

Reading Paper

Municipal Governance Structures And
Effective Climate Policy; A Canadian Case
Study

MGA Reading Course - GLA2095

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1.0 Introduction

For the first time in human history, the world has become predominantly urban (Miller, 2023). Cities are where the bulk of economic activities happen, generating over 80% of the global GDP, the same way cities are responsible for 75% of global GHG emission sources (Miller 2023; UNEP 2024). In tackling and addressing the defining global challenge of this century -- climate change -- it makes sense that cities and urban conglomerates have risen to the frontiers of climate action innovation and implementation.

According to Hsu et al (2020), "Cities have been in healthy competition to be at the forefront of emissions reduction efforts for decades". As a result, cities are becoming increasingly important global stakeholders in delivering climate action and addressing global collective action problems, and it is imperative to understand how municipal governance structures translate to and impact effective subnational climate action. To build and contribute to the growing body of literature investigating the effect of cities, city regions, and subnational climate impact, this paper aims to explore the Canadian context, comparing key Canadian cities and their governance structures against their climate action plans.

This paper will center on the question "What Municipal Governance structures and configurations are most conducive to effective municipal climate action (MCA)?" It will investigate three different Canadian city regions (Toronto/GTA, Metro Vancouver, and Greater Calgary), and their municipal governance structures, and evaluate the effectiveness of their municipal climate programs and policies.

"Effectiveness" will be measured using the non-state and sub-state analytical framework presented by Hale et al (2020), to analyze climate action initiatives for non/sub-state actors. Beginning with a foundation-building literature review and environmental scan, this paper will explore existing research in the intersection of municipal governance and subnational climate action, considering relevant variables like components of municipal configurations, existing findings on MCA enablers, and cross-cutting themes for municipal climate leaders outside of Canada. Then, in a discussion of methods; relevant academia and grey literature will be reviewed to determine what makes a good Canadian city case study against the backdrop of existing research before delving into a comparative analysis of the three chosen case studies using Hale et al's analytical framework as a basis for comparison. To end, this paper will recap the results and findings in a discussion punctuating the core discoveries; identifying patterns, and key conclusions.

2.0 Foundation Building and Scoping

Comparing municipal governance configurations and effective climate action gives rise to questions like "What comprises municipal governance configurations" and "What counts as effective climate action", apart from the already difficult task of defining parameters for good Canadian case studies. In an attempt to clarify these blurry comparisons, this paper will draw on literature review, environmental scans, and existing research to define these concepts and clarify exactly what parts of the case studies will be examined and why study is important.

2.1 What is municipal governance?

First, in answering the question “What comprises municipal governance?” this paper aims to examine dual-tier municipalities, in both **city regions and their anchor city**. For example, both the Greater Toronto Area (GTA)(regional) and the City of Toronto (anchor city). The prospects of city regions are significantly less investigated amid academia (Kuramochi et al, 2019), and the rising emergence of regional governments underpins this paper’s attempt to contribute new findings to the field and uncover new insights about how present-day regional governments are interacting and delivering climate action alongside other levels of government. In the regional context, components of municipal governance are defined as they are in dominant literature; in a) constitutional independence and b) tangible structure and services provided by both the region and the anchor city. Component A - constitutional independence - is measured in fiscal autonomy and ability to raise independent levies, as well as procedural power, as indicated by strong/weak mayor systems, democratic integrity, and independence from other levels of government (Slack, 2004). Component B is a measure of jurisdiction, in the number and volume of services divided between the region and the anchor city (Bel, 2013; Charron et al, 2013). These two elements comprise the foundations of a municipal governance structure, in describing their purpose, context, and practical operations.

2.2 What is effective climate action?

Next, in answering the question “How will effective climate action be measured”, this paper will use parameters and explanatory infrastructure laid out by Hale et al (2020) in their analytical framework designed to assess the effectiveness of subnational and non-state actors in climate action; pictured below (Figure One). The framework effectively measures both casual progress and substantive progress using indicators of target ambitiousness, robust inputs, meaningful outputs and outcomes, and lasting impact (Hale et al, 2020). Despite the log frame visualized in a linear fashion, Hale et al (2020) ensure to clarify throughout the paper that the links in the conceptual model are likely more dynamic and nebulous in practice with various linkages to one another. This framework was chosen for its targeted design and applicability to ‘non-state and subnational actors’, which is more widely encompassing than competing or alternative frameworks that specifically focus on cities exclusively (Hale et al, 2020). While the study itself contains many interesting insights about subnational climate action plans, this paper aims to operationalize the framework against the chosen case studies to draw conclusions about Canadian municipal governance configurations.

