

**Catalyzing Local Climate Action:
Can Regional Collaboration Support Transformative Change?**

by

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B.A., University of Northern British Columbia, 2009

A Thesis Submitted in Partial Fulfillment of the
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We acknowledge and respect the Lək̓ʷəŋən (Songhees and Esquimalt) Peoples on whose territory the university stands, and the Lək̓ʷəŋən and W̱SÁNEĆ Peoples whose historical relationships with the land continue to this day.

Supervisory Committee

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Abstract

The urgent threat of climate change demands an unprecedented scale of transformation, calling for new ways of thinking about how institutions can address the challenge. A multiplicity of responses at various scales have emerged, including the burgeoning role of local governments, which have a key role to play in effective climate policy and implementation, yet also face barriers that can constrain climate action. As well as lack of capacity and resources, political will, and institutional challenges, local governments are constrained by geographical scales and tiers of governance, as climate action and impacts frequently extend beyond jurisdictional boundaries. This study sought to address a critical gap in knowledge related to regionally coordinated climate action in Canada, integrating insights from an interdisciplinary set of literature and building upon O'Brien's (2018) three spheres of transformation framework in order to draw out the potential for regional collaboration to support transformative climate action. Specifically, the study aimed to identify the primary barriers to advancing climate action in the Vancouver Island and Coastal region of British Columbia from the perspective of local government staff and elected officials, and to explore whether and how these barriers could be more effectively navigated through regional scale collaboration. Data were collected through 15 semi-structured interviews and thematically analyzed to identify climate action barriers and enablers.

The study revealed key barriers in three thematic categories – resistance, capacity, and governance, with barriers related to resistance and governance being more deeply entrenched but also offering greater opportunities to leverage transformational change. Mapping these barriers onto O'Brien's three spheres suggests a need to move beyond behavioural changes and technologies to target deeper leverage points related to systems, structures, and the personal sphere in order to achieve the transformational change required to respond to climate change. The study illuminated potential actions at various scales of governance to address resistance, capacity, and governance challenges. Collaboration, a significant enabler at the regional scale, offers the opportunity to address barriers to climate action through supporting horizontal and vertical alignment on policy and communications, sharing resources, building capacity and using existing capacity more effectively, supporting personal and collective resilience, and advocating collectively for needs. These findings indicate strong potential for catalyzing action through greater coordination at multiple governance scales, including the regional scale, providing hope that a collaborative approach might help to unlock necessary transformative change.

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Dedication

To my family.

CHAPTER 1: INTRODUCTION

1.1 Introduction

The urgent threat of climate change demands an unprecedented pace and scale of society-wide transformation. Climate change has been characterized as a “super wicked” problem¹, with lack of sufficient progress to date calling for innovations in governance and new ways of thinking about how to address the magnitude of the challenge. Despite years of effort at the national and international scales, greenhouse gas emissions have continued to rise over past decades, with emissions quickly rebounding in 2021 after a dip in response to pandemic lockdowns (Tollefson, 2021; Friedlingstein et al., 2021). Climate Action Tracker’s most recent projections put the world on pace for 2.7°C of warming based on current policies, despite more ambitious pledges and targets put forward by world leaders (Climate Action Tracker, 2023). The world is clearly still not on track to deliver the rapid and widescale socio-ecological transformation that scientists say is required to limit the worst impacts of global climate change. What has emerged however, in the face of the failure of international efforts to enact the level of change required, is a multiplicity of responses at various scales which can be thought of as experimental climate governance.

One such response is the burgeoning role of local governments in tackling climate change. In the absence of adequate government policy to address climate change at higher levels, cities around the world have emerged as leaders in climate action over the past two decades. As well as leading the charge on declarations of climate emergency (Hender, 2019; Edwards & Whitehead, n.d.), many cities are setting ambitious emission reduction targets, developing climate action plans, and joining municipal networks such as C40 and the Global Covenant of Mayors (C40 Cities, 2024; Global Covenant of Mayors, 2024), demonstrating political willingness to take on the challenge of climate change at the local level. The proliferation of local level climate action demonstrates that climate policy is not set only at the international and national levels. Indeed, the landmark 2015 Paris Agreement recognized the importance of subnational levels of government to achieving the overarching goal of limiting warming to 1.5°C (Paris Agreement to the United Nations Framework Convention on Climate Change, 2015). It is clear that effective climate action requires acting collectively at multiple scales, and local governments have a key role to play (Corfee-Morlot et al., 2009; Bulkeley and Betsill, 2005; Dale et al., 2020).

Through land use planning, transportation systems, building standards, and provision of municipal services, local governments influence how emissions are generated in a community. Local governments

¹ Levin et al. (2012) describe super wicked problems as those where the creators of a problem also seek to provide a solution, central authority for addressing the problem is weak or non-existent, responses are pushed into the future due to discounting of the severity of the problem, and time is running out. Because of this, and because of the tendency of governance institutions to operate on short term time horizons, action continues to be delayed, even though the long-term consequences of delaying action outweigh real or perceived short-term benefits of inaction.

play a critical role in shaping decisions about the built environment and patterns of urban and rural development, which in turn shape patterns of emissions (Erickson and Tempest, 2015; Romero-Lankao et al., 2018; Federation of Canadian Municipalities, 2009). Globally, cities are estimated to be responsible for over 70% of energy related CO₂ emissions and two-thirds of energy consumption (IEA, 2016). In Canada, municipal governments have jurisdiction, directly or indirectly, over an estimated 44% to 52% of national GHG emissions (Federation of Canadian Municipalities, 2009; Robinson & Gore, 2005). Local governments are also confronted with critical challenges related to adapting to climate change, as they operate at the scale where impacts – for example floods and drought - will be and are already being felt, underlining their key role in building communities that are not only more sustainable but also more resilient and liveable (Dale et al., 2020).

Although local governments are taking action and clearly hold major potential for transformative change, they also face a number of barriers that can constrain climate action. The barriers and opportunities associated with local level climate action, including challenges related to capacity and local level authority, are well documented in the literature (Betsill & Bulkeley, 2007; Measham et al., 2011; Bulkeley & Betsill 2003; Burch, 2010a; Burch, 2010b; Robinson & Gore, 2005). Yet while case study research has revealed a number of commonly reported barriers, they are frequently highly contextual, and insights into how to overcome them are limited (Eisenack et al., 2014). As a further challenge, the literature related to climate policy at the local level tends to disproportionately emphasize the role of large leading cities (Jones, 2017; Cohen, 2018). Mapping of the literature on urban case studies relating to climate mitigation solutions shows a bias toward large and mega cities, or those with populations greater than one million (Lamb et al., 2019). This unbalanced focus on large cities not only underrepresents smaller centres, which make up the vast majority of Canadian cities, but also excludes the interconnected regions that surround small and large communities. Focusing on the urban environment as separate and discrete fails to consider the intimate connections of cities to larger functional regions and regional ecosystems, characterized by diverse linkages and two-way flows of people and resources (Tomaney et al., 2019).

A regional approach to responding to climate change offers an innovative shift in scale that may help to bring together rural and urban responses and address some of the challenges faced by communities in planning and implementing climate solutions. As described by Anguelovski and Carmen (2011, p.172), not only do cities experience governance challenges including lack of political support, financial and human resources, and other forms of capacity, but “challenges also arise when climate action extends beyond the boundaries in which the city can exercise its authority and when officials are constrained by geographical scales and tiers of governance”. The administrative boundaries of local governments do not necessarily correlate with ecological or functional regional boundaries, resulting in cross boundary emissions that are not easily accounted for with a lack of coordination across the regional scale. Similarly, this jurisdictional fragmentation poses an issue when it comes to effective climate adaptation, as impacts from climate change are rarely contained to the administrative boundaries of a single local government.

Municipal networks in various forms have expanded the scope of local government action, both raising the profile of local government climate action on the global stage, and establishing a framework for local governments to collaboratively work together to build capacity (Hakelberg, 2011; Bulkeley and Betsill, 2013; Gore, 2010; Gordon, 2013). A regional approach has the potential to exert similar influence on broader climate governance and capacity building as well as offer an opportunity to align approaches with neighbouring jurisdictions. Many municipal networks cater primarily to cities; a regionally scaled approach offers additional benefits related to coordinated action inclusive of small and rural communities that lack the capacity to address challenges in isolation and can be left behind in a discourse focused solely on urban solutions.

While regionally scaled networks and planning initiatives in various forms have been successful in other jurisdictions, particularly in Australia, the United States, and the European Union (Bertrand et al., 2016; Galarraga et al., 2011; Juhola et al., 2012; Giest and Howlett, 2013; Moloney and Horne, 2018; Vella et al., 2016), there has been little examination of their potential in a Canadian context. Most case study research focuses on individual municipalities, often large ones (Hoppe et al., 2016; Lamb et al., 2019). There is a need identified in the literature for more comparative research (Eisenack et al., 2014; Lamb et al., 2019) and also a gap related to exploring how municipalities might work more effectively together on a regional scale. Questions remain as to how a regional approach can help to overcome the barriers faced by diverse communities in planning and implementing responses to climate change, and what forms of regional cooperation would most effectively contribute to transformational climate action.

1.2 Research Questions

This study explores how local governments² can work together to accelerate climate action, with an objective of assessing the potential of regional level coordination to overcome barriers as well as facilitate greater collaboration and coordination between municipalities and between urban and rural communities. Specifically, the study seeks to better understand the opportunities and challenges for a regional approach to climate planning and action focusing on the Vancouver Island and Coastal Communities (VICC) region in the province of British Columbia (BC) as a case study, guided by the following research questions:

1. What are the barriers preventing transformative climate action at the local government scale in this region?
2. In what ways can a regional approach support local governments to overcome barriers in order to take meaningful climate action?

² In the context of this study, local governments include municipalities and regional districts.

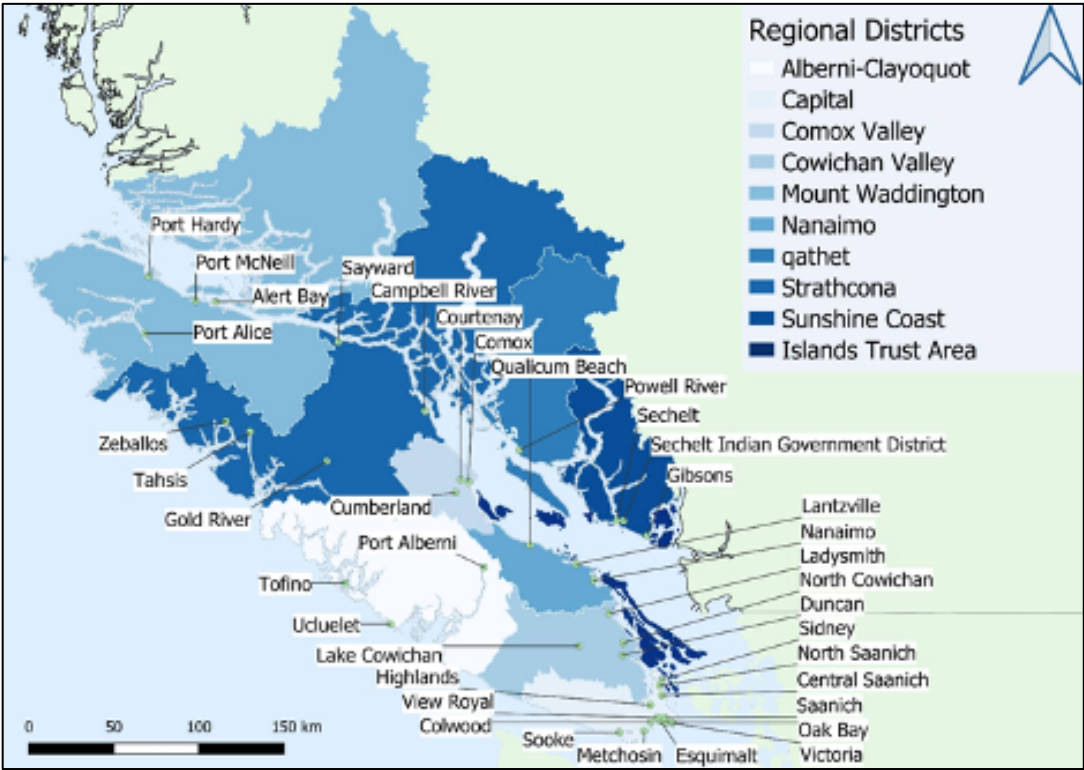
1.3 Study Design: Context, Methods, and Key Findings

To explore these questions, I used qualitative research methods, engaging in semi-structured interviews with local government elected officials and staff from diverse communities across the VICC region to identify the primary barriers to advancing transformative climate action from their perspective. Related to and following from the core research questions above, a secondary objective is to gain insights from regional collaborative approaches in other jurisdictions with an aim of gleaning lessons learned that may be applicable in the VICC region and other parts of Canada.

1.3.1 Context

The study was designed to build upon and further explore the findings of a 2020 survey of local government policies, priorities, barriers, opportunities, and existing climate change hazards and impacts in the VICC region (Rhodes et al., 2021). Researchers from the University of Victoria were commissioned on behalf of the VICC Climate Leadership Plan (VICC-CLP) Steering Committee to design and conduct the survey with the purpose of developing a baseline understanding of the current state of local government climate planning in the VICC region in support of a regional planning process. A map of the VICC region including the local governments that participated in the 2020 survey is shown in Figure 1.

Figure 1. Map of VICC region including municipalities and regional districts



The VICC-CLP process is a unique initiative in Canada, bringing together multiple regional districts with an aim of developing a shared vision and ultimately catalyzing climate action throughout the region (Krawchenko et al. 2020). Led by a bottom-up approach and including local elected officials appointed as representatives from each regional district in the VICC region, the initiative is in the early stages of development, but has already produced research in support of a regionally coordinated approach. In addition to the 2020 survey, UVic researchers produced a territorial analysis outlining key geographic, socio-demographic, economic, and environmental features of the region as part of the same report.³

As a research assistant supporting the initial 2020 survey project, I played a key role in the development and implementation of the survey. I was also the primary analyst of the survey data and primary drafter of the report on the survey findings. My initial analysis of the survey data used descriptive statistics and contingency tables; however, the analysis was limited due to time constraints involved in producing the final report for the VICC-CLP Steering Committee. The previous research was also limited by a lack of nuance inherent in multiple choice survey questions. Although some barriers to climate change mitigation and adaptation were identified through the survey (Krawchenko et al., 2020; Rhodes et al., 2021), the previous analysis did not explore deeper challenges such as cultural or institutional barriers, and did not explore barriers in depth to reveal the nuance and complexities of the challenges faced. With a baseline understanding of climate planning in local governments across the region established, my intention for my thesis research was to build on the survey findings by conducting interviews with local policy makers, including local government staff and elected officials, to develop a more nuanced understanding of the barriers to transformative climate action at the local government scale.

While the decision to investigate regional scale climate collaboration and to focus on the VICC region as a case study was inspired by the nascent planning process initiated by the VICC-CLP steering committee, my thesis research was not designed to evaluate the VICC-CLP process itself. Rather, I set out to better understand the ways in which regional collaboration more generally might form one part of a solution to roadblocks experienced in advancing climate action at the local scale. I focused on the VICC region both because of the opportunity to build on existing research and in the hope that the findings may prove useful to those working to advance regional collaboration in the region and beyond.

Although my thesis research and the survey findings it built upon did not engage directly with Indigenous Nations, it is important to acknowledge that the VICC region is located on the traditional territories of many different Indigenous peoples. Indigenous peoples on Vancouver Island and the surrounding coastal communities have long standing relationships with the land and water, and are informed by rich cultural knowledge systems that guide their connection to the land and responses to climate change (Alderhill Planning, 2023). There are three distinct language groups within the VICC: the

³ For the full report, see: Krawchenko, T., Rhodes, K., Harrison, K., Pearce, K., Shaw, K., Brousselle, A., Ney, T., Mallows, C. (2020). Territorial Analysis and Survey of Local Government Priorities for Climate Action, Vancouver Island and Coastal Communities Climate Leadership Plan. Retrieved from <https://www.viccclp.com/>

Kwakwaka'wakw Peoples who are the traditional inhabitants of north-eastern Vancouver Island and the coastal mainland, the Nuu-chah-nulth Peoples of the west coast of Vancouver Island, and the Coast Salish Peoples located on the southeast coast of the island and the mainland (VIEA, 2023). Within these larger groupings are many distinct First Nations, including 53 First Nations and eight Indigenous Tribal or Treaty Associations within the VICC region (Alderhill Planning, 2023). Indigenous communities within the VICC region are listed in Appendix A. Due to the complexity of Indigenous governance within BC (discussed further in the critical context section 1.5.2), which includes overlapping territories and language groupings, reproducing an accurate and representative map is not straightforward; however, a number of interactive maps are available online.⁴ While engagement with Indigenous Nations was outside of the scope of this thesis, it is a critical limitation to the study and the findings should be considered with this in mind.

1.3.2 Study Design and Methods

My first research question focuses on barriers to *transformative* climate action. This distinction, based on calls by the Intergovernmental Panel on Climate Change (IPCC) and others, for widespread socio-ecological transformation (IPCC, 2018), led me to explore the literature on transformation (Moore et al., 2021; Ajulo et al., 2020; Pelling, 2010; Hurlimann et al. 2021; O'Brien, 2018) to better understand what is meant by the term transformation, distinctions between transformational and incremental action, and what it means in the context of local government climate action. I also turned to the literature on municipal barriers to climate action (Bulkeley & Betsill 2003; Burch, 2010a; Burch, 2010b; Measham et al., 2011; Oulahen et al., 2018; Robinson & Gore, 2005) in an effort to understand the current state of knowledge about barriers and enablers of local level climate action, and this set of literature directed me toward further exploration of the literatures on sustainability transitions (Burch et al., 2014; Geels, 2019; Lawhon & Murphy, 2012) and multi-level governance (Betsill & Bulkeley, 2006; Hooghe & Marks, 2001; Hooghe & Marks, 2003).

My review of these interdisciplinary literatures (further discussed in chapter two) pointed to a need to dig deeper to better understand the nature and nuances of the specific barriers within the context of the case study region. I chose an interview-based approach in order to better understand how barriers and potential climate solutions are perceived from the point of view of those involved in local decision making, and to encourage frank and open discussion through maintaining participant confidentiality. Engaging directly with local government staff and elected officials also allowed me to gain insights not available through other sources. In addition to delving deeper into the specific barriers faced in this region, I aimed to build on the initial survey findings to further explore the potential for regional scale

⁴ See, for example, this map of Vancouver Island and Coast produced by the British Columbia Assembly of First Nations: <https://www.bcafn.ca/first-nations-bc/interactive-map?region=100>; this map of Vancouver Island First Nations Communities by the Vancouver Island Economic Alliance: <https://viea.ca/business-living-on-vancouver-island/first-nations/>; this map by Native Land, an app that maps Indigenous territories, treaties, and languages: <https://native-land.ca>; and this First Peoples' map of BC: <https://maps.fpcc.ca/languages>

collaboration to overcome barriers and catalyze transformative action at the local government level. I collected primary data through 15 semi-structured interviews with 16 individuals representing diverse communities from across the VICC region and used a thematic analysis approach to identify barriers and enablers of climate action. As a framework for my analysis, I provide an overlay to O'Brien's (2018) spheres of transformation and also compare the barriers and enablers identified in this thesis to findings from the literature, relying in particular on studies focused on BC communities including Burch (2010a).

Burch (2010a) proposes a typology of barriers to action at the municipal level based on insights from an inter-disciplinary set of literature; the categories of barriers include cultural/behavioural, structural/operational, regulatory/legislative, and contextual.⁵ I initially applied Burch's (2010a) typology of barriers to assess how it might apply as a framework within the context of my study, choosing this approach as Burch's work focuses on municipalities in British Columbia and therefore provides a relevant comparison and because of the appeal of Burch's arguments about translating barriers into enablers and capacity into action. I found a mismatch in the fit of the typology, which could be due to a number of factors including that my study incorporated small and rural communities rather than exclusively focusing on larger municipalities, and also that my study was framed in relation to transformative action specifically. For these reasons, I ultimately decided to organize the presentation of my findings by major cross-cutting themes informed by the broader literature rather than by Burch's typology.

O'Brien's (2018) work, while not focused on barriers at the local scale specifically, provides an extremely useful framework for thinking about sustainability transformations.⁶ O'Brien (2018) distinguishes between three interrelated spheres of transformation: the practical (specific actions, technologies, behaviours, strategies), political (systems and structures), and the personal (beliefs, worldviews, values), maintaining that common technical approaches to addressing climate change often do not adequately consider equity, power, and politics in transformation processes. Instead, O'Brien (2018) argues for recognizing the importance of beliefs, values, and worldviews in shaping ideas about what is possible, and makes the case that deeper leverage points for transformational change can be found in the personal sphere. I use the three spheres framework to map the barriers identified through this study as a way of considering how to address challenges and catalyze transformative change.

1.3.4 Key Findings

The study revealed key barriers in three thematic categories – resistance, capacity, and governance. While capacity challenges are significant, the barriers related to resistance and governance are both more deeply entrenched, and also offer opportunities for leveraging deeper transformational change. Mapping the barriers identified through the study onto O'Brien's three spheres suggests a need

⁵ See Appendix B for the full typology definitions and examples

⁶ Interestingly, O'Brien's three spheres of transformation framework is being taken up for practical application by some practitioners in the non-profit sector for supporting dialogue about moving toward transformative change. See for example: "Understanding the Foundation for Transformation", a presentation to the Alberta Municipal Climate Leadership Council (Municipal Climate Change Action Centre, 2023).

to move beyond lower level behavioural changes and technologies to target deeper leverage points related to systems, structures, and the personal sphere in order to effectively address barriers and achieve the transformational change required to respond to climate change.

In considering how greater collaboration at the regional scale might support catalyzing transformative climate action, the study illuminated potential actions at various scales of governance to address resistance, capacity, and governance challenges. Research participants highlighted networks, learning from others, relationships, partnerships, and collaboration as key enablers of climate action, all of which clearly point to the importance of a coordinated and collaborative approach. The top needs identified in the study (which can also act as enablers when aligned) coalesced around higher-level government policy, funding, and horizontally and vertically aligned policy and communications. Of the barriers identified through this study, many can be addressed at least in part through greater regional scale collaboration. Regional collaboration can support horizontal and vertical alignment on policy and communications, sharing resources, building capacity and using existing capacity more effectively, supporting personal and collective resilience, and advocating collectively for needs. These findings suggest a strong case for supporting regional collaboration as a means of catalyzing climate action.

1.4 Structure of Thesis

This chapter has provided an introduction to the purpose of this research, the research questions, and a brief overview of the context and methods that have shaped this work. The next section of the chapter sets out critical context related to climate impacts and governance in BC. Below is a brief overview of the following chapters:

Chapter 2 provides a review of the literature on sustainability transitions, multilevel governance, and local level barriers and enablers related to climate action. Theoretical perspectives from a diverse set of interdisciplinary literatures are brought together to provide a framework for considering how governance of climate change and transformation takes place at local and regional levels. O'Brien's (2018) spheres of transformation conceptual framework is used as an overarching framework through which dimensions of change are considered. The chapter concludes with a discussion of regional network approaches to coordinated climate action, including highlighting the emergence of regional climate collaboratives in other jurisdictions.

Chapter 3 provides an overview of the methods and approaches used in this study, including a description of my positionality and the overall research design. This chapter also describes the specific methods I used for recruitment of interviewees and conducting, transcribing, coding, and analysing interviews.

Chapter 4 presents the findings of the study, organized into two main parts which correspond to each of the core research questions. The first part describes the barriers and related enablers of climate action at the local government scale that were identified by interviewees. Barriers are organized into three main

themes: resistance, governance, and capacity. While capacity challenges are significant for local governments, the study revealed that barriers related to resistance and governance are even more pressing.

The second part of the chapter focuses on the role of collaboration in overcoming barriers, with an aim of answering the question of how a regional approach might support local governments in taking meaningful climate action. First, I describe key climate action enablers and needs identified by participants. The most important enabling factors that were revealed through the study included networks, learning from others, and partnership and collaboration – all of which point clearly toward the benefits associated with greater collaboration. Many of the top needs identified, which included higher level government policy, consistent funding, and policy alignment pointed to actions needed at the provincial level, while greater horizontal alignment was also identified as an important need. These findings indicate strong potential for catalyzing action through greater coordination at multiple governance scales, including the regional scale.

In the last part of this chapter, I discuss the benefits, opportunities, and challenges associated with regional collaboration that were revealed through the study. The findings pointed to many benefits of regional collaboration, which include supporting horizontal and vertical alignment on policy and communications, sharing resources, building capacity and using existing capacity more effectively, supporting personal and collective resilience, and advocating collectively for needs. The study also identified specific areas that could be targeted for collaboration, including the building industry, transportation, solid waste management, procurement, adaptation planning and emergency management, food security, energy, and collaboration on grants, shared studies and data. Challenges include structural barriers, finding agreement, lacking a framework and funding for collaboration at the regional scale, and regional variation including differences between urban and rural needs.

Chapter 5 includes a discussion of the findings of the study in relation to the existing literature on barriers and enablers of climate action as well as the three spheres of transformation. Building on the data collected through interviews in combination with a reading of an interdisciplinary set of literatures, I consider whether and how these barriers could be more effectively navigated through regional scale collaboration. I map the thematic categories of barriers in relation to O'Brien's spheres of transformation, as well as considering the barriers identified through this work in relation to Burch's (2010) typology of barriers. Mapping the barriers identified through the study onto O'Brien's three spheres suggests a need to move beyond behavioural changes and technologies to target deeper leverage points related to systems, structures, and the personal sphere to achieve the transformational change required to respond to climate change. I also explore ways in which the barriers identified from this study can be addressed at various scales of governance, including the local government scale, the regional scale, and the provincial scale, making the argument the effective climate action requires an integrated approach at multiple scales. In the second part of the chapter, I make the case for supporting regional collaboration as a means of catalyzing climate action, and propose a potential path forward.

Chapter 6 – The conclusion revisits key findings and describes the core contributions I have made to addressing the research problem, along with broader implications. I also assess the limitations of my research and suggest trajectories for future studies.

1.5 Critical Context

The following sections provide critical background and context to the research, briefly covering climate change impacts in BC, the structure of climate governance in the province, regional planning within the context of regional districts, and a further introduction to the VICC region.

1.5.1 Climate Change Impacts in British Columbia

British Columbia is already experiencing the effects of global climate change, including increasing temperatures and more frequent extreme weather events such as flooding, heat waves, droughts, and wildfire (Ministry of Environment and Climate Change Strategy, 2019). These impacts are expected to become more frequent and severe in the years ahead, along with slower moving changes such as rising sea levels, ocean acidification, receding glaciers, water shortages, and shifting ecosystems (Ministry of Environment and Climate Change Strategy, 2019).

Climate-driven changes are resulting in massive human, environmental, and economic costs to the province (Gifford et al., 2022). In 2021, an unprecedented year of severe heat waves, wildfires, and flooding underscored the urgent need to take action to prepare and adapt to climate change. An extreme heat event in the summer of 2021 known as a heat dome resulted in record high temperatures and the deadliest climate-related disaster on record in Canada, causing over 600 heat-related deaths across the province over a seven-day period (British Columbia Coroners Service, 2022). The Town of Lytton burned to the ground after posting a record high temperature of 49.6°C, with the heat dome being followed by one of the most damaging wildfire seasons ever experienced in BC (Government of British Columbia, 2022). That fall, intense precipitation associated with an atmospheric river in the southwestern part of the province led to extensive flooding that affected 18,000 residents and caused an estimated \$7.5 billion in insured damages, making it one of the most expensive disasters in Canadian history (Government of British Columbia, 2022; Larsen, 2022). The flooding and landslides triggered by the atmospheric river damaged transportation networks and other critical infrastructure as well as flooding farmland in the Sumas Prairie, leading to the deaths of over 600,000 farm animals (Watson, 2022). In the Nicola Valley, the entire population of Merritt was forced to evacuate after flooding led to failure of the city's wastewater treatment plant (Watson, 2022). Total economic costs associated with the extreme weather disasters of 2021 in BC have recently been estimated as being upwards of previous reports, for a total between \$10.6 billion and \$17.1 billion (Lee and Parfitt, 2022). A study using event attribution analysis found that human-induced climate change contributed substantially to the rainfall and flooding, and that the probability of such extreme weather events is expected to increase in the future (Gillett et al., 2021).

Although 2021 stands out as a year in which the impacts of climate change related disasters in BC hit home for many, it was not the first or the last time the province has been affected. In 2023, record breaking wildfires were experienced across the Northern Hemisphere, including in Canada, where roughly 18.5 million hectares were burned and the record for annual wildfire smoke emissions was broken (Jacobsohn and Peck, 2023). In BC, 2023 was the most expensive and destructive fire season on record, with approximately 25,000 square kilometres burned, nearly double the previous record (CBC News, 2023). The 2023 fires in BC were fueled by extreme drought, with near-record drought conditions experienced across the province that summer (Griffiths, 2023). Four of the five largest wildfire seasons in BC have occurred since 2017, and nearly 140,000 people have had to evacuate due to wildfires during that same time period (Griffiths, 2023). Describing BC as “Canada’s epicentre of climate change-induced disasters”, authors from the International Institute for Sustainable Development argue that while BC is often cited as a leader on climate action, impacts from climate change are outpacing the province’s ability to adapt (Terton and Qi, 2023).

While action to prevent and prepare for climate change is often framed as being too costly (Gabbatiss & Hayes, 2024), the reality is that impacts related to climate change are already resulting in major costs to society. Many of these costs are being borne by local governments. While all levels of government have responsibilities associated with mitigating and adapting to climate change, as owners and operators of 60% of public infrastructure in Canada, municipalities are on the frontlines of responding to impacts and planning for the future (Federation of Canadian Municipalities, 2020). Beyond the direct financial costs of damage to infrastructure caused by extreme weather events, there are also multiple cascading or indirect costs including disruptions to municipal services, transportation networks, and supply chains, power outages, food and water shortages, and interruptions to businesses (City of Hamilton, 2022; ICLEI Canada, 2022). Further, the immeasurable impacts to human health and wellbeing as well as the natural environment cannot be overstated, and these broader systemic costs often have spatial and temporal scales that extend beyond the immediate aftermath of extreme weather events (Boyd and Markandya, 2021). Although costs associated with dealing with extreme weather events are rising for municipalities and other levels of government, it is estimated that every dollar invested in adaptation can save up to \$15 in costs (Canadian Climate Institute, 2022). The staggering human, environmental, and economic costs of climate change in BC highlight the need for urgent transformative change including climate adaptation and mitigation and involving all levels of government.

1.5.2 Climate Action Governance in British Columbia

Climate action governance in BC is complex, involving multiple levels of government with overlapping jurisdiction, as well as various other actors, including First Nations, non-governmental organizations, special purpose bodies, networks, advocacy groups, and coalitions. As a decentralized federation, Canada’s constitution divides legislative power between two orders of government: federal and provincial.

Multilevel Government Climate Action

Federally, Canada has participated in over 30 years of international collective action on climate change, yet has failed to translate commitments into meaningful emissions reductions, with emissions rising 20% since 1990 according to a 2021 report from Canada's Environment and Sustainable Development Commissioner (Leach et al., 2021). The Canadian government has stepped up ambition in recent years, signing on to the Paris Agreement in 2015 with a commitment to reduce its greenhouse gas emissions by 30% below 2005 levels by 2030, updating the emission reduction target in 2021 to 40-45% below 2005 levels by 2030. The Canadian government has released a number of new climate plans including the 2016 *Pan-Canadian Framework on Clean Growth and Climate Change* (PCF), Canada's first-ever national climate plan developed in collaboration with the provinces and territories, and in consultation with Indigenous peoples (Government of Canada, 2022). In 2020, Canada introduced *A Healthy Environment and Healthy Economy*, a strengthened climate plan building on the PCF. Finally, the federal government most recently introduced *Canada's 2030 Emissions Reduction Plan* in 2022, which builds on actions outlined in previous plans and provides a roadmap to achieve the 40-45% emissions reduction commitment. Also in 2022, Canada released its first *National Adaptation Strategy* along with new adaptation funding opportunities. While Canada has implemented several new climate policies in recent years, including introducing a federal carbon tax, progress has been much too slow, and as the Commissioner's report points out, has been undermined by lack of coordination among government institutions as well as policy incoherence, such as the federal government's investment in the Trans Mountain Pipeline expansion the day after declaring a climate emergency (Leach et al., 2021).

Within Canada, the Province of BC has been a relative climate leader. Over the past nearly two decades, the Province of BC has initiated a number of efforts to set and meet climate goals, showing leadership in Canada beyond that offered by the federal government and most other provinces. These efforts include requiring provincial public sector organizations to achieve carbon neutrality every year as well as becoming the first jurisdiction in North America to introduce a revenue neutral carbon tax (UNFCCC, 2023). In 2018, the Province of BC launched a new climate action plan, *CleanBC*. Under the *CleanBC* Plan and the associated reporting framework, the Province of BC has legislated targets for reducing greenhouse gas emissions 40% below 2007 levels by 2030, 60% by 2040, and 80% by 2050, as well as an interim target to reduce emissions 16% by 2025. The Province of BC's *CleanBC Roadmap to 2030* breaks down the 2030 target into reductions in four key sectors, with 2007 as the baseline:

- Transportation, 27-32%
- Industry, 38-43%
- Oil and gas, 33-38%
- Buildings and communities, 59-64%

The *Climate Change Accountability Act* requires the Province of BC to provide detailed annual reporting on actions taken to reduce emissions and manage climate change risks. The most recent report, for the year 2021, showed overall GHG emissions down three percent from 2007 (Ministry of Environment and Climate Change Strategy, 2023). By sector, transportation accounts for the largest share of BC's emissions, at 41%, with emissions up eight percent since 2007. Oil and gas made up about 19% of total

2021 GHG emissions in BC, showing a decrease of almost 13 percent from 2007 due to declining carbon intensity in natural gas production. Industry other than oil and gas made up 21% of emissions in BC, down eight percent from 2007. Finally, emissions from buildings and communities make up 19% of overall GHG emissions and have decreased by almost six percent since 2007. The 2021 annual report notes that this particular reporting period covers only early actions from the provincial climate action plan, and that further emissions reductions are expected as additional policies are implemented. While much focus has been on GHG mitigation, in recognition of the growing impacts of climate change within BC, in 2022 the Province of BC released a *Climate Preparedness and Adaptation Strategy* (Government of British Columbia, 2022).

