adaptation Team spanning Municipal Works; Engineering; Planning; Finance; Community, Culture and Recreation; and more. The governance model was designed from day one to distribute accountability and keep implementation moving long after the plan was adopted, while supporting a lead staff to coordinate climate change.

Governance: Many Hands, One Direction

Rather than leaving adaptation to a single staff member, St. Catharines built a formalized, director-endorsed, cross-departmental climate team. Leadership approached each department head and asked them to identify a suitable staff representative—a top-down endorsement that gave the team credibility and ensured participation came with supervisory backing. Terms of Reference define roles and expectations, providing structure that outlasts staff turnover.

This group meets on a quarterly basis, or as needed based on projects/initiatives, to ensure climate adaptation is a consideration across work, including considering potential trade-offs. Climate adaptation is also embedded in the City's 10-year corporate strategic plan, giving the work an institutional anchor that holds through elections and shifting priorities.

Barriers and How They're Being Overcome: When Champions Leave and the Work Stays

Staff turnover is a real threat to adaptation momentum. Looking back at the team's original roster, faces have changed. St. Catharines' response has been to build a model less dependent on individuals: when someone leaves, the role and the expectation of participation remain, because the structure, not the person, holds accountability.

Defining governance scope between corporate and community adaptation has been an ongoing learning curve. Many City services serve both the corporation and the community (cooling centres, flood mitigation programs, emergency response), making clear boundaries difficult when addressing one or the other. The team has navigated this by anchoring the plan to what the City can directly control, while staying transparent about where that boundary blurs.

Additional barriers have included balancing climate change with other municipal priorities and emergencies, as well as trying to incorporate climate considerations into long-term planning. There is a tendency to do more pilot project initiatives or short-term projects.

Lastly, measuring success remains a challenge. The team has addressed this pragmatically, working with departments to build metrics from data they already have, rather than creating new collection burdens. An annual progress report to Council has become a genuine accountability tool and an unexpected motivator: staff value having their climate-related work recognized at the organizational level.

Key Outcomes and Learnings

The cross-sectoral governance model has produced real results. Departments proactively reach out when drafting Council reports to climate staff, asking how their work connects to the City's climate strategy. Climate risk is increasingly woven into budget narratives and asset management planning. The annual progress report to Council has reinforced that adaptation is a shared organizational responsibility, not a single role's mandate.

The clearest lesson: governance determines staying power. When climate work lived on the corner of people's desks, momentum stalled. The combination of a formalized team, director-level endorsement, and a dedicated coordinator gave the work a stable home and gave other departments a clear door to knock on.



Looking Ahead

St. Catharines is updating its Climate Adaptation Plan in 2026, targeting adoption by the new Council in early 2027. The governance team will be re-engaged from the outset, with directors again asked to confirm representation. Priorities for the updated plan include strengthening KPIs, incorporating a more explicit equity lens, and building on the cross-sectoral working group as an ongoing governance structure.

PRIMARY GOVERNANCE ELEMENTS

- **B1** Distributed responsibility
- **C** Cross-functional team
- **D** System integration

RELATED PATHWAY

- **Pathway 1** Risk-led integration

What We Heard

City of Montréal, QC

Climate Adaptation Governance in the City of Montréal: Integration as a Governance Philosophy

Building Climate into the Machine

The City of Montréal has developed one of Canada's most structurally sophisticated approaches to embedding climate action including adaptation into municipal governance. Through its Office of Ecological Transition and Resilience (BTER), the City has built a model grounded in financial transparency, institutional accountability, and a deliberate, iterative strategy for shifting organizational culture. Montréal's approach centres on one core principle: climate considerations must be integrated into the existing machinery of how the City makes decisions, not bolted on beside it.

Governance: Working Towards a Climate Test at Every Decision

Montréal's governance model is distributed by design. Each City department is responsible for integrating climate into its own operations. What unifies this distributed responsibility is a formal climate governance mechanism: a climate test embedded directly into the decision-making process. Before any investment or decisions reach final approval by the City Directors Committee, they must be screened using this decision-making tool, making climate consideration a structural requirement for capital projects to move forward, rather than a voluntary step.

Annually, Montréal publishes a Climate Chapter within the City's official budget—a practice now in its third year. This chapter projects GHG trajectories, compares them to the City's carbon budget, and tracks annual investments in adaptation. This year's climate budget includes an important new step to help strengthen climate governance with a more thorough climate evaluation and alignment of the ten-year capital investment plan.

The results of this first exercise show that 30% of evaluated investment over the next 10 years ($4.35 billion) directly supports climate targets, and

44% contains positive elements, but limited overall climate contribution. With reinforced climate budgeting and a stronger climate test, the City can better plan for the future and commit to support adaptation at the investment level with natural and hybrid infrastructure, which the City has committed to maintaining at a minimum of 10 to 15% of capital expenditure.