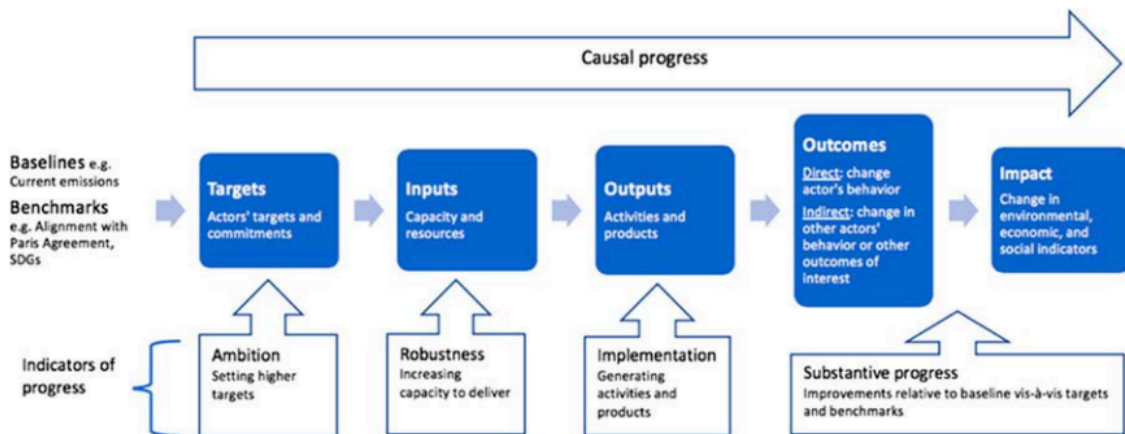


Figure 1: Log Frame Model for Measuring Progress, Implementation, and Impact of Climate Action from (Hale et al, 2020)

2.3 Why is this research important?

Lastly, this paper will aim to build on existing research about the significance of city-regions and metropolitans in delivering climate action. Cities are emerging to the forefront of climate action (Miller, 2023). Organizations like the C40, in 2024, are well-established, credible, and have a robust record of success stories to highlight the pre-eminence of cities in the global climate action conversation (C40, 2023). As demonstrated in the growing number of global coalitions of mayors and cities to tackle any number of global challenge (digital rights, climate action, urban transitions etc.) (Global Cities Hub, 2022), cities increasingly demonstrate their unique ability to leverage their dense network of key global players, their centralized local economic hubs, innovation engines, and centers for research, culture, and resources. In addressing climate change, big global climate-leader cities have proven to deliver climate action more swiftly, with more buy-in from non-state actors (industry, community groups, institutions, etc.), and address the most emission-intensive industries based in metropolises (C40, 2023; C40, 2022; Simon, 2023). Indeed it is the targeted scale of cities and city-regions that lend such advantage to municipal governments, who must deliver real services, as opposed to imperceptible policies, and demonstrate pragmatism and connection to their direct electorate (Miller 2023, Barber, 2017). As aptly put by Toronto's 63rd mayor David Miller - "the age of cities is a global phenomenon, empowered by increased urbanization and the subtler reason; the basic form and structure of this government" (Miller, 2023). Informed by prior literature, this paper aims to synthesize case studies to explore that exact subtle reason, in exploring the correlative pathways between municipal governance structures and effectiveness of regional climate action.

3.0 Methods

Drawing on these parameters and existing frameworks, this paper seeks to, first, conduct literature review to understand existing research on municipal governance and effective climate action, and second, synthesize case studies of city-regions that have well-defined regional governance structures, formalized or otherwise, anchored by a socio-economically and culturally relevant city. Chosen case studies will ideally demonstrate strong commitment to climate action, both in mitigation and adaptation, with a robust climate action plan and network of climate action delivery agents to analyze. Given the global impact of climate action, case study selection will also seek city-regions with global notoriety and presence to exemplify the region or city's desire to innovate on the frontiers of global climate action.

3.1 Literature Review

First, a review of existing literature, research, and dominant schools of thought on Canadian municipal governance and climate action was conducted. A survey of 30 journal articles and academic contributions highlighted the following key themes. Notably, most scholarship found investigated the barriers and governance obstacles that impede effective climate action, or enabling factors that appear to facilitate effective climate action, as part of the global effort to raise the profile and efficacy of climate action at all scales (Kuramochi et al, 2019). The first dominant obstacle highlighted across literature were institutional barriers, exemplified in political gridlock, path dependency, bureaucracy, and lack of information and resources (Fuhr et al, 2018; Young, 2023; Boehnke et al, 2019). Across articles reviewing North American and Eurocentric municipal case studies, existing policy frameworks, and examples, institutional barriers were widely recognized as a key factor in slowing and hindering policies that otherwise should be treated with urgency and expedition. Many articles also highlighted the curse of election cycles on climate goals, where climate action plans often favoured immediate results and short-term goals; neglecting necessary long-term systemic objectives to transform industries and path dependencies (Basset & Shandas, 2010; Palermo, 2020). In a more region-specific example to demonstrate these barriers, Guyadeen et al (2018) reviewed 63 Canadian municipalities' climate action plans, and found the top three weaknesses to be favouring mitigation over adaptation, weak monitoring and evaluation strategies, and poor stakeholder engagement.