Local Climate Action Governance

In Canada, provincial governments have exclusive constitutional responsibility for municipalities, which are often referred to as “creatures of the provinces,” as their authority stems from that granted by the province. The structure of BC’s local government system is unique in Canada; as well as BC’s 161 municipalities, almost the entire geographic area of the province is covered by 27 regional districts, which operate as federations of municipalities, electoral areas, and in some cases, Treaty First Nations (Ministry of Municipal Affairs, 2023b)

The Province of BC has long acknowledged the importance of local communities in reaching climate targets. In 2007, the Province of BC introduced the *Climate Action Charter*, a voluntary agreement that requires local governments to take action to reduce greenhouse gas emissions, report on community climate initiatives, and become carbon neutral in municipal operations. Since then, almost every local government in BC – 187 out of 190 – has signed the Charter. In considering the Province of BC’s sectoral climate targets, the critical role of local governments in supporting GHG reductions in transportation, buildings, and communities is clear. As stated in the *CleanBC Roadmap to 2030*:

B.C.’s local governments play a vital role in meeting provincial targets. Along with directly controlling emissions from their own facilities, operations and vehicle fleets, municipalities and regional districts have the capacity to influence about 50% of our GHG emissions through decisions on land use, transportation and infrastructure that affect where people live and work, how they get around, and how their communities grow and change with time. This puts local governments on the front lines of climate action, where all these policies converge.

The provincial government supports municipalities and regional districts in planning for resilient and sustainable communities in a number of ways, including through providing guides and other informational resources as well as a variety of grant-based funding. Dedicated funding to support local climate action is also currently provided to signatories of the Climate Action Charter and to Modern Treaty Nations through the Local Government Climate Action Program (LGCAP), which is intended to provide flexible long-term funding to “enable community-specific action to reduce emissions and increase climate resilience” (Ministry of Environment and Climate Change Strategy, 2023a). Through

legislation, the provincial government delegates a number of powers to municipalities, giving them authority to make decisions in a variety of areas that impact climate planning; in BC, municipal authority is primarily delegated through the *Community Charter* and the *Local Government Act*. While municipalities in BC are not mandated by the province to create climate change plans, section 473 of the *Local Government Act (LGA)* requires that local governments include GHG emission reduction targets in Official Community Plans and section 429 of the *LGA* establishes a similar requirement for Regional Growth Strategies adopted by regional districts (*Local Government Act*, RSBC 2015, c 1).

As well as signing on to the Climate Action Charter, nearly 40 local governments in BC have recognized or declared a climate emergency (Climate Emergency Declaration, 2023). Although not mandated by the province, many municipalities, especially larger urban municipalities, have adopted climate plans with policies focusing on buildings, transportation, land use, waste management, municipal operations, and energy systems. In these municipalities, GHG mitigation targets are designed to align with or exceed provincial and national commitments. The City of Vancouver's (2020) *Climate Emergency Action Plan* aims to reduce carbon pollution by 50% by 2030 and to become carbon neutral by 2050. Examples from within the VICC region include the City of Victoria's (2018) *Climate Leadership Plan*, which commits to reducing community-wide GHGs by 80 percent by 2050 from 2007 levels and to shift away from fossil fuels to 100 percent renewable energy by 2050; the District of Saanich's (2020) *Climate Plan: 100% Renewable and Resilient Saanich*, which aims to cut emissions in half by 2030, reach net zero by 2050, and transition to 100 percent renewable energy by 2050; and the City of Nanaimo's (2012) *Community Sustainability Action Plan*, which pledges to reduce GHG emissions to 33 percent below 2007 levels by 2020 and 80 percent below 2007 levels by 2050.

Canadian municipal climate plans have historically tended to prioritize mitigation over adaptation (Guyadeen et al., 2018). However, more recent plans indicate growing concern with climate adaptation. For example, Nanaimo produced an adaptation plan in 2020, the *Climate Change Resilience Strategy*, and the City of Victoria is currently developing a climate adaptation strategy to build on the foundation of adaptation principles incorporated into their 2018 *Climate Leadership Plan*. Municipalities and regional districts are also working on assessments and plans for specific events such as sea level rise and extreme heat response. Examples from within the VICC region include the Capital Regional District's *Coastal Sea Level Rise Risk Assessment* (AECOM, 2015), the City of Campbell River's (2020) *Sea Level Rise Action Plan*, the Comox Valley Regional District's (n.d.) *Coastal Flood Adaptation Strategy*, currently in Phase 3, and the City of Nanaimo's *Summary and Recommendations Final Report: Extreme Heat Mapping, Assessment, and Planning* (Resilience Planning, 2023). Some smaller municipalities are also working on climate plans; for example, the District of Ucluelet developed its first climate action plan in 2019, and climate adaptation plan in 2021 (District of Ucluelet, 2023).

Regional Planning and Regional Districts in BC

Within BC's system of local governance, regional districts exist as an additional level of local government providing direct local services in rural areas as well as regional services. They arose out of a need for

greater regional cooperation as rapid urbanization during the post-war period led to unregulated growth and demand for services in unincorporated areas adjacent to urban municipalities (Chadwick, 2002; Ministry of Municipal Affairs, 2023b). During this time frame, Canadian political scientist Thomas Plunkett observed the interdependence of municipalities, as despite their political fragmentation, “striking changes in the economic and social environment” meant that services were no longer contained within limited political boundaries (Plunkett in Ministry of Municipal Affairs, 2019). Plunkett argued that neighbouring municipalities needed better methods for cooperating in the delivery of local services and planning for growth management, infrastructure development, and service equity regionally. In 1965, the province enabled the creation of regional districts through legislation. The roles of regional districts were originally quite limited but have evolved over time.⁷

Today, regional districts provide a political and administrative framework for three basic functions: they act as the local government for electoral areas, providing local services like fire protection to rural unincorporated communities; they provide inter-municipal or sub-regional services such as recreation facilities, and third, provide region-wide services such as regional parks and emergency response (Ministry of Municipal Affairs, 2023b). Through this combination of roles, they both act as a forum for representatives from municipalities and electoral areas to discuss and agree on matters of mutual benefit within the region, as well as providing direct governance with powers of regulation and taxation within their jurisdiction (Bish, 2007).

The services provided by regional districts vary from one to another. They are required by legislation to provide only very few services, including emergency management, capital financing for local governments, regional solid waste management, and governance for electoral areas, but they can and do choose to provide various other services (Ministry of Municipal Affairs, 2023b). The establishment of additional services is up to the board of directors and may cover all or part of the regional district. Unique in BC, the Capital Regional District (CRD) passed a bylaw in 2008 to establish a service to provide for climate action and adaptation coordination in the CRD.⁸ Through this service, the CRD coordinates action across its member municipalities, releases regional and local GHG inventories, and supports a number of regional programs.

Regional districts also play a role in land use planning. They are responsible for regulating development in electoral areas using generally the same types of planning processes and tools as municipalities, other than the subdivision of land for which the province is responsible outside of municipal boundaries. Regional districts can also play a role in region-wide planning through the development of regional growth strategies (RGS), which are intended to direct long term planning for regional district and municipal official community plans in order to enhance regional sustainability and resilience (*Local*

⁷ A three part history of the formation and development of regional districts and the evolution of the local government system in BC is available on the province’s website:

<https://www2.gov.bc.ca/gov/content/governments/local-governments/facts-framework/systems/history>

⁸ View CRD bylaw no. 3510 “A bylaw to establish and provide the service of climate action and adaptation in the capital regional district”: <https://pub-victoria.escribemeetings.com/filestream.ashx?documentid=14478>

Government Act, RSBC 2015, c 1, Part 13 – Regional Growth Strategies). The introduction of RGS legislation in 1995 arose out of a desire to restore regional planning in the province and to “improve coordination among municipalities and regional districts on strategic issues that transcend and cross local boundaries”, as well as develop “clear, reliable links with the provincial ministries and agencies whose resources are needed to implement the plans” (Marzari in Young 2001, p.75). At the time, concerns about the impacts and sustainability of growth in metropolitan areas provided the impetus to institutionalize a growth management approach in BC (Young, 2001).⁹

The *Local Government Act* sets out some specific requirements for RGS but allows for flexibility in terms of customizing strategies to meet local needs. RGS are intended to encourage consensus building within the region and provide a framework for “interjurisdictional coordination which is necessary to address critical regional issues that cannot be addressed comprehensively by each municipality alone” (Ministry of Community Services, 2006).¹⁰ Regional growth strategies can be voluntarily initiated through a resolution by a regional district board but can also be required by the province if deemed necessary (*Local Government Act*, RSBC 2015, c 1, Part 13 – Regional Growth Strategies). Currently, 10 of the 27 regional districts in BC have adopted regional growth strategies, including the majority of those in high growth areas of the province (Ministry of Municipal Affairs, 2023a).

While the RGS legislation and associated regulations seemingly set out a strong framework for regional collaboration, it is unclear how effective they have been. A resolution endorsed by the Union of BC Municipalities in 2018 requested a comprehensive review and update of the legislation, noting questions about the effect of regional growth strategies and describing the legislation governing them as “outdated and ambiguous” (UBCM, n.d.).

Indigenous Governance

Crucially, climate governance in BC requires consideration of First Nations self-determination and inherent rights and title. The province exists within the traditional territories of many Indigenous peoples, whose relationships with the land continue to the present day. While treaties were established with First Nations before confederation in most parts of Canada, the majority of BC was not covered by historic treaties. The modern treaty negotiation process in BC is ongoing and different First Nations are in different stages of the process. Indigenous sovereignty has important implications for how all levels of government operate and engage with First Nations, including in relation to climate action.

⁹ *Growth Management and Regional Planning in British Columbia: Five Years After, A Comparative Analysis*, a thesis by Andrew Edgar Young (2001), provides a useful overview of the history of growth management and regional planning in BC, a comparison with growth management programs elsewhere, and recommendations for improvement of BC’s model. Available at: <https://open.library.ubc.ca/media/stream/pdf/831/1.0090322/1>

¹⁰ *Regional Growth Strategies: An Explanatory Guide* by the Ministry of Community Services (2006) provides essential context for the rationale and principles underlying the legislation, as well as details about the processes involved in regional growth strategies. Available at: https://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/local-governments/planning-land-use/rgs_explanatory_guide_2005.pdf

Specifically with respect to the local government scale, while local governments and Indigenous Nations both experience the impacts of climate change locally, Indigenous Nations have constitutional recognition and authority while local governments have no constitutional status of their own, as their authority is delegated by the Province of BC. As a result, local governments do not have a direct constitutional relationship with First Nations; however, they have opportunities to advance reconciliation, build productive relationships, and improve communication through engaging in neighbour to neighbour relations and implementing collaborative governance models (Harding & Tikhonova, 2021; Ministry of Municipal Affairs, 2023c). Furthermore, the action plan associated with the Province of BC's *Declaration on the Rights of Indigenous Peoples Act*, S.B.B. 2019, c. 44 (DRIPA), which aims to formally incorporate the *United Nations Declaration on the Rights of Indigenous Peoples* (UNDRIP) into law, has implications at the local scale, including the commitment to “support inclusive regional governance by advancing First Nations participation in regional district boards” (Province of British Columbia, 2022). Many local governments have moved forward in advancing the aims of DRIPA as well as the Truth and Reconciliation Commission's Calls to Action, which calls upon all levels of government to implement UNDRIP, and are progressing toward collaborative governance with First Nations through protocols and communication agreements, economic development partnerships, servicing agreements, land planning, and educational and cultural engagements (Harding & Tikhonova, 2021).

First Nations are also taking action independently in recognition of the climate crisis. Indigenous peoples are disproportionately affected by climate impacts in Canada and are also uniquely placed to wield traditional ecological knowledge systems and long standing connections to the land. Within the context of BC climate change governance specifically, in 2019 and 2021, First Nations leadership in BC passed resolutions calling for development of a First Nations Climate Strategy and Action Plan to ensure “that climate planning protects traditional ecological knowledge and is respectful of and co-created with First Nations Rights and Titles Holders in British Columbia” (First Nations Leadership Council, 2022). The strategy, launched in April 2022, is designed to support reducing GHG emissions by 40-60% by 2030, net zero emissions by 2050, support renewable energy and alternative energy economies, and strengthen the participation and leadership of First Nations in a green economy (First Nations Leadership Council, 2022). Recognition of First Nations in BC as true and equal partners in climate planning and response, and as inherent rights and title holders, is foundational to the strategy, which includes 20 urgent calls for climate action. In addition to this province-wide strategy, many individual First Nations have developed their own community climate plans (Alderhill Planning, 2023). Climate planning and action at all levels of governance in BC, including the local and regional levels, requires engagement with First Nations and understanding of this context.

Non-Government Actors

Within BC, there are also a number of non-government actors influencing climate policy and governance. Some key non-profit organizations involved in climate action provincially include the BC Sustainable Energy Association, BC Climate Alliance, Community Energy Association, Fraser Basin Council, Pembina

Institute, Stand.earth, West Coast Climate Action Network, and West Coast Environmental Law.¹¹ Institutions of higher education produce research and in some cases are involved in on the ground work in communities. Of note, the Pacific Climate Impacts Consortium (PCIC), a regional climate service centre based at the University of Victoria (UVic) conducts quantitative studies on the impacts of climate change in the region and offers a variety of data, reports, and services to users. The Pacific Institute for Climate Solutions (PICS), also hosted by UVic and established through a major endowment from the province, is a climate research collaboration between UVic, Simon Fraser University, University of British Columbia, and the University of Northern British Columbia that aims to produce “leading climate solutions research that is actively used by decision makers to develop effective mitigation and adaptation policies and actions” (Pacific Institute for Climate Solutions, n.d.).

Regional Health Authorities support community level climate action through collaboration with municipal partners and other stakeholders as part of their mandate to improve health through supporting a healthy built environment. BC’s energy utilities also play a role, particularly BC Hydro which provides funding, rebates, and runs a network of community energy managers. On the national level, networks like the Federation of Canadian Municipalities Partners for Climate Protection and ICLEI Local Governments for Sustainability connect local governments. Finally, the Union of BC Municipalities (UBCM), created over one hundred years ago to advocate with a united voice for the common interests of local governments in BC, provides a forum for policy making through its annual convention. The province is organized into five local government area associations where resolutions identified by local communities can be endorsed and forwarded to UBCM’s annual convention.

Like climate change itself, climate governance in BC is complex and multilayered. The relationships between the various levels of government, First Nations, and non-government actors contribute to a polycentric governance model whereby authority is shared across multiple layers and action takes place at a variety of scales. The concept of multilevel governance in relation to local and regional climate action will be further discussed in the next chapter.

1.5.3 VICC Region

The focus of the case study, the VICC region, encompasses the entirety of Vancouver Island, the Sunshine Coast, and the smaller islands in between (Figure 1). This area partially corresponds to that of the Association of Vancouver Island and Coastal Communities (AVICC), one of the five local government area associations in BC. The region includes 40 municipalities, 9 regional districts, and the Islands Trust, a special purpose body established by the province to preserve and protect the islands of the Salish Sea. As described in section 1.3 above, the VICC region, like the rest of the province, is located on the

¹¹ Many local climate action hubs and community groups are involved in advocacy related to climate action in BC; 239 are listed on the website of the West Coast Climate Action Network member directory as of the date of writing. <https://westcoastclimateaction.ca/member-organizations/>

traditional territories of Indigenous peoples, including 53 First Nations and eight Indigenous Tribal or Treaty Associations listed in Appendix A.

The VICC region is being affected by the global trend of rising temperatures. Associated impacts include increased droughts, more frequent heat waves, increased risk of wildfire, threats to food security and impacts to drinking water (Rhodes et al., 2021). Changing precipitation patterns increase the risk of severe storms and flooding. As a coastal region, communities within the VICC are particularly affected by changes in the ocean due to climate change such as rising sea levels, warmer temperatures, and acidification (Rhodes et al., 2021). The region is geographically diverse, with impacts varying in different areas, yet a 2020 survey of municipalities and regional districts across the VICC region found that nearly all communities are already experiencing hazards and impacts related to climate change (Krawchenko et al., 2020).

The region is also socially and economically diverse, affecting climate vulnerability and capacity to cope with the impacts of climate change. Across the VICC region, the majority of the population lives in relatively small sized communities. Overall, the population is growing, especially in the southern part of Vancouver Island and in suburban areas, while some rural areas are shrinking (Rhodes et al., 2020). About 40% of the population lives in the Greater Victoria area, which is also the seat of the provincial government (Krawchenko et al., 2020). The remaining population includes about 20% living in medium sized centres and 40% in small communities and rural areas (Krawchenko et al., 2020). Economically, the service sector is dominant across the VICC. Outside of the service sector, resource-based industries including forestry, agriculture, and energy are important, especially in the northern part of the island (Krawchenko et al., 2020). Although the VICC includes some prime agricultural areas, the region is overall highly reliant on imported food.

While the region's cities with their larger population bases make up the greatest source of GHG emissions and face a number of climate risks, non-urban areas cannot be forgotten. Remote, rural communities tend to have high energy costs and per capita GHG emissions, are facing pressing adaptation needs, and are often extremely limited in terms of capacity and resources to cope with climate related challenges (Krawchenko et al., 2020). Furthermore, rural-urban connections are essential to the social and economic character of the VICC region (Krawchenko et al., 2020). While urban and rural areas to some extent require different types of solutions and face different challenges, this division presents a false dichotomy given that the majority of Canadians, including within the VICC, live in areas that are more suburban in character and cannot be considered either strictly urban or rural. A discourse that focuses disproportionately on urban centric solutions not only leaves out rural populations but also fails to address many of the real challenges associated with non-urban forms of development. Challenging conventional ideas about urban-rural dichotomies is therefore vital to effectively address climate change along with broader sustainability (Yokohari et al., 2017). The character of the VICC region with its strong urban-rural connections, as well as varying levels of capacity, resources, and expertise, suggests a need for a cohesive regional approach to climate action that supports the needs of diverse communities.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

To better understand the potential of local and regional level responses to catalyze transformational change, this chapter reviews the literature on sustainability transitions, multilevel governance, and local level barriers and enablers related to climate action. Climate change, and climate action, is complex and involves a multiplicity of actors and responses. As a result, multilevel, or polycentric governance has been increasingly used a frame to understand the governance of climate change. I begin the chapter by laying a foundation with respect to exploring the meaning of transformational change, introducing O'Brien's (2018) spheres of transformation as a framework. I then review key theories related to how sustainability transitions or transformations take place, followed by a discussion of multilevel governance theories. I link these sets of theories, which focus on systems and governance, with the need to consider deeper leverage points of change, which O'Brien identifies as the personal sphere. Finally, these various theories are brought together in relation to scale and how governance of climate change and transformation takes place at local and regional levels, including a review of key literature on barriers to local level climate action. The chapter concludes with a discussion of regional network approaches to coordinated climate action.

2.3 What is transformation?

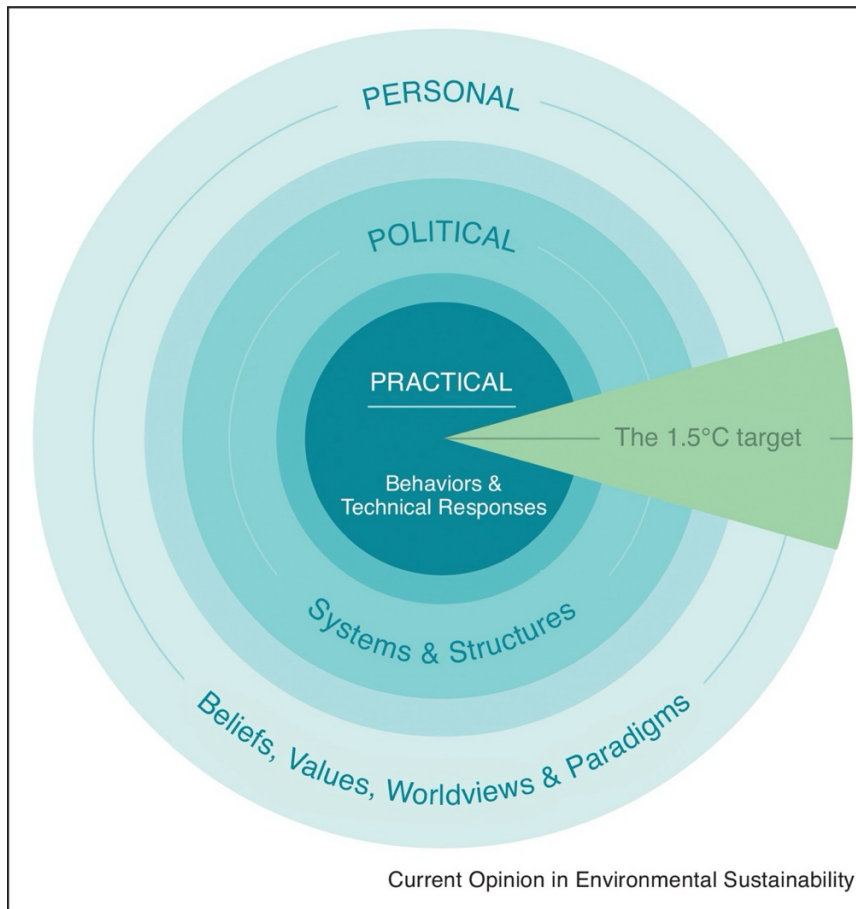
The Intergovernmental Panel on Climate Change (IPCC) has called for widespread economic and social transformation in response to the urgent threat of climate change (IPCC, 2018). The term “transformation” has come to be used increasingly frequently by the IPCC, policy makers, and in the literature in recent years. A systematic review of peer-reviewed articles focused on climate change mitigation found that the use of transformation-related terminology increased 14-fold between the periods of 2005-2009 to 2015-2019 (Moore et al., 2021). In the adaptation literature as well, there has been a significant increase in papers referencing transformation (Ajulo et al., 2020). Yet despite this increase in usage, the precise meaning of “transformation” can be ambiguous, and a common definition is lacking.

In the literature, a distinction is often made between incremental versus transformative change. This distinction can be challenging to define, as much depends on perspective, and what is seen as transformative or radical change for some may be seen as only incremental to others (Moore et al., 2018). The term “transformation” can be used with reference to climate change mitigation, adaptation, or both, and is frequently used in tandem with the term “transition”, though others make a distinction between these two terms. For example, with reference to adaptation to climate change, Pelling (2010) distinguishes between three pathways: resilience (maintaining the status quo), transition (incremental change), and transformation (radical change). Based on a review of the transformation literature related to mitigation, Moore et al. (2021, p.17) propose the term “transformational climate change mitigation”,

defined as “climate change mitigation that is sufficiently broad, deep, and rapid to contribute to fulfilling the goals of the Paris Agreement and which involves a fundamental shift in the trajectory of societal change away from patterns of development that normalize high-carbon ways of living.” A definition of “climate change transformation” which integrates adaptation and mitigation goals is proposed by Hurlimann et al. (2021). In this definition, transformation is understood to include three key elements: coordination of adaptation and mitigation actions, a regime of limiting warming to 1.5°C by 2100, and sufficient action to be adapted to this new regime.

O’Brien (2018) distinguishes between the predominant approach of viewing climate change transformation as a technical problem, one that can be addressed through applying greater expertise, innovation, and management, and instead viewing it as an adaptive challenge. The technical approach often does not adequately consider equity, power, and politics in transformation processes, while an adaptive approach involves new ways of viewing problems and solutions, recognizing the importance of beliefs, values, and worldviews in shaping ideas about what is possible (O’Brien, 2018). O’Brien (2018) distinguishes between three interrelated spheres of transformation: the practical (specific actions, technologies, behaviours, strategies), political (systems and structures), and the personal (beliefs, worldviews, values).

Figure 2. The three spheres of transformation (O’Brien, 2018)



Transformations in the practical sphere have been the focus of most climate change research, policy, and action as they tend to be the most easily measurable, yet face barriers associated with the political and personal spheres (O'Brien, 2018). The three spheres of transformation provide a useful framework for conceiving of relationships between the different dimensions of change and is compatible with other theories of change in the literature, further discussed in the next section.

2.4 Sustainability transitions

Although a common understanding of what, exactly, constitutes transformation may still be fuzzy, what can be agreed upon is that a transformation of some sort is necessary. How do transformations happen? The field of transition theory seeks to understand and explain the dynamics of social, economic, and environmental change (Lawhon & Murphy, 2012). Within this broader field, sociotechnical transition theory is frequently referenced in the literature with respect to sustainability transitions, including transformation of systems related to climate change. Based on the premise that many critical environmental challenges, including climate change, are brought about by unsustainable patterns of consumption and production, and that these problems cannot be addressed by incremental improvements, socio-technical transition research aims to conceptualize and explain how radical shifts in socio-technical systems can occur (Kohler et al., 2019).

Socio-technical transitions theories stemmed from early studies of technological innovation, for example, the historical development trajectories of sewer systems and automobiles, but have broadened, been elaborated on, and combined with other theoretical perspectives to consider wider social and political systems. The theory essentially links together the co-evolution of society and technology, focusing on how socio-technical systems such as those related to food, water, and energy evolve, how they are organized and reproduced, and how they can be transformed. Technology, in this way, can be considered in the broadest sense. As described by Lawhon and Murphy (2012), socio-technical transition theory provides a useful way for geographers to conceptualize how societies can transition toward more sustainable futures, how and why unsustainable development paths have evolved, and what constrains society from shifting toward more sustainable practices and institutions. Socio-technical transition studies can be broadly grouped into four related frameworks: the multilevel perspective (MLP), strategic niche management, technological innovation systems, and transition management (Burch et al., 2014).

Within the multilevel perspective, change is seen to take place through the interplay between three nested levels: the landscape level, the regime level, and the niche. The landscape level includes large scale cultural and political trajectories, driven by cultural norms and values that exist beyond the control of individual actors (Burch et al., 2014). Some examples of forces at the landscape level include demographics, societal concerns, macro-economic trends, geo-politics, wars and crises (Geels, 2019). In this model, climate change and its associated impacts could be viewed as a force at the landscape level. The socio-technical regime provides structure in the system and is made up of the institutions as well as

conventions, rules and norms that guide everyday practices and uses of technology. The regime tends to be very stable and changes in the regime are usually slow and incremental. The niche level exists at the periphery of existing systems, where change and innovation are most likely to occur. Niches are thought to form protected spaces in which radical innovations can emerge and develop, unhindered by rules and market forces in the broader regime systems (Geels, 2019). Niche innovations build up momentum and combine with landscape level changes to put pressure on the regime, eventually resulting in disruption of the system to allow transition to occur (Geels, 2019).

The broad, system-based approach of socio-technical transition theory contributes to an understanding of how technology and society can transform on a wide scale, which can be applied to various types of systems. This theory also describes the inertia inherent in regimes that can prevent change. Within existing systems and regimes, innovation is mostly incremental and path dependent due to various types of lock-in mechanisms, including techno-economic, social and cognitive, and institutional and political (Geels, 2019). Mutual reinforcement and inertia within the system results in change typically taking place very slowly. The strategic niche management approach describes the intentional creation and nurturing of niche spaces to encourage innovations, for example, city level climate change experiments and innovative policy and governance approaches. Changes in the niche level can become triggers for wider sustainability transitions through planting the seeds of change that can provide a diversion from current, system-driven pathways (Burch et al., 2014). Viewing change through the strategic niche management lens, this is likely to occur only through intentional actions toward deliberate transformation, such as innovative governance arrangements, public policies, subsidies, and strategic investments in new technology (Burch et al., 2014).

The approach of transition management uses the same framework of landscape, regime, and niche in combination with complex adaptive systems theory and theories of governance (Loorbach, 2009). Loorbach and Rotmans (2010) describe transition management as meta-governance, “a deliberative process to influence governance activities in such a way that they lead to accelerated change directed towards sustainability ambitions”. The theory considers the roles of various actors and how they relate and influence each other through network interactions within a complex system. Transition management theory is borrowed from heavily by Burch et al. (2014) in their development path framework, due to linkages with governance and politics that tie into a multilevel governance perspective.

2.3.1 Critique of socio-technical transition theory

While socio-technical transition theories provide a useful and commonly used framework for understanding how societies can experience transformation, this set of theories has also received criticism for being overly technocratic and insufficiently considering social, political, and spatial dynamics (Lawhon and Murphy, 2012; Gillard et al., 2016). Coming from a political ecology and human geography perspective, Lawhon and Murphy (2012) describe four main critiques, including over-emphasis on technological artifacts, orientation toward elite actors rather than participatory decision-making, geographical naivety, and insufficient attention to power relations. Gillard et al. (2016) similarly note

conceptual blind spots particularly related to issues of power, asserting that socio-technical studies tend not to adequately consider the sociocultural context and political implications of adopting certain solutions over others.

Going back to O'Brien's (2018) three spheres of transformation, socio-technical transition theory can be said to focus primarily on the practical sphere, and somewhat on the political sphere in terms of considering systems and institutions, while neglecting personal, social, and political drivers of change. Gillard et al. (2016) also criticize socio-technical transition theory for foregrounding material over social drivers of change and producing prescriptive governance recommendations. Both Gillard et al. (2016) and Lawhon and Murphy (2012) raise a key question, underexplored in the socio-technical transition literature, with respect to who defines the terms of change. Transition management seems to presume an apolitical, benign governance approach oriented toward sustainability, but in practice, as Gillard et al. (2016) point out, transition management initiatives may not achieve their transformational goals due to being steered by dominant members of society who have an interest in at least partially maintaining the status quo.

Lawhon and Murphy (2012) argue that integration of insights from political ecology can help socio-technical transition theories move beyond these criticisms, becoming conceptually strengthened, and that these approaches can work together in complementary ways. They suggest first reconsidering how problems are defined through looking at the broader social context rather than focusing on a single driver or technology, illustrating this point with an example from Robbins (2007) related to the use of harmful lawn chemicals. While a socio-technical transition management lens might point, for example, to nurturing a niche to develop more environmentally friendly chemicals, using a broader lens could lead to questioning the need for perfectly manicured lawns in the first place. An additional example relevant to local government climate action might involve contrasting an emphasis on the technological switch from gas powered to electric vehicles with a rethinking of community planning and development to better support alternative means of transportation, such as public transit and active transportation.

Lawhon and Murphy (2012) also suggest questioning the elite, expert-led framing of transition management, and expanding the range of actors and types of knowledge that are included; greater consideration of power, the use of language, and the importance of relationships and networks; and consideration of broader outcomes of decision-making in terms of social consequences and potential realignment of power relations. This also entails greater consideration of space and scale, including the relationships between and differential impacts of decisions at different scales. Gillard et al. (2016) call for interdisciplinary work that brings socio-technical theory into dialogue with social theory, in order to better understand how socially embedded power relations and political structures shape transformative responses to climate change.

As alluded to previously, a key concern in applying socio-technical transition theory to studying transformative climate action at local and regional scales is the relative absence of spatial scale in this theoretical approach. The role of scale, particularly the sub-national scale, within socio-technical

transition studies is not clear as spatial scale tends to be implicit or underdeveloped (Hodson and Marvin, 2010). Transitions approaches seem to focus on the national scale more broadly, leaving the role of cities and regions unclear and unexamined. Urban climate change experiments could be considered as a form of “niche” innovation, yet as Bulkeley and Castan Broto (2013) describe, these types of experiments often take place in the context of conflict and contestation rather than within a protected space, and are structured by relations of power. Hodson and Marvin (2010) raise the question of where cities sit within the MLP hierarchy and whether they can be conceptualized as both regime and niche. Questions of scale, governance, and the role of sub-national levels of government within socio-technical transitions point to the need to integrate this theory with other perspectives that more explicitly address different scales of action.

2.4 Multi-Level Governance

While socio-technical transition theories describe how transformation of systems may happen, other theories that look more specifically at governance and authority can help with understanding how deliberate transformations can be shaped. As described by Patterson et al. (2017, p.2), “governance and politics are central to understanding, analysing, and shaping transformations...because: (1) governance is inherently implicated in any intentional effort to shape ‘transformations towards sustainability’, and (2) transformations towards sustainability are deeply and unavoidably political, and need to be recognised as such.” Yet these concepts remain underrepresented within the transformation literature. To fill in some of the gaps related to governance and the “political sphere”, we can turn to theories about multilevel governance (MLG).

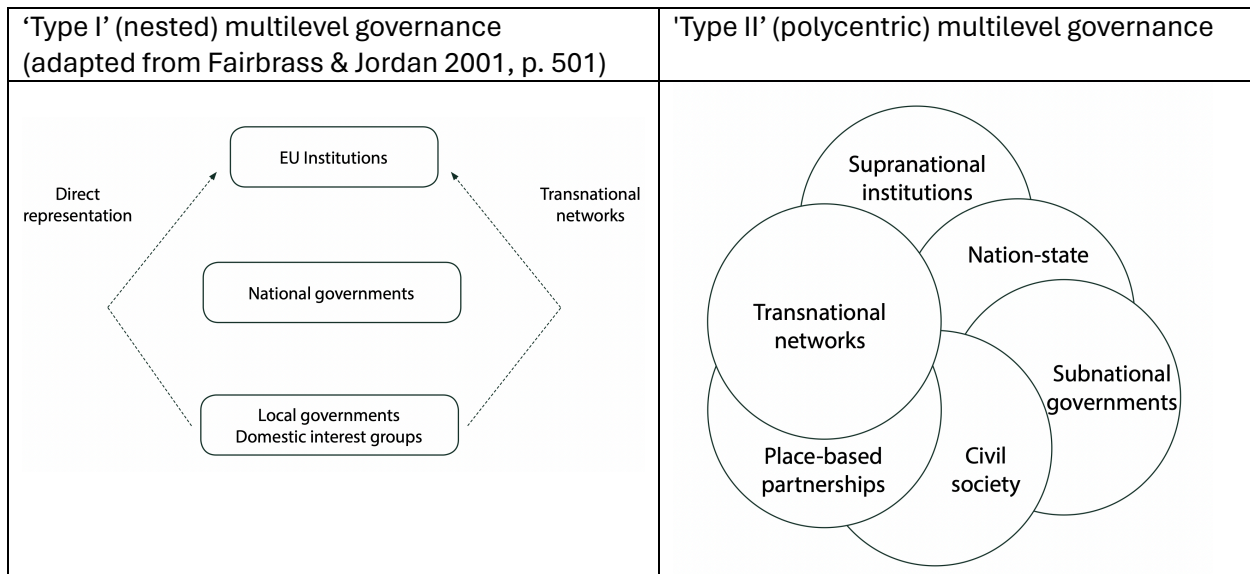
The theoretical concept of MLG originally developed in the 1990s in Europe to describe the reorientation of power and authority from the state to other actors and to cross-boundary networks (Betsill & Bulkeley, 2006; Hooghe & Marks, 2001; Hooghe & Marks, 2003). While there is not one single definition of MLG broadly accepted by the academic community (Bache & Flinders, 2004), it has been described by Gary Marks and Liesbet Hooghe, who were credited with originally developing MLG, as

‘... a system of continuous negotiation among nested governments at several territorial tiers – supranational, national, regional and local – as the result of a broad process of institutional creation and decisional reallocation that has pulled some previously centralized functions of the state up to the supranational level and some down to the local/regional level’ (Marks, 1993, p. 392).