Barriers and How They're Being Overcome: Building a Common Language, One Iteration at a Time

The most persistent barrier has been working with the finance department to understand what climate budgeting actually is: not an additional financial burden, but a framework and procedure for tracking, transparency, and informed decision-making. By working to modify department procedures, the City can ensure that climate is systematically included in every step of the budgetary process.

The process for both climate budgeting and the climate test (decision-making tool) has required patient, ongoing conversation: aligning on definitions, adapting the language of climate tools to fit the vocabulary of each service, and allowing familiarity to develop over time.

The team describes the approach as deliberately staged, getting a foot in the door, building comfort, then deepening expectations. Going too fast risks losing services and elected officials; going too slow leaves urgency unmet. Annual publication of the Climate Chapter has been a key mechanism for sustaining momentum: each year, more people across the organization read and engage with the information, and the conversations it generates become more substantive.

The climate test currently applies to capital investments through the City's 10-year investment plan. Extension to operational budgets and Scope 3 emissions remains a work in progress.

Key Outcomes and Learnings: Transparency Generates Accountability

Montréal's experience demonstrates that the act of publishing climate information consistently, even if imperfectly, changes organizational behaviour over time. When tracking showed the City was still purchasing significant quantities of natural gas for a municipal facility, it opened a direct conversation with the responsible borough and elected officials about why, and what alternatives existed. The tool didn't make the decision—it made the conversation possible.

A key lesson from the team: effective climate communication requires meeting people where they are. Histograms and bar charts have generated better conversations than IPCC-style trajectory curves. Analogies drawn from everyday financial decisions like a family budget, or a car dashboard with fuel (progress) levels and efficiency indicators (for KPIs) have helped senior leadership grasp the carbon budget concept far more quickly than technical presentations. The team

has begun working with information design specialists to ensure that climate data is rendered in ways that convey the right message to the right audience.

For other municipalities, the most transferable insight is also the simplest: start somewhere, publish it, and improve it every year. The iterative nature of Montréal's model is not a limitation, it is the strategy.

Looking Ahead

The City is continuing to refine how adaptation investment is tracked and reported within the annual Climate Chapter, building toward a more comprehensive picture of resilience progress over time.

PRIMARY GOVERNANCE ELEMENTS

- **B1** Departmental leads
- **C** Coordination mechanisms
- **D** Integrated risk and asset management

RELATED PATHWAY

Pathway 2



Embedded Responsibility Within Existing Departments

Common Starting Conditions

Local governments without a dedicated climate office or formal cross-functional adaptation structure, where adaptation responsibilities are carried within existing departments.

Typical Sequencing of Governance Components

Embedded responsibility → Departmental strengthening → Selective system integration (B2 → B1 → selective D)

In some local governments, adaptation governance develops without the creation of a central unit or formal steering team. Instead, climate-related responsibilities are embedded within existing roles in planning, engineering, environmental services, emergency management, or infrastructure divisions.

Staff advance adaptation alongside other priorities, often in response to visible climate impacts such as flooding or extreme weather.

This pattern is reflected in **Niagara Falls, ON,** where climate considerations have been incorporated within existing planning and operational functions, rather than assigned to a standalone adaptation structure. Progress has relied on pragmatic integration into priority files, particularly where risks are tangible and politically salient.

Over time, as awareness grows and workloads increase, municipalities following this pathway may formalize certain departmental leads (shifting from B2 toward B1), clarifying accountability within service areas. Rather than attempting full organization-wide integration, these local governments focus on embedding climate considerations into a limited number of high-impact systems, such as land use planning, stormwater management, infrastructure renewal, or emergency response protocols.

In this context, external funding programs, provincial guidance, or technical support may help advance specific initiatives. However, governance remains internally embedded and relatively lightweight, emphasizing practical implementation over structural reform.

ADVANTAGES

This pathway allows you to make meaningful progress without creating new governance layers, embedding adaptation directly into operational decision-making.

CHALLENGES

Without formal coordination or system-wide integration, adaptation efforts may remain uneven across departments, situated on the side of staff desks, and vulnerable to shifting priorities.