On the frontier of enabling factors, scholarship expectedly found parallels in institutional facilitators that made climate action easier to implement, accept, and understand. From a bottom-up perspective, several articles showcased findings that municipal climate action plans are direct reflections of local political will and cannot succeed without meaningful and comprehensive community buy-in from impacted residents (Basset & Shandas, 2010; Kuramochi et al, 2019; Owen 2020; Homsey, 2018). From the top-down angle, several articles found that municipal climate actions are more successful with a high-level directive from a regional, upper, or national-level government, aligned messaging and standardization with peer-municipalities and neighbours, and effective vertical and horizontal networks that allowed successful experiments to be scaled up and proliferated (Young, 2023; Burch, 2010; Kuramochi et al, 2019; Tozer, 2015).

3.2 Environmental Scan

Many Canadian cities are climbing global ranks for municipal climate leadership. The Carbon Disclosure Project, for example, heralds Edmonton, Halifax, Montreal, Toronto, Vancouver, and Windsor as examples of Canadian A-List cities based on transparency, emissions tracking and reporting, climate plan ambition and robustness. In looking for case studies that demonstrate commitment to climate action, have a robust climate action plan and network of delivery agents, robust regional government and global presence, three Canadian city-regions emerge.

Metro Vancouver

With one of Canada's oldest formalized regional governments, the Metro-Vancouver region is historically critical to Canada's national economy as a port and trade connection to the international community. Metro-Vancouver has well-established regional governance initiatives that have long addressed climate change at the regional scale and a long history of climate action to draw from (Bergmann & Lauster, 2023; McGillivray et al, n.d.).

Greater Toronto Area

Similar to Metro Vancouver, the GTA has a long history in industry building, urban development, Canadian influence, and globalization as Canada's most populated city region (UREACH, n.d.; WangLanying et al, 2015) The TransformTO Climate Action plan administered by the City of Toronto, in conjunction with regional GTA climate action initiatives demonstrates a commitment to climate action both in governance bodies and civil society (TRCA, 2023; City of Toronto, 2024] that will serve as a robust reservoir to analyze governance structures and climate action.

Greater Calgary

Lastly, as the newest upstart of a city region, Greater Calgary only rose to prominence on the back of their local oil and gas industry making them significantly less historically pre-eminent as a Canadian trade protagonist, and even less as a sustainability leader, compared to the GTA and Metro Vancouver. Fortunately, Greater Calgary incorporated and officially established a regional government in 2018 to coordinate regional governance in growth, socio-economic wellbeing, and climate action, positioning themselves as a key stakeholder amid Canadian municipalities on the frontiers of tackling global challenges. Despite having a shorter history as a significant Canadian city region, Greater Calgary now has a robust and comprehensive formalized regional climate action directive (City of Calgary, 2024), and is a critical influence in the Canadian climate conversation as a host to many of Canada's biggest polluters (Klaszus, 2022).

Using environmental scans and grey literature, this paper finds the **Greater Toronto Area (GTA), Metropolitan Vancouver, and Greater Calgary** to meet outlined criteria supported by publicly-accessible resources. To better and more succinctly describe the regional governance profiles of identified case studies, this paper synthesizes key facts of each city region in the chart below, establishing an understanding of core governance structures and broad active climate action initiatives.

Figure 2: Environmental Scan of Regional Case Studies			
	Metro Vancouver	Greater Calgary	GTA
Is there a formalized regional government?	<p>Yes. Metro Vancouver operates under provincial legislation as a 'regional district' and 'greater boards' that deliver regional services</p> <p>It's four different corporate entities (a regional district, a sewage and drainage district, a water district, and a housing corporation)</p>	<p>Yes. The Calgary Metropolitan Region Board was established in 2018 to carry out regional governance</p> <ul style="list-style-type: none"> - Officially a not-for-profit government corporation 	<p>No. The GTA consists of four regional municipalities and the city of Toronto - so no formal regional government</p>
Who sits on it/how representative is it?	Partnership of 21 municipalities, one electoral area and one treaty FN	Comprised of elected officials from each of the Regions's 8 member municipalities	Within the regional municipalities is 25 local municipalities
What is their mandate as empowered by official legislation and constitutional documents?	<p>Mandate</p> <p>Delivery regional services such as --</p> <p>Drinking water, liquid waste, parks, affordable housing, managing regional parks system, regional federation, regulated air quality, plans for urban growth</p> <p>Set Policy and plan for the future</p> <p>Act as a political forum</p>	<p>Mandate or here as well</p> <p>Identify key social, environmental, and economic needs of the region</p> <p>Develop collaborative regional planning practices</p> <p>Oversee development and implementation of region's growth plan and regional evaluation framework</p> <p>**Refer to Figure x in the Annex for</p>	<p>No Regional Government.</p> <p>However, next best thing in this context is the Toronto and Region Conservation Authority - a chapter of Conservation Ontario (and registered charity) which is a local conservation authority as legislated under the Conservation Authority Act in 1946</p> <p>Conservation Ontario is governed by</p> <ul style="list-style-type: none"> - 6 member elected board