The theory was used to help describe and understand how the roles of nation-states were changing in relation to the emergence of supranational institutions such as the European Union, along with the increasing influence of subnational levels of government and other actors such as non-governmental organizations, corporations, and civic society in decentralized decision-making processes. A multilevel governance perspective emphasizes vertical connections between different levels of government and horizontal connections across various sectors and actors. In this perspective, states are no longer seen as

necessarily being the main actors of policy making, with authority instead being shaped by and shared among different actors operating at multiple scales, which are sometimes described as spheres of influence (Betsill & Bulkeley, 2006). Multilevel governance has been described as consisting of two main forms: the original nested, more hierarchical Type I, and Type II characterized by polycentric, overlapping spheres of authority or influence (figure 3).

Figure 3. Type I and Type II Multilevel governance (Bulkeley et al., 2003)



The term polycentric governance is sometimes used interchangeably with MLG. The two theories are closely connected and complementary, however the differences between them are not well articulated in the literature (Lincoln, 2023). Polycentric governance theory was developed by Elinor Ostrom and colleagues (Ostrom et al., 1961, Ostrom, 2009; Ostrom, 2010). As with MLG, there are multiple interpretations of polycentric governance; essentially such systems are “characterized by multiple governing authorities at differing scales”, with each exercising “considerable independence to make norms and rules within a specific domain” (Ostrom, 2010). Polycentric governance is sometimes conceptualized as being synonymous with Type II multilevel governance. Key differences between polycentric governance and MLG seem to be that polycentric governance is “shallower”, or less hierarchical, while MLG is “deeper and narrower” (Lincoln, 2023, p.73). Polycentric governance and MLG have been conceptualized as overlapping theories that are not mutually exclusive and can operate simultaneously (Lincoln, 2023). While the term MLG is primarily used in this thesis, it is important to note both theories as they are highly complementary and often used interchangeably.

Previous research tended to focus on MLG in Europe and on sectors related to economic or regional policy but later began to be applied to the analysis of environmental governance. Traditionally, governance of climate change has been largely viewed as a global issue that requires a global response – hence, decades of work on the international scale trying to form multilateral treaty agreements and develop coherent international and national targets and strategies that would then shape the domestic

actions of nation-states. These targets presumably trickle down through to subnational levels of government; indeed, actions are required at local and regional levels in order to meet the aspirations of the Paris Agreement. Betsill and Bulkeley (2006) argue that traditional theories of environmental governance are insufficient for conceptualizing the complex processes and multiple, overlapping spheres of authority that are involved in the governance of a global challenge like climate change. They use the case of the Cities for Climate Protection program, a transnational municipal network, to illustrate how local governments play a role in global environmental governance outside of the interplay between local and national levels. In this way, MLG can be used to conceptualize climate change governance beyond the international regime. In fact, the IPCC, in its Special Report on Global Warming of 1.5°C, explicitly recognised MLG as an enabler for system wide transformation and effective governance, acknowledging that addressing climate change requires a variety of state and nonstate actors from government, industry, civil society, and scientific institutions (de Coninck et al. 2018).

Multilevel governance theory is helpful to better understand the various actors, networks, processes, relationships, and power dynamics involved in climate change governance and transformations toward more sustainable paths. This perspective complements socio-technical transitions theory by bringing a political lens as well as adding a geographic perspective and a focus on scale. Multilevel governance is frequently referred to in discussions of climate policy in the literature, particularly with respect to the role of subnational actors. An MLG approach is useful as a theoretical frame for studying the role of local level climate action as cities are bounded by higher levels of government and MLG emphasizes the dynamic interactions between scales as well as the potential influence of alliances between different levels of government and other actors (Betsill and Bulkeley, 2006; Burch et al., 2014).

Multilevel governance has been shown in the literature to be a critical factor shaping urban climate governance, both through relationships between different levels of government and through networks (Bulkeley, 2010). In a synthesis of research from a longitudinal study exploring climate innovation in Canadian municipalities, Dale et al. (2020) assert that their findings confirm that integrating multi-level perspective (MLP) transitions theory and MLG theory to connect local, regional, national, and international regimes is necessary for effective policy outcomes. As Dale et al. (2020, p.877) describe, “there is a decided lack of co-ordination across places and governance scales that can only be addressed through MLG to side-step existing traditional power and conflict dynamics.” Multilevel governance highlights the relationship between scales and the importance of aligning policy at all levels of government. However, Hooghe & Marks (2021, p.19) have recently argued that MLG also creates a dilemma in that while it imposes a need for coordination across jurisdictions at diverse scales to deal with society’s most pressing problems, at the same time it also “reduces the capacity of central governments to issue authoritative commands.” As a result, they make the case that shared norms are required to form the basis of coordination in the absence of a strong hierarchical structure (Hooghe & Marks, 2021)

2.5 The third sphere: Linking systems and governance to the personal sphere

Together, transitions theories and MLG can help with understanding systems, structures, and governance issues related to transformations toward sustainability. Yet behind these systems, structures, and institutions are people. People's actions are driven and informed by their worldviews, beliefs, and values, and it is these values and beliefs that not only shape individual action, but also influence the way in which we perceive existing systems and structures. Environmental psychology teaches that values and intrinsic motivation are more powerful than information and extrinsic motivation to drive environmentally sustainable action (Steg, 2016). Extending this idea to thinking about systems change, values influence what we see as desirable and possible. This links to the ability to imagine things being different, as beliefs about what is possible further shape what actually is possible. As O'Brien (2018, p.157-158) describes,

Although roadmaps and pathways for low carbon development are important, the paradigms, perspectives and power of the mapmakers and pathbreakers are seldom neutral – with the best of intentions they often perpetuate old paradigms and ideas, pave overly deterministic pathways that risk becoming self-fulfilling prophecies, and exclude other ways of framing and approaching problems and solutions.

Individual and collective ideas about what is just, desirable, sustainable, and possible fall into the realm of what O'Brien (2018) terms the personal sphere, and it is in the personal sphere where some of the greatest leverage points for change can be found. In her 1999 essay, *Leverage Points: Places to Intervene in a System*, Donella Meadows outlines a hierarchy of intervention points for leveraging change, from those where interventions are relatively easy to implement yet bring about little overall change, to those deep leverage points that can be more difficult to alter but have the potential to result in transformational change (Meadows, 1999). Abson et al. (2017) build on Meadows' ideas as a conceptual framework to evaluate leverage points for sustainability transformations, arguing that sustainability research and policy to date has primarily targeted shallow leverage points. Similarly, O'Brien (2018) maps the three spheres of transformation onto Meadows' leverage points for systems change. The deepest leverage points, as identified by Meadows and built on by subsequent scholars, include the goals of the system, the mindset/paradigm out of which the system arises, and ultimately, the power to transcend paradigms (Meadows, 1999; Abson et al., 2017, O'Brien, 2018). As O'Brien (2018, p.157) describes, these top leverage points for transformational change, which correspond to the personal sphere, "are in turn inherited, formed, transformed, negotiated or fought for in the political sphere and realized in the practical sphere." This points to the need to continue to shift focus from scientific and technical framings to social and human dimensions of climate change. In this way, the barriers to meaningful and transformative climate action may be thought of as including not only concrete issues such as resources and financing, but also conceptual barriers related to what we see as possible and the solutions that we can imagine.

2.6 Putting it together: The Role of Regions and Scale

As called for by the IPCC and explored in the discussion above, society wide transformation of systems is needed to address the threat of climate change; however, sustaining a deliberate transformation is complicated and faces barriers in each of the three spheres of transformation. The magnitude and ubiquity of climate change means that there are no simple solutions or silver bullets, but rather, the process of transformation and its governance is complex, messy, and takes place at multiple scales. Socio-technical transitions theory offers a way of conceptualizing the systems that sustain society including how transformations may occur in these systems and how they have evolved historically. Transition theories help in thinking about the systems of production, consumption, distribution and all the institutions and norms around these systems which tend to be mutually reinforced and resistant to change, involving built in inertia and path dependencies.

This theory can be strengthened through addressing the weaknesses outlined by critics and bringing it into conversation with complementary theories. The MLG approach brings important consideration of power and politics and addresses the key consideration of scale. The MLG perspective helps in thinking about the processes around governance of change, who has authority, who has the power to make decisions about what, and how the various levels of government and other actors interact with one another both horizontally and vertically. Finally, consideration of the personal sphere, or individual and collective worldviews, values, and beliefs, places people at the heart of changemaking. Individuals exist within and are influenced by the systems around them. Likewise, the systems that exist were created by people and thus can also be changed by people.

What does all of this mean with regard to local and regional level climate action? When climate governance is no longer seen as only a national or international priority, but rather recognized as complex and involving multiple, overlapping spheres of authority, space is made for considering different scales of action. In recent years, subnational action on climate change has flourished, in part due to the perception of insufficient action at the international and national levels. Socio-technical transitions theory and MLG have each been used, separately and in combination, as a frame for studies looking at local, city-scale responses to climate change. For example, Hodson and Marvin (2010) illustrate that large world cities are enacting purposive attempts to transform socio-technical systems at the scale of the city. Burch et al. (2014) and Dale et al. (2020) combine the socio-technical transitions theory and MLG into a development path framework that is used to assess climate action at the municipal scale.

Yet most research on sustainability transitions and climate action tends to focus on individual municipalities, and often large ones. Furthermore, despite the leadership shown by cities in developing climate action strategies and plans, longitudinal research of municipalities in British Columbia has shown very little transformative change taking place in terms of emissions reductions (Dale et al., 2020). Hodson et al. (2013) highlight this gap as being due in large part to the need for a fundamental transformation of socio-technical infrastructure systems, including new forms of energy as well as regulatory frameworks, patterns of consumption, governance frameworks, spatial organization and other

changes that are beyond the capability and capacity of a city to enact independently. The necessary changes cross scales and involve many social interests and actors, providing evidence of MLG in action, or perhaps more accurately, the need for a MLG approach to move action forward.

While MLG and sociotechnical transitions theories push us to consider the wider systems and complexity (the “political” sphere) beyond technological fixes and low-level behavioural change (the “practical” sphere), O’Brien’s (2018) “personal” sphere also comes into play with respect to climate action on the local scale. Leadership at multiple levels of government as well as broad scale public support and engagement have been identified as critical ingredients for catalyzing transformative local level climate action (Dale et al., 2020). Both factors highlight the importance of the “personal” sphere of transformation in the sense that the worldviews, beliefs, and values of leaders and policy makers influence the likelihood of their providing climate leadership, while public support hinges on their own beliefs and values. This of course is not unidirectional: bottom-up grassroots activism often can be the catalyst to push for greater political action.

2.6.1 Local Government Barriers to Climate Action

Despite previously mentioned constraints with respect to systems change, the local and regional levels hold great potential to make transformative change. Local governments are well positioned to understand the local impacts of climate change and have a variety of tools available to them with respect to climate change mitigation and adaptation, including the ability to make land use decisions. Yet they also face a number of barriers. The concept of barriers describes obstacles or impediments to the planning and implementation of climate action (Eisenack et al., 2014). While sometimes used interchangeably with the term “limits”, barriers are more often understood as potentially surmountable obstacles that can be overcome, for example, with sufficient political will, resources, effort, and creative thinking, as distinguished from absolute or immutable limits (Moser and Eckstrom, 2010; Eisenack et al., 2014; Adger et al., 2009). Barriers faced by local governments can potentially relate to any and all of the three spheres, for example: challenges with changing entrenched systems and norms, overcoming institutional inertia to change ways of doing things, complications related to lack of authority or multiple overlapping spheres of authority involving other levels of government and the power of non-government actors, and conceptual barriers related to the worldviews, perceptions, beliefs, and values of policy makers (elected officials and bureaucrats) as well as the public in terms of obtaining buy in for change.

Case study research has produced a large number of commonly reported barriers, many of which are highly context and actor specific (Eisenack et al., 2014). It should be noted that within the literature, some studies focus on climate change mitigation specifically, some on adaptation, and some on climate action more broadly. As my thesis is based on a holistic definition of climate action (i.e. including both mitigation and adaptation) the discussion of barriers draws on insights from both sets of literature. Generally, some of the commonly reported barriers and constraints in the literature related to climate action at the local scale include institutional and social factors, limited financial resources, limited

coordination within and across levels of government, and the absence of political leadership (Oulahen et al., 2018). Measham et al. (2011) identified lack of information, institutional limitations (i.e. in relation to a policy framework largely imposed by higher level government), and resource constraints (i.e. financial capacity) as prevalent in the adaptation literature. Their case study of three municipalities in Sydney, Australia found that leadership, institutional context and competing priorities were additional challenges that could either serve as constraints or enabling mechanisms (Measham et al., 2011). In examining local climate action in Australia, the UK, and the US, Betsill and Bulkeley (2007, p. 452) found that the “presence of political champions, access to financial resources, local government competencies and capacity, local issue framing, and political will to address emerging conflicts were the key factors affecting the extent to which the rhetoric of climate policy was translated into local realities.”

Within Canadian municipalities, funding and capacity challenges have often been identified as among some of the most significant barriers, along with jurisdictional constraints (Robinson and Gore, 2005; Jaccard et al., 2019, Rhodes et al., 2021). As Robinson and Gore (2005, p.108) describe, “capacity to take action is dependent upon many things including local government having the organizational, budgetary, and jurisdictional ability to address climate change issues.” Capacity in this context can be considered to include financial, technical, and staff capacity. Challenges related to staff capacity can manifest differently from place to place, including for example, having adequate knowledge and training, access to information and resources, time constraints, or even a complete absence of dedicated climate staff. Similar to other jurisdictions, the literature also identifies barriers related to prioritization in the Canadian context: to facilitate local government responses to climate change, climate change needs to be recognized as a matter of local concern, there needs to be an awareness of opportunities to reduce emissions, and there needs to be sufficient political will to support the response, in part arising from public support for climate action (Robinson & Gore, 2005).

Some studies of BC municipalities have focused on the MLG context, for example, Dale et al. (2020, p.1) who argue that key “barriers to transformational change include lack of coordination or concerted action across multiple scales of governance, electoral cycles and large swings in leadership, and lack of policy coherence across governance levels.” These findings were based on a longitudinal study exploring local government climate action, drawing on the experiences of 11 case study communities from across BC that were selected based on demonstrated climate leadership. Dale et al. (2020) emphasize the benefits related to an MLG approach, finding that leadership at all scales is a critical driver of climate action. In a study investigating the factors constraining adaptation planning in BC, Oulahen et al. (2018) focused on identifying interconnected barriers and drivers operating across the municipal, provincial, and federal levels, noting that most studies focus on only one level of governance and this lack of multi-scalar studies represents a significant gap in understanding. They identified five major barriers to the mainstreaming of climate action including insufficient financial and staff capacity, lack of public awareness, absence of senior level political leadership, misalignment of policies within and between levels of government, and inadequate collaboration (Oulahen et al., 2018).

Yet other studies make the case that while these types of constraints are important, they are also underpinned by deeper and more fundamental challenges, such as those related to cultural barriers including values and beliefs (Moser & Eckstrom, 2010; Burch, 2010). Burch's (2010) work, also focusing on a study of BC municipalities, is notable in that it explicitly challenges the notion of limited capacity, instead arguing that cities possess a wealth of capacity and that institutional and cultural barriers, including psychological factors, are more important than resource constraints. Burch proposes a typology of barriers to action based on insights from an interdisciplinary set of literature, which includes the categories of cultural/behavioural barriers, structural/operational barriers, regulatory/legislative barriers, and contextual barriers.¹² Although there are limited studies that systematically investigate how barriers can be overcome (Eisenack et al., 2014), some researchers argue that the same factors that can act as constraints can also become enablers of action depending on how they are exercised (Burch 2010; Measham et al., 2011). The context-specific nature of barriers to climate action and the complex interactions and interdependencies between them means that overcoming barriers in order to catalyze action requires further research to identify the key constraints in a given context.

2.6.2 The Regional Scale

Can shifting the lens to a regional scale help to overcome some of these barriers? There is a long history of regionalism and regional planning in Canada and the United States (Chadwick, 2002; Institute for Sustainable Communities [ISC] 2019; McKinney et al., 2004; Zimmerman, 2014). In both the literature and broader discourse, the use of the term "region" is often flexible and ambiguous (Chadwick, 2002); regions can be defined based on environmental features, such as watersheds or climate zones, or based on human boundaries, such as administrative groupings or cultural and linguistic families (Zimmerman, 2014). Within the practice of regional planning, regions are generally agreed to consist of a geographic area larger than a single community and made up of two or more jurisdictions, with specific designations varying according to needs (Chadwick, 2002). In many ways, thinking and working at the regional scale comes naturally, yet because in many cases the regional level does not comprise a formally recognized body with authority, it does not always come easily (Zimmerman, 2014).

Regions provide vital linkages between communities, with socio-technical systems as well as climate change impacts crossing community boundaries. While local authorities do not have jurisdiction over transforming major systems, they do have significant authority in many areas related to planning sustainable and resilient communities, and this power can be amplified by working together. As described by Oulahen et al. (2018), although adaptation has often been understood as a local issue, there is growing recognition that the factors influencing adaptation go beyond the local and must be understood across multiple scales. Notably, the need for greater collaboration, along with an agency tasked with coordinating collaborative efforts, was a key finding of their study (Oulahen et al., 2018). Likewise, GHG emissions and the activities that create them are not contained to administrative boundaries and require a multi-scalar approach to management.

¹² See Appendix B for Burch's typology

2.6.3 Networks and Regional Climate Collaboratives

A number of scholars have argued that networks and intermediary organisations are essential to coordinate and connect local climate action. As cities embark on purposive attempts to transform both urban governance regimes and socio-technical regimes, intermediaries can help to coordinate and mobilize capacity to achieve climate action priorities (Hodson and Marvin, 2010). As Hodson and Marvin (2010, p.482) put it, “different intermediary organisations fulfil different roles in intervening and seeking to, in some way or another, reconfigure socio-technical regimes.” These intermediaries can consist of various types of organizations, working over various timescales, on narrower projects or broader transformation processes. Intermediaries can also work over various spatial scales, including those focused beyond the boundary of the city such as quasi-government networks that create space for experimentation across local government boundaries (Moloney & Horne, 2018). In this way, intermunicipal networks on various scales, including regionally based networks, could be considered intermediaries.

Intermunicipal network collaboration has been found to be especially important for climate action in small to medium sized cities that do not have access to the same international networks of collaboration and national level investment as larger cities (Hoppe et al., 2016). In examining the intermediary role of Climate Change Alliances, quasi-government networks formed by voluntary agreement of neighbouring local governments in Victoria, Australia, Moloney and Horne (2018) found that they go beyond addressing local government resource and capacity challenges to help reconfigure and adapt institutional practices necessary to respond more effectively to climate change. Although these organizations have helped to move climate action forward in their regions, Moloney and Horne (2018) identify concerns including their questionable ability to maintain a role in transition over time due to their temporary nature and inherent power relations involved, and their limited scope that tends to focus on technological and behavioural change, leaving wider structures unaddressed. They further conclude that “the prospects for transition are contingent upon local governments working beyond their individual boundaries in regional and inter-actor collaborations in deliberative ways, mindful of ingrained social and economic structures, and focused upon reframing local problems as regional and in the process contributing to processes of structural change.” (Moloney and Horne, 2018, p.127). In order to fulfill their potential as catalysts for wider transformation, it follows that intermediary organizations must address transformational processes beyond the practical sphere, including the political and personal spheres.

Similar to the Climate Change Alliances in Australia, in recent years, voluntary regional networks in the form of “regional climate collaboratives” have emerged across the United States. One such network is the Southeast Florida Regional Climate Change Compact (SFRCCC), a partnership established in 2009 between four counties (Broward, Miami-Dade, Monroe, and Palm Beach) “to work collaboratively to reduce regional greenhouse gas emissions, implement adaptation strategies, and build climate resilience across the Southeast Florida region” (SFRCCC, 2023). In his remarks on the impacts of climate change in 2015, the SFRCCC was hailed by President Obama as “a model not just for the country, but for the world”

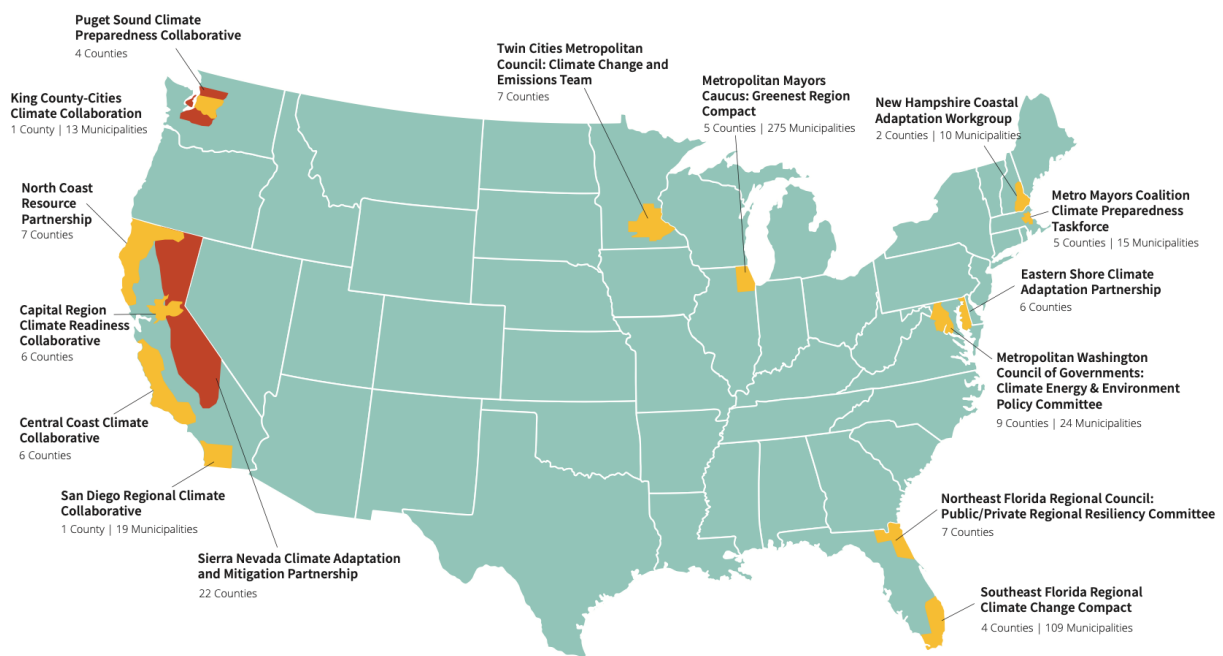
(Office of the Press Secretary, 2015). The three overarching objectives of the SFRCCC are to share regional tools and knowledge, increase public support and political will, and coordinate action across the region (SFRCCC, 2023). An analysis of the SFRCCC's impact on climate planning in the region six years in found that their efforts had helped to jump-start regional and local action on climate change issues as well as providing a forum for collaboration and multilevel governance (Vella et al., 2016). The voluntary nature of regional collaboratives may be somewhat of a double edged sword: while it was found that the SFRCCC has been able to stimulate regional climate planning activity and interjurisdictional policy learning without undermining the existing authority of local governments, shortcomings were also identified, namely with respect to the fact that by its voluntary nature, the SFRCCC does not require actions of its members, control any major resources, or have the capacity to steer policy (Vella et al., 2016).

While the SFRCCC was one of the earliest established regional climate collaboratives (RCCs) in North America, the past 15 years have seen several more collaboratives in various forms springing up across different geographies within the United States (ISC, 2019). The Georgetown Climate Center in collaboration with the Alliance of Regional Collaboratives for Climate Adaptation (ARCCA) produced a set of case studies featuring six RCCs from across the US (including the SFRCCC), along with a report documenting lessons learned (Bennett & Grannis, 2017). In their report, they describe RCCs as “typically resemble[ing] loose membership networks that may include any mix of local governments; other public agencies, regional authorities, and planning bodies; utilities; universities; nonprofit organizations; and private sector representatives” with most “established on an ad hoc basis; with no legal authority of their own” (Bennett & Grannis, 2017, p.1). Based on the case study review, they found that collaborating at a regional scale has allowed RCCs to “leverage scarce financial resources and staff time, collectively assess climate change risks, and develop regional strategies for responding to the threats posed by climate change, while still respecting the proper roles and decision making authority of each individual jurisdiction or agency involved” (Bennett & Grannis, 2017, p.1). The Alliance of Regional Collaboratives for Climate Adaptation (ARCCA), who helped produce the case studies for the Georgetown report, is a “collaborative of collaboratives” representing regional collaborative networks from across California. They support member collaboratives in shared learning and facilitating higher level government advocacy, and have produced a number of resources including a Legislative Tracker and a Regional Collaborative Formation Toolkit (ARCCA, 2022).

According to the Institute for Sustainable Communities (ISC), 17 RCCs were operating in the US throughout 2018, with the majority centred around metro-regional urban areas (ISC, 2019). The ISC has built on the work of the Georgetown Climate Center by conducting a review and analysis of 15 RCCs, shown in the figure below, asking “how do they collaborate, how effective is that collaboration, and do they see outcomes or impacts of their work?” (ISC, 2019, p.14). The ISC report defines RCCs as network entities focused on strategy development and climate action (mitigation and/or adaptation) where 1) participants share adjacent and/or overlapping administrative boundaries within a defined region; 2) participants share natural, social/economic, and built systems such as transportation and energy infrastructure, watersheds, commuter-sheds, and housing markets; and 3) regional action is initiated

through the leadership of locally oriented institutions and governments (ISC, 2019). This definition distinguishes RCCs from other local government networks; sharing systems and borders means that collaboratives can “go beyond the sharing of best practices toward coordinated, collective actions to reduce emissions and climate risk within the systems they share” (ISC, 2019, p.7). They are also distinguished by their voluntary, bottom-up approach as opposed to being mandated by higher levels of government. As alluded to above, RCCs are a relatively new phenomenon, with half of the collaboratives included in the ISC study formed since 2015. Their emergence constitutes an innovation in the way that local governments engage in collaborative climate action.

Figure 4. Regional Climate Collaboratives in the United States (ISC, 2019)



While RCCs are emerging as an exciting new development with the potential to leverage resources and catalyze climate action at the local and regional scales, almost all North American collaboratives are located in the US. Recently, an RCC, the Climate Resilience Exchange project, was piloted to strengthen climate resilience in the Edmonton Metropolitan Region (EMR). A report outlining a framework for ongoing regional collaboration in the region based on the pilot project experience and review of existing regional collaboratives (and drawing heavily on the ISC 2019 report) outlines key benefits and challenges of regional collaboratives, as well as important considerations for structuring a regional collaborative. The EMR pilot project demonstrated benefits from regionally coordinated climate action, including pooling of financial resources and staff capacity to realize economies of scale, while also building relationships and shared capacity amongst participating municipalities (Boyd & Zukiwsky, 2019). Additional benefits identified include providing a unified regional voice, avoiding maladaptation, and maintaining continuity despite administrative changes.

Key challenges identified through the EMR pilot project related to lack of funding and resources to support collaborative operations and service delivery, challenges associated with establishing shared goals and objectives, the need to strike a balance regarding respecting local autonomy, and getting the necessary buy-in for investment in long-term adaptation actions over multiple election cycles (Boyd & Zukiwsky, 2019). Similarly, the ISC (2019) study identified the following barriers and gaps in capacity: lack of funding and resources, lack of success in public communication about climate issues and collaborative work, lack of success translating goals and commitments into implementation, and a need for research and analysis at the regional scale.

2.7 Conclusion

Given the limited experience of regional scale collaboration in Canada as well as the demonstrated gap in understanding of how a regional approach might help to facilitate greater coordination and collaboration to accelerate climate action in the BC context, my research focuses on further exploring these questions. Specifically, I seek to identify the barriers to transformative climate action at the local government scale in the VICC region and how a regional scale approach might help to overcome those barriers. The literature explored in this chapter and the lack of transformational change occurring despite proliferating responses to climate change at various scales points to a need to explore underlying barriers to change and to shift attention toward deeper leverage points in the outer spheres that target systems and structures, as well as personal dimensions of change. For these reasons, I rely heavily on O'Brien's (2018) spheres of transformation as a framework of analysis, in combination with the literature on climate action barriers and enablers.

Related to my first research question, which seeks to identify barriers to transformational climate action, I also aimed in this study to explore to what extent the perceived barriers to action are conceptual, or related to thinking about what is possible, as opposed to more concrete barriers such as financing and institutional structure. With reference to the literature on barriers versus limitations, I sought to explore questions related to whether the barriers faced are perceived as potentially able to be overcome (and how). To investigate the existence of deeper barriers to action, I asked for example, what actions interviewees would take if financial limitations were no longer an obstacle, and exploring what new barriers might emerge in that case. Through these types of questions, I hoped to uncover the extent to which local actors are thinking in an incremental or transformative way about solutions. To address my second research question, I aimed to identify which of the barriers identified by interviewees could potentially be addressed through regional level planning and collaboration, and which might require different kinds of solutions. To this end, I asked questions relating to the current level of coordination and communication within and between jurisdictions, the role of existing networks in sharing information and influencing local government policy decisions, and perceived opportunities and challenges associated with regional cooperation. The next chapter outlines the methods used for exploring these questions.

CHAPTER 3: METHODS

3.1 Introduction

This study sought to contribute to the growing body of literature on multilevel governance in BC communities, while addressing a critical gap in knowledge related to regionally coordinated climate action in Canada. Specifically, I aimed to identify the primary barriers to advancing climate action in the Vancouver Island and Coastal region from the perspective of local government staff and elected officials, and explore whether and how these barriers could be more effectively navigated through regional scale collaboration. To address my research questions, I used qualitative research methods, focusing on the Vancouver Island and Coastal Communities (VICC) region as a case study.¹³ The following sections describe my positionality, the study design, and the research methods used.

3.2 Positionality

I have lived in BC for my entire life, born in Vancouver, raised in northern BC, and a resident of Vancouver Island since 2010. I have had a long standing interest in the relationship between humans and the environment, particularly as related to community sustainability. I bring an academic background in human geography and environmental planning, as well as professional experience working for the BC Ministry of Environment and with various environmental non-government organizations. As a parent of two elementary school aged children, I was in large part motivated to undertake this work out of concern about the impacts of climate change on their future and a desire to contribute to building a better world for future generations. My journey down the path of this specific research project began with my role as a research assistant involved in supporting the 2020 survey of local government policies, priorities, barriers, opportunities, and existing climate change hazards and impacts in the VICC region commissioned by the VICC-CLP steering committee. My involvement in that project inspired a desire to deepen my understanding of the barriers faced by local governments in taking climate action (as well as enablers of action) and to further explore the role for regional collaboration. In addition, my prior role as research assistant gave me access to the original data from the survey and to the study participants.

As well as my involvement with the VICC-CLP steering committee as a research assistant prior to conducting my thesis research, I have subsequently continued my involvement with the committee in a professional capacity through a position with the Community Energy Association (CEA), a non-profit organization that works with local governments and Indigenous communities to accelerate climate action. In the fall of 2022, CEA became the secretariat to the VICC-CLP steering committee, and I have had the opportunity to continue to support the work of the committee since joining CEA, also in the fall of 2022. Through this role, I have also had the opportunity to become involved with other regional networks, to interact regularly with local government staff and elected officials involved in climate

¹³ See Figure 1 (p. 4) for a map of the case study region

action, and to learn from colleagues and other professionals experienced in supporting local level climate action, broadening my understanding of the benefits and challenges of regional collaboration from different perspectives. This professional experience has undoubtedly deepened my understanding and shaped the lens through which I have approached this work. While I have endeavoured to focus explicitly on what I heard in the interviews I conducted as part of this research, the additional context gleaned through my professional work has inevitably contributed to my thinking and the way in which I have approached the analysis.

3.3 Research Methods

The following sections outline the overall research design as well as the methods I used for recruitment of interviewees and conducting, transcribing, coding, and analysing interviews.

3.3.1 Study Design

The study set out to address two core research questions: 1) What are the barriers preventing transformative climate action at the local government scale in this region? and 2) In what ways can a regional approach support local governments to overcome barriers in order to take meaningful climate action? To address these questions, I chose a qualitative approach involving semi-structured interviews with local government representatives. I chose this approach because I wanted to build upon the earlier survey findings related to barriers to climate action to further delve into underlying challenges and the potential ways in which they might be overcome. My aim was to explore these questions from the point of view of those involved in local policy making, including staff and elected officials, to better understand how they perceive the role of local governments in responding to climate change. I also wanted to encourage research participants to speak frankly about the barriers they have experienced related to advancing climate action. Using semi-structured interviews as a method supported the confidentiality of participants (as opposed to, for example, focus groups) while allowing for in-depth conversations with the flexibility to follow up with clarifying questions.

I focused on local government staff and elected officials as the subjects of interviews because these actors have first-hand knowledge of the processes and challenges involved in planning and implementing climate action at the local government scale. Sometimes referred to as ‘elite’ interviews or ‘studying up’, the method of engaging with those who have influence in decision-making is frequently used in the social sciences and is considered useful for examining the values and experiences of those who shape public discourses and policies (Wicker & Connelly, 2014). In addition, emerging research points to the importance of public service motivation in shaping policy preferences, budget priorities, and strategic planning processes (Piatak & Holt, 2021), further strengthening the rationale for engaging in questions related to policy from the perspective of government officials.