International Pathway 4 Example

Boizenburg/Elbe, Germany

(population ~11,400)

Governance components: Embedded risk integration (D); Distributed departmental responsibility (B1/B2)

Boizenburg, a small rural town in northeastern Germany, demonstrates a governance approach shaped by limited local capacity. Rather than establishing a dedicated adaptation office, the municipality embedded adaptation responsibilities within existing administrative processes and planning instruments, coordinated through a local platform role. Climate considerations were integrated into municipal resolutions and linked to environmental and land-use plans. Adaptation was advanced incrementally through existing systems and community-led initiatives, illustrating a pragmatic approach where formal plans were less important than consistent integration.[17]

What We Heard

Niagara Falls, ON

Climate Adaptation Governance in Niagara Falls: Laying the Groundwork

The City of Niagara Falls completed a Corporate Climate Change Adaptation Strategy that was adopted by their City Council in 2023. What followed has been a familiar challenge for smaller municipalities: a solid plan, but limited governance infrastructure to drive implementation. Without dedicated staff or a formal cross-departmental structure, progress has been uneven and largely dependent on whoever can be pulled in at a given time. The City's story is an honest account of where many municipalities find themselves, and what it takes to move forward.

Governance: Climate on the Corner of a Desk

When asked directly about governance structures for climate adaptation, the City's own assessment was candid: formal governance is not yet fully embedded. Climate work is currently held by one staff member in the Mayor and CAO's Office, alongside a range of other responsibilities. Two structures exist in name, an Environmental Action Committee, an official committee of Council focused largely on community advocacy and greening initiatives, and a Green Team formed at the end of the adaptation planning process. However, the Green Team has not sustained a consistent meeting schedule over time and has somewhat fallen to the wayside short of individuals being called upon to respond to climate-related questions.

Climate considerations do appear in the City's Asset Management Plan and its new Official Plan, providing some new, established policy footing.

Barriers and How They're Being Overcome

Two structural barriers define Niagara Falls' current situation. The first is the absence of dedicated staff. With climate work sitting on the side of one person's desk, there is no consistent capacity to coordinate departments, track progress, or build the organizational relationships that implementation requires.

The second is Council prioritization. Niagara Falls occupies a relatively protected geography—the Great Lakes moderate its climate exposure, and the City more often serves as a receiving community for climate evacuees than as one facing acute local disaster. This has made it harder to build the political urgency that drives dedicated investment.

The most immediate step forward is a six-month paid climate intern, who will audit plan progress, engage departments, and begin building the data needed for a Council update.

Key Outcomes and Learnings

The clearest lesson from Niagara Falls is one of sequencing: governance infrastructure needs to exist before implementation can take hold. The City has a credible adaptation strategy—what it lacks is the organizational scaffolding to act on it consistently. When asked what an ideal governance model would look like, the response was one that allows for flexibility, pointing to the potential for a shared or contracted staff model: one person supporting multiple lower-tier municipalities across the Niagara Region, keeping climate on Council's agenda and embedded in departmental planning.

This reflects a growing recognition that for smaller municipalities, the answer to dedicated capacity may not always be a standalone hire, but rather a regional or shared governance model that distributes both cost and the expertise.

PRIMARY GOVERNANCE ELEMENTS

B2 Embedded staff

D Targeted integration

RELATED PATHWAY

Pathway 4

Pathway **5**

Regional Governance as the Anchor

Common Starting Conditions

Local governments facing shared climate risks across jurisdictional boundaries, uneven internal capacity among member municipalities, and existing regional governance structures or upper-tier authorities.

Typical Sequencing of Governance Components

Regional governance anchor → Distributed responsibility within member municipalities → Selective system integration (E → B1/B2 → selective D)

In some contexts, adaptation governance is initiated or coordinated at a regional scale rather than within a single municipality. This can occur where climate risks such as watershed flooding, coastal exposure, wildfire, or infrastructure interdependence extend beyond municipal boundaries, where a regional district or upper tier municipality is leading, or where smaller municipalities lack sufficient internal capacity to lead adaptation independently.

This pattern is reflected in practice in **Dufferin County, ON** and the **Capital Regional District, BC**. In these cases, a regional body provides coordination, shared technical expertise, risk assessment support, and, in some instances, regional adaptation strategies. The regional entity acts as a convenor and capacity multiplier, supporting multiple local governments simultaneously.

As regional coordination matures, responsibility for implementation remains within member municipalities. Departments or embedded staff take ownership of actions aligned with local mandates. Regional frameworks and data inform decisions, but operational authority and accountability stay local.

Over time, some municipalities supported by regional governance may selectively embed climate considerations into priority systems such as asset management, emergency planning, land-use planning, or capital investment decisions. Integration is often phased and pragmatic, focusing on high-risk or shared assets rather than immediate organization-wide transformation.

Regional governance does not replace local governance structures. Instead, it provides a shared foundation upon which municipalities build locally appropriate coordination and integration mechanisms. It is also important that local governments understand the potential and capabilities of regional governments to act as an enabling force that may help them advance even if they have limited capacity internally.

ADVANTAGES

If you are a smaller or capacity-constrained municipality, this pathway can help you access expertise, reduce duplication, and address shared risks efficiently through coordinated regional action.

CHALLENGES

Sustained progress depends on long-term commitment across participating governments and clear alignment between regional strategy and local implementation responsibilities.