		visualization of Calgary's growth mandates.	<ul style="list-style-type: none"> - of directors Council comprised of appointed and elected municipal officials
How are they funded? Can they raise tax?	<p>Through utility fees for drinking water, sewerage, solid waste management services.</p> <p>Property tax account for small portion of MV budget and support the regional parks system and other regional planning activities</p> <p>Yes they can raise tax! Yes they are accountable to their tax base</p>	<p>Revenue from Government of Alberta Grant, Interest on GIC, Withdrawal from Reserves, and contributions from their 8 member municipalities</p>	<p>There is no regional government.</p> <p>The Toronto and Region Conservation Authority is a registered charity exempt from income tax, and is funded by municipal, provincial, and federal sources.</p>
Regional Climate Action			
	Metro Vancouver	Greater Calgary	GTA
Is there an official regional climate action plan?	<p>Yes!</p> <ul style="list-style-type: none"> - Climate action strategy to 2050 	Sort of? They have a Regional Growth Plan, of which includes several climate relevant goals, objectives, and initiatives	No. TransformTO (Toronto's climate action plan) addresses some objectives that could have regional benefit, but there is no regional climate plan.
What are the core regional climate initiatives?	<p>Climate Strategy 2050</p> <ul style="list-style-type: none"> - Build resilience in infrastructure, ecosystems, and 	<ul style="list-style-type: none"> - 3.3.3 Climate Change - Commitment to reduce municipal greenhouse gas 	<ul style="list-style-type: none"> - The Atmospheric Fund (investing in low carbon solutions and scaling for GTA)

	<p>communities</p> <ul style="list-style-type: none"> - Target 45% reduction in emissions from 2010 levels by 2030 - Carbon neutral region by 2050 <p>Regional Priorities are comprehensive</p>	<p>emissions and water consumption</p> <ul style="list-style-type: none"> - Policies to identify and mitigate risks within the municipality including built environments, and natural systems 	<ul style="list-style-type: none"> - Toronto and Region Conservation Authority - Toronto Climate Action Network - coordinates collaboration among climate action groups in the GTA
Anchor City Profile			
	Vancouver	Calgary	Toronto
What is the anchor city's climate action plan?	<p>Climate Emergency Action Plan - targets to reduce emissions by 50% by 2030 // and become carbon neutral by 2050</p> <p>Targeting land-use planning, transportation, buildings, infrastructure, and natural systems.</p> <p>Also supported in Vancouver's strategic roadmap</p>	<p>Calgary Climate Strategy - Pathways to 2050 // 2023-2025 Climate Implementation Plan - describes actions and programs across service lines that accelerate improved energy use</p>	<p>TransformTO intends to reach netzero by 2040 - setting out action/industry specific emissions reduction goals around energy use, transportation, buildings, and waste</p>
How does the anchor city support the regional government?	<p>City of Vancouver is regulated under the Vancouver Charter - a provincial statutes</p> <p>Charter uniquely allows city to regulate noise and land use, buy and sell property, collect certain tax, approve expenditure, take on debt, give grants, and</p>	<p>Aligns climate plans with regional growth strategy</p> <p>** Refer to Figure X in the Annex</p>	<p>Many coordinating bodies are based in and receive funding from Toronto climate-targeted funds and grants</p> <p>Toronto supports the work of the TRCA which governs regional ecological sustainability</p>

	hiring		
Is it supported by the regional government?	Yes. Work closely together.	Yes. Work closely together.	Not supported by regional government. Better Municipal Governance Act 2022 Strong Mayor legislation that would help mayors pass bylaws with support of only 1/3rd of council
How financially independent are they?	Not very. Vancouver has ‘very limited revenue tools’, relying on tax hikes to pay for the increasing number of services expected of them City of Vancouver is funded by property tax, utility fees and program fees. Only 1% of Vancouver’s budget is from government transfers.	Not very financially independent. The city is very reliant on province for funding big infrastructure projects and guiding large development.	Not very. Receiving more money and better distribution of finances between provinces, but still very much within provincial control
Biggest emissions source?	40% of emissions come from gas powered vehicles	Oil and gas production make up 52% of emissions	30% of total emissions is from natural gas heating in residential buildings and 24% from gas vehicles
What is the Anchor city’s emissions per capita against a baseline?	2.8% decrease in gross emissions since 2007 2007: 15.4 metric tonnes per capita 2021: 11.4 tons CO2 per capita	3.7% higher than 2005	40% emissions reduction from 1990 As of 2018: emitting - 7.5 tons Co2 per capita

Figure 2: Environmental Scan of Regional Case Studies

3.3 Application of Data Collection

Now, after having conducted research scoping and foundation building, a literature review to understand existing studies, and an environmental scan of identified case study climate action, this paper aims to synthesize data collection to draw key themes. Based on the evaluative framework by Hale et al (2020) (Figure One), the literature-informed classifications of city-regions and municipal governance structures, and the influential factors identified in 3.1 literature review, this paper applies key progress indicators to distill four key analytical questions on which to draw conclusions.