Due to the need identified in the literature for comparative case study research, I aimed to select local government representatives to interview across a breadth of communities within the VICC region, with

communities chosen from the list of municipalities and regional districts that participated in the 2020 survey. Through this approach, I aimed to capture a diversity of perspectives and experiences across urban and rural areas and differently sized communities. To provide the opportunity to compare and contrast the experiences and perceptions of staff versus local elected politicians, my intention was to interview one political representative and one staff member from each selected community. Political representatives from the VICC-CLP steering committee were chosen where possible as they represent a multilevel governance experience through their roles as municipal and regional district elected representatives, as well as their experience in the broader VICC regional planning process.

3.3.2 Research Ethics

The research team obtained ethical approval from the University of Victoria Human Research Ethics Board prior to implementation of the 2020 survey. As the interview participants in my study consisted of a subset of the same group of participants in relation to the same process as the survey research, the initial approval was renewed and updated with an amendment to allow for follow-up interviews (Ethics Protocol Number 20-0097 at Appendix C). In advance of conducting the interviews, I completed a course on the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans Course on Research Ethics (TCPS 2: CORE – certificate at Appendix D).

3.3.3 Interview Participation

I recruited interview participants using purposive sampling and previously established contacts to identify staff and elected officials responsible for climate policy. I conducted a total of 15 semi-structured interviews with 16 interview participants over zoom, between April and June of 2022. Interview participants included local elected officials involved in the VICC-CLP Steering Committee (6) and local government staff working in the areas of energy, climate, and sustainability (10) from across the Vancouver Island and Coast region (Table 1). The local government staff who participated included a mix of municipal and regional district representation while the elected officials interviewed represented multiple levels of governance through simultaneous roles as municipal and regional district representatives, as well as participation in broader regional climate planning through their roles as members of the VICC-CLP steering committee.

Efforts were made to recruit interviewees from urban and rural communities across the region to represent diverse geographic perspectives. I aimed to capture a diversity of experiences and allow for potential comparative analysis by selecting local government representatives from across a breadth of communities within the VICC region, including at least two to three communities from each size classification, and staff and elected representatives from within each of the regional districts included in the VICC-CLP planning process (Alberni-Clayoquot, Capital, Comox Valley, Cowichan Valley, Mount Waddington, Nanaimo, qathet, Strathcona, and Sunshine Coast). Ultimately, while I achieved relatively diverse representation amongst interviewees, including at least one representative from most regional districts in the VICC region, I struggled somewhat to get participation from rural and northern parts of

Vancouver Island. One regional district was unrepresented (Strathcona), and four were represented by either an elected official or staff, but not both.

Table 1. Interviewee Attributes

	Role	Size of community¹⁴	Municipal or Regional District	Geography¹⁵
[E01]	Elected	Medium	Both	Coast
[S02]*	Staff	Large	Regional District	South Island
[E03]	Elected	Small	Regional District	Coast
[S04]	Staff	Large	Municipal	South Island
[S05]	Staff	Small	Municipal	Central Island
[S06]	Staff	Medium	Regional District	Central Island
[S07]	Staff	Large	Municipal	South Island
[S08]	Staff	Medium	Municipal	Coast
[E09]	Elected	Large	Both	Central Island
[S10]	Staff	Medium	Municipal	Central Island
[S11]	Staff	Small	Regional District	North Island
[E12]	Elected	Medium	Both	Central Island
[S13]	Staff	Small	Municipal	Central Island
[E14]	Elected	Medium	Both	Central Island
[E15]	Elected	Large	Both	South Island

*Interview [S02] included two staff from the same organization in one joint interview

3.3.5 Semi-Structured Interview Process

To guide my approach to interviewing, I drew primarily upon the interview methods and methodology described by Kvale (1994). Kvale describes interviews as a form of conversation, in which knowledge is co-constructed through the process. With this in mind, I conducted the interviews in a semi-structured manner to allow for a natural flow of conversation, including follow up questions and openness to changes in the sequence of questions as the interviews unfolded. As my interviews were targeted to sustainability professionals and elected political representatives rather than involving the general public or other actors, I also consulted resources on elite interviewing to guide me through practicalities and potential challenges (Huggins, 2014; Lancaster, 2017; Richards, 1996). For example, research involving elite interviews often involves small sample sizes and individuals may be identifiable to other research participants or others who work in the same field which can pose a dilemma with respect to balancing protection of confidentiality with a full reporting of findings. I aimed to address this by stripping quotes of identifying information and anonymizing the data as much as possible without losing meaning.

¹⁴ I used the same size classification as in the previous 2020 survey analysis. Municipalities were categorized by population size according to the groupings used by the Union of BC Municipalities (UBCM), with populations <5,000 considered small, populations 5,000-20,000 considered medium, and populations >20,000 classified as large.

¹⁵ Geographical classification in this table is also the same as the previous 2020 survey analysis

An interview guide was provided to participants in advance.¹⁶ The interview guide included a set of core questions for all interviewees and a second set of additional questions for the Steering Committee representatives only. The questions were designed to flow first from a focus on local government climate action and the barriers and enablers to advancing local level climate action in their communities, to questions about experiences working collaboratively on a regional scale and the perceived opportunities and challenges associated with working at that scale.

The interviews were auto-transcribed using zoom software and edited/refined by hand with the help of a research assistant. A protocol was developed for transcription consistency.¹⁷ All interview transcripts prepared by the research assistant were reviewed prior to finalizing. Copies of interview transcripts and video recordings of the interviews were provided to participants for their review prior to coding and analysis. In addition to relying on the video recordings and transcripts, I kept a research journal which I used to take notes during the interviews and record my immediate observations following each interview. I also kept notes of my process and methods used throughout the various stages of coding and analysis.

3.3.6 Coding and Analysis

I used a thematic analysis approach, drawing on the six-stage process outlined by Braun and Clark (2006). I coded the interview transcripts in NVivo, primarily using an inductive method to identify an emergent code structure based on the content of the interviews. Starting from a base structure of coding barriers to climate action, enablers of climate action, needs, regional opportunities, regional challenges, and the role of local governments, I developed a coding hierarchy and used it to identify emergent themes. The structure above was derived from my research and interview questions, which flowed from my reading of the literature. Coding was an iterative process. As I went, I reviewed the codes from time to time to remove duplications and merge codes as needed. I also used a process of coding on, or coding passages to multiple codes, which involved reviewing passages attributed to a particular code and identifying other themes within the passage. The initial round of coding took place from the beginning of January to the end of February 2023. Once the initial coding was completed, I reviewed the coding structure. The preliminary coding structure was refined by merging and aggregating codes as necessary and creating coding hierarchies where it made sense to do so. Transcripts coded early in the process were reviewed again for consistency with the emergent coding structure and coding on was completed where applicable. I relied on the NVivo user guide for support on organizing codes and cases, aggregating codes, and creating cases with attributes for each interview transcript.

Next, I applied Burch's (2010a) typology of barriers to assess how the typology could apply as a framework within this context. Burch proposes a typology of barriers to action at the municipal level based on insights from an inter-disciplinary set of literature; the categories of barriers include

¹⁶ See Appendix E

¹⁷ See Appendix F

cultural/behavioural, structural/operational, regulatory/legislative, and contextual.¹⁸ I chose this approach for two main reasons: first, because Burch's work focuses on municipalities in British Columbia and therefore provides a relevant framework for comparison; and second, because of the appeal of Burch's argument about translating capacity into action and the relationship between barriers and enablers, which Burch builds on in subsequent work (Burch 2010b).

I sorted the long list of barriers identified through the coding process according to the four types of barriers identified by Burch, with the addition of a fifth "other" category for those that did not fit within the typology. Through this process, I found that the majority of identified barriers fell under two of the four categories within the typology: regulatory-legislative (policy tools and interactions between levels of government) and contextual (the environment within which the local government functions and values and priorities of the public), with comparatively fewer barriers noted within the remaining categories. There was also a large "other" category of barriers that did not fit neatly into the typology categories. There are several potential reasons for this, a key one being that my study incorporated small and rural communities rather than exclusively focusing on larger municipalities. In addition, my study was framed in relation to transformative action specifically, and also in relation to regional collaboration, which may have led to different insights on the part of research participants. For these reasons, I ultimately decided to organize the presentation of findings by major emergent cross-cutting themes informed by the broader literature rather than by Burch's typology, as my aim was to focus on the larger objective of exploring the potential of how regional scale collaboration might overcome or address barriers experienced at the local level. I discuss the fit of the typology further in the discussion chapter. The review of major themes presented in the findings is therefore not comprehensive but rather focused on those themes considered most salient to answering the research question in the context of the larger research objective.

3.3.7 Strengths and Limitations

There were several strengths associated with the research design, the primary one being that semi-structured interviews supported engaging directly with those involved in climate policy and planning, which allowed me to gain information and understanding not available through public documents. The interviews included perspectives from both staff and elected officials as well as relatively diverse geographic representation within the region. As with all qualitative research there is some degree of subjectivity, as the views of research participants are not necessarily representative. It should be noted that both political and staff participants tended to primarily include those who care deeply and are intimately involved in supporting climate action within their communities. Despite efforts to gain diverse participation, there was limited representation from small communities and the northern part of Vancouver Island.

¹⁸ See Appendix B for the full typology definitions and examples

An important limitation of the study is that it did not engage at all with First Nations. As described in the first chapter, climate governance in British Columbia is complex and multilayered, and it is imperative to consider climate action in relation to the context of Indigenous sovereignty. Indigenous communities are disproportionately impacted by climate change, have traditional knowledge and long standing connections to the land, and are taking independent climate action. This context has critical implications for how all levels of government move forward in advancing climate action in the province. Because the study was designed to build upon the previous 2020 research using the VICC-CLP process as a frame, the research focused on the perspectives of local government staff and elected officials within the VICC region, with engagement with First Nations being beyond the scope of the study in spite of its critical importance. As a result, this study is limited in that key perspectives, namely First Nations within the region, are excluded both in this study and the VICC-CLP process to date¹⁹, and the findings of this research study should be read with this in mind. Indeed, this is a missing piece in much of the literature on climate action barriers and multi-level governance (noting that British Columbia has its own unique context) and an area in need of further attention.

¹⁹ Of note, while the VICC-CLP process itself has been led by local government representatives without direct involvement from First Nations, it is a gap that members of the steering committee are attuned to. The VICC-CLP steering committee explicitly acknowledges a commitment to decolonization and advancing reconciliation and has made efforts to engage with First Nations both directly and through separate forums.

CHAPTER 4: FINDINGS

Part One: Barriers (and Enablers) of Climate Action

4.1 Introduction

With an overall objective of exploring whether and how a regional scale approach might facilitate overcoming barriers to climate action, the first research question asked:

“What are the barriers to transformative climate action at the local government scale in the Vancouver Island and Coastal region?”

While interviewees identified a wide variety of barriers, many of which are complex, variable, and context specific, these coalesced around three major themes: resistance, governance, and capacity.²⁰ The table below summarizes the key barriers identified under each major theme, along with related or corresponding enablers and needs. Each theme is reviewed below, with additional attention to challenges specific to small and/or rural communities. Barriers, enablers, and needs were often mentioned alongside one another, and it became clear that there is a close relationship between them. As such, in the following sections, several relevant enablers of action and/or needs are discussed alongside the identified barriers.

Table 2. Climate Action Barriers and Enablers in Local Governments

Barrier/challenge	Enabler/need
Resistance	
<ul style="list-style-type: none"> • Public resistance & community context • Fossil fuel industry resistance • Misinformation • Internal resistance • Lack of political will 	<ul style="list-style-type: none"> • Co-benefits of climate action • Strong public support & demand for action • Political support and clear council mandate • Coordinated & consistent communications
Capacity	
<ul style="list-style-type: none"> • Not enough funding • Property tax model • Grant funding model • Lack of staff capacity • Increasing costs due to climate impacts 	<ul style="list-style-type: none"> • Predictable, long-term funding • Simplified funding/grants process • Build skills/capacity through networks & sharing • Better use of existing capacity – such as through collaboration and coordination • Proactive, long-term planning/decision making

²⁰ A full list of identified barriers is listed in Appendix G. As described in the methods section, barriers were initially categorized according to Burch’s (2010a) typology and are presented as such in the Appendix.

Governance	
<ul style="list-style-type: none"> • Lack of authority • Fragmented jurisdiction • Lack of accountability • Policy inconsistency • Regional district structure 	<ul style="list-style-type: none"> • Work with province to communicate needs and align policy • Provincial enabling legislation • Coordinate regionally to provide policy consistency • Clear direction & follow through from higher order government • Standardized processes/methodologies Integrate climate throughout job descriptions, into financial plan, etc. throughout organization

4.2 Resistance

The first major theme identified as a barrier to local level climate action can be summed up under the broad theme of resistance. Resistance to climate action at the local scale takes many forms, ranging from external public opposition to internal cultural-behavioural barriers within the organization, such as staff culture, gatekeepers, and lack of political will. Influencing resistance in all forms is the larger cultural, economic, and political context. The major sub-themes of resistance included public resistance and community context, fossil fuel industry resistance and misinformation, internal resistance, and (insufficient) political will. Each is discussed in turn in the sections below.

4.2.1 Public Resistance and Community Context:

“The other barrier is really just public attitudes ... there's all this constant backlash management.” [E15]

Barriers related to community context, considered here as a subset of the broader category of resistance, were the most frequently coded responses to the question of barriers. Every single individual interviewed noted challenges falling under this category. Resistance on the part of the public was described by interviewees as ranging in intensity from outright opposition to more passive inertia or apathy. Some interviewees perceived that general support for climate action among the public did not necessarily correspond to changes in behaviour and/or support for increasing taxes to enable spending on climate action priorities.

In terms of public resistance, research participants highlighted the need for behaviour and/or cultural change as a major barrier. Inertia related to not wanting to change was mentioned by a majority of interviewees. As one interviewee described, “the biggest barrier’s inertia right? And the inertia is, it comes back down to the individual, it’s all of our individual habits that we’ve picked up. You know, for forever really in, as an industrial society, this is the way we do it.” [S11] In some cases, this inertia, or resistance, was linked to a fear of change. One interviewee described observing a fear among long time

community members of seeing their community evolve away from what they know and losing their sense of place:

There's also, I think, for the people who've lived here, born and bred here and lived here all their lives, I can see there is a fear that they're going to lose the things that they love from 50 years ago in the community; it's going to change and become something that they don't recognize. [E14]

The fear of change, as related to climate action, was noted as tending to be more pronounced in smaller communities and rural areas, where interviewees observed greater resistance to investments in climate action and lifestyle changes. Some interviewees pointed to an urban-rural divide in attitudes towards climate action, as well as polarization within their communities. One interviewee stated, "the community too is very polarized in that I would say the long-time [community members], and people in the region, are just very much stuck in the status quo, and afraid of change." [E1] With respect to an urban-rural divide, some interviewees from smaller communities observed that they had seen a shifting of public attitudes and support for climate action related to movement of people relocating from urban areas. They noted greater support for climate initiatives among those originating from urban areas as compared to longer time rural or small community residents:

And one other factor that happens in this community and probably isn't the case everywhere is we've had a huge influx of people from the lower mainland and from Greater Victoria moving up here just for affordability reasons. And that has had just a really interesting effect, it's moved the political center, toward not left but it's moved it to a more progressive and enlightened space than it was before. [E14]

Some interviewees linked public resistance to climate action to cultural considerations such as desire to live in single family homes and the dominant car culture. Values and habits can be deeply embedded and difficult to change; local governments can face an uphill battle in tackling these shifts. Although a majority of Canadians say they believe in climate change and support climate action, that does not necessarily translate into personal action. Some of the local government staff charged with implementing climate action plans highlighted value systems, expectations, and behavioural change, as illustrated in the following quote:

I think that the next big jump is around like if we can't shift market forces ... if we can't shift the fact that people want to continue living in single family homes and driving around, it is really difficult to actually achieve some of those policy goals and so there's a bit of that behavior change component and I'm not necessarily super clear how to go about doing that. [S2]

Another described:

If I look at it broadly you know, some of the foundational barriers around the sense of expectation that we're all going to have a five-acre property and we're all going to have these big houses, and that we really need to be talking about, you know, is that realistic? Is that affordable for folks? Is that the right vision? So it really questions the issue of equity. And transferability of impacts, right? And those are really, those are social justice questions. And I think that local governments have a really hard time moving into that realm, because they have a direct relationship to their taxpayers, and if the taxpayers are doing well and their houses are assessed as expensive and high value, then that's local governments' income stream. So, you don't want to mess with that, and you don't want to mess with your constituency. [S6]

Resistance among the public was also linked to concerns about costs and competing priorities. Some of the barriers noted by interviewees falling under competing priorities include housing affordability/ shortages and unhoused populations as well as wider social challenges such as drug and mental health crises. Interview participants indicated that local governments feel stretched thin by the many challenges felt on the local level in communities, which is exacerbated by downloading from higher levels of government without corresponding funding support. A number of interviewees raised challenges related to pressing social concerns and competing priorities such as economic challenges and the need for affordable housing that undercut support for investment in climate action:

I mean the challenge – so I think because of a lot of the social issues that we have in the community, you know, housing, inequality, seniors, low-income seniors struggling, it's hard politically for our leaders to put money towards climate action. Because it's almost like the pyramid of needs. You've got to make sure people are having their basic needs met, and they're housed and comfortable. And then we can all say, you know, 'now that we've solved those issues now let's look at the bigger challenges like climate change.' So I think until --- it's an ongoing struggle, you know, because we still have those very pressing social issues. Sometimes, when the politicians come and say we should tackle climate change, people go, you know: 'Are you serious? I have nowhere to live, and you're telling me I should, you know, my tax revenue should go towards those abstract kinds of problems?' [S8]

As the quote above illustrates, taking action on climate change can take a back seat to other needs that appear more pressing or urgent. Action on climate change and environmental protection has historically been frequently framed as being in opposition to economic priorities. A false dichotomy can be presented between the economy and the environment, with the long-term costs of climate change and savings associated with taking climate action being overlooked in favour of short-term cost cutting, especially during difficult economic times. This dichotomy was noted by some interviewees along with the challenge of countering these types of narratives:

I think the hardest thing right now, on moving the community forward on climate change is the economic stress that people are under. Inflation, with housing prices as they are – For example, with this new official community plan the sort of official position by the developers in our

community is that we can either build higher standards in terms of climate change and resilience and GHG emissions or we can deal with affordable housing, but we can't do both. And I think they're trying to position this as a one or the other choice and trying to put people's immediate needs ahead of the longer term. I think it's false choice, but it's a very easy thing for them to present and people seem to swallow it quite quickly and it takes quite a lot of complex discussion to talk about life cycle costs, heat pumps and it becomes a much more complicated answer. [E14]

Challenges related to Covid-19 were also mentioned, where the pandemic slowed action and shifted attention and priorities away from addressing climate change. Some interviewees highlighted how momentum had been generating around climate action in 2018 and 2019 but that competing priorities had emerged in the aftermath of the pandemic:

There was so much momentum, so much public support in 2019 for climate action. And the world gets blindsided by Covid and not to say that that has like, you know, pulled the rug out from under us or anything, but definitely we're seeing competing things. 'Oh, we need the economy back, we need to get people shopping, we need the cruise ships', like suddenly there's competing priorities as to other things that are that are important and that's not to say that they're not – other big competing priorities would be affordable housing, right? In Canada, especially in Vancouver, in Victoria, the cost of housing is just getting ridiculous and so there's lots of different competing issues for people to care about right now, and so that makes the public support piece I think harder as well. So that's a barrier. [S4]

In spite of the challenges noted above, many interviewees said there was an overall high level of support for climate action in their communities. Yet even where general support for climate policy exists, lack of understanding of the urgency and/or scale of the climate change challenge was noted by some, and this lack of urgency limits support for the level of transformative change that is required:

And I think also while the public is supportive of climate action in general, and Council has been really supportive, I still think that there's not a wide understanding of the scale that needs to happen... so that might be a barrier too, that the public isn't fully behind it at the scale that needs to happen, so we could use even more public support than we already have. [S4]

The challenge of a lack of urgency on the part of the public relates back to the overall sense of inertia and resistance to behaviour change mentioned at the outset of this section. Elaborating on this sense of a lack of urgency among members of the public, some interviewees spoke to their perception of a missing sense of personal responsibility to take action, that while we know something needs to be done, we all hope someone else will do it. One interviewee asked, "how do we overcome people's...I don't even know how to characterize it, it's not really unwillingness, but maybe inability to see their part in the big struggle that is underway?" [E15] They went on to add:

I think [there is] you know, a sense that we all know what the right thing to do is, but none of us – not none of us – some people don't feel that that means them right now. Like they, you know, like someone else will take care of this at some other time. But also that points to kind of the individualistic society that we live in, where people think that, you know, 'I don't have to do my part' or something, I don't know, or 'someone else will take care of it'. [E15]

Both staff and elected officials expressed feeling challenged by how to overcome a lack of urgency or understanding of the scale of change required, and how to help others understand the need for taking strong action now. Some staff spoke to the success of incremental climate actions that have been enabled by a generally supportive public, but that the next steps of deeper, more transformative change will require a different approach and they are unsure of how to achieve that. In describing the need for raising public attention to the extent of the changes that need to happen, one interviewee noted the need to be aware of the mental health burden of the climate crisis layered on top of other crises in the world and to ensure that communications strike a balance of emphasizing the need for change while maintaining a sense of hope and possibility:

It's really important to be cognizant of ensuring that people realize the extent of the crisis, so that we don't think that we can continue on the way we are and that there is the support for the fundamental shifts and policy and legislative shifts that need to happen, but at the same time that we don't overwhelm people and that they stay engaged in the process, and they feel empowered, and they remain feeling like there is hope and there's opportunity for that change to happen. [S7]

Overall, the barriers related to public resistance centred around a sense of inertia, that in some cases was linked by interview participants to resistance to change, particularly in small and rural communities, and in some cases linked to a perceived lack of understanding of the scale of transformation required to tackle the climate crisis. Underlying these challenges to a great extent is the challenge of addressing values and beliefs. Competing priorities and alternate narratives also play a role in shaping public perspectives, leading into the next sub-section of resistance which shifts in focus from individual resistance to structural influences, and the fossil fuel industry in particular.

4.2.2 Fossil Fuel Industry Resistance and Misinformation

“Misinformation and... the fossil fuel industry's ability to continue spreading it, is a huge barrier.” [S4]

Feeding into public resistance and countering the efforts of local governments to communicate effectively to the public on issues related to climate action, interview participants pointed to marketing, the general influence of the fossil fuel industry, misinformation provided by that industry, and misinformation more broadly as challenges. Both provincially and globally, the fossil fuel industry has actively invested in blocking climate action to promote their own interests:

We've known what we needed to do and actually a lot of the technologies have been there and in place for a long, long time. But there's not necessarily been the – globally, I'm talking now – the political momentum and there have been huge barriers put in place with a lot of resources and a lot of money. Not just globally, but provincially as well. So we have a lot of players who are in the fossil fuel industry, that in the current business structure can be heavily, negatively impacted by the policy and legislation that's coming into play that is absolutely critical and necessary to reach our targets and to sustain any form of human race in the future. And so they actively do invest huge sums of money and resources to put barriers in place. [S7]

Influence from the fossil fuel industry and other sectors that benefit from the current situation poses a challenge across a variety of sectors and in a number of ways when it comes to countering efforts to promote climate action. Specifically in the context of local government climate action within BC, multiple interviewees spoke about the challenge of trying to overcome misconceptions related to natural gas. Natural gas production is a major industry in BC, and natural gas is frequently touted as a “clean” source of energy by producers and suppliers. Meanwhile, home heating with natural gas is a major source of GHG emissions²¹, and local governments across the province have been taking action to tackle the issue through policy approaches, rebates, and education. Yet interviewees observed that it is challenging for local governments with limited communications departments and overall limited resources and staff capacity to counter the amount of misinformation and specifically fossil fuel marketing:

I would say the ability for fossil fuel companies to continue advertising, to continue subsidizing folks to use their products is a big barrier. And I think about some of the communications work that our team is doing...our budget that we can spend on that is probably a tiny fraction of say our local fossil fuel gas company Fortis, what they could spend, you know, telling people how great and natural and wonderful natural gas is, and how it's the climate solution that they need, so I think that, yeah misinformation and certain players, the fossil fuel industry's ability to continue spreading it, is a huge barrier. [S4]

The use of the term “natural gas” was highlighted as a form of greenwashing that obscures the reality of its status as a fossil fuel that is a major contributor to climate change causing GHG emissions. Misinformation and marketing that purports that natural gas is a clean cheap fuel combined with rebates and incentives being provided for installation of natural gas furnaces leads to confusion among the public about the real impacts of the use of natural gas and the availability and affordability of alternatives:

²¹ For more on natural gas and building related emissions, see <https://bcclimateleaders.ca/playbook/the-big-moves/where-we-live-and-work/> and Schisler, C. (2021, October 12). *B.C. Hydro says too many carbon emissions due to natural gas home heating*. The Free Press. <https://www.thefreepress.ca/news/b-c-hydro-says-too-many-b-c-carbon-emissions-due-to-natural-gas-home-heating-5137687>

There's a lot of communication that needs to happen out into the community. So there's been progress that I mentioned, but again, using that natural gas example, just even the terminology "natural gas". And it's been sold historically as the clean alternative or the clean fuel. And so we have a misunderstanding within the community that this is actually cleaner or that there's rebates that have been provided to support this so it must be more energy efficient or cleaner. And we really need to counter some of the information that's out there and really explain clearly that natural gas is a fossil fuel and it's one of the key contributors to our community wide greenhouse gas emissions. [S7]

This misinformation and policy inconsistency resulting from the province's endorsement of natural gas heating through the provision of rebates undermines the efforts of local governments to shift citizens away from fossil fuel use in homes. Local government staff find themselves having to work hard to counter these false narratives and confusion:

And again, there's inconsistent messaging, I think, from the province. They just haven't been able to really lay it out and say we don't want natural gas...they're still providing incentives for new gas furnaces, at the same time they are having problems to convert to heat pumps. It's inconsistent. And there's inconsistent messaging about the cost of that...so that creates confusion and that makes it hard for us as staff to go to Council, make a proposal that we don't build gas anymore. Because with the housing affordability being top of mind...the last thing Council wants to do is be seen as a Council that's making it harder and more expensive to build homes for people. [S8]

On this point, some interviewees noted a role for collaborating regionally to provide consistent information to residents and businesses. They also pointed to a need for aligned policy and communications between local and provincial governments. Coordinated policy and messaging between levels of government and neighbouring communities could help to reduce the spread of misinformation and limit confusion among the public by providing consistent communications:

I think on the misinformation side of things there's a whole lot that needs to change that's really outside of our control... probably it would be more beneficial at a higher scale, so if the province or somebody was spending more time on information campaigns or the Federal Government was, I think that would be beneficial. I think, in some ways, we have an advantage to be boots on the ground, you know we're connected with our neighborhood groups and in our community groups, and we can hear, you know, exactly what it is that they're concerned about...so I think some dedicated, targeted outreach would be really a way to help overcome some of that misinformation. But I think again it has to be a trusted source, so if it was coming from not just the municipality's climate team, but you know, they're hearing it from different levels of government and other sources...one of the things we've been - and again this is kind of jumping ahead to the regional stuff - is trying to be consistent with communications regionally as well, and I think that that is potentially a way to overcome some of this. [S4]

While many of the comments from interview participants centred around the natural gas example, the same structural influences are present and contributing to resistance in other arenas. Similar challenges around misinformation and misconceptions exist related to, for example, the oil and gas industry and the shift toward electric vehicles. Other vested interests might include those outside of the fossil fuel industry as well, for example pressures from the development industry which were alluded to briefly in the previous section in relation to competing priorities. What stood out from the interviews is that the level of influence and marketing from the fossil fuel industry in particular is undermining efforts of local governments to promote shifting away from fossil fuels, which is necessary to meet climate action goals. These targeted efforts by the industry fuel misinformation and confusion among the public, which is further exacerbated by inconsistent policy and messaging at higher levels of government. Local governments are challenged, with their limited resources, to counter this messaging. Interviewees pointed to the need for dedicated efforts at higher levels of government as well as policy alignment both vertically and regionally to counteract the fossil fuel industry's interest in maintaining the status quo.

4.2.3 Internal Resistance

“If your city manager or CAO is not passionate about climate change, it is normally the first thing on the chopping block...” [S13]

Resistance can come not only from the public and other external forces, but from within the local government organization itself. With respect to internal resistance, barriers primarily related to staff and/or organizational culture, political leadership, and disconnects between staff and local elected officials. Some local government staff feel constrained by the need for direction set by council/boards, and spoke about the requirement for a clear mandate in order to legitimize and catalyze action. For example, interviewees observed that local climate emergency declarations had given the necessary legitimacy to staff and enabled action within municipalities and/or regional districts. On the other hand, some staff interviewees felt there was a disconnect between the advocacy work done by elected officials and the on the ground work by staff.

Several interviewees spoke of the need not just for a clear mandate from elected officials, but also for champions at high levels of the organization, such as directors and CAOs. Where there is resistance at these levels, or lack of prioritization, it can form a huge barrier to making progress on climate action work:

If your city manager or CAO is not passionate about climate change, it is normally the first thing on the chopping block when they get faced with a resource challenge. So someone falls ill, Covid happens, you know all this stuff, unless they're passionate they'll always be able to kind of rationalize a stall or a complete stoppage of climate sustainability work, because it's not considered core service delivery. So, you really need a champion at the highest level. [S13]

Interviewees also noted challenges related to silos and lack of alignment between departments in some cases. For example, the ambitions of forward-looking planning staff are sometimes not aligned with other departments, including engineering and finance. Internal gatekeepers can shut down new ideas or different ways of doing things whether because they see proposals as too risky, not aligned with established norms within the organization, too hard, or too costly. Internal gatekeepers mentioned by interviewees included engineers, legal staff, CFO and finance department, public works, and IT departments:

And people are getting push back, because – and this is internal push back too, like within your staff, as well as with your board, and so if staff – usually it’s coming from the finance side – they’ll say, ‘No, this has never been proven, you don’t have that certification, etc, we don’t want to do this’. [S11]

For instance, the first one of the usual suspects on gatekeepers is always a CFO...engineers can be super powerful gatekeepers...the legal team...the HR team... and it’s all tied up in that, like does your success make a compromise or put pressure against their success? ...So, there's like all these interesting little nuances about what gets kind of a thumbs up to go forward with. Or what gets pooh poohed or lion’s dented or shot down at the early stages. [S13]

Related to the previous point, from the perspective of elected officials, some of those interviewed also expressed frustration with staff who can act as gatekeepers of information or who are “set in their ways” and do not want to change how they do things within the organization:

When you have long time managers...there’s definitely a mentality that the management in different departments don’t want to listen to members of Council because ‘they’re going to get voted out in a few years’, you know, ‘they’re here temporarily, whereas I’m here a long time’, so they have their own agendas and this long standing approach...they’ve been there too long to recognize the changes that we’re facing because of climate change. [E1]

Another interviewee spoke of how internal resistance can stem from a clash between those trying to implement local climate action and those who view climate action as outside of the traditional core services of local government:

There’s also, and this can’t be solved with money, there can be cultural challenges within staff...I think that the culture of many local governments is just, you know, ‘pave the streets, wow them, you know, make sure the water’s flowing and otherwise just get out of the way and don’t do anything. And mow the lawns in the park.’ And that model exists and probably is more prevalent, the smaller the community you go to, probably the more prevalent it is. [E14]

To help overcome these types of internal organizational resistance, interviewees suggested that a strong political mandate is key, along with strong support from senior level management, mainstreaming of

climate action, and creative problem solving. Clearly aligned values as part of a strategic plan help to support rationale for initiatives and reduce internal resistance, along with leadership at all levels – political, CAO/senior management, and on the ground staff. Where these are not aligned, internal resistance can stall out processes:

There can be a strong business case for individual programs, but unless they're knit together across a larger program based on a climate action plan or climate leadership plan, they can fail to really deliver on long term holistic value and year on year improvements. So I think financially the program has to be developed and the plan and the different commitments have to be inserted in the financial plan. And in order to do that, you need to have somebody champion that stuff at a level where they have influence into what gets into the proposed financial plan. So, it's the director and above level...really rubber doesn't hit the road unless the directors sign off on it. And then you need that leadership at the CAO level or the city manager level to be willing to go forward if there hasn't been a mandate...so that's another one is the mandate from Council...if that mandate doesn't exist, then it's really difficult for Council to agree during strategic planning to pin a bunch of money and resources to something that's not very clearly a mandate and very clearly part of their strategic plan. [S13]

Relating to collaboration, increased sharing and seeing other communities model leadership could encourage others to follow suit, and counter risk aversion by following the lead of others and going together rather than going it alone. For example, one interviewee described how seeing examples from elsewhere could help:

The opportunities [of working on a regional scale] ... are obvious, because you can learn, and you can learn from somebody who's already done something. And that networking is invaluable, because when there's not a lot of people doing something... that will allow you to become less risk averse, because you know somebody has actually done it. [S11]

To summarize, barriers related to internal resistance seemed to stem primarily from organizational culture and the collective values, personalities, and relationships involved. Where the organizational culture is risk adverse and/or if people in critical positions within the organization don't see climate action as part of the core responsibility of government, it is difficult to move initiatives forward. To overcome this type of resistance, political mandates are crucial, along with champions, ideally at the highest levels of the organization. This form of resistance is closely related to and interwoven with governance which will be discussed in a later section, as well as political will, discussed next.