International Pathway 5 Example

Somerset, United Kingdom

(population ~560,000 across the county)

Governance components: Regional governance collaboration (E); Embedded risk and flood management integration (D)

Somerset provides a UK-based example of regional adaptation governance that supports local authorities at a scale comparable to many Canadian regions. Following severe flooding, local councils partnered with the Environment Agency and other public bodies through the Somerset Rivers Authority, a formal collaboration focused on flood risk management and long-term resilience. The partnership coordinates catchment-scale planning, shared data, and investment priorities, while individual councils retain responsibility for land use decisions, asset management, and service delivery. This arrangement illustrates how regional collaboration can embed climate and disaster risk into planning and infrastructure systems without displacing, and while reinforcing, local governance.[18]

What We Heard

Capital Regional District, Vancouver Island, BC

Climate Adaptation Governance at the Capital Regional District: The Complexity of Regional Scale

Governing Adaptation Across 13 Municipalities

The Capital Regional District (CRD) on southern Vancouver Island is one of Canada's most structurally complex regional governments, encompassing 13 municipalities and three electoral areas on southern Vancouver Island and the Gulf Islands. It serves about 460,000 people through over 200 service, infrastructure and financing agreements. Its regional Climate Action and Adaptation Service operates with a team of six, coordinating climate across a governance structure that spans a 24-member Board, multiple subcommittees and commissions, and an array of services, each with its own reporting lines, budgets, and decision-making authority. The CRD's story is one of genuine complexity, and what it takes to move adaptation work forward within it.

Governance: One Service, Many Tables

The CRD Board, made up of representatives from each member municipality and electoral area, provides ultimate governance direction, with voting structured either equally or proportionally[19] depending on which municipalities are affected by a given decision or project. Subcommittees and commissions sit beneath the Board, each overseeing a specific service area. The Climate Action and Adaptation Service reports through the Environmental Services Committee, but climate adaptation itself touches nearly every other committee at the table: water supply, regional parks, land use planning, waste management, and more.

This breadth is both a strength and a structural challenge. Within clearly mandated, long-lived services like regional water supply, parks, and wastewater treatment, climate adaptation integrates naturally with climate projections, risk factors are embedded in long-range infrastructure planning, and the collective urgency of serving an entire

region provides momentum. However, ensuring visibility across all service areas simultaneously and providing consistent, accurate communication to multiple committees is an ongoing challenge.

Barriers and How They're Being Overcome: The Cost of Complexity

The CRD's governance structure creates real coordination friction. A climate impact flag exists in the five-year capital planning cycle completed annually, but it is primarily emissions-focused; adaptation considerations enter the process unevenly and tend to show up through technical analysis and climate projections embedded within individual service plans rather than through a consistent organizational mechanism.

Building cross-service relationships has been the primary in-road. An annual progress report on the climate action work plan requires outreach across all services, and that reporting process has become an unexpected governance tool, opening doors to conversations and connections that wouldn't otherwise happen. The growing collaboration with Emergency Management following legislative changes is another example of how external mandates can unlock internal coordination that relationship-building alone could not achieve.

KPI development for adaptation remains a recognized gap shared across local governments. The CRD is exploring outcome-based indicators for its updated climate action strategy, moving beyond tracking completed actions toward measuring whether adaptation efforts are actually reducing risk.

In an interview with a CRD Climate Action Coordinator, it was pointed out that, while mitigation related metrics are clear and relatively straightforward to track, measuring adaptation progress means tracking the work and investment to attempt to reduce climate impacts overall, making it challenging to define clear adaptation KPIs and outcomes. In other words, "When you adapt well, you're measuring the absence of impacts."

Key Outcomes and Learnings: Collaboration Is the Governance Model

The CRD's most transferable insight is straightforward: in a complex, multi-service regional structure, **collaboration is not a soft add-on to governance, it is the mechanism through which governance actually functions.** Projects like the regional heat vulnerability portal succeeded because they brought together Island Health, member municipalities, and internal CRD services around a shared problem. Work that has stalled has largely done so in the absence of collaboration and relationships.

For local governments navigating similarly complex structures, the lesson is to formally account for collaboration time, treating relationship-building and cross-service coordination as core deliverables to someone's position, not background work.

When measuring success in adaptation, the question is not just what was built, but whether the conditions for collective, sustained action are getting stronger.

Looking Ahead

The CRD is currently updating its Climate Action Strategy, with a focus on developing a more robust reporting framework for adaptation. Strengthening the climate lens within the capital planning cycle to more explicitly capture adaptation alongside emissions is a priority, as is deepening the relationships between the Climate Action Service and the operational services responsible for delivering adaptation on the ground.