Questions to synthesize results.	y/n
<p>Is the [identified city-region] a successful climate case as determined by the Hale et al (2020) framework?</p> <ul style="list-style-type: none"> - Key progress indicators include commitment to benchmarks, ambitious target as compared to the baseline, robust inputs as compared to the baseline, meaningful outputs and lasting impacts reported on and accepted. 	
<p>Does the [identified city-region] have autonomy?</p> <ul style="list-style-type: none"> - Key characteristics include constitutional markers, like formalized government, fiscal autonomy, and independence from upper governments// as well as jurisdictional markets, like scope of services and influence 	
<p>Does the [identified city-region] have an active civil society?</p> <ul style="list-style-type: none"> - Key indicators include volume and scope of civil society, and how well represented or consulted they present in climate action plans. 	
<p>Does the [identified city region] have a good relationship with their province? What about their anchor city?</p> <ul style="list-style-type: none"> - Key indicators include alignment and key messaging between 	

Figure 3: Distilled regional-climate-governance framework to synthesize city-region key findings

4.0 Analysis

4.1 How Governance Structure Informs Climate Action

Climate change, pollution, and the negative impacts of GHGs are inherently a borderless problem transcending municipal boundaries and forcing regional cooperation. Climate change is also uniquely a regional problem in the way municipalities often share transit systems and rivers or natural formations that inform their geographical landscapes, infrastructures, and development (Gupta et al, 2007; Kern, 2018; Burch, 2010). The protection of those shared natural resources and transit systems requires a coordinated effort and standardized agreements on how those resources and projects must be made sustainable. Regional governance, formalized or otherwise, is essential in combatting, mitigating, and adapting to climate change in metropolitan areas, and is essential to addressing the global climate challenge overall (Young, 2023; Kern, 2018). While the above chart provides a snapshot profile of case

study regions, their governance structures, climate plans, and anchor cities - this section will discuss those relationships further, drawing themes with more granular examples.

4.1 Metro Vancouver

In Metro Vancouver, climate action is baked into the Vancouver identity. Climate priorities are crucial to Metro Vancouver tourism and the wider BC's branding. Visible across their climate priorities, environmental sustainability is prevalent in government, civil society, industry, and business. On the global scale, "Canada was the second most-represented country in the 2022 Global Cleantech 100, and much of the nation's industry exists in the Metro Van region" (Metro Vancouver, 2024). Metro Vancouver's cleantech cluster extends beyond the quantity of clean-tech firms, and excels at quality, as evidenced in five Metro Vancouver companies being named on the global cleantech 100 list (Metro Vancouver, 2024). On the domestic scale, one-third of Canada's registered B-Corps (Corporations explicitly committed to embedding sustainability across business practices) are located in BC and 98% of electricity generated in BC comes from clean or renewable sources (Whittaker, 2023; Metro Vancouver, 2024). Climate priorities have also long sat in ruling government platforms, from municipal levels up to the province, a commitment to climate and a low-carbon future is familiar to Metro Vancouver and the greater B.C (MacLeod, 2023).

As a natural extension of this sustainability identity, Metro Vancouver has a rich history of advancing and developing its regional climate initiatives, amalgamating into the Climate Emergency Action Plan (CEAP) approved in November 2020 (Horne, 2023). The CEAP, administered by Metro Vancouver's regional government is robust and extensive, with targeted sector-specific objectives and key performance indicators that Metro Vancouver has been steadily and frequently reporting and monitoring publicly (Mitham, 2022). Leveled against Hale et al's analytical framework, Metro Vancouver scores well in both substantive and causal progress in ambitious goals and meaningful outcomes. Local, regional, and provincial governments remain supportive and committed to being transparent on the Metro Vancouver climate plans, which is most prevalently facilitated by several special governance charters.

First, the Vancouver Charter uniquely allows the city to regulate noise and land use, buy and sell property, collect certain taxes, approve expenditures, take on debt, give grants, and manage hiring. This increased fiscal autonomy allows both Vancouver and Metro Van to better deliver programs and services directly mandated by their community and electorate. The Charter has been used to advance climate policies, directly and indirectly, and support the municipal and fiscal autonomy of both Vancouver and Metro Vancouver (City of Vancouver, 2024). Another example, the BC Climate Action Charter, is a support from the province; launched in 2007 to monitor local governments in BC and their pathways to becoming carbon neutral and align themselves with provincial climate action targets (Ministry of CSCD, 2023). The mandates of the BC Climate Action Charter are aided by the added scaffolding of the Green Communities Committee, which works with local governments to ensure access to adequate resources, guidance, and other supports are available to help local communities, such as climate action toolkits, adaptation and mitigation strategies etc. (Ministry of CSCD). With added robust stipulations on Indigenous consultation, both charters make intentional space to include public input, which is well matched to Metro

Vancouver’s rich network of non-state climate actors within institutions, civil society, and community organizations [City of Vancouver, 2024)]. Both charters work together to support Metro Vancouver from bottom-up (anchor city), and top-down (province) and delivery effective, well-conceived, and equitable climate action.