4.2.4 Political Will

"I would say that, I think you need a bolder political representation...like people that are willing to be sacrificial lambs for the greater good, and not be focused on re-election." [E9]

Lack of sufficient political will was an important barrier mentioned by both local government staff and elected officials. The need for political will in support of climate action cuts across and ties together the categories of internal organizational resistance and external public resistance, as a strong political mandate is required to move forward climate action in an organization and political will is often responsive to the public context. Several interviewees, both staff and elected, spoke of the need for greater political leadership and courage:

So there are some really wicked problems in all of this that need to be addressed, that need clear decision making, that need leadership. And quite often I find that there's a retraction from that, and can't we just have a glossy document that really showcases what we're doing and that we're leaders. But when you say, 'these are the ways that you can be leaders,' it's really scary for folks. It's about a deconstruction of our existing processes in many ways.[S6]

Similar to the perception of public support/opposition, in some cases, interviewees felt political will was present but did not go far enough. Even where there is general agreement that climate change is happening, that it is a problem, and that action is required, there is not necessarily agreement on how to proceed. As one interviewee described, "we might be in agreement that climate change is real and that it's happening, but I don't think that we're always in agreement of what are we willing to give up in order to address what needs to be addressed." [E12] The perception of trade-offs in an environment of competing priorities and the sense that taking climate action means making sacrifices can limit political ambition toward climate action. Some interviewees also observed a retraction of political support in response to public opposition. For example one interviewee stated, "I do find when the public pushes back a lot that's when we sort of start to see people hold back, and there's this way that it just keeps things from moving forward that should be moving forward." [E12] Another described the need for courage and supportive allies in responding to push back:

[We need] political courage, so just doing it, even when it's not popular or easy....and then enough allies in the community to kind of stand up and support some of the decisions that we make, even in the in the face of lots of backlash. [E15]

Several interviewees identified the self-interest of politicians in terms of desire for re-election as a significant barrier to transformative climate action. The fear of dealing with backlash from citizens and potential political consequences can hold back elected representatives from going as far with implementing action than they might otherwise:

I think there's generally political – like I think the Council wants to do the right thing and they understand. But I think also, you know if asked: 'Would you increase taxes 10% to tackle climate and have all these angry citizens call your number?', they would not go for that. So it's that challenge of 'yes, I care but would I basically tax my residents to pay for that? Probably not.' And I don't know how many of them have that kind of political determination. [S8]

While lack of political will and public opposition can be barriers to transformative action, on the flipside, interviewees also identified political will and public support for climate action as major enabling factors. In communities that have experienced success in implementing actions toward climate goals, staff frequently pointed to the momentum generated from public demand for climate action, supportive councils, and clear mandates from political leaders as key enablers. Staff described how important climate emergency declarations from elected officials were to their work: “the declaration of the climate emergency... catalyzed a lot of action and really gave a lot of legitimacy to staff taking up that space.” [S2] Elected officials also spoke to the how political leadership can act as an enabler of strong climate action. The growth of the climate emergency movement in 2018/19 and growing public pressure to take action was a motivator for many local governments in advancing climate action. Levels of support for climate action in a community, and conversely, levels of resistance can clearly act as barriers or enablers of political will, and subsequently climate action, depending on the context. The findings showed that in those communities that are relatively further along in implementing climate action, public and political support has been critical.

Strongly related to levels of support/resistance was the theme of climate action co-benefits as an enabler. Several interviewees drew a line between public resistance, a major barrier identified by interview participants, to communications and co-benefits:

There’s a cartoon that I reference quite frequently which is a single panel political cartoon of a guy at a climate conference, and he’s making a speech and he’s got his list of benefits of climate action, things like cleaner air, healthier children, local control over resources, things like that, and someone puts up his hand and says: ‘What if it turns out that climate change is a hoax and we built a better world for nothing?’ and I think that kind of almost says it all. [E12]

To address resistance and manage public perceptions and in some cases backlash to decisions made by local governments, interviewees highlighted the need for communications that emphasize values that are important to constituents, such as pointing out how proactive spending can save money in the long run. Centering the co-benefits of climate action first with action on climate framed as a secondary benefit, was a strategy mentioned by some research participants. This approach can help prevent public backlash as well as bolster political support for climate action. In fact, co-benefits as a communication strategy came up again and again with interviewees:

When we're building active transportation infrastructure, we talk about the social benefits of that....we mention climate kind of last. I think for all the reasons that I described, right, it is because we want to take care of the population first. And that's what resonates with people more than, you know, we're spending half a million dollars to tackle climate change. Because not everyone's on board with that...and lucky for us, often the things we need to do to address climate also have huge positive social benefits, like having an efficient transit system, or having active transportation infrastructure is so beneficial so many people in the community, vulnerable people particularly. So that's what we focus on for the most part. [S8]

Related to the theme of co-benefits, resilience and adaptation are increasingly recognized as critical after climate impacts of recent years. Centring and framing climate change communications around resilience first was highlighted by several interviewees as an important way in with the public and decision makers:

You know, it's sometimes it's hard to convince people on the climate change mitigation side... there is, I'd say, a bit more reluctance or a lack of enthusiasm, but when it comes to areas where their assets are threatened everyone's on board, right? No one wants to be flooded, no one wants to have their house burned down, no one wants to turn on the tap and not have good water. [S5]

In considering the overarching theme of resistance, the findings illustrated a number of different forms of resistance to climate action and places within the system – internally, externally, and structurally – where resistance can arise. These various forms of resistance can pose major barriers to advancing transformative climate action, and can be challenging to overcome as they often relate to deep seated values and structural conditions. However, interviewees suggested a number of enabling factors that can contribute to overcoming resistance, including staff champions, political will, public pressure, and emphasis on the co-benefits of climate action.

4.3 Capacity: Financial and Human

“Talking of money, we don’t have enough.” [E3]

While in some cases stemming from things like fear of change or differing ideas about how and what should be done, resistance is also linked closely to costs and perceptions of cost, leading into the second major theme of capacity. As one interviewee put it, “I think, probably, if we did have the finances, if we could do it without raising people's property taxes, they’d probably be fine with us doing most of the things we want to do.” [E14]

Lack of funding and lack of staff capacity were highlighted as the top barriers in the 2020 survey of local government climate action priorities across the VICC region upon which this study is based.²² Challenges related to funding and financial capacity also emerged as a major theme in this study, although with some additional nuance related to the mechanisms of funding. Financial and staff capacity have been folded into one overarching theme of capacity because capacity in terms of having staff available to do the work is closely connected to the ability to have stable and secure funding to support hiring and maintaining staff capacity, as illustrated in the following quote:

There’s three things in my mind that constrain local governments, one is political will, whether people are willing to do it, and whether the public is willing to support it. And the other is financial capacity. And the other one is staff capacity, but in the end staff capacity is also financial

²² See: Krawchenko, T., Rhodes, K., Harrison, K., Pearce, K., Shaw, K., Brousselle, A., Ney, T., Mallows, C. (2020). Territorial Analysis and Survey of Local Government Priorities for Climate Action, Vancouver Island and Coastal Communities Climate Leadership Plan. Retrieved from <https://www.viccclp.com/>

capacity, because if you have the money you can just hire the staff needed to get the work done. And moving all three of those forward is challenging. [E14]

One interviewee took a notably different stance from most on funding, making a strong assertion that greater funding is not only unnecessary, but potentially detrimental as it could stifle innovative thinking. This interviewee pointed to novel examples within their organization and community where major changes were able to be made with limited funding. When asked what was different in this organization and/or community, they saw willingness to take risks as a major factor, enabled in large part by a high degree of trust based on long term relationships.

4.3.1 Problems with Property Tax Model

“Local governments only get eight cents of every tax dollar. And so there’s a really disproportionate responsibility without the ability to fund properly.” [E15]

Overall, in terms of financing climate action, local governments are constrained in their ability to raise funds because they are reliant on property taxes as their primary source of revenue and they are prohibited from incurring deficits. At the same time, local governments have faced downloading from the provincial government, straining their ability to provide services while being limited in the ability to raise taxes to pay for them. Several interviewees mentioned the disconnect between the responsibility local governments carry related to services and infrastructure and their relative share of overall taxes:

There’s also just a, you know it’s such a cliché, but it’s a huge financial challenge because local governments, all we have are property taxes and among local government people some of the things people talk about is that out of every dollar of taxes in Canada that are collected, eight cents goes to local governments, and we have no ability to run deficits. And it’s very difficult to – we’ve had so many responsibilities for so many things downloaded by the province. [E14]

Dependence on property taxes to raise funds means that local governments are not only constrained in the amounts they can raise relative to overall tax share, but being at the local level means they also face direct pushback from citizens who do not want to see their property taxes go up. As described in the previous section, pushback and resistance from citizens concerned about costs and rising taxes can result in watering down of initiatives and wavering of political support in the face of strong opposition.

The model of reliance on property taxes can also result in encouraging development approvals as a means to increase property tax revenue in the short term while undermining long term sustainability – both financially and environmentally. Sprawling land use patterns and pressure from developers were identified by some interviewees as contributing to longer term problems down the line when infrastructure needs to be replaced. Linking land use and development patterns to the issue of local government financial sustainability, in relation to asset management and the maintenance of hard infrastructure such as roads and pipes is being analysed by some local government staff:

And some of the interesting kind of promising things we're looking at...is why are we so chronically short on money? And the answer to that seems to be the sprawling development pattern that we've been using over the last decades. And when we do the actual math, and that links to our asset management, when we look at the true cost of all those roads and pipes that we have, to service the single-family homes predominantly in our community, the reality is we're just simply not collecting enough tax to pay for all that infrastructure. [S8]

This problem is especially a challenge in small and rural communities characterized by lack of density in land use patterns. Unsustainable land use patterns also affect local government service delivery, making it much more expensive to deliver, especially in non-urban areas. For example, active transportation and transit are less viable and much more costly in communities that are spread out:

It's very difficult and expensive to deliver quality transit in a sprawling community. So that gets expensive, the active transportation infrastructure gets expensive just because we have so much road and not that many homes to tax to do all those things. So I think that's probably another thing I should add to our 10 year vision is that all the new development that we have would be on existing infrastructure, it would be compact, walkable development. We will not be building anymore sprawl and any more kind of car dependent housing which, unfortunately, still happens today. And that's a challenging conversation, because with the housing crisis, people will say: 'Well, we need all the housing we can get'. [S8]

The relationship between land use, feasibility of climate related initiatives, and long-term local government financial health clearly relates back to the issues around resistance and inertia earlier described: resistance to changing long established patterns of development and ways of life means that many local governments are not fully utilizing their powers related to land use due to pushback, feeding into unsustainable cycles where local governments are continually challenged for funds. This can result in short term decision making with long term consequences, as in the example below:

In the meeting that I had before this, we were talking about active transportation and the consultant is going, 'it would be nice to have separated pathways, multi-use paths. But for cost considerations, we're recommending widening the roads.' And I'm having to counter that by saying: 'What we're hearing about our own plans within the municipality is that the widening of the roads is not encouraging that active transportation that you're widening the road for.' So really it's a waste of time and it's going to take courage and money to build these better facilities as a 50 year plan. And not a notion of 'well we can get this done in five years, and it will cost this much less'. But it won't do what it is hoped to do. And it actually has some other unwelcome consequences such as higher travel speeds because roads have an appearance of being wider. [S10]

Some interviewees suggested novel ways of shifting the way local government financing is structured, to address the challenges related to chronic shortfalls of funding and capacity challenges, pointing to models used in other countries as examples:

Commonwealth countries tend to have more than 90% of their local government...funding comes from property taxes. Whereas Scandinavian countries, more than 90% of their local government funding comes from income taxes. And it's a different way of finding the money that's needed and it gives local government more capacity to get things done. I think, when one looks at what Scandinavian countries have achieved in terms of climate action versus Commonwealth countries, it's probably worth noting the huge distinction between the two. [E14]

4.3.2 Climate Specific Funding and Grants

“Most of these projects we’ve had to write grants after grants after grants after grants. And that’s not a great funding model from the province, frankly.” [E1]

Outside of general local government tax revenues, interviewees noted additional challenges specifically related to funding for climate action initiatives. Interviews revealed that the issue in many cases is not necessarily overall lack of funding, but the mechanisms of how funding is delivered. Many climate initiatives, including programs and even staff, are funded via grants. Long term, reliable funding was highlighted as a critical need to enable longer term climate action planning and program development. Reliance on grant-based funding is a major challenge because it leads to uncertainty and takes staff time, challenging already limited capacity:

And the key thing that we outline to them [the province] was that particularly the smaller local governments, they need permanent full-time staff. So don't do grants all the time, where they have to apply for grants for projects because they don't have the permanent full-time staff to go and spend hours and weeks, putting these grant applications together. They need the staff to do that. So give them the money to enable them to hire the staff and give them enough. [S7]

While some staff commented that they appreciate the current grants landscape and that funding is being made available for climate initiatives, the process of applying for grants was referred to as painful, complicated, and time consuming. Where projects are reliant on grant funding, local governments are challenged to put consistent dollars in their budgets and commit to following through on actions.

The Local Government Climate Action Program (LGCAP), formerly the Climate Action Revenue Incentive Program (CARIP) funding provided by the province is a key enabler of climate action at the local level. At the time of interviewing, LGCAP had only recently been announced as the successor program to CARIP. As a conditional grant program, interviewees spoke about how CARIP had enabled action, but was

flawed because of how the program was structured. The new program has been structured differently and so far appears to be an improvement over the previous CARIP funding.²³

4.3.3 Staff Capacity

“We do not have enough staff, we do not have staff capacity. Our staff is running at about 120% just trying to keep their heads above water.” [E3]

As highlighted previously, staff capacity is closely tied to financial capacity, in that consistent funding is needed to hire well qualified, permanent full-time staff. Many smaller communities lack dedicated climate and sustainability staff, in part due to financial limitations. In addition, particularly in smaller and remote communities, it can be challenging to hire staff with the right skills and experience:

There’s also a bit of a shortage of supply of people... like, if you want to hire a climate planner there aren't enough of them out there, and certainly there aren’t enough out there who have experience working already. You get like a fresh out of out of planning school planner who knows a lot about climate change but hasn't actually worked within a city before and have to learn that piece of it. There aren’t nearly enough people out there who have both the experience and that kind of specialized expertise. And, you know, I think probably the answer there may be some sort of subsidized or partially subsidized mid-career training for existing staff. [E14]

The growing field of adaptation was mentioned as an area where local governments tend to have less capacity in terms of the knowledge, skills, and experience of existing staff:

Adaptation itself, the concept is harder, you're using future projections, a different way of doing business, different way and building things. You're relying on professional associations, different

²³ The CARIP program provided funding to local government BC Climate Action Charter signatories equivalent to one hundred percent of their carbon taxes, to be used to support efforts to reduce GHGs and address climate impacts. However, as local governments made improvements to reduce GHGs, their carbon taxes were reduced, therefore reducing the amount of CARIP funding they were eligible to receive and providing a disincentive. Although it was imperfect, the CARIP funding was an important source of financing for many local governments. The cancellation of CARIP in 2021 created uncertainty for local governments resulting in demand for a new program to replace it. Ultimately this led to the establishment of the LGCAP program, announced in the spring of 2022. The LGCAP program has so far shown to be an improvement over CARIP in that it increases the overall funding available to local governments, increases funding for small communities by a larger percentage, includes Modern Treaty Nations, and requires rather than encourages that funding be spent on climate action. There are still some challenges with the structure of the program; for example, regional district funding is based on electoral area population only which disincentivizes collaboration at the regional district scale. While the overall impact of LGCAP remains to be seen, as a relatively new program, the province has indicated that the intent is for the program to provide a long-term, stable source of funding.

consultant firms to provide you the insight that no one has the capacity at our local government scale. So that's another challenge. [S2]

The challenge of limited staff capacity points to a role for collaboration between local governments, which could allow for better use of existing capacity by working together. A number of interviewees commented on the opportunity to find efficiencies by not “reinventing the wheel”, which could in some cases come from standardized processes and clear direction from higher orders of government, but also through networks, communication, and sharing of resources. Collaboration and coordination can use resources and capacity more effectively rather than each community independently recreating policies, bylaws, monitoring programs, and other activities that could be transferrable:

Just one last thought on that last line about the regional versus sort of broader, broader scale, I think it really comes down to capacity, and if everyone's trying to do the same thing or reinvent the wheel then it's not a good use of the limited capacity and resources that we have to work on this. And so I think that's really the defining barrier, is sort of that lack of capacity and for us all to be building our own paths forward. [S4]

Yet while greater collaboration has the potential to leverage limited staff capacity, collaboration also requires an investment of time and energy that can be a challenge where capacity limitations are severe. As one interviewee described, “our ability to collaborate and coordinate effectively together has largely been impacted by the eroding capacity. Everybody's got way too much on their plates, and staff are disappearing fast, so that is a major issue.” [S6] Staff capacity challenges thus can include limitations related to time, skills, experience, expertise, and information, which are compounding as demands grow and the need to respond to climate change becomes increasingly urgent.

4.3.4 The Growing Problem of Responding to Emergencies

A further challenge threatening local government finances and capacity when it comes to climate action is the growing need to spend on adaptation measures and responding to emergencies and disasters made more frequent and severe due to the impacts of climate change.²⁴ Damage to infrastructure from climate related hazards is and will become a growing issue for local governments:

The other one, I think, is really going to be difficult, which is how do we overcome the barriers of not enough financial resources. Because we're starting to have to spend money now on adaptation measures and addressing catastrophes. And, but there's still so much more

²⁴ For more on the cost of impacts from climate change, see: City of Hamilton. (2022). How much is climate change costing Canadian communities? Available at: <https://pub-hamilton.escribemeetings.com/filestream.ashx?DocumentId=335399> and Canadian Climate Institute. (2022). The Costs of Climate Change: A Series of Five Reports. <https://climateinstitute.ca/reports/the-costs-of-climate-change/>

investment that needs to happen on the mitigation side. And both the Provincial and Federal government seem unwilling to give more resources, more financial resources to cities. [E15]

The challenge of resourcing and working with other levels of government alluded to above leads into the final major theme to be explored here in relation to barriers to local government climate action: governance.

4.4 Governance

Governance was the third major theme that emerged in relation to barriers to climate action. Regarding governance and decision-making as it relates to prioritization, an interesting finding is that while lack of funding is an important issue identified in both the 2020 survey and by a majority of interview participants, several interviewees highlighted challenges related to governance, decision making, prioritization, political will, and the need for behavioural change as greater challenges. When asked what they would do with unlimited funding, a number of interviewees responded that unlimited funding would not solve the climate action challenges they face, and instead suggested other types of changes they would make, many of which related to shifts in local government jurisdiction and authority. Sub-themes discussed below include jurisdiction and authority, internal governance and accountability, policy inconsistency, the structure of regional districts, and multi-level governance, specifically including the role of the province and how local governments work and align with higher levels of government.

4.4.1 Jurisdiction and Authority

“I think the biggest barrier, not just in [my community], but for all cities is lack of power essentially, lack of authority over things that we should really have authority over.” [E15]

Governance challenges relating to jurisdiction and authority were identified by a large number of interview participants. With respect to jurisdiction and authority, it is critical to note that the limitations of authority presented are from the perspective of the local government staff and elected officials that were interviewed for this study. It is beyond the scope of this thesis to definitively lay out what municipalities and regional districts can and cannot do jurisdictionally. The jurisdictional landscape is complex, and responding to climate change has opened up jurisdictional questions about authority that some municipalities are exploring through legal means. As local governments tend to be risk adverse and resource limited, moving into a contested space is challenging. There is an argument to be made that in some cases, political will to take on challenges where there is legal grey area or a high level of contention is an underlying barrier. With this in mind, what is important in this section is that the areas highlighted by participants as lacking authority are areas in which they perceive that they are being constrained, and this ultimately results in limiting action.

Challenges related to areas of authority were noted by staff and elected interviewees from both regional districts and municipalities, across a variety of sectors. For example, one interviewee stated, “we have no

authority, like over stormwater, roads, land use, logging, that's just four of them.” [E3] Another described additional roadblocks associated with lack of authority:

Cities have very few levers to pull. We’re not allowed to ban the installation of fossil fuels in new buildings. We’re not allowed to ban fossil fuels in existing buildings. We’re not even allowed, until recently we weren’t even allowed to ban plastic bags. If we want to ban single-use items like forks and take-out containers, we still have to ask the Minister of Environment. So I know, there was a question about barriers, I feel like I started with barriers, because I would say, you know, we’re progressing as best we can, given our limited power, limited resources. [E15]

The relationship between land use and transportation, and barriers related to jurisdiction over these domains were key areas highlighted by participants. Although land use planning and transportation is an area where local governments in theory can have a high degree of influence, in practice there are challenges related to fragmented jurisdiction. In particular, interviewees mentioned issues related to who owns which roads and the fact that authority for public transit planning rests with BC Transit:

I think the other piece is around land use...this whole idea of complex complete communities. Even if you look at Clean BC, the provincial plan when they talk about the community stuff it's very challenging around land use, like big scale transportation and how that works, especially in regions like Vancouver Island where we just don't have the population. Metro Van can put in sky trains and it can really impact transportation and land use, but we don't have that here. So that's a big barrier, especially recognizing the different jurisdictions. And we don't have transportation authority here in the region, it's BC Transit, and so we can't guide where provincial dollars go on our network, so that is definitely a barrier. [S2]

Another interviewee elaborated on the challenge of limited transportation authority for regional districts, contrasting the differences between the authority that Translink has in the lower mainland to integrate land use and transportation planning with the situation on Vancouver Island:

So there was these really interesting dynamics in some cases about complementary mandates or disconnected mandates and you know, and then what their authorities are....the regional government has a different authority and you know for transportation...they had no authority. And when we were talking about regional transit and a regional transit plan, they didn't have the authority to make it happen. Like when you look at Translink which might own the roads and be the road authority, they can now start to make real estate decisions and put high rises and high density stuff on top of the skytrain. And then all of a sudden, you can actually pull all the levers of change that you need to make change happen. [S13]

Further to the challenge of transit planning, another interviewee described how the process of working with BC Transit to improve the community’s public transit system could be time consuming and difficult:

I mean we have some barriers specific to how things are structured in BC. Our transit is run through BC Transit, which is a crown agency. And we pay half, they pay half. But they are kind of like the operators, so we've had real struggles, in the past, trying to make any changes. Just everything takes a lot longer, you know, they're a very big boat that moves very slowly. [S8]

In addition to barriers related to transit system planning within communities, it was also highlighted that the way the provincial system is structured (outside of the lower mainland) does not facilitate transportation planning between communities. Interviewees spoke of the need for regional transportation to support travel between communities and from smaller communities to larger centres. Not only is intercommunity travel a large source of GHG emissions, but the lack of adequate public transportation options creates a social equity issue. Yet the way the transit model is structured makes it very difficult to develop interregional public transportation.²⁵

As well as barriers related to public transportation, interviewees also spoke to challenges related to road authority. Because authority for highways rests with the Ministry of Transportation and Infrastructure (MOTI), local governments have little say in making changes that affect those roadways within their communities, such as altering speed limits or the addition of active transportation infrastructure. One interviewee described a variety of ways in which their community was affected by being limited in authority to make changes to a major roadway in the community:

Our local governments don't have any say in provincial highways, so the provincial highway runs right through our entire town, through the region, through the First Nation, and through our city, through our downtown core where all our restaurants are. We can't even have patios out in front of restaurants on our main core because it's a provincial highway. [E1]

This frustration was echoed by another interviewee, who described the lack of active transportation on the highway and inconsistency between infrastructure guidelines put out by MOTI and the actual decisions being made related to highway upgrades:

The same applies to active transportation and advocacy with Ministry of Transportation and Infrastructure. So that's provincial. And they control the highway which is our only link that connects the whole coast, and there's zero active transportation infrastructure plans on that highway....when you go talk to them about possible infrastructure on the highway they just go: 'Well we're widening the shoulders.' That's – based on your own guidelines from the Ministry right here, it says that that actually does not constitute an acceptable facility for a provincial highway. [S8]

²⁵ One interviewee elaborated on the lack of structure and resulting difficulty in establishing regional transportation services between communities, explaining that BC Transit's model would require every community along the route to come up with a portion of funding using some ratio to pay for the service.

Outside of transportation and land use, interviewees also highlighted buildings as another specific area where local governments lack jurisdiction to meet climate action goals, with one interview describing buildings as “clearly within our purview if not currently within our jurisdiction.” [E15] Although GHG emissions from buildings are typically the next largest source of emissions after transportation in BC communities, local governments are limited in the policies they can enact in this domain. As one interviewee described, “on the building side, I would say we've probably made a little bit less progress, just the city doesn't have as much influence in that arena.” [S4]

Some communities have made efforts to encourage retrofits of existing buildings through incentive programs. But these programs rely on voluntary retrofits and incentives and local governments have limited authority to tackle emissions on a broader scale. Retrofit programs also are frequently inconsistent from one jurisdiction to another. Another way local governments have been trying to lead in encouraging retrofits, but have been hampered by a lack of authority and the need for provincial legislative change, is in the implementation of property assessed financing.²⁶ One interviewee described the years long process of reviewing their municipality's authority to implement a PACE program and waiting for the provincial legislation that would simplify the process:

For a multitude of years, we've been putting UBCM [Union of BC Municipalities] resolutions in around the ability to do financing called PACE... we've taken years to review whether we've got the ability to do that legislatively and we're just running a pilot at the moment. But again, it's a convoluted approach that that provincial enabling legislation would mean it's a much simpler process, or at least guarantee that we're okay to go ahead and do it, which we feel that we are. But it meant that, we started that seven plus years ago, and we would have liked to have brought it in seven odd years ago and we're only just piloting that with that project now, we've only just launched it now. And the provincial legislation is in draft...but again, we don't have a timeline for when that legislation is going to come into effect. [S7]

Local governments have engaged in advocacy related to the need for greater authority related to buildings, as alluded to above. Another example raised by interviewees is the “Let Cities Lead” campaign. As one interviewee explained, “it basically started through a bunch of local governments, the BC Hydro Community Energy Management Network got together and [asked] ‘where do we need more authority on the building side?’” [S2] Through this process, they identified the need for additional authority related to fuel switching and preventing the installation of new gas lines, and proposed solutions such as a GHG indicator to tackle the emissions intensity of buildings.

²⁶ Property assessed financing, or PACE (Property Assessed Clean Energy), is an innovative mechanism for financing energy efficiency retrofits to private property where the financing is tied to the property rather than the individual. PACE programs are common in the United States, but not yet widespread in Canada, where provincial enabling legislation is required.

Local governments have some additional tools and authority when it comes to new buildings as compared to existing buildings²⁷, but there are still gaps. A number of interviewees spoke to the lack the authority for local governments to ban the use of fossil fuels, including natural gas.²⁸ In relation to this lack of authority, one interviewee described the differences in legislative authority between Vancouver and other municipalities in BC:

Vancouver is a Charter city and so they're empowered to do more legislatively than we are...we're limited in our legislative abilities so we haven't been able to implement requirements for new buildings to limit their greenhouse gas emission intensity and set low carbon and zero carbon standards there. We require that policy and legislation to come out from the province. So for years we've been inputting and pushing for the province to do that and they've been working and they did Step Code first. And Step Code looked at energy efficiency. But we were saying to them: 'No, this needs to be about fuel and it needs to be about greenhouse gas emissions'. And they've been working heavily with industry and with input from local government through peer networks to develop that legislative change. And that's been delayed, it's still not in effect but we're hoping it comes in effect by the end of this year. [S7]²⁹

As highlighted above, local governments require enabling legislation from the province in order to enact some of the policies they would like to implement to help support reducing GHG emissions within their communities. In addition to challenges related to working with provincial agencies and limited authority in terms of powers delegated from the province, local government jurisdiction and authority can pose a barrier in relation to how municipalities work with one another and with regional districts. Fragmented jurisdiction means that neighbouring communities can have different policies, resulting in inconsistency

²⁷ When it comes to new buildings, the BC Step Code regulates energy efficiency as an optional compliance path in the BC building code. Local governments have the option of requiring builders to meet higher levels of the step code than the minimum required by the province and a number of communities have established such requirements in their building bylaws. Yet the step code focuses on energy efficiency only and not specifically on GHG emissions.

²⁸ It's important to note that since these interviews were conducted in 2022, recent changes to the provincial building code have led to new tools for local governments to tackle operating emissions from new buildings. On May 1, 2023, the Zero Carbon Step Code (ZCSC) came into effect, which allows local governments to require lower carbon new construction. The voluntary standard has been adopted by a number of local governments to date, including several on Vancouver Island. The changes to the building code came after years of advocacy from communities leading in climate action who pushed for provincial legislative changes. It should also be noted that the ZCSC still doesn't actually ban natural gas. Instead, depending on the level of ZCSC adopted by a local government, the code requires decarbonizing space and water heating (the main sources of GHG emissions in buildings) in new buildings only, while still allowing fossil fuel usage for other uses such as cooking or gas fireplaces. The ZCSC addresses operating emissions only, not embodied emissions. There is also no authority to limit fossil fuel usage/require retrofitting of existing buildings. See: <https://www.helpcitieslead.ca> for more on the campaign for local government authority in the building sector.

²⁹ As described in the previous footnote, ZCSC is now part of the BC building code, which gives authority for local governments to incentivize or require builders to meet any level of the ZCSC. The code will require all new buildings in the province to reach zero emissions by 2030, but allows local governments to move more quickly if they choose to. While this gives flexibility to communities, it has also had the side effect of inflaming high levels of resistance in some communities that have moved to implement the ZCSC.

across a region. Greater collaboration and coordination regionally could provide greater consistency, for example related to consistent retrofit incentive programs and step code building requirements. Interviewees also pointed to an important role for the province in providing leadership through taking the lead in areas where local governments lack the jurisdiction or find it otherwise difficult to advance action, as well as through establishing enabling legislation to grant greater authority to the local level. Further discussion of the importance of vertical policy alignment can be found in the later section on multilevel governance.

4.4.2 Internal Governance: Accountability and Consistency

“We're trying to relieve a barrier around having clear goals and vision and set metrics...not having that is a big barrier because you don't even know what you're working with.” [E9]

A number of the issues discussed in previous sections also manifest as governance challenges, such as the need for a clear mandate, departmental silos, competing priorities, and inconsistency between policies and actions. Additional challenges highlighted by interviewees that relate to internal governance include a lack of accountability with respect to climate targets, lack of clear vision, and lack of metrics for measuring actions. Interviewees described the need for all of these to be integrated and mainstreamed through the organization with clear accountabilities.

In terms of how climate action is governed internally within municipalities and regional districts, having a clear vision and mandate is critical, as well as a system of accountability and metrics for measuring progress. Interviewees spoke to the importance of having a clear mandate from their board or council to pursue climate action, which was touched on in a previous section. In discussing the need for a clear mandate, local government staff described how clear board or council direction dictates where climate action efforts are directed:

[The climate action declaration] catalyzed a lot of action, and, really gave a lot of legitimacy to staff taking up that space. And we don't have that on transportation. I make a real point whenever I bring staff reports to highlight the land use component and how maybe we're not quite meeting our targets, and so the elected officials are aware of that, and we have a record of it, but they really leave that one alone. [S2]

Where a clear mandate has been given by council, translating that mandate into a vision for the community and tangible actions is also key. Where the vision and mandate has not been clarified or formalized, it can form a significant barrier:

The vision is not formalized at all in [my community] and I'd say that's a real clear gap. So, the mandate from Council has not been transformed into tangible directives, accountabilities, or those types of vision statements or documents that can really be shared across communities. [S13]

Even in communities where intentions have been declared or climate plans exist, in many cases there is not an implementation plan with budget attached to it, which to paraphrase one interviewee, means it is a wish list and not a plan. Climate needs to be mainstreamed throughout the organization and integrated into job descriptions. Without this intentional prioritization and integration, climate action is the first thing to fall off the table when competing priorities arise. An important aspect of accountability is the incorporation of climate action deliverables into specific job descriptions:

But there's two things that have to be really kind of kept core in order to keep moving forward. One is that, someone's got to be accountable to deliver. Someone. One person has to be accountable to deliver that thing, not everyone accountable. So, I always struggled with the fact that accountability for climate sustainability wasn't part of my performance review. It wasn't part of my performance check ins. There wasn't a mandate letter that I got that said: 'You must do this with less carbon emissions, you must do this with less energy use, you must do this.' I was the one running around saying: 'Hey, can we get this in like the director of parks and facilities like job description?', you know? So, there was a lack of accountability. [S13]

A further component of accountability is the establishment of metrics, including auditing and reporting on progress. While many communities have set ambitious GHG reduction targets, without consistent measurement and public reporting, the accountability for meeting those targets is lacking. As one interviewee described, the lack of regular auditing of goals and targets is a significant barrier to making progress on climate action at various levels of government:

And I think that's why we just have to establish like a really routine auditing system, you know, for solid waste, but also for everything around our greenhouse gas emissions, and be honest, like, what happens a lot in municipal government and provincial government is that, like we've set these targets and goals and we don't audit it. And then have legislation, like legislative compliances around when the audit shows up that we're not achieving what we're saying we're doing. And I think that there's a general lack of honesty. Like, [my community] has never hit one of its greenhouse gas targets, since its inception. When we started doing that, like in 2007 I think. We should have a goal to be like 30% under our 2007 targets and we were like, you know 20 years later, when we should have been there we're 17% over and so I think it's reflective in general of the Canadian population that we're not taking this totally serious yet. [E9]

An observation based on conversations with interview participants is that climate action in many communities depends to a large extent on individual leadership (of staff and/or elected officials) as well as informal relationships. This tends to especially be the case in smaller communities and/or where climate action has not yet been mainstreamed through the organization. When local government climate action depends only on individual champions within the organization and the informal networks of that individual, there is potential for action to stall as soon as that person is no longer with the organization. With high levels of movement and turnover (as one interviewee noted, "there was a mantra for a while

in local government that after five years in one place you're stale dated" [S11]), that can pose a challenge to consistency and accountability.

Although loss of organizational memory, silos between departments, and challenges related to metrics and measuring progress on action may be ubiquitous challenges in government, the problems are particularly prevalent in relation to action on climate change. Climate action is a relatively new and growing area of focus for local governments and one that has not traditionally been seen as being the purview of this level of government. Since climate action is not part of the basic essential services (such as water, sewer, and garbage) provided by local governments to residents, it is more often seen as an "extra". Internal structures and procedures that integrate climate action within the organization ensure that commitments made regarding climate action can be implemented and are more than lip service.