PRIMARY GOVERNANCE ELEMENTS

D (Integrated risk and asset management)

E (Regional/inter-municipal governance)

RELATED PATHWAY

Pathway 5

What We Heard

Dufferin County, ON

Climate Adaptation Governance at the County of Dufferin: Building a Foundation in a Complex Landscape

The County of Dufferin is an upper-tier municipality in central Ontario, serving eight lower-tier municipalities across a largely rural, agriculture-focused landscape. Dufferin adopted a Climate Change Adaptation Strategy in 2023, developed using ICLEI's **Building Adaptive and Resilient Communities (BARC)**, covering both corporate operations and broader community priorities. With a small climate and energy team and no formal cross-departmental working group structure, Dufferin's governance story is one of practical creativity, embedding adaptation into existing relationships, tools, and processes, alongside an honest reckoning with the structural limits of upper-tier governance when implementation depends on others.

Governance: Climate Embedded in Public Works... and Relationships

Dufferin's climate and energy function sits within the Public Works Department, an unconventional home that has proven to be a practical one. Proximity to the engineers and operations staff responsible for roads, fleet, and infrastructure has created natural entry points for embedding adaptation thinking into day-to-day decisions. A newly developed Equity and Climate Lens is designed to be applied to projects above a procurement threshold, prompting staff across departments to consider climate and equity implications as part of standard decision-making. Training modules and drop-in sessions have supported its rollout.

Cross-departmental climate action at Dufferin happens largely through relationship-building and informal coordination rather than a formal working group structure. The county does not yet have a climate-specific committee or inter-divisional team, and much of what gets done depends on the people involved and their willingness to engage something the team has worked deliberately to cultivate.

Barriers and How They're Being Overcome: The Upper-Tier Jurisdictional Challenge

As an upper-tier municipality, Dufferin faces a structural challenge common to county governments: the actions that matter most for adaptation on the ground—stormwater management, local infrastructure, emergency response—largely sit with the lower-tier municipalities. The county's adaptation strategy spans both corporate and community priorities, but translating that into coordinated implementation across eight municipalities with varying appetites and capacities is genuinely difficult.

Without a formal cross-departmental structure, climate considerations can enter project planning unevenly. The Equity and Climate Lens addresses part of this by building climate questions into mandatory reporting processes, but this only works when those processes are consistently applied and when Council continues to treat climate as a priority.

The case of the proposed Community Resilience Hub captures this tension well. Years of community engagement, partnership development with Toronto Metropolitan University, and staff support grants from ICLEI Canada came together behind a project that was ultimately paused, not for lack of merit or resources, but due to organizational and timing factors outside the team's control, which demanded a shift to focus on other higher-priority corporate items. It is an honest reminder that governance infrastructure matters as much as good ideas, teams and funding.

Key Outcomes and Learnings: Finding Adaptation Where It Already Lives

One of Dufferin's most important insights is that climate adaptation is already happening across the organization; it just isn't always named or captured that way. Programs like the Living Snow Fence initiative, and road salt management practices using thermal mapping, reduce climate-related risks and extend asset lifespans. The county's Better Homes retrofit program, seven years in development and recently launched, directly supports energy resilience for residents facing energy poverty, with 0% interest loans for low-income households built in from the start.

The team's experience points to a systems-thinking gap that is common across municipalities: actions are assigned to departments and organizations, but the connections between them, and their collective contribution to outcomes like water quality or community well-being, go unmapped. Climate, as the team frames it, is a gateway into that broader strategic alignment conversation. Making those connections visible is the work ahead.

For other municipalities, the transferable lesson is straightforward: prioritize making others' work easier. Building relationships that let climate considerations enter conversations early, before project budgets are set or designs are finalized, is more effective than arriving after the fact. And, helping people see the climate adaptation work they are already doing, even when it isn't labelled as such, creates allies.

Looking Ahead

Dufferin is developing a Climate Master Strategy that takes a more outcomes-focused, systems-oriented approach than the current action-by-action adaptation plan. The team has also identified an Office of Strategic Initiatives as a potential governance model, a cross-departmental coordination function with climate leads embedded within it to address the coordination gaps that currently slow implementation. A small grant fund for lower-tier municipalities to support local adaptation projects is also being explored, alongside the possibility of offering climate-as-a-service capacity to member municipalities that lack in-house expertise.



PRIMARY GOVERNANCE ELEMENTS

D (Integration support)

E (Regional governance)

RELATED PATHWAY

Pathway 5 (Regional anchor model)

Choosing and Strengthening Your Adaptation Governance Approach

Starting From Where You Are

Local governments approach adaptation governance from very different starting points. In many cases, components of adaptation governance are already present, but not labelled as such. A useful first step is to identify which governance components are currently in use, even informally. For example:

- Is there a cross-departmental forum or meeting group where climate risks are discussed? If there isn't, could a cross-departmental group add this to the agenda?
- Are climate considerations already influencing asset renewal or capital decisions?
- Are staff advancing adaptation through regional collaborations or shared initiatives?
- Do different teams/departments call adaptation something else and advance that metric?