	Yes	No
Is Metro Vancouver a successful climate case? Why?	Yes! Ambitious targets, robust inputs, meaningful outputs, and lasting impact! met	
Does it have autonomy?	Yes! Formalized regional board that can raise tax, and Vancouver charter make a great case for autonomy	
Does it have an active civil society?	Yes very much! Climate action is very top of mind for BC voters and this is well reflected across civil society!	
Does it have a good relationship with province and anchor city?	Very much so, the plans are very much aligned with one another and create a very supportive infrastructure	

Figure 4: Metro Vancouver’s Regional-Climate-Governance Profile

4.2 Greater Calgary

In Greater Calgary, there is quite a history to dismantle. Alberta is by far the largest polluter in Canada, thanks to their larger-than-life enormous oil and gas industry, and saw an 8.6% emissions increase in 2021 (MacLeod, 2023). However, reports reveal that Albertans are well-aware of climate change, and eager to see action taken against the big oil and gas polluters of Alberta (Garth, 2023). Despite its inexperience, Calgary has emerged as the climate action and sustainability leader of Alberta.

Calgary was the first city in Alberta to develop specific ecological footprint reduction targets (Global Footprint Network, 2014). Established only in 2017, the Calgary Metropolitan Region Board’s growth plan includes only a few sentences on addressing climate change, simply stipulating the reductions of emissions and water consumption as well as the implementation of policies that mitigate climate risks and threats. These goals, objectives, and overall governance are by no means the trappings of a global climate leader, but as a regional government, is far ahead of its Albertan municipal counterparts (Solar Alberta, 2020). The existence of a regional government is a positive sign of the rapid progress Greater Calgary is making to mold itself into a sustainability-centric city region; a battle more difficult in oil/gas

central Alberta, as compared against Vancouver or Toronto who have longer histories of progressive climate leadership.

Despite the challenge of beating Alberta’s rough and tumble fossil-fuel reputation, Greater Calgary’s anchor city of Calgary has been taking on the challenge of rebranding the Greater Calgary region as a climate action leader. Greater Calgary made waves by declaring a climate emergency in 2021, and putting forth a robust Climate and Environmental Management Plan and Budget (City of Calgary, 2023). Like most other municipal-level climate action plans, Greater Calgary’s commits to net zero by 2050, a carbon budget, Indigenous collaboration, participation in global programs like Global Covenant of Mayors, and compliance with climate legislation (City of Calgary, 2023). Levelled against Hale et al’s analytical Framework, Greater Calgary’s new climate objectives are not established long enough to claim any substantive results, but Greater Calgary can be commended for causal results in ambitious goals, robust inputs, and implementation. Of what little reporting that exists so far, analysts highlight little headways made on meeting emissions reduction targets, especially post pandemic (Strasser, 2023)

The true unique novelty of the example of Greater Calgary actually lies in the very barriers that make Calgary the underdog climate action leader. Despite a slow start, Calgary’s climate action efforts in commitment and speed of policy implementation in the last half-decade are highly commendable, especially compared to their climate-stagnant peers. Greater Calgary’s public-facing websites are littered with transparent and strongly-worded commitments alongside regular updates on next steps to make the Greater Calgary green transition more equitable, fair, and transparent (City of Calgary, 2022). Greater Calgary addresses their greatest disadvantage of heavy oil-and-gas industry capture head-on; instead choosing to highlight it as a climate advantage. Dick Ebersohn, Calgary’s manager of climate change and environment admits that Calgary is more emissions-intensive than other cities and reframes the entrenchment of the oil-and-gas industry as an advantageous connection to critical insiders of the industry (Klaszus, 2022). Accurately said, cooperation with oil and gas corporations is essential to operationalizing the green transition. Ebersohn points out that “Canada is the fourth largest producer of oil and gas in the world, and almost all the head offices of those boardrooms are in Calgary” (Klaszus, 2023)). He goes on to highlight that Calgary is thus the headquarters of major decision-making from these major corporations, in supply, refining, and distribution that make Calgary a critical mediator in compelling and shaping behaviour of key individuals and polluting organizations (Klaszus, 2023). In the fight against the rest of Alberta, captured by oil industry and dismissive of stringent climate initiatives, Calgary maintains a stronghold of regional climate governance and commitment.

	Yes	No
Is Greater Calgary a successful climate case? Why?		No. Not yet. Ambitious targets, and robust inputs -- but no meaningful outputs or lasting

		impact yet.
Does it have autonomy?	Yes - some! Formalized regional board that can deliver policy guidance and direction - but quite dependent on province for supporting large infrastructure projects	
Does it have an active civil society?	Yes - sustainability is a hot button topic in knowledge driving institutions and civil society	
Does it have a good relationship with province and anchor city?		Middling - oil and gas capture is more prevalent at the provincial level - and the climate plans are not entirely aligned - despite explicit mandates to do so (Figure 7 in Annex)