Both local government staff and elected officials also highlighted the issue of policy inconsistencies within local government as undermining accountability. As one interviewee described, "I think we still have a lot more work to do, around the mitigation piece, because I see that as a growing conflict and divide where we're saying one thing over here but enabling continued impacts." [S6] Sometimes this lack of consistency manifests in relation to lack of alignment or follow through on policies and plans, as in an example described by one interviewee regarding a lack of adherence to the municipality's own green fleet policy: "Our strategic plans are that we are to become carbon neutral, or carbon negative. And yet we're not even looking at our fleet of vehicles, even though we have a green vehicle policy that's been in place since 2019." [E1]

Land use and development is another arena in which inconsistencies can be commonly found between the stated goals of compact communities and the actual developments being built. As one interviewee highlighted, "there's still sprawl being built all over BC right now, right? Even as communities talk about climate action and climate emergency like that's where it shouldn't be happening anymore but it is, so what's missing?" [S8] Another local government staff interviewee spoke to the challenge of ensuring development is directed to higher density nodes and corridors to support best practice regional and transportation planning. Despite having a regional growth strategy and being mostly successful in this case at containing growth within those boundaries, challenges were noted related to directing growth to the right places within those bounds, due to a lack of municipal policy documents that support the growth strategy. One interviewee linked this challenge of land use and development to a larger perceived conflict with economic development:

The mitigation side from a local government or a regional district perspective is really complicated right? Particularly for region like ours, which for all intents and purposes, has been open for business. That has been the long standing precept is that, as we move away from resource industries we're moving to more development within the coastal area, driven by largely greenfield development and unconstrained development. So no real limits to or containment of growth and growth containment boundaries. And that's largely driven by political desires to have economic development and growth and a sense of vitality, without thinking about necessarily

the cost benefit analysis of that and the benefits of reinvesting in existing communities. And that's an economic lever, which is very challenging. [S6]

This quote links back to some of the challenges that were previously discussed around resistance being linked to underlying beliefs and values – the idea described above that growth is good because it indicates community vitality. As with many of the other internal governance challenges highlighted, there are linkages to the barriers associated with internal resistance that were described in section 4.2.3.

4.4.3 Regional District Structure

“Honestly, I think there's some structural issues with the regional governance model with regional districts.” [S5]

A number of interviewees spoke of governance challenges related to how regional districts are structured. Within regional districts, the structure, budgeting process, and requirement for service area establishment were some of the specific areas highlighted as barriers. Although regional districts can be a scale at which regional collaboration can be facilitated, the way that they are structured does not always lend itself toward acting in coordination for the larger region. As multiple interviewees highlighted, elected representatives within a regional district represent the constituents of their city, town, or electoral area and not necessarily the wider region:

And then you have a regional district, which has one elected representative for an electoral area. There isn't a confederation. There isn't a Council. They're not, you're not all acting for the larger area, you're acting for your constituents and they have a direct line to you. So it is very, very difficult for local politicians to make real change without risking a very short-lived political career, or very contentious political career. And then that doesn't necessarily mean that they're going to be acting in concert and coordination with other politicians to look at system change. They're moving the deck chairs around. So the structure of regional districts is very, very challenging and the legal framework in which they work is very challenging as well. [S6]

Another interviewee noted that while electoral areas can be quite large, they lack diverse representation as they have only one elected representative per area:

The regional district structure is also kind of messed up in some ways, because, you know, so let's just say at a regional table... a bunch of them are from [one city], and then there's the [ones from other cities and towns]. But then there's these electoral areas, and some of them are actually really big, like lots of people in them, but then they only have one elected representative that's like the King or Queen of that area. [S5]

This structure means that it can be difficult to achieve agreement about what is best for the region as a whole. More than one interviewee described trying to coordinate action through their regional district as a process of “herding cats”. This can stymie efforts to establish regional programs:

And if the decision makers at the regional table...if they're not aligned in their approach or they can't achieve alignment with the neighbouring municipalities that have to make the corresponding decision all together to do that, to dedicate that lane to a bus, to come up, to put money towards the development of this program, that kind of thing, then you can stall out. [S13]

Specifically, interviewees spoke of the barriers associated with the requirement for regional districts to establish a service authority through a bylaw in order to spend money and provide services within the region.³⁰ One participant explained, “if you're always trying to convince members that it's something that's worth doing, you spend a lot of time case making and less time doing. So a potential barrier is the service establishment authorities that are inherent to regional districts.” [S2] Another interviewee described “systemic barriers to collaboration between the regional district and municipalities” [E3] related to the structure of regional districts, from budget silos that limit spending without a specific bylaw and a function first being established, to restrictions on moving money from one budget silo to another except under very narrowly defined circumstances, to challenges that prevent sharing staff and sharing expertise across jurisdictions.

Although regional districts can in theory provide a framework for collaboration across a region, and in some cases do so relatively effectively, the structural challenges noted above also act as a barrier to innovation and collaboration.

4.4.4 Multilevel Governance and the Role of the Province

Multilevel governance, or the need for better vertical integration between local/regional governments and the provincial and federal governments, was identified by participants as a key need (with lack of integrated policy as a corresponding barrier). There is a need for greater policy alignment and support for local governments from higher level governments. Some examples related to policy alignment raised in previous sections include consistency around messaging related to natural gas, PACE financing, and the alignment of step code targets under the BC building code. Interviewees identified that in domains where there is provincial legislation and alignment in policy, this enables local action. For example, one interviewee highlighted support for retrofit incentives offered by higher level governments as an area of policy alignment:

³⁰ A number of interviewees with experience in regional districts brought up this point. One elaborated on the process of establishing a service, explaining: “we can only provide services where the public has asked for that service. And they have two ways of asking for it: referendum or an alternative approval process, so we're really constrained in terms of how we can act.” [S6]

There's also a lot of stars aligning in that space with retrofit incentives and stuff that are offered provincially and federally right now, if you think about incentives that are available for heat pumps and what not, so there's just momentum in general that's sort of starting to build within that space and so hopefully we'll have a new regional program, really helping folks kind of navigate it and then there's the support from the province and federal government. It's a lot more difficult for a municipality, to provide sort of incentive type support. And so it's great to see that that's there at the provincial and federal level, so we can offer things like services and infrastructure that augment it type of thing. [S4]

Local staff and elected officials see an important role for local governments in advocating to the province and influencing higher level policy change. Local actors want their important role recognized and want to be treated as partners:

We spend a lot of time trying to collaborate with one another, but how do we start collaborating vertically across with senior levels of government and really be treated as true partners, rather than like someone that we go and consult and seek input from, but rather like, how are we truly building this together? [S2]

Interviewees frequently pointed to the need for action, policies, funding, and support from the provincial level in particular. Local governments have influence in a number of important sectors, but scaling up is challenging and would be enabled by provincial level action. An example of this is the need discussed above for inter-regional transportation planning, which is currently challenging for local governments to organize without direction, leadership, and funding provided at the provincial level:

I think it needs to be facilitated at a higher level. You know, I think there is a reason when things become regional then maybe they should be facilitated at the higher level, because they're no longer just specific to us right. So maybe it shouldn't be on us to go and form alliances with other communities... We can advocate, and we can support, but to me it would be more efficient if those were looked at from a bigger, provincial lens. I think that's why we struggle right, to tackle them because they're not local issues. They are broader bigger issues, the province should step up a bit. [S8]

Some interviewees spoke of the need for the province to mandate change – and enforce it. While some communities are on the leading edge of climate action and are keen to implement change, others will not make changes until mandated by higher orders of government. Having clear provincial direction also enables local governments to adopt changes more easily and with less contention:

Higher levels of government policy change, mandated [strong emphasis] obviously helps. Because, you know, some things will never change until it's mandated. You know you have communities that will adopt things early, I mean we did that, with the BC energy step code, we adopted early but oh my God that was a fight. [E1]

Not only is there a need for clear direction, but lack of enforcement also undermines efforts to enact climate policy. Some interviewees described a general lack of follow through on the part of the province. Even where expectations have been set, a lack of follow through on enforcement means that there is no consequence for failing to meet the expectation. As one interviewee described:

And so there's all of this language and expectation of the federal and provincial level for local governments to be moving forward. But there hasn't been any direction. For example, our OCP's are supposed to have GHG targets defined and strategies to meet those targets. I've never seen a letter from the Provincial government to us saying, 'Why haven't you defined an actual target?' and 'Why don't you actually have a plan?' And 'Why aren't you actioning that plan? And we will withhold grant funding from you, until such time you do.' Like there's no consequence of not doing it. So we can't turn around to the public and say 'There is a consequence'. [S6]

Multiple interviewees described the inefficiencies that come from the lack of centralized direction. Without clear direction from higher level government, local governments are left to reinvent the wheel over and over at a small scale, rather than implementing change in a consistent and coordinated fashion:

If there was more wider scale action at the either federal or provincial levels...the fact that there isn't as much as there could be, is in some ways a barrier, because it sort of requires municipalities to go out and try and create our own...then we all have to spend time drafting something or creating a policy that, then sometimes it's shared across groups, but if it was just more top down and the province said 'here, everybody has to do this', then that would save a lot of capacity and time and make things a lot smoother and easier for implementation and consistent than if each of us is trying to create our own path forward." [S4]

In addition and related to providing a clear shared direction for climate action, another common theme related to higher level government support was the need for standardized processes and methodologies:

I think that sometimes where it's hard is that we can get stuck in coming up with methodologies, or coming up with approaches to be able to speak to some of the monitoring and target achievement components...so the more that that can be standardized the better off we'd be, just because it takes up an awful lot of staff's time trying to figure out 'How am I going to measure that? Where am I going to get the money for it? Who's going to tell me?' And then, if you imagine that everyone is doing that, that's a lot of wasted time, whereas if one group was responsible for just saying, 'This is how we do it. This is how you should do it, too', rather than letting everyone kind of spin up their own thing would be really, really, really helpful. [S2]

Beyond funding and regulations, the province could provide better on the ground support. One interviewee spoke of how having more boots-on-the-ground provincial representatives in the

community in the past had facilitated better collaboration between provincial ministries and local authorities, and also described how invaluable on the ground support and instruction from provincial staff had been in building capacity in a rural area:

Well, the province gave us plans for all the transfer stations, we could use their pre-engineered plans for the transfer stations and they also had staff people that would help us do that. Nowadays they say: 'well, go hire a consultant', and the costs are sky high, everybody's got to get the same plans done... same with measuring, and measuring applies in this example too. They taught us how to measure, we didn't have any staff that knew how to measure leachate and do the sampling and everything else, and how to drill wells and do all of that technical stuff. Well they sent the provincial officials and they directly taught us how to do these things. And by three or four years in, [the Province determined]: 'Oh no there's a liability issue you guys have to hire your own', but there's nobody there to [do the] training. So anyway, so [then] there was a different level of support, there wasn't money, there was actually resources. [S11]

While interviewees highlighted that they would like to see greater leadership by the province, at the same time they do not want to give up their authority. Increased funding and standardization can support local action, but while the province should lead, diversity of communities needs to be recognized and some level of flexibility needs to be maintained:

Well, I think that, and this is a struggle, because you don't want at a local level...it puts you in between a rock and a hard place because you don't want to say that 'yeah the provincial government just has to change these and tell us what to do.' And at the same time there's some cases where the provincial government or the federal government just need to change things and tell us what to do, right? It's both. [E12]

Expanding on this, some interviewees spoke of how particular local governments have been leaders on climate action, and can move faster at the local level. While they want to be supported and enabled to take action by the provincial government, they also don't want to be held back.

And so, there has been barriers in terms of – we feel that local governments are often much more ready to move forwards and progressive in what they would like to achieve. And we're relying on that provincial legislative changes either to enable us to do it, or to put the policy in place so that the province does it. [S7]

The model of leading communities setting an example that can then be followed by mandated provincial level changes was one recommended by interviewees as a way of highlighting new approaches and building acceptance:

I do think that there needs to be that sort of regional variation, you need those more progressive areas to lead the way and show that it can work, in terms of gaining that support for it, so if the

province was just to say, 'Everybody has to do this now', it wouldn't necessarily be well received, but if there are leading areas, leading regions that can show that that can work and have a little bit more public support for it, then the province comes along and says, 'Now everybody has to do this', you know, 'Vancouver's been doing it for five years', or something and then maybe there's less pushback from everyone else, because they have that proof of concept. So I think that there is a bit of that needed to some extent, and so a little bit of weight falls to those leading cities and areas to be that showcase and build support and acceptance of new approaches." [S4]

4.5 Barriers and Challenges in Small and Rural Communities

"Even figuring out what we can do is a big struggle. Again there's a lot of suggestions being made that are much more appropriate to cities." [E3]

A number of barriers and challenges that are more prominent in small and/or rural communities have been mentioned above throughout various sections. Lack of capacity was a challenge mentioned by many interview participants, but is especially apparent in smaller communities. Interviewees from larger municipalities also mentioned a need for increased staff capacity; however, most of these communities do have dedicated climate, sustainability and planning staff, while many of the very small local governments do not. In smaller communities, not only is there an issue of having staff at all, where there are no specialized climate or sustainability positions, but also attracting highly qualified staff with the right skill sets:

Staff capacity is probably one of the biggest barriers in [my community]. In these small communities, there's no climate change manager, sustainability manager. There's no like facilities energy specialist or community energy manager. There's nobody. And they may not, somebody might have the desire, but they don't have the background or the training to actually make things move. So, the combination of resources, either internal or external being applied to this change making is really important. And also like the set of skills and competencies that they have is really important. So yeah, resources is a key one. [S13]

Another interviewee elaborated on some of the challenges small and remote communities face when it comes to capacity, using an example of water treatment standards:

You know, the province, just as an example, required everybody to put in higher standards of water treatment following Walkerton, but you know, it's incredibly expensive for small communities. They can't afford it, and then if they could afford it, you've still got to maintain the plant. And if you have to fly in technicians, I mean this is brutal. So the solutions that they are coming up with are unrealistic for remote communities, you can't do it, you can't afford it. [E3]

The challenges related to funding and capacity relate closely to one another, with lack of capacity being the other top challenge indicated in the 2020 survey. But it is not just that more funding is needed to hire more people. Existing capacity could be used more effectively. Small communities in particular could benefit from regional collaboration approaches that allow local governments to leverage their limited capacity. Better systems for collaborating and sharing information could prevent local government staff from having to “reinvent the wheel”, thus using time and resources more efficiently. Interviewees suggested that collaborating by taking turns being the lead in different areas and building from each other’s successes and learnings would help with capacity challenges. Establishing dedicated, reliable funding and moving away from a grant reliant funding model would free up staff resources to focus on projects rather than spending time applying for grants. Small communities are especially challenged by this model as they are already stretched thin and do not have capacity to keep track of funding opportunities and spend time applying to them.

Beyond limited staff and financial capacity, small and rural communities face additional challenges. As described earlier, some interview participants noted cultural differences between urban and rural communities, with urban populations being more supportive generally toward climate action. In fact, in some small communities, interviewees noted that influxes into the community from nearby urban centres was shifting the balance of public opinion toward greater climate action support.

Some interviewees from rural areas also spoke about their perception that most climate action solutions are geared toward urban municipalities, and the challenge of finding information and solutions that fit the realities of their communities. As one example, the challenge of working with BC Transit and the province on providing inter-regional transit was previously described; another interviewee noted how the transit model is geared toward urban cities and not suited to their small community: “the downside of BC transit is that they're very bureaucratic and their service delivery model is very urban. It's really designed for, you know, big buses running in networks that are sort of grids, which we don't have.” [E3] Another example was related to social equity: “I've seen some social equity tools out there. They're mostly aimed at cities. They assume that every population that you would want to consult already has a, like an organized community group or something. That's not true here.” [E3]

Interviewees from rural communities also found that the political structure in rural areas can be challenging. For example, a lack of general public understanding of local government politics, especially in rural areas was noted, with corresponding lower levels of political participation and frequent acclamation of representatives in electoral areas. Some interviewees felt that the regional district structure, rather than encouraging regional collaboration, results in electoral area representatives advocating for pet projects and for their particular areas over the good of the whole, since it is only their electoral area constituents that they are accountable to.

Part Two: The Role of Collaboration in Overcoming Barriers

4.6 Introduction

The interviews clearly identified a number of factors, many interrelated, that can act as barriers to local government climate action. The findings also highlighted potential enablers, several of which point toward a role for collaboration between local governments at the regional scale to advance climate action. The second core research question built upon the previous question about barriers to climate action by asking:

“In what ways can a regional approach support local governments to overcome barriers in order to take meaningful climate action?”

Interviewees provided insight into this question both directly in responding to questions about experiences working collaboratively at the regional scale and perceived opportunities related to regional level climate action, and indirectly, through describing enablers and needs that point to a role for collaboration. The previous discussion of barriers to climate action also identified some key enablers. In the sections below, I begin by discussing the top climate action enablers and needs identified by interviewees, and follow this with a deeper dive into the opportunities associated with regional scale collaboration. The most important enablers of local climate action included networks, learning from others, partnerships, and collaboration, with interviewees identifying associated benefits ranging from capacity building and reduced duplication of efforts to the intrinsic value associated with mutual support gained through network participation. Much of the collaboration that has enabled climate action to date has relied on informal relationship building and networks; participants made a number of suggestions of ways collaboration could be advanced through a more organized approach. With respect to overcoming barriers, the top needs highlighted the importance of improved coordination horizontally with neighbouring jurisdictions and vertically with the provincial government.

4.7 Climate Action Enablers and Needs

Interviewees were asked about what has been important for enabling successful climate action in their community so far. Interestingly, the most frequently mentioned enablers included:

1. Networks
2. Learning from others
3. Partnerships and collaboration

There is clear overlap between these top three enablers, and all point toward the benefits associated with collaboration. Other top enabling factors included leadership, co-benefit framing, capacity, political will, relationships, and incentives/funding. With respect to each of the major themes identified as

barriers to local government climate action, there is a clear role for greater collaboration at various scales, including the regional scale, to address the identified challenges. This is not to say that regional collaboration is a silver bullet, but rather that increased collaboration between local governments as well as vertically with higher levels of government may be one way in which governments can be enabled to meet the climate change challenge.

The following sections will elaborate on the top enablers and needs that were identified by interviewees as well as provide further discussion on those that point to a role for regional scale collaboration.

4.7.1 Networks, Learning, and Collaboration

“I think there's a big opportunity for municipalities to learn from each other and share with each other and kind of replicate things that are already working.” [S4]

It is notable that networks and learning from others were the most commonly referenced enabling factors. Staff, especially those from the larger urban municipalities, as well as a number of local elected officials spoke very positively about the impact of networks in enabling climate action. Various forms of networks allow those involved in climate work to form connections and relationships with others doing similar work and provide exposure to new ideas, information, and resources. Local elected officials shared how useful they found the information and inspiration shared in networks, both on the regional and international scale. As one interviewee described, when local elected officials attend conferences, they meet colleagues and learn about ideas being implemented elsewhere, “and that is absolutely key, realizing what other communities are doing so you don’t have to reinvent the wheel.” [E1] Another local elected official described how networks and collaboration among local governments provide a source of hope:

The ability and the desire of local governments to find ways to work together is tangible and that gives me – having seen the success of other wider networks that allow people to work collaboratively – It gives me one of the few sources of optimism or kind of bright spots that I see over the last couple of years in terms of how to deal with climate change. [E14]

Another interviewee elaborated on how networks support local governments to connect and inspire one another:

I think the only thing that I would say that I haven’t said yet, or that we haven’t covered is, I mean I’ve touched on it a little bit loosely, but the importance of local governments as inspirations and mentors to each other. And I know that does kind of lead into VICC-CLP a little bit, but you know networks like the Federation of Canadian Municipalities, ICLEI Canada, some of the, the C40, the more global networks, you know, every time I’m invited to talk at like some, you know, whatever United Nations Cities on Climate Change or United Nations Economic Commission for Europe...I’m a little square on the computer with all these other mayors, but

we're all talking about the same thing. We're all doing it, you know, across the world. And so I think that's something that we can do, as well, is look out into the world and share what we're learning, but also, you know, grab good ideas from elsewhere and bring them back. [E15]

Staff also take advantage of the opportunity to connect and learn from others through networks. There are many networks available to local government staff; some that were mentioned by interviewees included peer networks through the Community Energy Association, regional district intermunicipal working groups, BC Hydro Energy Managers Network, and the Canadian Urban Sustainability Practitioners (CUSP) network. Local government staff interviewees described how networks provide a framework to connect with peers:

In BC there's an amazing network of local governments that work together, so BC Hydro Community Energy Managers Network, there's all these peer networks around the EV side, around the building and step code side, there's [CRD's] intermunicipal, and then CEA is doing a bunch of work, and so, it's been really nice that the frameworks have been set up to connect as we're all kind of working on the same thing, we're just trying to localize it to our own context. [S2]

The BC Hydro Energy Manager Network has a really good peer network, so all of their community energy managers kind of meet regularly and they every year kind of do like these ideation sessions, where they try and come up with new initiatives and they basically, break out into teams and try and advance those projects and objectives. They give them funding for their ideas and sort of advance them collaboratively and I think that that's been a very successful structure to be a part of in terms of both improving collaboration regionally, I know, maybe I'm jumping ahead in your questions, but, as well as just building capacity for us as well. [S4]

In addition to these benefits, regional and broader based networks help to promote and enable advocacy to higher levels of government. This is critical since participants indicated a need for higher level government policy as one of the most essential prerequisites for catalyzing climate action on a broader scale:

And that's why organizations like VICC-CLP...Climate Caucus...ICLEI Canada, and other organizations that speak for and represent cities, I think have really powerful voices and are part of what's necessary to overcome barriers. Because if it's just [one city] saying 'we need this', no one cares, but if it's every city in British Columbia saying 'we need this' like the Help Cities Lead campaign that the Climate Caucus did asking for authority for local government to regulate some of the things that I've been speaking about. So I think that that is possible, like getting that change at Federal and Provincial levels. It takes time, though, and it's again not as easy as it should be. [E15]

4.7.2 Networks Build Capacity

Staff who participate in networks spoke about how networks provide the opportunity to not only make new connections and learn about what others are doing in other communities, but that they can form the basis of collaboration with neighbours. For example, interviewees described sharing templates, reports, and research with one another:

We've done a lot to break down barriers through collaboration. So, for instance, there's a multitude of different networks, where we feel, I would say, I feel extremely connected with the larger municipalities and the region and the lower mainland municipalities who are working in this field. Such that we put the time and resources into some actions and we share it with all of them. And they do a bit of what's effectively a copy and paste or they use the research that we do, or we tweak the research or the background information, so that it's going to support their needs as well, and likewise, they do the same for us. So we'll borrow, you know, we'll use the research that they're developing, they're leading. [S7]

With respect to the importance of collaboration, while networks were indicated by participants as being very important, collaboration in the region seems to mostly rest on informal relationship building. Some interviewees spoke about the potential for a more organized and coordinated approach to policy alignment and regional collaboration. For example, it was suggested that staff capacity challenges could be eased through a collaborative approach of different communities taking turns leading in particular areas and then building on each other's successes and learnings. To some extent, this is already happening in some places in an informal way. It also should be noted that staff from larger communities were more likely to speak about participation and benefits associated with networks. The research didn't provide answers as to why, but possibilities are that existing networks may cater more towards those in larger communities; larger communities are more likely to have dedicated climate and sustainability staff, and/or staff in small and rural communities may be so overwhelmed that they lack the capacity to participate. Yet it seems that those smaller communities struggling with capacity could potentially benefit significantly from the opportunity to connect with and learn from others.

4.7.3 Knowing You're Not Alone – It's All About Relationships

An important finding related to networks is that perhaps one of their most significant benefits lies in the intrinsic value of mutual support. Research participants spoke again and again about the benefits of having a network to lean on and knowing they are not alone:

One of the other things as well as exploring policy is just a feeling that one isn't alone. And I think I'm fortunate that it's a pretty progressive community that I'm living in and colleagues that I'm working with. But I think if you're in a small resource community... I think in those communities, I think sometimes knowing that you're not alone and that there's a whole world out there of people doing the things you're doing, and that the steps forward are possible and

this is exactly what they look like, and to have people to share best ideas with and just occasionally, just sort of to commiserate and to share...that kind of regional network gives people the kind of informal support from colleagues, and the sense that they're in it together with other people and there's a sense of possibility. Which is really important because as local politicians we don't have political parties that support us. We're just each our own person, we do all of our own research, we come up with our own decisions and we do the best we can. And sometimes to have kind of additional supportive people who are facing very similar but slightly different challenges in your region is incredibly valuable. So, I really hope that that sort of a regional level of organization within the province is what emerges from VICC, I think there's just tremendous value to that sharing of ideas. [E14]

Local government staff interviewees also spoke of the significant benefits they found from participating in relevant networks. They indicated that the information sharing through networks is invaluable to their work but also they experience personal benefits from relationships formed and feelings of mutual support. One interviewee described getting together outside of work and feeling like one big team with colleagues from other local governments:

It's also dependent upon the people...we've been fortunate that there are a lot of those players in the region who have worked tirelessly and are so committed, very collaborative and people that really get on... I can be on some of those calls and I can forget who belongs to which local government, because we're just working as a team to achieve the same outcome. And we're pretty much all aligned in terms of our targets and our goals and our Council direction. And, so that's really valuable. So, in the sustainability field and in the climate field we've had fantastic people there as resources that are powering this. [S7]

The importance of relationships more generally was emphasized by some interviewees as a key prerequisite for collaboration. For example, one interviewee described how trust was built in their regional district through long term continuity of relationships on both the staff and elected level which enabled them to take risks and try out new innovations to reduce GHG emissions. Similarly, without a strong foundation of trust, collaboration can be difficult. Especially because there is not a consistent framework for formalized regional collaboration at various scales, much of the existing collaboration is effectively informal and voluntary. The interviews revealed that the level of trust and collaboration between municipalities and regional districts is variable. Networks and other opportunities for connection allow for the foundational relationship building that can lead to eventual collaborative initiatives. And as one interviewee described, when that foundation is lacking, there may not be a desire to work in a collaborative way:

I think there's an opportunity to build much better relationships and collaboration around these kinds of things. And then when you build relationships, you build trust, and then there's more opportunity to actually do these regional initiatives. Because there's, when there's distrust it's like 'Why would – I don't want to work with you anyway.' [S5]

The interviewees pointed to the importance of relationships both within the organization and with external partners, as well as with both staff and elected officials. Strong relationships and levels of trust enable willingness to take risks and to collaborate. The mutual support and intrinsic benefits gained through participation in networks and the building of relationships is an additional important outcome.

4.7.4 What Do Local Governments Need?

Interviewees were asked about what is needed to overcome the barriers to climate action in their community that they had identified. The top needs that were described by interviewees included:

1. Higher level government policy
2. Consistent funding and improved funding mechanisms
3. Coordinated approach regionally
4. Better public outreach and communications
5. Behaviour change
6. Vertical integration, or policy alignment with the provincial and federal governments
7. Greater local authority
8. Advocacy

The linkage to multi-level governance including both horizontal and vertical integration is quite clear in this list of needs. Most if not all of the pressing needs identified could be addressed through coordinating and collaborating more closely across neighbouring jurisdictions and with the provincial government. Interestingly, unlike the 2020 survey results, which pointed to capacity and funding as top barriers, when asked about their needs in the context of the barriers to action they had previously described, the responses of interviewees told a different story. Funding still appeared among the top priorities, however, responses tended to focus on the need for consistency and improved mechanisms of funding, as was described in the previous section on barriers.

The top needs discussed by interview participants clearly point to an opportunity for the provincial government to further support local climate action through policy and funding. When asked what local governments need to better facilitate climate action at the local level, higher level government policy was by far the most frequently referenced need, encompassing stronger policy in general at the provincial and federal levels, policy delegating greater local level authority, enforcement/follow through, and policies setting out consistent methodologies. Nearly three quarters of interviewees spoke about the need for higher level government policy, with many interviewees expressing a strong desire for clear direction and leadership from the provincial government:

It's already so complicated at the at the local level --- we need to be able to rely on upper levels of government to provide direction. Not that I want more government, but sometimes it's really nice to say, 'Okay we're going in this direction, we're not going in 15 million directions, we're going in this direction.' Then we can align onto that and provide those services effectively. [S6]

The responses to the question of needs further highlight the possibilities for greater collaboration on the regional scale. The need for a coordinated approach, both horizontally and vertically, was frequently noted by interviewees, as was the need for better public outreach and communications. A regional scale approach can support coordination across municipalities and regional districts across a number of sectors, including policy and communications. Consistent communications and improved public outreach and engagement were frequently discussed, and some interviewees pointed specifically to how this could be leveraged by improving coordination regionally. Examples include better policy alignment and coordination of communication between neighbouring jurisdictions and with higher orders of government on fossil fuels and natural gas, and coordinated policy on buildings, including both retrofit programs and new building requirements.

4.7.5 Urban Versus Rural Needs:

When comparing responses between those from larger, urban communities versus smaller and more rural communities, the top three needs highlighted above remained consistent. However, there were some needs that were identified only or primarily in smaller and more rural places. These tended to fall under three broad themes, and included:

- 1) Organizational processes: better decision-making processes, change management, clear vision, prioritization, champion in leadership role, standardization, freedom to experiment;
- 2) Geographic issues: better rural representation, different development patterns;
- 3) Connection: learning from others, relationship building, and tools for working together.

The needs identified reflect geographic differences in issues faced in relation to climate action (development, rural representation) but also and especially organizational challenges that likely relate to the size of government and stage of climate action planning. The need for greater connection was apparent in the responses from those in smaller and rural places: due to capacity challenges and potentially being at an earlier stage in climate planning, there is a great desire to learn from what other communities are doing.

In contrast, those from the larger, urban centres tended to focus more on the need for public support, a co-benefits framing, greater local authority, coordination and vertical integration. These differences likely reflect the different stages that communities are at in their climate planning and implementation journeys, as well as differences in resources and capacity. The larger urban centres tend to be farther along in terms of having climate action plans in place and designated climate staff. Those in larger centres also tend to be more well connected with counterparts which may be a function of being part of networks that are more geared toward urban municipalities and/or having greater capacity to participate in networks. In both cases however, the needs highlighted point to a role for regional collaboration, whereby different types of communities may contribute differently and get different things out of a regionally coordinated approach.

4.8 Regional Collaboration

“The power of collaboration needs be constantly re-stressed.” [S6]

The boundaries of municipalities and regional districts are typically defined for administrative purposes but arbitrary in relation to the geography of the natural world and the functional systems being managed. Various sectors can benefit from management on a scale that makes sense for that particular function, which may not align with current administrative boundaries, thus pointing to regional scale planning as a potential solution. The discussion of barriers to climate action also points to a need for policy alignment to help overcome resistance and capacity constraints. Yet while collaboration regionally across administrative boundaries makes sense theoretically and is already happening to some extent, there are a number of practical challenges to scaling up collaboration.

As described in the previous section, frameworks for informal collaboration, resource sharing, and capacity building are in place through several existing networks. Networks, opportunities to learn from one another, and partnerships were identified as the top enabling factors in communities that are progressing in their climate action plans. Interviewees also pointed to an opportunity for a more coordinated approach to collaboration at a regional scale. The following sections further explore some of the specific opportunities and challenges related to regional scale collaboration.

4.8.1 Benefits and Opportunities of Regional Collaboration

“Keeping each other inspired is really part of the opportunity as well.” [E15]

A majority of both staff and elected officials interviewed recognize the potential inherent in a regional approach. The table below summarizes the benefits and opportunities associated with regional scale collaboration that were identified by interviewees.