Recognizing existing strengths can help local governments avoid unnecessary restructuring and focus efforts on reinforcing and connecting what is already working.

Common Triggers for Governance Change

Local adaptation governance rarely changes without a trigger. Across Canadian local governments, shifts in governance arrangements are most often prompted by a transition from planning to implementation, when existing structures may prove insufficient to deliver actions at scale. Approval of an adaptation plan frequently reveals gaps in accountability, coordination, capacity, or authority that may have been less visible during planning.

Other common triggers include extreme weather events or infrastructure failures that expose vulnerabilities in existing systems, the availability of new funding tied to climate risk or resilience outcomes, and/or changes in senior leadership or council priorities, which can either accelerate adaptation governance or create new pressures to formalize and protect it. In some cases, staff turnover can also act as a trigger, prompting local governments to formalize roles or embed climate considerations more deeply to avoid loss of institutional knowledge.

These triggers may lead local governments to add or rebalance governance components rather than replace them entirely. For example, a cross-functional team established for planning may be complemented by stronger system integration once implementation begins; or a local government relying on embedded staff may introduce regional collaboration to extend and build capacity.

Securing Internal Buy-In

Securing internal buy-in for adaptation is less about persuasion and more about governance design. Local government survey and interview responses, as well as team background expertise, suggest that buy-in increases when adaptation aligns with existing responsibilities, decision-making processes, and risk management practices, rather than being positioned as a separate or competing agenda.

During interviews, staff consistently noted that buy-in varies across departments, with stronger uptake where adaptation aligns with existing mandates, such as in asset management, emergency planning, or infrastructure renewal. Several described adaptation as "embedded" in some service areas, but inconsistently treated across the organization, reinforcing the importance of governance structures that normalize bringing climate risk into routine decision-making.

Governance components that embed climate risk into asset management, capital planning, emergency management, or financial decision making (**Component D**) therefore often help build legitimacy, particularly in departments focused on service delivery and infrastructure. Distributed responsibility (**Component B**) can further support buy-in by giving departments ownership over actions within their mandates, reducing perceptions that adaptation is being imposed externally.

Intentional internal communications and engagement that frame adaptation in terms of departments' existing mandates and priorities can also help build and sustain buy-in.

Cross-functional coordination (**Component C**) also plays a key role by creating shared understanding of climate risks and their implications across departments. Where buy-in is uneven, local governments sometimes find that coordination with system-level integration is more effective than relying on centralized advocacy alone.

Sustaining Leadership Commitment and Adaptation Continuity

Sustained adaptation progress depends on governance arrangements that are resilient to political cycles and staff turnover. Local governments that rely heavily on individual champions, whether elected officials or staff, may experience setbacks when those individuals leave or priorities shift. In some cases, changes in senior leadership or council priorities accelerate adaptation efforts; in others, they reduce political attention or create uncertainty. Governance structures can play an important stabilizing role in both situations.

Survey responses highlighted a range of approaches to maintaining continuity. Some local governments cited bylaws, official plans, or adopted strategies as anchors for sustained implementation. Others relied on informal tracking tools or refreshed staff leadership. These differences help explain why some local governments experience setbacks during leadership transitions and underscore the importance of embedding adaptation into systems that persist beyond individual roles.

Governance components that integrate adaptation into formal systems and expectations help reduce vulnerability to shifting political or economic conditions. Integration into asset management, budgeting, procurement, or risk management processes (**Component D**) helps ensure that climate considerations persist regardless of leadership changes. Regional collaboration (**Component E**) can also provide continuity by anchoring adaptation work in longer-term partnerships and shared priorities, and by supporting lower-tier municipalities through shared capacity, technical expertise, and region-wide strategies.

In some contexts, governance structures are strengthened precisely to maintain momentum during periods of reduced political support. Embedding responsibilities across departments (**Component B**), and pairing system integration with coordination, can help adaptation continue as part of routine decision-making, even when explicit political direction fluctuates.

Central coordination functions (**Component A**) can be effective for establishing early momentum, but comments from local governments suggest they are most durable when paired with distributed responsibility and system integration. Over time, local governments that sustained progress tended to rebalance governance so that climate work remained visible at senior levels, while also being embedded in everyday operational systems.

Stewarding Adaptation Governance Over Time

Establishing governance components is only part of the work. Sustained progress depends on how those components are stewarded over time as organizational priorities, political conditions, and internal capacity change. Local governments that advance adaptation most consistently tend to treat governance as something that requires ongoing attention rather than a structure that can simply be put in place and left alone.