Figure 5: Greater Calgary’s Regional-Climate-Governance Profile

4.3 Greater Toronto Area

In the GTA, climate action is uniquely framed as a siloed initiative. The TransformTO plan has little mention of regional governance and centers most initiatives on the jurisdictions of the city of Toronto (City of Toronto, 2024). Similarly, the Region of Peel, the second most populated region after the city itself, has a formal regional government, and a formal climate plan that gestures to the need for addressing regional climate problems, but again, centers objectives and solutions within the Region of Peel borders and jurisdictions (Sustainability Solutions Group, 2019). The GTA has a tumultuous history with regional governments, evidenced by the still-controversial amalgamation of Toronto’s boroughs in 1998 dissolving Metro Toronto, which has been cited as a bad move for representative governance and tackling regional problems (Draaisma, 2023; Medicoff, 2023). The spirit is pervasive even now, 20 years later, when the Peel Region was almost dissolved on the grounds of each member municipality (Mississauga, Brampton, and Caledon) contributing unequally to regional upkeep and investment - despite providing several important regional services and coordination (Carter, 2023). Defenders of the decision to amalgamate Toronto and TransformTO argue that Toronto hosts the most carbon-intensive activities and should target its climate action within the city to focus on Toronto-based sectors and major emissions sources (Purcell, 2023).

For a long time, Toronto was the juggernaut anchor city of the GTA, both on paper and in the public zeitgeist - understood to be the undeniable cultural, innovation, and powerhouse centre of the GTA

against the obvious suburban nature of surrounding municipalities that were born of Toronto’s population spillover, and exist to feed into Toronto’s engines. In this dynamic, of a dominating anchor city and smaller suburbs, the argument for Toronto to shoulder most of the climate action within its borders made more sense. However, as evidenced by the rapid growth and trajectory of nearby regions, municipalities, and other members of the GTA into powerful independent regions in their own right - demonstrates the clear necessity to coordinate climate action, sustainable development, and regional governance. The climate concerns that plague Toronto are more interdependent on nearby suburbs and municipalities than ever before, and in parallel, the avoidance of policy fragmentation is more crucial than ever. Considering the example of transit fare integration, the GTA has taken years to finally acknowledge the service gap in commuters who spend half their day moving across municipal boundaries and the need for regional transit coordination (Callan, 2024). This reactive and slow response to calls for regional coordination is unsustainable and not conducive to effective regional climate action.

Still, despite the aversion to regional governance, the GTA scores relatively well against Hale et al’s analytical framework to assess non-state action plans in causal results. However, it leaves much room for improvement in substantive results. Specifically in the progress indications of ambition and robustness, a core characteristic of the TransformTO plan is its ambitious targets, aiming for net zero ten years earlier (2040) than its Canadian peers (2050) (Teles, 2023) with a robust reservoir of human, technological, and procedural resources and infrastructure to support the implementation, advancement, and monitoring of the plan (City of Toronto, 2024)]. The surrounding regions of the GTA have similarly put out climate action plans echoing standard practice for municipalities such as Peel Region’s [Climate Change Master Plan](#), and [Halton Region’s Climate Change Region Plan Review](#). In Hale et al’s typology of significant benchmarks to indicate progress, the GTA scores positively in creating ambitious and robust goals to address climate action (Hale et al., 2020). However, Toronto’s ambitious goals outlined in the TransformTO program are struggling to create substantive outcomes that demonstrate a spurious claim to staying on-track to net zero by 2040. Analysis of Toronto’s budgets, as well as academic assessment of Toronto’s climate pathways find that Toronto is not on track to meet its 2030 target, and is unlikely to meet 2040 targets without transformational action across all sectors. (Slater et al, 2022; Hasham, 2023).

In response to the need for regional governance, an active civil society and non-state actors have formed an informal network to address regional climate concerns and deliver regional climate initiatives. In a patchwork fragmentation of special interest groups, organizations like The Atmospheric Fund, The Toronto Region Conservation Authority, and Toronto Climate Observatory, spanning industries, institutions, and jurisdictions across the GTA work together and with others to pressure policymakers, delivery climate education and programming, and raise the profile of sustainability across the GTA.

	Yes	No
Is the GTA a successful climate case? Why?	Yes. Per capita emissions are among the lowest in Canada	

	and Toronto is investing a lot of money into the green transition.	
Does it have autonomy?		There is no regional government, and so there is no autonomy to speak of. But in speaking for Toronto, it's inclination towards strong mayor powers gives renewed autonomy to legislate and create change.
Does it have an active civil society?	Yes - Toronto is Canada's biggest hotspot in climate innovation and tech advancement. As a dense population, the electorate protests frequently.	
Does it have a good relationship with province and anchor city?	For the most part. Toronto knows its importance and doesn't hesitate to use it to leverage support from the province.	