Table 3. Summary of Benefits, Opportunities, and Potential Regional Approaches

Benefits of regional collaboration	<ul style="list-style-type: none">• Leverage limited financial and staff capacity• Policy alignment across jurisdictions• Regional consistency in policy and programming• Coordinated public outreach and communications• Shared knowledge, information, and resources• More powerful advocacy to higher levels of government• Stronger relationships and opportunities for partnerships/joint projects across boundaries• Shared inspiration and mutual support leading to strengthened regional resilience and cohesion
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<p>Opportunities: what could it target?</p>	<ul style="list-style-type: none"> • Building industry – shared engagement and capacity building with industry, aligned policy, coordinated retrofit programs & incentives • Transportation - coordinated interregional transportation, aligned active transportation planning and communications, coordination of EV charging infrastructure • Solid waste management – consistent standards, communication, and enforcement, shared information campaigns, circular economy opportunities • Procurement – joint procurement, shared templates for procurement policies • Adaptation planning and emergency management – regional flood management, coastal adaptation strategies, sea level rise, emergency response, collaboration on grants, shared studies and data • Food security • Energy
<p>Where could it start and what could it look like?</p>	<ul style="list-style-type: none"> • Regional district level leadership (e.g. CRD model) • Coordinated leadership – municipalities taking turns leading in different policy areas • Coordination supported by network • Larger scale regional coordination (e.g. VICC-CLP, regional voluntary collaborations)

A number of opportunities related to greater coordination were noted in previous sections, such as aligned regional policy to support a shared building industry, consistent home retrofit programming, and public outreach and communications that are aligned between the province and local government as well as neighbouring jurisdictions. Within the Capital Regional District (CRD) in particular, efforts have been made to align in some of these areas, including retrofit programs and step code engagement, enabled by the CRD’s ability to act in a coordinator role through their climate action service. Coordinating regionally in this way promotes greater consistency and efficiency, as well as encouraging participation from communities that may not otherwise be prepared to move forward on their own:

Another area where we've seen that is the Step Code...it's the Provincial Building Code, and municipalities can adopt different levels depending on where they're at. And Saanich and ourselves have been, you know, pushing to adopt to the higher steps faster than some of the other municipalities, and again we kind of went to the CRD and said, 'We want to do this. Do you want to be the coordinator and bring everyone else along? And we will support, and you know, help,' and again they have chosen to do that and we've just completed a big round of building development industry engagement around the Step Code, but also the province has some new plans for adding in a carbon requirement as well into the mix, and so what does that look like going forward and how is that going to be received. And so again, yeah just the fact that the CRD has the ability to put resources to that, to be the coordinator is kind of allowing some of these other municipalities to come along and also helps us because we don't have to be the coordinator, and you know Saanich and us are now working together instead of doing individually so, yeah, I think there's benefits all around. [S4]

Transportation and waste management were two additional sectors that came up repeatedly as being well suited to a coordinated regional approach:

I think things like transportation and waste management are really big opportunities. And even, you know, a Vancouver Island and Coastal Communities wide retrofit program. So I think there's some programming opportunities. So that you know, in the Capital Region we're starting a regional retrofit program and maybe instead of replicating it up and down the island, it just literally grows. So we've got one program not seven or eight. So, I think there's room for scalability as well. And I mean one more thing I'll say that's kind of a bit of a on the softer side, but really keeping each other inspired is really part of the opportunity as well. [E15]

The need for interregional transportation planning and the challenges related to local government authority to undertake this work were discussed in a previous section. Interviewees called for a greater provincial role in working with local governments to coordinate transportation regionally between communities. In addition to broader interregional transportation between communities, there is an opportunity for regional coordination in terms of aligned strategies and communications within a region, particularly in those where neighbouring municipalities directly border one another. For example, one interviewee described the benefits of a consistent narrative related to active transportation:

The other kind of classic regional stuff is like helping build consistency across the region when it comes to different initiatives. So CRD was quite active in the cycling program and their narratives around choosing to cycle versus getting in your car and all that kind of stuff. Where actually have, more broadly deployed than the City of Victoria's stuff, which is just in the city. So making sure that that kind of stuff is aligned and complementary is really important, and it can work really well. And then yeah, the transportation, like bus lanes and coming up with like, you know, major transportation program investments. [S13]

Another transportation related example of successful regional collaboration that was shared was related to EV charging infrastructure. In this case, again the expansion to a regional district wide scale was enabled by the CRD's ability to coordinate across the region:

So Victoria recently got this new electric vehicle strategy passed by council. We're going to be investing a lot into the charging infrastructure network in Victoria. And that will really benefit the whole region, because we're the core and lots of people are coming in and out of the core of the region, whether they live in Saanich or elsewhere. But currently the CRD has also increased the amount of dollars and capacity that they're doing to support electric vehicle adoption regionally as well. And so they they're taking on the role of coordinator, if that makes sense, so we're submitting, or the CRD is submitting, a big grant application soon to the province, for a regional application of charging infrastructure. And I would say that, of all of the projects going into this combined application, it's probably like 80% Victoria. But there's a bunch of stuff in all of the other smaller municipalities, like we're putting in like 400 or something, and you know the other

municipalities are doing like six, eight, ten, thirty, like it's kind of not at the same scale, but the CRD is leading the grant application, it's coordinating, and sort of taking on that role of providing a bit of funding as well, but really helping to kind of bring it to the regional level. I don't think Victoria would have the capacity to kind of just do that ourselves and be like 'Hey we're doing it who wants to join in?', you know, that's kind of beyond our mandate and our capacity to do that but because the CRD has a mandate and the capacity to be that role, I think that now they're - like, the rest of the region is really also benefiting from, not just Victoria's big plans to have this giant EV network, but also they can kind of tap into that and so now we'll be submitting like a really big application, you know for the whole region, that's maybe even 20% bigger than, you know, what it would have been if it was just us, and that will be really enticing hopefully to the grant funders. [S4]

Interviewees also spoke to the importance of consistent and coordinated communications, pointing to a role for regional collaboration. Related to the above example of expanding EV charging networks is the communications piece, and here again the role of the regional district as a lead enabled a collaborative approach:

We've recently joined with the CRD as well on a, they were successful on a grant to do a big communications piece around electric vehicles. So they're going to be doing demonstration events and a whole bunch of other pieces with that and we've sort of coordinated on that regionally with that some of the other municipalities, Saanich and maybe Central Saanich and others as well. So again being led at the regional level, but with a lot of passion from some of the specific individual municipalities kind of fueling the work. [S4]

The above examples demonstrate some of the ways in which a collaborative approach can support greater regional coordination and leverage limited staff and funding capacity. In these cases, having a mandate at the regional district level to support collaborative climate action has been a key enabling factor. A similar approach could be replicated in other regional districts, and/or scalability of programming could be explored, for example expanding the same retrofit program up the island rather than re-creating different similar programs as was suggested by one interviewee above. In addition, some interviewees suggested a more intentional coordinated approach could consist of an organized method of communities taking turns being the lead in different specific areas:

But one of the opportunities, the biggest one, is that not everyone has to do everything. So, for example... maybe Victoria takes the lead on developing all of the policies and bylaws around single use items, because that's something that we're doing. And Nanaimo tackles electrification of fleets, and a smaller community like Comox tackles fossil fuels in buildings, or whatever it might be....because you know, people might feel like it's going to increase their workload, but actually if we organize it well, we'll take workloads away mostly from staff. So I think that's one of the biggest opportunities, not just learning from each other, because that happens all the time, but like hiving off certain responsibilities to certain regional districts that fit with their

assets and characteristics and their work they're doing anyway. And then just literally like cutting and pasting and taking ideas from each other. [E15]

This type of approach would allow municipalities and regional districts to take learnings from one another and could be applied to various scales. An organized approach to collaborating in this way could help to address capacity constraints. Greater coordination of programming and communications could also be beneficial to address resistance through providing consistent messaging. Regional collaboration around communications was identified as a major opportunity:

One of the things we've been - and again this is kind of jumping ahead to the regional stuff - is trying to be consistent with communications regionally as well, and I think that that is potentially a way to overcome some of this. When you see like yes, maybe, each of us has a very small budget for, you know, getting climate communications out there, but if we're all putting the same information, the same communications out and amplifying each other's messaging and campaign, then we have a bigger kind of joint effort, can join together. So I would add that is one area where regional collaboration is really important, and sort of making that bigger voice around the climate [communications]. [S4]

Solid waste management is another specific sector where interviewees identified a logical role for coordinating regionally. Interviewees highlighted a number of opportunities related to solid waste, including management of solid waste and GHG emissions in terms of what goes into the landfill, consistent standards and communications around things like recyclable materials, shared information, and consistent enforcement around issues like illegal dumping. In the case of solid waste management, local governments have clear authority and solid waste is typically managed at the regional district scale.

Climate Action on a regional scale, the first things that come to mind are solid waste management, solid waste programs. Both getting rid of the GHG out of your landfill, so demand, like you know kitchen scraps program is a classic example of like a regional government partnership, where the regional government and the town or the city work together in order to make sure that that stuff doesn't get to landfill and it doesn't create greenhouse gases, and then it extends the life of the landfill. The other part of it is, of course, helping with super consistent standards across the region, so that when people travel in and around the region, like the color coding on recycling and solid waste and all these different things, it all makes sense. So, solid waste is a big one from landfill management demand, management of solid waste and GHG management of a solid waste facility. Those are all huge. [S13]

In the case of solid waste, an example of a Vancouver Island wide collaborative initiative exists in the form of a solid waste committee organized through the Association of Vancouver Island and Coastal Communities (AVICC), one of five regional local government associations in British Columbia. Interviewees shared that the work of this committee was an example of a successful regional approach:

So there's a bit of a template for this through the solid waste management. There was a solid waste special committee on solid waste for the Association of Vancouver Island Coastal Communities and it had a representative from each regional district and municipality, plus a staff representative. And they got together, and what they did is they said: 'Okay, every year we're going to get an audit done on our landfills of what materials are going in and how much, and we're going to share what we have into a regional spreadsheet that sort of paints a picture of what's being thrown out where.' Just that data collection alone is super effective because companies ---everybody can look at like what is Vancouver Island Coastal Communities using and throwing out, that gives businesses an idea what. So it's like a really cool useful snapshot. [E9]

The AVICC Special Committee on Solid Waste Management formed in 2015, and was initiated in response to the need identified by member regional districts for a process for working toward a long-term sustainable strategy for solid waste management in the region.³¹ Interviewees spoke to the usefulness of the data and communications materials generated through the committee, but also its replicability as a model that could be applied to climate planning and related shared objectives more broadly:

And I really saw the benefit through that committee of how this regional approach makes so much sense because, like on Vancouver Island more so, there is the ability for people to dump waste across borders right? Like they can live in one community, but they could drive to a different landfill or they could drive to a different waste center, so that whole process, and then we shared resources on like marketing and promotional materials and radio campaigns on not, you know, backwoods dumping, and, you know, different recycling strategies. We just like created regional materials that then can be shared among the different local governments and you just put in your local government logo, or whatever, so it was like 'Oh, this makes totally so much sense' because we're all facing the same issues, with slight, you know, differences, so it just made total sense to do it also regarding climate, climate action planning as well. [E1]

In addition to the areas described above, interviewees saw opportunities at the regional scale for joint procurement, shared emergency planning, adaptation, food security, and advocating to higher levels of government as a single, more powerful regional voice. In terms of joint procurement, interviewees noted the opportunity for efficiencies and economies of scale by taking a regional approach:

All municipal procurement is somewhat pretty similar, we buy the same, you know, have to buy cleaning products, we have to buy vehicles for fleets. We don't really need six different procurement strategists and policies, but we need to build one. Can we share resources to have, you know, a crew of two people and a consultant working on developing this policy that we can then all take and then adapt to you know, whatever specifics, that we have. So I think regional

³¹ The Solid Waste Committee has recently been re-established as the Vancouver Island and Coastal Communities Committee on Solid Waste and Circular Economy (VICC-CSWCE).

planning can allow for a mechanism for sharing resources, identifying issues and then coordination of action. [E9]

Existing systems of joint procurement were pointed to as models that could be expanded to address other procurement needs. It was highlighted that the identification of a specific need to organize around facilitates the process of collaborating regionally:

Look at the Municipal Insurance Authority of BC. Okay, we share in insurance and also we share investment across BC, and almost all the municipalities belong, and it allows us, as a group, to do things that would be too expensive individually. It's like, the libraries all belong to the BC libraries collective, can't remember what it's called but they do collective buying for all the libraries in BC. So when you have a specific need that you can identify it very clearly, and you can bring all the partners to the table, you can -- those have been very effective and successful models, and so that kind of thing is something to replicate if we can find the right needs to organize around. [E3]

Shared emergency planning and adaptation was another area noted by interviewees as holding potential for regional scale collaboration:

Much of the adaptation work really needs to be looked at from a system at a regional scale. And then that information is provided to your municipal partners who then say: 'Okay, given this big picture, how do I actually look at mitigative or adaptive activities within my region. Let's collaborate on some of the policy issues, so that we have a single voice, we don't reinvent communications and outreach. We have standardized policies that makes it easier for everybody.' [S6]

Emergency management and planning is already done at the regional district level, and interviewees noted some examples of regional flood management, coastal adaptation strategies, and sea level rise planning within their regional districts. There may be opportunity to expand beyond the regional district scale where it makes sense to do so through a collaborative approach. An example was leveraging across departments inter-municipally within the CRD region to obtain grant funding, which was enabled again by collaboration and sharing of data and resources:

And as we kind of collaborate for grants and on the adaptation side, for example, we were able to work with, we have an inter-municipal climate group, there's also a similar group on emergency programs, so our emergency managers, you know, a big grant opportunity they want to know about tsunami risk, the climate folks, planners wanted to know about sea level rise, and so we were able to grab this massive grant, \$750,000 grant, collaborate, leverage each other, CRD took on the project management to give data that will support sort of plans and policy works and so it's an example of, kind of understanding where priorities lie and kind of being able to jump on them. [S2]

Interviewees from other regions as well noted the opportunity for shared studies and data to support adaptation regionally. This approach could support smaller communities in particular by leveraging resources and making more efficient use of funding and capacity:

I think the other part of it is more on that kind of administrative program strategy side is that maybe there's opportunity with the region to collaborate on these plans and strategies and development of programs that are otherwise hard to afford for the smaller towns. You know, so maybe when it comes to some of these studies about climate adaptation and resilience and forecasted climate impacts on the region, those are all quite regionally focused assessments or analyses. And you could ideate around that being money well spent at a regional level that does [the municipalities] plus some of the smaller Indigenous communities around here. And does one set of analysis, with one set of consultants, once, at the right frequency. Rather than us kind of parsing out and spending, you know, paying for the same thing, three times. So, that that can be an opportunity for sure. And then, and then the updating of that information and that kind of thing, could be a regional model. [S13]

In general, interviewees pointed to the opportunity for greater sharing of information and resources to support capacity building as one of the greatest opportunities associated with regional scale collaboration. In addition, aligning on advocacy for regional needs and speaking in a common voice was noted as an opportunity:

So you start to look at what's the real issues facing Eastern Vancouver Island and how do the regional districts collaborate more effectively, so that we're sharing resources, we're sharing information, and we have a single voice at the provincial table around emerging issues, right. So the power of collaboration, I think, needs be constantly re-stressed. [S6]

With respect to advocacy, staff interviewees pointed out that staff require a mandate from elected officials to engage in advocacy. Interviewees also highlighted the need for someone in a coordinator role to organize collaboration on the regional scale, for advocacy as well as other coordinated efforts.

Well, you know that, just at a practical level, say, I know that we should probably make a coordinated advocacy effort with the lower coast. Partly it's political too, right? Because usually advocacy is political. Staff don't really do advocacy unless they're directed by the Council to do advocacy. So maybe part of it would be actually coordinating our politicians regionally, not just staff. Because if we wanted them to say, form kind of a task for us and say 'let's really go to the Ministry of Transportation and say we need that transit service', Then there would need to be someone to help facilitate that, you know, because people are busy and it's going to be busy with the local issues, right. So, in practice what would they do to organize that? It would take quite a bit of effort for someone to find the right contact, find another person in the lower coast who cares about that, formulate a request to the province, then find a way to--- it's just coordination really. [S8]

That centralized coordination is what has been highly effective within the CRD region in relation to various climate related initiatives “with and on behalf” of member municipalities and electoral areas, all facilitated by the CRD climate action service:

Having a single point of contact for the region to be able to draw funding in and then be able to distribute it out, is like I cannot – like I worked at the province for a little bit – and so I cannot emphasize enough the strengthened value of having a single point of contact. So that as like in a region, so like I think that some of the work that [the CRD climate] group is doing on EV’s, some of the work that [the climate group is] doing on the rebates for, whether it's oil to heat pump replacement, or you know some of the work that they're working on for retrofits like having, having someone who's coordinating that on everyone's behalf and attracting large dollar values into the region is like a really, really, really smart approach. [S2]

Finally, in terms of opportunities associated with regional collaboration, some interviewees pointed to the unique geography of the region, and what it means to think as an island. Food security, energy, and circular economy approaches in terms of an island wide perspective were raised. The question of scale was also raised by some interviewees, in terms of critically assessing what types of initiatives make sense at what scale.

Collaboration within Regional Districts

“You can't just put a bunch of municipalities together and say ‘Collaborate!’” [S4]

Regional districts form a structure for collaboration between member municipalities, rural areas, and First Nations within the region. Although there are challenges associated with the structure and functioning of regional districts which can hinder collaboration, described previously in the barriers section, interviewees gave several examples of effective collaboration within their regional districts:

And one of the ways we do it and it comes back to the whole thing about region, if you're a regional government, and you have a unified approach to these types of things, we share our gas tax, that was the main thing. So we don't give it up to each electoral area, we pool it with the same goals, and by pooling it we get to do demos, we do our own pilot projects. So, for example, we have four different sewer systems and so what we'll do, is something experimental on one sewer system and as a pilot. Everybody knows they get their turn this way. And so, they're supported--- The other three electoral areas will support this because we have a track record of doing this. And so we do our own R&D for that. And so, when we do our own R&D then it's applied to the next community and the cost goes way down because we use the same expertise that we gain from that project to go on and do another project. [S11]

Like there's the formal regional level of the regional district where there's a structure in place, and I found that is a great system for collaboration. And some of the most productive work that we do comes through that regional collaboration piece. And we have a city, a town, a village, and some rural areas in the regional district and it's a small enough and coherent enough space that we can work very productively. Things like, we're in the middle of setting up a regional parks service which will protect endangered ecosystems and also work to produce green ways which connect from A to B. [E14]

One good example of a formalized structure for regional collaboration is the Capital Regional District (CRD) climate service, which enables formalized collaboration between the CRD and member municipalities. With the establishment of a service through a bylaw, the CRD is able to put money in its budget toward climate collaboration within the regional district, and plays an important coordinating role:

So I think that the fact that the CRD has resources and capacity to be that role is what's needed. Like you can't just put a bunch of municipalities together and say 'Collaborate!' You need someone to be the coordinator that's going to say 'Okay, I'll be the collaboration and I'll put out the request for help, and, you know, I'll organize everything and schedule meetings', and you need kind of that, that facilitator person to facilitate that. And so I think the CRD climate action program has been pretty successful at doing that. [S4]

Because of this formalized mandate to collaborate across the region, a number of successful climate action initiatives have been achieved within the CRD, some examples of which are described in the section above. In addition to some of the specific project and programming examples previously described, the CRD also produces a bi-annual GHG inventory report as a resource for the entire capital region and each of its municipalities and electoral areas. Interviewees from CRD member municipalities spoke highly of how the provision of data, resources, and coordination has benefited climate action across their communities, and staff from the CRD described the climate action service as a successful model that could be replicated in other regional districts.

4.8.2 Challenges with Regional Collaboration

The regional opportunity (and challenge) is this: while there are many benefits to working together on a regional scale, there are practical challenges too. The table below summarizes the challenges associated with collaborating regionally that were identified by interviewees, along with corresponding prerequisites for effective collaboration.

Table 4. Regional Collaboration Challenges and Needs

<p>Regional collaboration challenges</p>	<ul style="list-style-type: none"> • Structural – authority and budgets • Finding agreement • Lacking a framework for collaboration • Lack of funding • Geographic scale • Regional variation and different urban and rural needs
<p>What does collaboration need?</p>	<ul style="list-style-type: none"> • Advocacy mandate • Centralized coordination • Flexibility • Framework • Funding

In many cases, there are structural barriers to formal collaboration, such as legislative authority and budget processes:

There are a lot of systemic barriers to collaboration between the regional district and municipalities. Part of it is the way we're constituted in budget silos. We cannot spend money on anything unless we have a bylaw and a function for it. And other things are just as simple. We're trying to share building inspector with [neighbouring municipality] and we ran into nightmares because, two different collective agreements, two different unions...So those kinds of barriers really need to be addressed, because sharing staff and sharing expertise locally here or even regionally in larger areas makes so much sense, so we've got to make it easier to do. [E3]

Other participants spoke about the challenges associated with overcoming self-interest. Although many interviewees acknowledged the significant opportunities related to regional planning and collaboration, they noted the struggle inherent in working together and getting everyone to a place of agreement about regional priorities. This was noted as an existing challenge across regional districts:

Well, I mean the problem is most municipal politicians are very much focused on their own municipalities and don't necessarily have a regional priority, you know, that's just not their priority. So even when they get together at a regional scale really they're advocating for their own areas, and so that makes it challenging because sometimes to do effective regional planning, there are like say, I don't want to describe it as winners and losers, but there's, there's places that will get more of what they want and places that will get less than what they want. And that doesn't always jive with the ambitions at the political level, so, yeah. And politics can be very complicated at a regional level. [S5]

Beyond the scale of regional districts, there is no formalized framework for collaboration or jurisdictional authority on this scale. On the one hand, this opens up space for new ways of thinking and doing that are not constrained by existing norms, but on the other hand, it makes the process reliant on voluntary collaboration, with significant friction to overcome in terms of bringing member jurisdictions on board and aligning priorities with existing priorities and workplans of municipalities and regional districts

within the larger region. Interviewees spoke to the potential for the already inherent challenge of finding agreement between players at the regional district scale being further amplified in an expanded region with yet more stakeholders:

[Finding agreement is] really, really hard. Like we can barely agree to a vision, mission, objectives, high level policy. It's really difficult to be like 'Let's coordinate a bylaw.' 'Let's coordinate an approach to dealing with housing.' It's just really hard. It's, not to say that it's impossible, it's just, it's – yeah. So you bring in that geographical scale to all of Vancouver Island and Sunshine Coast, you can imagine, you just have more layers of difference of opinion. [S2]

In addition to the limitations related to jurisdictional authority and the general challenge of finding alignment, there is no established funding mechanism for this organizational unit. Without a formalized framework and dependable funding, organization at this scale continues to depend on voluntary collaboration, calling into question to what extent the promise of regional scale collaboration on climate action can be implemented at the wider regional scale.³²

4.8.3 Geographic Scale

With respect to geographic scale, the question of the “right” size region is outstanding. Interviewees highlighted the challenge of working at a scale that does not have jurisdictional authority. Staff have found regional collaboration effective in some cases, but were quick to point out the importance of the right fit for purpose, as some initiatives or projects may work at one scale and others at a different scale. A number of the examples of successful regional collaborations that were shared by interviewees were those at the regional district scale, with inter-regional collaborations between regional districts being more uncommon. Because there is no existing framework for working at that scale, as mentioned above, such collaborations depend on voluntary efforts. Further, some interviewees questioned the rationale for a whole VICC regional approach:

Thinking about scale...it perhaps has to be relevant from a data perspective. So a lot of the work that we do regionally we do because our ecosystems make sense regionally: our shoreline, our water supply, the way we deal with our waste. So that kind of thing may be more appropriate to drive the scale and the definitions and the boundaries than anything else really....you know food, biodiversity, waste, our consumption habits, there are some things at play in that bigger

³² For these reasons, the VICC-CLP committee has faced challenges in obtaining funding for their work. Those involved with the committee spoke of the logic they see in working as a single community, given the region's geography as an island, but the challenge of lacking frameworks, institutions or structures at the corresponding scale. They described that that because the VICC region has no legal validity in the eyes of any other government, nothing is designed or intended to serve on that middle level between a regional district and a province, and there is a lack of funding opportunities. Yet some members of the committee see the fact that it exists outside of any established level of government as an advantage: “I mean there are definitely challenges associated with it...but actually there's way more room to move if we're kind of outside of anyone's authority, really. Which is a pretty powerful way to get things done sometimes.” [E15]

Vancouver Island perspective that maybe do make sense. So we currently send our organics up Island, you know, there's the potential for biomass to pop back down. We have a biomass plant that's going in. There's -- we're an island. [S7]

Some staff from within the CRD and member municipalities saw their existing regional district model working well but were unsure of how the approach would translate to a wider regional scale. They noted differences between focus and service areas among various regional districts, and differences between those like the CRD that are mostly urban versus those that have a larger rural population and provide more direct local government services to constituents:

And part of that is because our regional district is 13 municipalities, one electoral area in the Juan de Fuca, and then two other electoral areas, so Southern Gulf Islands, Salt Spring Island, but those two fall under the planning authority of the Islands Trust, so unlike many other regional districts where there are many electoral areas like rural unincorporated areas for which the regional district acts as local government, we don't do that as much, like that muscle isn't as strong and so a lot of our focus is on regional service provision just because we're not acting as local government in quite the same way as you would see in like Strathcona, Alberni-Clayoquot, like even Cowichan Valley, right? Like, it's just – and so I think that that's why there's a sense of it being really different. [S2]

A further issue related to a wider regional scale that was raised was the potential for action to be slowed down. Staff from municipalities leading in climate action raised the concern that working on a broad scale could slow processes at a time when they want to be going further, faster. The leading municipalities tend to be keyed into networks that include other large cities, and interviewees from those communities highlighted that they appreciate being pushed to go further and having opportunities to learn and compare to places like Vancouver. They noted that a regional scale approach should be structured in such a way that leading communities could continue to lead and not be held back:

The issue if it's too official and has to be regionally led, is that you're only as good as the lowest common denominator, or you need to get at least half plus the votes. And that's why you need, you need some things to stay at the local government level, so the likes of Saanich and Victoria or others can lead. And then, it doesn't ---the world doesn't end and nothing collapses and others can see, 'oh, well, it went okay, we can follow that example.' [S7]

Overall, the findings pointed to a need for flexibility in any kind of regional approach and a clear understanding of where it makes most sense to work together and where it may make more sense to implement initiatives at the community level. Different scales are appropriate for different types of projects and interviewees pointed to the need to be intentional about collaborating regionally.

4.8.4 The Scale of Transformation

“And that’s almost the greatest concern, it’s the scale of the job.” [E14]

Regarding another type of scale, the scale of change required and the necessary shift from incremental to transformative change was highlighted by staff as a challenge:

A lot of the work that we do, and I know that I’ve had success taking this approach, is that we do a lot of incremental [work], right? So it’s like, how do we bundle on top, how do we leverage what we have, how do we get a little bit more, how do we take up a little bit more space? And so that incrementalism has served me well in my career, that incrementalism is the way that you get things done. But we’re talking about, whether it’s housing, climate, food systems, whatever, we’re talking about some pretty big scale changes and there comes a point where I’m not sure if just adding on top of what we already have is necessarily the thing that’s going to help us solve this problem...I think that in terms of overcoming some of those challenges it’s just really making that greater vertical integration across senior levels of government, but then also just the recognition that an incremental approach might not be the thing that helps us solve this problem. And trying to be okay with having to do a bit bigger change. [S2]

Even where the public and local councils have been supportive of climate action, staff feel there is a lack of understanding of how much farther we have to go to get where we need to be, which can act as a barrier. Staff have been successful using an incremental approach so far, but are challenged in knowing how to shift to the transformative level of change required.

4.8.5 A Shared Regional Vision

Perhaps one of the ways in which the regional approach holds the most promise is by supporting a broad vision of working together. In terms of addressing the challenges of resistance, the development of a shared regional vision has the potential to unite across borders and bring people together. A large number of interviewees highlighted the challenge of motivating citizens to do their part, with one interviewee asking “how do we overcome people’s... inability to see their part in the big struggle that is underway?” [E15] One answer could be in finding a way to communicate a positive vision of the future, that people can see themselves in, through a common shared purpose. As one interviewee described, most people share similar core values, although they may differ in their understanding of how to best achieve those things. This is why the approach of speaking to co-benefits of climate action is often so effective: everyone wants to have clean air, clean water, safe communities:

I think that the challenges are just the ones that we put on ourselves. And in addition to the other things that I’ve mentioned about how do we bring people along... and I come back to storytelling all the time, right? Where do we see ourselves in the story and how can we come up with a shared story of where we want to go in the future? And then agree to the paths that will

take us there. Because most people share very similar value systems: we want a healthy environment, we want to have water for our kids, we want our kids to be healthy, we want them to be employed, we want them to, you know, all those things, we want them to have opportunities. But our ways of achieving that can be vastly different. So how do we create the vision, the story and how do we bring people together to recognize that the story that we're talking about given the times that we're in, how do we make it safe for people to come over, and join, transitioning from something and having them see and be comfortable with that transition, so that we don't waste all of our time, fighting it. And ultimately running out of time. [E12]

4.9 Conclusion

The findings illuminate a number of key barriers faced by local governments, organized under the three main themes of resistance, capacity, and governance. A key finding is that challenges related to resistance run deep and are interrelated with barriers in the capacity and governance areas. The study also illuminated several enabling factors, many of which directly correspond to the barriers identified, such as emphasizing co-benefits and shared values related to climate action through coordinated and aligned communications to address various forms of resistance. It is also important to highlight that the same factors can act as either a barrier or an enabler depending on how it manifests in the specific context, for example, political will or lack thereof. The findings point to a need to engage with deeper underlying barriers to move toward transformative climate action. In the next chapter, the three spheres of transformation are used as a frame for considering deeper leverage points associated with transformative change.

The findings also highlight many benefits, and also challenges, associated with regional collaboration on climate action. Networks, learning from others, relationships, partnerships, and collaboration were revealed as key enabling factors of climate action, pointing to a clear argument for building on existing informal collaborative approaches and a need for stronger frameworks and funding to supporting collaboration. The needs identified by participants also suggest a strong case for strengthening horizontal and vertical policy alignment, which can be supported through increased collaboration. Interviewees suggested various domains which could benefit from further alignment and cohesion. These included transportation, waste management, building retrofit programs, building industry, shared emergency planning, joint procurement, food security, shared resources, communications, coordination, and advocacy to provide a single voice for the region to the province. In some of these, regional collaboration is already happening to a certain extent with varying levels of formality and varying scales. The next chapter will consider ways in which the barriers identified through this study could be addressed at different scales of governance and suggest possible paths forward for advancing regional collaboration.

CHAPTER 5: DISCUSSION

5.1 Introduction

This study sought to address a critical gap in knowledge related to regionally coordinated climate action in Canada, specifically, by identifying the primary barriers to advancing climate action in the Vancouver Island and Coastal (VICC) region and exploring how these barriers could be more effectively navigated through regional scale collaboration. Interviews with local government staff and elected officials from across the VICC region revealed a number of barriers, enablers, and needs related to climate action; below, the findings of the study are considered in relation to the existing literature, particularly with reference to Burch's (2010) typology of barriers and the three spheres of transformation (O'Brien, 2018). I map the barriers in relation to O'Brien's spheres of transformation and discuss the need to focus climate action interventions on deeper leverage points associated with the outer spheres. In the second part of the chapter, I make the case for supporting regional collaboration as a means of catalyzing climate action, and propose a potential path forward.

5.2 Barriers and Enablers of Transformative Climate Action

The study revealed a number of barriers to transformative climate action at the local government scale, falling under the three broad themes of resistance, capacity (financial and human), and governance. In many respects the barriers uncovered in the VICC region are well aligned with the literature, though there were a few findings that stood out. It is also important to note in considering the relationship of the findings to the literature that this research included both municipalities, small and large, as well as regional districts, while many other studies focus primarily on municipalities only, and usually large ones.

Capacity and funding are frequently pointed to as top challenges for municipalities (Robinson & Gore, 2005; Measham et al., 2011; Oulahen et al., 2018; Bulkeley & Betsill, 2003) and this came through in the interviewee responses, as well as in the 2020 survey results that this study built upon (Rhodes et al., 2021). Capacity, related to both funding and staff, was highlighted as a key challenge; however, unlike the 2020 survey responses, it was not identified as the most important barrier by the majority of interviewees. Likewise, governance related challenges, prominently reflected in the interviews, commonly arise in the literature, both with respect to internal governance mechanisms as well as the multilevel context and jurisdictional constraints (Measham et al., 2011; Oulahen et al., 2018; Bulkeley & Betsill, 2003; Dale et al., 2020; Burch, 2010; Jaccard et al., 2019). Yet interviewees highlighted a number of other key barriers such as those contributing to resistance in a variety of forms, including internal, external, and structural factors. Some of these are commonly reported in the literature, for example, the importance of political leadership (Dale et al., 2020; Oulahen et al., 2018; Measham et al., 2011; Bulkeley & Betsill, 2003; Anguelovski & Carmin, 2011). However, the level of emphasis placed on public resistance, particularly its relationship with misinformation and the fossil fuel industry, was a less anticipated finding.

The findings from several studies (Burch, 2010; Measham et al., 2011; Dale et al., 2020) show how the same factors that act as barriers can also act as drivers or enablers of climate action depending on the specific context, and this was reflected in the responses from participants in this study. Barriers or challenges were frequently mentioned alongside related enablers or needs, and many of the same factors identified as barriers in some contexts were also identified as enablers in other contexts. Examples include public support and political will: both can be strong enabling factors but act as barriers where they are lacking. Similarly, dedicated funding streams have enabled action, but lack of adequate funds and complicated grant application processes serve as a barrier. In terms of governance, lack of accountability, authority, and policy inconsistencies are key barriers, yet where these factors are in place and aligned they can serve as powerful enablers. That the same factors can serve as either barriers/constraints or enablers/drivers of climate action is not a new finding; other studies have made similar points (Burch, 2010; Measham et al., 2011; Dale et al., 2020). Yet this research revealed some particularities and nuances specific to the jurisdictional landscape and context of the region that are useful in contemplating how to advance climate planning and implementation in BC.

Below, I describe Burch's (2010) typology of barriers and elaborate on its "fit" with the data and why I ultimately chose a different framework for organizing the major themes, then I consider the key themes and their relationship to the existing literature on barriers and enablers of local level climate action in turn.

5.2.1 A Typology of Barriers

Burch's (2010) study of three municipalities in the Lower Mainland of BC explicitly rejects the idea of limited capacity as a key barrier. Burch states that the status of climate action in many cities is not at the level one would expect given their wealth of financial, human, and technical resources. This argument is compelling in that Burch suggests that the existing latent capacity municipalities possess could be deployed in more effective ways to advance climate action. In the typology of barriers proposed by Burch, capacity is notably absent. Instead, the typology focuses on the following categories:

- *Cultural/behavioural barriers* – relationships between individuals in various critical positions within a municipality, their personalities, and the collective ethos, values, and customs present within the organization
- *Structural/operational barriers* – features of the organization's structures and procedures that influence day-to-day activities of staff and longer-term policy direction
- *Regulatory/legislative barriers* – policy tools the municipality has at its disposal and the interactions between multiple levels of government
- *Contextual barriers* – the environment within which the municipality functions and the values and priorities of the public

In comparing the findings of this study with Burch's typology, it became clear that the typology did not fully map to the barriers identified through the coding process. There are a number of potential explanations for this: first, Burch's typology is based on a study of relatively larger municipalities, while

this research included small, rural, & regional district representatives. Barriers experienced in medium and large municipalities are not necessarily the same as those experienced in small communities and rural areas. The findings clearly showed that capacity related barriers, while identified by interviewees from a variety of communities, were magnified in smaller communities. Burch may be correct that existing capacity in some larger municipalities could be deployed more effectively by addressing the barriers identified through their study, but this finding does not seem to extend to small and rural contexts.

Second, it is possible that the framing of this study and the way in which interview questions were asked may have focused interviewee responses on larger/external barriers rather than internal organizational barriers (noting also that questions were framed in an open-ended way and that some of these types of internal barriers were also identified). While open ended, interviewees were aware of the objectives of the research with regard to regional collaboration and many jumped ahead to this in their answers.

In addition, the first core research question asked about barriers to *transformative* climate action, which may have led interviewees to consider deeper barriers in their responses. Indeed, several spoke to the need to move beyond incremental approaches and noted that while they had experienced relative success in implementing some actions, they were at a loss as to how to achieve the transformation required to adequately address climate impacts and GHG reduction. Some interviewees, in communities where there has been relative climate leadership, spoke to their perception that many of the actions taken to date have been the “low hanging fruit” and that the next steps will be more difficult.

Further, when asking about barriers to climate action in the community, the question was phrased in such a way that it did not explicitly focus on asking about barriers within the organization. Because I focused on identifying the challenges to transformative action, and because I interviewed across a range of communities, with a lens as to which might be addressed through collaborative efforts, rather than going deeply into only a few, the types of probing and follow up questions were likely different than those I would have asked had I been approaching the question of barriers from a different angle.

A final potential consideration is the way in which climate impacts have magnified in recent years. Local governments have really started to feel the impacts of climate change resulting in a growing need to adapt and mitigate at the same time. It is probable that this, in combination with the need to move beyond smaller incremental actions, is resulting in increased pressure on existing capacity and funding requirements.