Different governance components require different forms of stewardship. Central coordination functions (**Component A**) often require active facilitation to maintain visibility, convene departments, and ensure alignment with corporate priorities. Distributed responsibility across departments (**Component B**) typically depends on establishing clear expectations, regular communication, and reinforcement through work planning or reporting processes, so that climate considerations remain connected to operational decision-making.

Cross-functional coordination structures (**Component C**) require thoughtful management of staff time and engagement. In practice, local governments often balance broader participation during planning or strategy development with more targeted engagement when integrating climate considerations into specific projects, programs, or systems.

Where adaptation is embedded in risk management, asset management, or capital planning processes (**Component D**), stewardship focuses on maintaining technical integration and ensuring climate considerations remain visible within routine decision-making frameworks. Regional or intermunicipal collaboration (**Component E**) requires a different form of stewardship again, centred on sustaining relationships, clarifying roles across jurisdictions, and maintaining shared commitment to long-term goals

Across all components, stewardship often involves balancing demand with capacity. Local governments frequently adjust the intensity of engagement, coordination, or reporting over time, maintaining consistency where needed, while remaining strategic about when broader organizational involvement is most useful. In this way, governance evolves alongside adaptation in practice, helping maintain momentum while responding to changing conditions.

Using Governance Components as Decision Levers

The governance components described in this guide should be used as decision levers rather than treated as static structures. You can assess where your current arrangements are strong and where they are fragile, then selectively introduce or strengthen components that address specific challenges. For example:

- Where implementation is stalling after plan approval, strengthening cross-functional coordination (**Component C**) or clarifying departmental responsibility (**Component B**) may be helpful.
- Where adaptation lacks legitimacy or influence in the context of major investments, deeper integration into risk and asset systems (**Component D**) may be needed.
- Where internal capacity is limited, regional collaboration (**Component E**) can extend resources and expertise.
- Where coordination is fragmented, a central convening role (**Component A**) may help establish alignment.
- Where adaptation and emissions reduction are being managed separately, governance redesign within any of the components may create opportunities to align climate resilience, emissions reduction, and broader community co-benefits within core planning and investment systems.



Introducing a Governance Selection Tool

The governance selection tool accompanying this guide is designed to help you reflect on your current governance arrangements and identify practical next steps by applying these considerations systematically, rather than through wholesale restructuring. It does not prescribe a single component or pathway; instead, it helps identify which governance components are most feasible, where additional reinforcement may be needed, and how you could take action to move forward in consolidating your climate governance framework. **Download the Tool here.**

Additional Enabling Conditions Influencing Local Adaptation Governance

The governance components described in this guide operate within a broader set of enabling conditions that influence authority, legitimacy, capacity, and delivery. Indigenous climate leadership and local partnership arrangements form part of the wider governance landscape within which local governments plan and implement adaptation. This section briefly highlights how these conditions shape local adaptation governance choices in practice.



Indigenous Climate Leadership and Adaptation Governance

Indigenous-led climate frameworks, stewardship systems, and governance arrangements inform the adaptation context for many local governments operating on adjacent or shared territories, with an increasing need to proactively account for Indigenous rights, priorities, and decision-making processes.[19] In practice, this means local government adaptation governance must create space for coordination, co-development, and/or alignment with Indigenous planning approaches, particularly for ecosystem-scale risks, land use, cross-jurisdictional impacts, and long-term resilience objectives.

Where relationships are well established, local governments may adapt internal governance to support shared implementation, data stewardship, or coordinated monitoring. Where relationships are emerging, it is important to recognize that governance choices can either enable or constrain future collaboration, and that investing adequate time in building relationships and understanding is required.

Local Partnerships and Public-Private Collaboration as a Governance Condition

Partnerships with utilities, non-profits, academic institutions, and private sector actors can influence and support how local governments structure adaptation governance, particularly where internal capacity or financing is limited. These partnerships can provide access to expertise, innovation, and delivery mechanisms that local governments may not hold internally. From a governance perspective, this often requires local governments to clarify roles, accountability, and decision authority so that partnerships complement, rather than substitute local government responsibility. Governance supports such as clear coordination functions, embedded risk processes, and formal agreements help ensure partnerships support public-interest outcomes and long-term resilience.

Moving from Structure to Sustained Implementation

Strong governance structures are a means, not an end, and are flexible arrangements that can be evolved to match the context of each local government over time. In practice, sustained adaptation depends on how well governance components support everyday decision-making, learning, and accountability. Local governments that make steady progress tend to focus less on creating new structures and more on strengthening clarity, integration, and collaboration over time. Increasingly, effective governance also integrates adaptation with emissions reduction and broader community priorities, allowing local governments to advance resilience, sustainability, and long-term fiscal stability through coordinated decision-making rather than parallel initiatives.