Figure 6: Greater Toronto Area's Regional-Climate-Governance Profile

Results, Findings, and Discussion

As observed in Figure 6, Toronto has the weakest formal regional governance structures, yet the strongest climate performance across the GTA; and in fact across all three case studies. Toronto's history against regional governance and recent tendencies towards strong-mayor policies have influenced Toronto's climate policy and approach to regional climate governance (Hasham, 2023). As evidenced in Toronto's 40% emissions reduction against baseline 1990, it is clear that a city-exclusive approach has worked for a long time in Toronto and the GTA. However, the notion that Toronto, as the most carbon-intensive city should manage its own climate action becomes increasingly tenuous as surrounding cities burgeon themselves as economic hubs (Stats Can, 2022; Javed, 2024), and regional approaches to a regional problem become increasingly imperative. Despite Toronto's positive performance as an individual city, the statistics become less favourable at the regional scale, where the combined emissions reduction plans and meaningful outcomes in the GTA are fragmented, unaligned with one another, and mismatched (Iveson & Eidelman, 2023; Medicoff, 2023) . Comparatively, Metro Vancouver and Greater Calgary, both boasting formalized regional governments with official regional climate action strategies, have a much more aligned regional-scale emissions reductions plan that is implemented and delivered across a wide range of state and non-state actors (Metro Vancouver, 2024,

City of Calgary, 2023). Credit where due, Toronto has the obvious performance advantage above the stand-alone cities of Calgary and Vancouver in emissions reductions; but Greater Calgary and Metro Vancouver create a forum greater than the sum of its parts to proactively address a collective action problem that will impact all regional residents somewhere down the line - an advantage in its own right.

Next it is evident across all three cases, a robust civil society is present. This finding is reflected in the literature that finds climate action plans are direct reflections of local political will (Basset & Shandas, 2010). A notable driver of this phenomenon in the fourth industrial revolution is information sharing across digital platforms that has made accessing climate information much easier (Nubani, 2023) and enabled younger generations to take to the streets fighting for a low-carbon future (Jordans & Borenstein, 2022). In Metro Vancouver, a sustainability mindset is reflected across all sects of society and highlights the comprehensive integration of environmental sustainability in the core decision-making of the city region. Metro Vancouver's policymakers are deeply invested in collaborating with and delivering climate action through civil society groups for effective and tailored action. Greater Calgary adopts a similar mindset, in understanding the necessity to appeal to interest groups of the electorate. In the case of Calgary, there are many oil and gas interests in the vicinity to get on board; a challenge embraced by Greater Calgary's climate action plan, and baked into its consultation and feedback mechanisms (Klaszus, 2022). Both these examples contrast against Toronto, with its lack of formal regional climate strategy or governance, creating space for Toronto's civil society to fill in governance gaps and coordinate regional climate governance with other regional interest groups. In the absence of a formal regional climate mandate or goals, for example, groups like Community Climate Council act as a coordinating body between climate groups across the GTA (CCC, 2024). In the GTA example, regional climate leadership is small-scale, fragmented in coordination, and unclear in its mandate, collective goals, or results.

Lastly, the discussion of regional governance must consider relationships with the anchor city government, and the greater provincial government. Reflected in the literature is the importance of a high-level mandate, and cohesive horizontal/vertical networks between levels of government (Burch, 2010; Kern, 2018). As explored in this paper, the case of Metro Vancouver proves most progressive in its alignment with both anchor city Vancouver, and the provincial government of B.C. All three governments have aligning reduction targets, core mandates, and science-based goals (MECCS, 2024). Similarly, Toronto and the Ontario government have a shared understanding that Toronto is an established global leader city and a significant driver of the Canadian economy (City of Toronto, 2021). With this, Toronto is afforded some bargaining power to compromise with provincial representatives on agreeable policies. Unfortunately, the province's different climate priorities can often conflict with Toronto's more robust climate action plan, as exemplified by greenbelt controversies, and highway proposals that directly contradict Toronto's climate action plan (Medicoff, 2023). On the contrary, the case of Calgary is exemplary of how to carve regional governance from a directly disapproving provincial government, that represents the interests of rural communities more reliant on polluting industries (Harris, 2022; Klaszus, 2022). Greater Calgary serves as a timely reminder that cities, and city regions, remain 'creatures of the state' under Canadian constitutions, and cooperation between provincial and municipal agendas can facilitate the advancement of collective goals more quickly and effectively.

Recommendations and Conclusions

In conclusion, it is evident across cases that the urbanite constituents of Canadian democracies and major metropolises are unwilling to tolerate inaction and idle politicians in the face of the impending climate crisis. Civil society across all three case studies proved active, informed, dedicated, and committed to the cause of pressuring and driving policy and decision-makers in local city regions to enact more cohesive and effective climate policy. Further evidenced across all three cases, the real underpinning of successful regional governance is coordination, climate or not, - between lower-tier municipal governments, and outer provincial governments. Especially in a borderless challenge like climate change, hyper-effective and targeted coordination between regions is quintessential. Ultimately, the findings synthesized in this paper support the hypothesis that Canadian city regions with more consolidated and centralized power, civil-society-friendly governance structures, and governance plans aligned with other levels of government are more likely to have effective climate policy.

Annex

1.2.3 Planning Framework and Hierarchy of Plans

Statutory Plans as defined in the Municipal Government Act are used by municipalities to guide growth and development within their jurisdiction, and among neighbouring municipalities. The Calgary Metropolitan Region Growth Plan must be consistent with the Land Stewardship Act and South Saskatchewan Regional Plan. Statutory Plans must be consistent with the Growth Plan.

The hierarchy is illustrated in Figure 2.



Figure 7: Greater Calgary’s Planning Framework and Hierarchy of Plans

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