By starting from current conditions and using governance components as levers for improvement, you can move from planning to durable, long-term climate resilience within your authority.



Conclusion

Key Takeaways for Local Governments

- There is no single adaptation governance component or pathway that fits all local governments.
- Most local governments combine multiple governance components over time.
- Effective governance evolves as risks, capacity, and priorities change.
- Embedding adaptation into core systems improves durability and continuity.
- Decision tools are most useful when used iteratively, not once.

References

1. Intergovernmental Panel on Climate Change (IPCC). (2023). *Climate Change 2023: Synthesis Report.* Geneva: IPCC. Retrieved February 28, 2026, from https://www.ipcc.ch/report/ar6/syr/

2. Government of Canada. (2019). *Canada's Changing Climate Report.* Ottawa: Natural Resources Canada. Retrieved February 28, 2026, from https://changingclimate.ca/CCCR2019/

3. Canadian Climate Institute. (2021). *The Costs of Climate Change: Canada's Top Ten Weather Stories.* Retrieved February 28, 2026, from https://climateinstitute.ca/reports/the-costs-of-climate-change/

4. Organisation for Economic Co-operation and Development (OECD). (2015). *Policy Framework for Investment: Public Governance.* Paris: OECD Publishing. Retrieved February 28, 2026, from https://www.oecd.org/investment/pfi.html

5. United Nations Development Programme (UNDP). (2019). *Governance for Sustainable Development.* New York: UNDP. Retrieved February 28, 2026, from https://www.undp.org/publications/discussion-paper-governance-sustainable-development

6. Peters, B. G. (2018). *The Politics of Bureaucracy: An Introduction to Comparative Public Administration (7th ed.).* London: Routledge.

7. Ford, J. D., & King, D. (2015). *A framework for examining adaptation readiness.* Mitigation and Adaptation Strategies for Global Change.

8. Measham, T. G., Preston, B. L., Smith, T. F., et al. (2011). *Adapting to climate change through local municipal planning: Barriers and challenges.* Mitigation and Adaptation Strategies for Global Change.

9.Federation of Canadian Municipalities (FCM). (2023). *Municipal Asset Management Program Resources.* Retrieved February 28, 2026, from https://fcm.ca/en/programs/municipal-asset-management-program

10. City of Copenhagen. (2012). *Cloudburst Management Plan.* Retrieved February 28, 2026, from https://international.kk.dk/sites/default/files/2021-09/Cloudburst%20Management%20plan%202010.pdf

11. International Organization for Standardization (ISO). (2018). *ISO 31000:2018 Risk Management – Guidelines.* Geneva: ISO. Retrieved February 28, 2026, from https://www.iso.org/standard/65694.html

12. Task Force on Climate-related Financial Disclosures (TCFD). (2017). *Recommendations of the Task Force on Climate-related Financial Disclosures.* Retrieved February 28, 2026, from https://www.fsb-tcfd.org/recommendations/

13. International Sustainability Standards Board (ISSB). (2023). IFRS S2 *Climate-related Disclosures*. Retrieved February 28, 2026, from https://www.ifrs.org/issued-standards/ifrs-sustainability-standards-navigator/ifrs-s2-climate-related-disclosures.html/content/dam/ifrs/publications/html-standards-issb/english/2026/issued/issbs2/

14. City of Rotterdam. (n.d.). *Rotterdam Climate Adaptation Strategy.* Retrieved February 28, 2026, from https://www.urbanisten.nl/work/rotterdam-adaptation-strategy

15. Auckland Council. (2020). *Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan*. Retrieved February 28, 2026, from https://www.aucklandcouncil.govt.nz/en/plans-policies-bylaws-reports-projects/our-plans-strategies/topic-based-plans-strategies/environmental-plans-strategies/climate-plan/response/te-taruke-a-tawhiri.html

16. City of New York. (2024). *Mayor's Office of Climate & Environmental Justice.* Retrieved February 28, 2026, from https://www.nyc.gov/content/climate/pages/

17. German Environment Agency (Umweltbundesamt). (n.d.). *German Strategy for Adaptation to Climate Change.* Retrieved February 28, 2026, from https://www.bundesumweltministerium.de/en/topics/climate-adaptation/german-strategy-for-adaptation-to-climate-change

18. Somerset Rivers Authority. (n.d.). *Somerset Flood Risk and Resilience Strategy.* Retrieved February 28, 2026, from https://www.somersetriversauthority.org.uk

19. How Decisions Are Made. (n.d.). Capital Regional District. Retrieved March 14, 2026, from https://www.crd.ca/government-administration/about-crd/how-we-are-governed/how-decisions-are-made

20.United Nations. (2007). *United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).* Retrieved February 28, 2026, from https://social.desa.un.org/sites/default/files/migrated/19/2018/11/UNDRIP_E_web.pdf