Perhaps for some combination of these reasons, when initially sorting the barriers identified in the study according to Burch’s typology, the majority fell under regulatory-legislative and contextual, with relatively fewer associated with the other two categories, which are more internally focused on the municipality/organization. The sorting process also left a large “other” category that did not fit the typology, many of which related to capacity challenges that did not easily fit into one of Burch’s four categories. I approached the interviews, and the coding of data, with an inductive approach, and then

later applied the typology as one potential lens through which to view the data. Through an iterative process of going back and forth between the literature and the data, I ultimately decided that a broader framework for organizing and analysing the data was needed. Drawing from a combination of my reading of the data and the literature, I chose to group by the categories of resistance, capacity, and governance. Although I chose this method of organization, Burch's (2010) work is still extremely useful for understanding barriers in the BC municipal context and their relationship with enablers and I reference it in the discussion below.

5.2.2 Resistance

Resistance emerged as a strong theme in relation to barriers to climate action. The interviews revealed that resistance can arise in many different places across the system, including internally (e.g. organizational culture and attitudes, risk aversion, gatekeepers) and externally (e.g. public opposition and apathy, cultural values and expectations, perceived lack of urgency). Structural pressures also create resistance, including the general capitalist economic system and vested interests within it, such as the role of the fossil fuel industry in influencing the conversation. Development pressures and an apparent conflict between economic interests and environmental protection were also described by interviewees, with cost concerns and competing priorities undermining the ability of local governments to invest in climate action. Interwoven throughout and in relation to many of these factors was what many interviewees perceived as inadequate political will.³³

Many of these findings are reflected in the literature. Oulahen et al. (2018) found that lack of public awareness is a major barrier to the mainstreaming of climate adaptation, while Burch (2010) described how the values and awareness level of the public about climate change posed significant barriers to political leadership. Likewise, Dale et al. (2020, p.877) found that "the pace, scale and urgency of change are very dependent upon broad-scale public engagement" and that "public perceptions around 'change' are highly normative and evoke intersecting personal and cultural determinants about the urgency, and the scale and pace of change needed, which in turn can also be ideological." While findings that public support and political will are important for enabling climate action were not unexpected and are in line with the literature on municipal barriers to action, it was notable how strongly interviewees emphasized the challenge of overcoming public resistance and apathy. As described in the previous chapter, challenges related to community resistance were the most frequently coded response to the question of barriers, while political and social resistance was not one of the top barriers indicated in our 2020 survey (Rhodes et al., 2021). As considered above, perhaps the dominance of resistance as a theme was related to the inclusion of the term "transformational", which may have challenged interviewees to think beyond

³³ It is important to acknowledge the relationship between political will and other factors categorized here as resistance, in particular public support/opposition. There is a potential tension between these two factors and how they shape resistance, whereby political will could be seen as both cause and effect depending on the circumstances. As some interviewees noted, even where public support generally exists, it may not be at the level necessary for substantial changes and/or even a small amount of overall public opposition can generate significant backlash and difficulty for elected officials.

general support for climate action or day to day challenges to the barriers that affect deeper level change.

These findings support Burch's (2010) contention that the true barriers to climate action go beyond capacity constraints. Rather, they are underpinned by deeper and more fundamental challenges. Some of these relate to institutional governance challenges, as will be further discussed below, and some are deeper still. Many interviewees in the study referenced things like apathy, lack of personal responsibility, and lack of understanding of or willingness to change on the scale needed—all of which speak to the importance of underlying values and beliefs. As argued by Moser and Eckstrom (2010), "individuals look at new problems, tasks, and solutions through the lens of their preexisting values, preferences, beliefs, norms, and experiences...In addition, certain heuristics, mental shortcuts, lead to the tendency to underestimate risks arising from climate change."

Ideologies based on deeply held values and beliefs can thus act as significant barriers fueling resistance. Burch (2016, p.2) describes how the barriers to transformative climate action are rarely technical or economic, but rather, that "patterns of development, deeply rooted in values and worldviews, fundamentally shape vulnerability to climate change impacts, as well as the modes of production and consumption that give rise to greenhouse gas emissions." As an example, Burch (2016) links the demand for personal vehicles and single-family homes, which often result in low density developments fueled by fossil fuels, to cultural perceptions about affluence and security. Interviewees in the current study made similar connections, describing the difficulty of shifting behaviour patterns that are linked to these underlying cultural values. Some went deeper still, speaking to their perception that underlying resistance or inertia is a deep-seated fear of change. This form of resistance seemed to be more common in small and rural communities, where some interviewees described observing a higher prevalence of conservative values and political leanings. While deep seated values, beliefs, and worldviews can act as barriers, they also have the potential to act as drivers of action, forming an important leverage point for transformational systems change.

Another factor contributing to resistance is the perceived conflict between economic and environmental values, which can dampen climate action. Measham et al. (2011) found that competing agendas pose a barrier for local governments, so that lack of prioritization of climate action might not necessarily be due to outright skepticism but rather from the sense that the local government has more immediate issues to contend with. This tracks with the findings of the current study. Many interviewees spoke to the challenge of balancing competing priorities, especially in a climate of limited funds and capacity, and described situations where general support or political will was present but moderated by a need to address other high priority issues such as housing.

In observing the trajectory of the last few years, the challenge of competing priorities and political polarization seems to have only grown. Interviewees spoke of how 2018/19 had seen a wave of declarations of climate emergency among governments, as well as growing public and political momentum around the need to take climate action. Yet, while the Covid-19 pandemic showed the

potential of governments to mobilize resources in response to a public emergency, it also shifted attention away from the urgency of responding to climate change. Growing economic uncertainty including inflation and a nationwide housing crisis has in many ways undermined the prioritization of climate policy; this can be seen at a variety of scales, from households that are singularly focused on paying the bills from month to month, to the national scale, where climate policy is being directly challenged by competing political parties and blamed for cost increases. At the local government level, property tax increases to pay for climate related initiatives may be seen as less likely to be politically palatable under the current economic conditions.

Compounding these challenges, resistance to climate action from the fossil fuel industry and misinformation has also continued to grow. Interviewees described fossil fuel advertising and greenwashing as factors contributing to resistance and confusion among the public about the true relationship between fossil fuel usage and climate change causing GHG emissions. The fossil fuel industry has access to resources that far exceed those of local governments to counter their messaging. Furthermore, as one interviewee described, new policy and legislation coming into effect has the potential to significantly impact the industry's bottom line, resulting in some of those players pouring yet more resources into actively building barriers to climate action. While interviewees spoke to indirect influences of the fossil fuel industry on local government climate action, through misinformation and marketing, a more direct form of resistance has been growing recently in the form of direct lobbying aimed at local government policy.

An example of this can be seen in the response of industry to the wave of local governments adopting policies that reduce fossil fuel usage. As municipalities across the province have considered implementing Zero Carbon Step Code as a means to supporting a shift toward electrification, the gas utility FortisBC has been pushing back (Baker, 2023a). The City of Nanaimo, for example, experienced an onslaught of direct lobbying by Fortis against their decision to implement Zero Carbon Step Code. Even more troubling, following Nanaimo's decision, the City was targeted by the Canadian Energy Centre, a publicly funded Alberta-based corporation created to protect and promote the fossil fuel industry, in an attempt to reverse the local council's decision (Baker, 2023b). This example demonstrates the reach of the fossil fuel industry and the lengths the industry is willing to go to in order to prevent climate action that risks cutting into their profits. Furthermore, fossil fuel companies maintain continued advertising and direct access to local government elected representatives and staff through industry sponsorship of events such as the annual Union of BC Municipalities Convention, which in 2023 included sponsors such as FortisBC, the Canadian Association of Petroleum Producers, Coastal GasLink, and TransMountain (Baker, 2023a). Fundamentally, a strong tension exists between the desire and publicly stated ambitions of governments to decarbonize, and the prominence of the fossil fuel industry as part of Canada's economy, as well as the cultural and political landscape, and this tension can be seen at all levels of governance.

In spite of the strong forces fueling resistance to climate action, interviewees pointed out a number of drivers and enabling factors that counter resistance. Strong leadership, on the part of staff champions

and/or political representatives, is often a key ingredient to advancing community level climate action, and this finding is reflected in the literature on barriers and enablers as well (Anguelovski & Carmin, 2011; Burch, 2010; Dale et al., 2020; Eisenick et al., 2014). Public pressure can sway in either direction, and as mentioned previously, pressure from the public was a key enabler of climate action in a number of communities as movements throughout 2018/19 drove momentum at various levels of governance. In all of these cases, it seems that while inertia will keep us going in an unsustainable direction, this trajectory can be shifted. However, achieving this requires direct action in the form of someone organizing for change. As O'Brien (2018) puts it, "[The 1.5°C target] will not happen simply as a by-product of unintended social change; if this is to be our future, it will be brought about by the conscious actions of people acting collectively to bring it about' (p. 370)."

To that end, interviewees saw collaborating to provide coordinated and consistent information to constituents, as well as aligning policy and communications between local and provincial governments, as important ways to drive climate action in the face of resistance. By coordinating policy and messaging between levels of government and neighbouring communities, the spread of misinformation and confusion might be limited. Further, emphasizing co-benefits of climate action was seen to be important, a finding that is reflected in the literature. Measham et al. (2011) described that how climate action is framed is important, for example, where adaptation was viewed as a public safety or development issue it tended to resonate more strongly with government officials and the public. Dale et al. (2020) argue that understanding the co-benefits of climate action is key for achieving broader sustainability goals and accelerating innovation. Related to the concept of co-benefits, both Burch (2010) and Dale et al. (2020) found that extreme weather events and associated impacts experienced in communities have the potential to drive demand for climate action, pointing to the social and economic importance of addressing climate change. This was reflected by interviewees, who saw climate impacts in BC, particularly the extreme events of 2021, as drivers of increased public awareness and support for climate action.

Interestingly, and perhaps related to the growing awareness of the impacts of climate change in communities, we are starting to see pushback against the fossil fuel industry at various levels of governance, from calls for a ban on misleading fossil fuel advertising at the federal level (Thurton, 2024) to a movement for local governments to "Sue Big Oil" (Labbé, 2024). These movements come in response to the increasing recognition that fossil fuels are primary drivers of human caused climate change and that fossil fuel companies have knowingly deceived the public about the impacts associated with their products. As inflation and the growing costs of responding to climate impacts hit home for local governments, threatening their ability to meet their climate targets, momentum is beginning to grow behind the campaign to launch a class action law suit. The campaign is framed in relation to the "polluter pays" principle, following the precedent of previous campaigns against tobacco and asbestos companies, with the logic that "those who profit from selling harmful products should bear their fair share of the costs of the harms caused by their products." (Gage in Labbé, 2024). Local governments, experiencing budget shortfalls and recognizing the inadequacy of revenues from property taxes to meet

the rising costs of adapting to climate change, are exploring the potential for raising funds in other ways, including by recovering costs through legal means.

5.2.3 Capacity

Capacity challenges in the form of limited resources, funding, and human or staff capacity are significant for local governments, as reflected in the findings of this study and numerous others. A number of interviewees highlighted specific constraints related to the property tax model, the grant funding model, and overall insufficient finances. Interviewees also spoke of the significant challenges related to staff capacity, especially in smaller communities. These findings are generally in line with the literature. Similar to the findings of this study, Dale et al. (2020) found that access to funds through the province and other organizations was a driver of climate action across BC communities, yet limited funds were also commonly expressed as a barrier. Like this study, human resource constraints were also identified by Dale et al. (2020) as a barrier, particularly in smaller communities. In our previous survey of VICC communities, lack of financial resources (>90%) and lack of staff capacity (>80%) were identified as the top barriers for municipalities in relation to both mitigation and adaptation (Rhodes et al., 2021). These findings generally held true for regional districts as well, however they also identified lack of senior government support as one of the top barriers (90%) (Rhodes et al., 2021).

In considering Burch's contention that latent capacity exists in municipalities, another way of thinking about this argument could be that capacity exists across the system, even if not all local governments possess a wealth of capacity individually, and this overarching capacity could be better utilised. By combining their limited financial and human resources across jurisdictions, such as through regional collaboration, local governments could avoid duplication of efforts and better direct their finite capacity to impactful climate action. In fact, a number of interviewees made suggestions that reflect a recognition of the possibility of leveraging capacity by working together in a more aligned fashion. This type of collaboration is in many ways an extension of the existing municipal networking that local governments have participated in for a number of years. Further, this study certainly also supports Burch's contention that additional factors other than capacity are at play when it comes to barriers to local climate action, including those related to governance and resistance.

Related to this, a further key point is that when it comes to capacity, some challenges manifest as capacity related challenges on the surface, but relate to deeper, more fundamental challenges underneath. An example includes sprawling development patterns that challenge the capacity of local governments to provide services; the development patterns that result in the capacity challenge stem themselves from various forms of resistance, including individual resistance to change (in the outer, personal sphere) and structural resistance in the political sphere. This points to the need to trace barriers back to their root cause and consider interactions between barriers, which will be further discussed below in section 5.2.5.

5.2.4 Governance

Barriers related to governance of local and regional level climate action emerged as a prominent theme, which again is well reflected in the literature. The sub-themes that were considered include jurisdiction and authority, accountability and consistency, regional district structure, and the role of senior level government, particularly the province. In many ways this broad theme of governance could be considered as mapping to Burch's (2010) regulatory/legislative and structural/operational barrier categories, in that interviewees discussed factors related to policy tools and interactions between multiple levels of government, as well as some of the internal organizational features that could affect the advancement of climate action. As noted in the previous section, many more of the barriers coded in this study fell into the regulatory/legislative category, with possible reasons why discussed above.

Burch's (2010) work is extremely useful for better understanding some of the detailed barriers that can affect individual municipalities on the internal level, including challenges related to siloed departments, hierarchical structures, lack of mainstreaming of climate action throughout the organization, lack of mechanisms for institutional learning, absence of long-term strategic sustainability plans, and lack of corresponding implementation plans and monitoring and review mechanisms, all of which arose during conversations with interviewees. Other studies have also pointed to the importance of mainstreaming climate policies, including Dale et al. (2020). As these internal barriers are well covered elsewhere and less pertinent to the goals of this research, the discussion here will focus primarily on considering the findings in relationship to multilevel governance.

As described in chapter two, a multilevel governance (MLG) perspective emphasizes the vertical connections between different levels of government and the horizontal connections across various sectors and actors, where authority is viewed as being shaped by and shared among different actors operating at multiple scales. This is evident in the complex system of climate governance in BC, which involves multiple levels of government with overlapping jurisdiction, as well as various other actors, including First Nations, non-governmental organizations, special purpose bodies, networks, advocacy groups, and coalitions. The relationships between these various levels of government, First Nations, and non-government actors contribute to a type II MLG or polycentric governance model whereby authority is shared across multiple layers and action takes place at a variety of scales. This was reflected in the comments from interviewees, some of whom explicitly pointed to the multilevel governance framework in the province as both an enabling and constraining factor for climate action. Many interviewees emphasized the role of senior level government, especially the province, for enabling climate policy at the local level. The importance of networks as enablers of climate action, a theme that was highlighted by interviewees, further speaks to and strengthens the evidence of this polycentric model at work.

In considering the role of local governments in a multilevel governance framework, it is important to note the limitations with respect to authority and jurisdiction that were described by interviewees in this study and have been documented elsewhere (Jaccard et al., 2019; Measham et al., 2011). Jaccard et al. (2019) for example, describe how, despite the fact that many cities have set ambitious targets for

reducing GHG emissions and shifting to renewable energy, “in the case of cities, energy system transformation appears to be dependent on more than political will. It also depends on having the jurisdictional authority to implement the types of policies that can fully decarbonize the energy system.” Jaccard et al. (2019) go on to list some of the key policy levers that cities can choose to implement, including regulating land use through increasing urban density and encouraging mixed use, revising building codes to improve energy efficiency, supporting the expansion of district heating systems, restricting vehicle usage through methods such as parking fees and expanded pedestrian-only zones, expanding infrastructure for public transit and active transportation, transitioning municipally-owned transit fleets to zero-emissions fuels, and facilitating the adoption of electric vehicles through expansion of recharging stations. However, jurisdictional limitations remain. Cities do not generally have the authority to implement carbon pricing policies, to use revenues from such policies to fund subsidy programs, or to regulate the sales of technologies and fossil fuels that contribute to emissions (Jaccard et al., 2019).

Interviewees in this study pointed out some additional specific limitations in authority related to buildings in particular. For example, while the BC Energy Step Code and Zero Carbon Step Code have given local governments tools to limit emissions from new buildings, they still lack the regulatory tools to limit emissions from existing buildings. As buildings typically account for the second highest source of community GHG emissions after transportation, deep energy retrofits of existing buildings will be critical for the Province of BC to meet its 2030 climate targets. In some jurisdictions, local governments already regulate minimum energy and/or GHG performance requirements for existing buildings. For example, the City of Vancouver has additional powers under the *Vancouver Charter* that are not available to other municipalities in BC. Internationally, New York City and Tokyo directly regulate building emissions and require mandatory performance reporting and requirements (Help Cities Lead, 2024). Also in relation to buildings, interviewees described the need for provincial legislation to enable local governments to implement property assessed clean energy (PACE) financing, which would support financing energy efficiency retrofits to private property. As mentioned in the previous chapter, PACE programs are common in the United States, but not yet widespread in Canada.

In terms of limited local government authority and the context of multilevel governance, Jaccard et al. (2019) argue that cities are both “policy makers and policy takers”, and that senior levels of government will also need to enact stringent GHG policies in order for the ambitious, mid-century targets of some cities to be achieved. Their modelling found that even in the case study of Vancouver, which has a number of advantages other municipalities do not (such as population density to support public transit, access to hydroelectricity, and additional legislative powers under the *Vancouver Charter*), legislative authority is lacking to meet the city’s climate targets without additional intervention at other levels of government. Jaccard et al. (2019) also touch on the fact that investment in public transit expansion requires working with other levels of government; in Vancouver, this includes the Metro Vancouver regional government, while in other parts of the province BC Transit is the agency charged with delivering public transportation. Their findings are consistent with the findings of this study, as

interviewees strongly emphasized the need for government action at other scales to support their efforts at the local level.

Policy inconsistency within and between levels of government is an issue that was highlighted by research participants and has been identified in a number of other studies of climate change mitigation and adaptation in BC communities (Burch, 2010; Oulahen et al., 2018; Dale et al., 2020). For example, Burch (2010) reported that staff and political leaders in the community of Delta “expressed deep frustration” that transportation infrastructure designed and approved at the provincial level, such as highway expansions, would effectively undo progress made at the local level to reduce emissions. Similar frustrations were expressed by interviewees in this study in relation to a highway and overpass expansion recently constructed within the Capital Regional District. Interviewees also spoke to additional challenges related to lack of congruency with MOTI around active transportation initiatives, and challenges related to working with BC Transit, a provincial level agency, on improving public transit within and between communities. This speaks to the importance of aligning policy at all levels of government to accelerate effective climate action and ensure that the policies enacted at one level do not undermine the efforts of another. As Dale et al. (2020) argue, the lack of co-ordination across governance scales requires an effective MLG approach to side-step existing power dynamics. Dale et al. (2020) also described how a lack of policy congruence and alignment across levels of government could act as a barrier, or alternatively, as an enabler where there is alignment.

Beyond the issues of limited local authority and policy alignment, additional roles for the provincial government that were pointed to by interviewees include the need for clear direction and mandates at the provincial level, such as providing clear and consistent policy, standardized processes and methodologies, enforcement and follow through, and general leadership. Senior level political leadership has also been found to be a key enabling factor in other BC based studies, including Dale et al. (2020) and Oulahen et al. (2019). As related to socio-technical transitions theory, considering the fact that cities cannot by themselves shift the systems that sustain society without support from senior level government, at the same time, there is some evidence of cities as sites of experimentation. In the language of socio-technical transitions theory, they are acting as leaders in the “niche” to shift the eventual landscape towards sustainability transformation. A number of studies have explored the way that cities are acting as “living laboratories” to test sustainability interventions (Bulkeley and Betsill, 2005; Bulkeley & Castán Broto, 2013; Caprotti & Cowley, 2017; Evans et al., 2021; Evans et al., 2018). Bulkeley and Betsill (2005) for example, show how cities are demonstrating leadership and pioneering in the realm of low-carbon transitions. Interviewees in this study referred to this concept as “letting the leaders lead”. For example, we have seen cities leading and advocating around Zero Carbon Step Code, e-bike incentives, and PACE financing – in all of these cases pushing the province towards eventually adopting new policy and shifting the overall landscape of climate action in BC.

Within this discussion, it is critical to recognize the different context experienced in rural areas. Many studies focus on cities but rural areas face additional challenges, and the solutions proposed for urban environments often do not translate well. Interviewees pointed to transit models and social equity tools

that are not well adapted for a rural context as examples. Interestingly, Jaccard et al. (2019, p.2) note that “a key issue for cities aspiring to reduce their GHG emissions is to decide how to address energy production emissions, since these mostly occur outside a city's physical boundaries and thus its legal jurisdiction,” alluding to the important link between rural and urban responses to climate change. As described in previous chapters, cities are intimately connected to larger functional regions; focusing on the city in isolation not only leaves behind rural areas which are facing serious adaptation and capacity challenges, but also fails to acknowledge these important linkages.

In this study, some research participants described their perception that regional districts have fewer tools in their toolboxes compared to municipalities³⁴ with respect to implementing climate related policy in rural areas. In the 2020 survey of local governments in the VICC region, lack of authority at the local government level and lack of senior government support as barriers to both adaptation and mitigation were overwhelmingly higher for regional districts than for municipalities (Rhodes et al., 2021). Additional nuance was provided in the current study, as interviewees described how the political structure in rural areas, including public understanding and participation, as well as the specific regional district structure and requirement for service establishment can be challenging. With most research focusing on municipalities and the urban context, developing a better understanding of the policy tools available to regional districts specifically would be an area ripe for future research.

5.2.5 The Three Spheres of Transformation

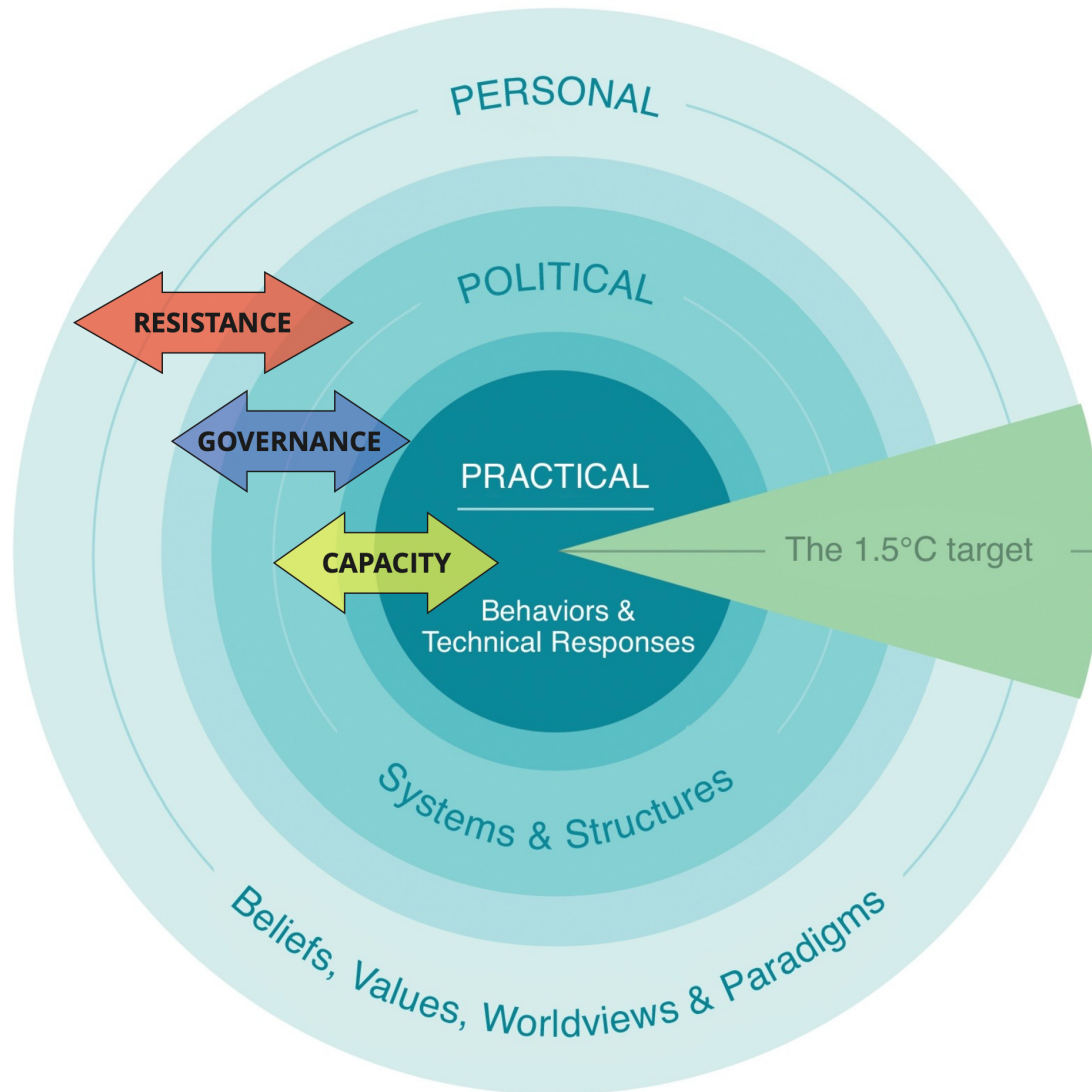
The barriers to local level climate action described by interviewees in this study can be considered in relation to the three spheres of transformation identified by O’Brien (2018) – the practical, which includes specific actions, technologies, behaviours, and strategies; the political, which includes systems and structures; and the personal, which includes beliefs, worldviews, and values. Figure 5 maps the three main themes – capacity, governance, and resistance – in relation to the 3 spheres. While potentially useful, this is also highly simplified, and it is important to acknowledge that the three spheres are interrelated, just as barriers also can be complex, context-dependent, and interrelated.

In thinking of the barriers identified in this study, challenges were identified within all three of the spheres of transformation. In line with existing literature, the most significant relate to the “political” systems and structures level (those related to governance and the overarching economic landscape) and the “personal” sphere (resistance driven by values, beliefs, and worldviews). The broad theme of resistance encapsulates both values and beliefs on the personal level (of staff, elected officials, the public) while also crossing into the political sphere where structural resistance related to political and economic systems comes into play. Governance fits mostly into the political sphere, but is affected by and affects resistance at various levels as well as the tactical responses of the practical sphere. Barriers

³⁴ It’s important to note that the limitations expressed by study participants reflect areas where they perceive constraints. The jurisdictional landscape is complex and it was beyond the scope of this study to make an assessment about what can and cannot legally be done in various contexts.

related to capacity overlap across the practical and political spheres, as capacity constraints limit the ability to engage in technical responses, but are fed by decision making in the governance sphere.

Figure 5. Mapping Barriers onto the Three Spheres (Adapted from O'Brien, 2018)



Within this simplified model, it is key to consider the interdependencies between barriers. Indeed, some studies within the literature make the case that barriers cannot be understood in isolation. As Eisenack et al. (2014, p.869) argue,

Understanding the interdependencies of barriers is central for explaining their occurrence, persistence and resolution. It is also crucial from a practical viewpoint. Policies or approaches to reduce or overcome barriers might prove to be ineffective if they disregard causal interdependencies, while a well-designed intervention can simultaneously address multiple related barriers.

Similarly, while the barriers (and enablers) identified through this study are categorized under three broad themes, they not only overlap, but are likely to interact with one another in dynamic ways. Some of these interactions are fairly apparent and have been touched on previously, such as relationships between public resistance and political will, or how resistance from the fossil fuel industry dynamically interacts with other forms of resistance. Yet other relationships between interlinked barriers may be less self-evident. Burch (2010) discusses the concept of dynamic interactions among barriers, creating a theoretical set of circumstances to illustrate how a cluster of barriers might evolve, interact, and become mutually reinforcing. There are many such potential pathways that could be mapped out. Eisenack et al. (2014) also describe the way in which dynamically interlinked barriers may lead to vicious or virtuous cycles, either mutually reinforcing or mitigating a particular cluster of barriers. The above point is key: while barriers can mutually reinforce one another, this dynamic can also be shifted from one in which interactions between barriers lead to a vicious cycle to one in which enablers instead sustain a virtuous cycle. As Burch (2010) states, “just as inertia builds behind [unsustainable pathways]...leading to suboptimal outcomes on climate change, so too can innovation, collaboration, and awareness gather force as the various facets of the municipality interact.” This sentiment might be extended to thinking beyond the individual municipality, to the larger region and systems.

Returning to the three spheres of transformation, evidence suggests a need to shift our attention toward the outer spheres. Despite the existence of climate action targets, plans, and actions at multiple levels, Dale et al. (2020) found in their longitudinal research of communities in BC that very little transformative change has occurred in terms of actual emissions reductions. This finding is supported when looking at overall provincial level and national level emissions trajectories. Similarly, even in communities that could be considered relative climate leaders, interviewees expressed that changes so far have been largely incremental, and now that “low hanging fruit” interventions have been implemented they are unsure how to move forward with accelerating the urgent transformative changes required, particularly in the face of capacity constraints, governance challenges, and political and public resistance. As Abson et al. (2017) argue, most policy interventions to date have primarily targeted shallow leverage points, those which could be considered part of O’Brien’s “practical” realm, and this would explain why climate policy has so far not led to significant changes in the trajectory of emissions. This points to a need to move beyond targeting low level behavioural changes and technologies, to considering how to access deeper leverage points related to systems, structures, and the personal sphere.

Worldviews, beliefs, and values not only drive people’s individual actions, but also shape how we view existing systems and structures, and the desirability of changing those structures. Moser and Eckstrom (2010) describe how deeply held values and beliefs influence the way in which risks and their management are perceived and interpreted, flavouring what types of information and knowledge people value and which concerns they prioritize. Our “cultural’ lens colors our general beliefs about society and the environment” (Moser and Eckstrom, 2010, p.22030). Further, “cognitive filters shape our perceptions, constrain our attitudes about options...and influence our decision-making processes” (Moser and Eckstrom, 2010, p.22030). When we as a society focus on technical solutions, it presupposes agreement on a particular direction, but sometimes the bigger challenge can be aligning and agreeing on

the direction in the first place. Polarization within communities and between urban and rural narratives remains a challenge within the VICC region and elsewhere. Returning once again to the co-benefits framing that so many interviewees highlighted, finding ways to talk about climate action that emphasize our shared values is critical.

5.3 Regional Scale Collaboration

This study sought not only to identify barriers to local level climate action, but to take a solutions oriented approach and ask how these barriers might be overcome. In particular, the second core research question asked how might a regional approach support meaningful climate action among local governments in the VICC region? Of the barriers that were identified through this study and discussed in the previous section, many but not all can be addressed at least in part through greater regional scale collaboration. As well as increased collaboration at the regional level, better vertical integration and policy alignment was a key need identified through this study. Whether focusing on local or regional climate action, a multilevel approach is critical to align priorities and policies. Research points to the importance of integrating climate action goals into a broader sustainability mandate, as well as integrating a sustainability lens throughout various departments (horizontally) and levels of government (vertically). The horizontal dimension also includes working across spatial boundaries, organizations, and networks.

5.3.1 The Case for Collaborating at the Regional Level

Cities have been the focus of much research related to climate change and sustainability, yet the city cannot be viewed in isolation from the larger region or from the broader systems of the regime within which it exists. While many individual cities have set ambitious targets related to emissions reductions and/or renewable energy, such as the BC cities of Vancouver, Victoria, and Saanich which aim to achieve 100% renewable energy and 80% or more in reduction of GHG emissions by 2050 (Saanich has the most ambitious—net zero—target), most are unlikely to be able to meet their energy needs and achieve these targets independently. Urban centres transitioning to renewable energy sources will have to rely on importing energy from outside their own borders, which will in many cases impact the surrounding region in a variety of ways, including the potential of land conversion for sustainable energy generation (Hoika et al., 2021). In addition to their potential to help cities meet energy needs, and the resulting implications, the generation of emissions from flows of goods and people within and between regions shouldn't be ignored. Moreover, while cities may generate the bulk of GHG emissions due to population numbers, non-urban communities can have high per capita emissions that are not addressed by typical urban mitigation strategies, smaller capacity to enact changes, and unique vulnerabilities to climate impacts. The challenges experienced in rural regions and small communities when it comes to implementing climate action were emphasized by interview participants, indicating that these communities stand to benefit from a regional approach that provides capacity support and takes their unique needs into consideration.

A truly transformative approach must involve integration of climate mitigation and adaptation, as well as consideration of broader social justice and equity implications. The recent 2021 wildfire and flooding disasters in British Columbia, which served as a wakeup call to many regarding the imminent effects of climate change, further point to the importance of re-localizing and organizing on a regional scale. Lack of regional coordination for flood planning, dikes, and emergency response was highlighted in the wake of devastating flooding and landslides in November 2021, resulting in calls for better coordination of disaster response (McElroy, 2021). The transportation disruptions and supply chain issues that followed further drive home that food security and other sustainability and equity issues are intertwined with the need for climate action. Regions provide vital linkages in terms of water, food, energy, and transportation networks. Regional level coordination therefore can play a critical role not only in meeting goals for emissions mitigation and the development of sustainable communities, but also in relation to the need for climate adaptation and responding to climate related disasters.

While local authorities do not have jurisdiction over transforming major systems, they do have significant authority in many areas related to planning sustainable and resilient communities, and this power can be amplified by working together. The study identified networks, learning from others, and partnerships and collaboration as the top enabling factors of climate action, which strengthens the argument for a collaborative approach. There appears to be a growing recognition of the need for change in how things are done to address multiple overlapping crises, including climate change. The initiative of cities in taking climate action shows a recognition of the need to move beyond narrow jurisdictional issues and work toward solutions to transform systems toward greater sustainability as well as adapt to locked in climate change. Many cities, particularly large urban centres, have been able to magnify their impact by working together through municipal networks, and many interviewees in the study spoke to the benefits they have experienced through being a part of these types of networks. This phenomenon demonstrates the shifting conception of climate governance from a top-down hierarchical approach to a multilevel governance model characterized by complexity and polycentric spheres of authority. Similarly, coming together as a region in an innovative way shows a questioning and rethinking of the norm, with local leaders demonstrating a willingness to tackle the big problems and work together to overcome the challenges related to fragmented jurisdiction. The question then becomes how to form and implement a collective vision.

In working together on a regional scale, leaders face challenges not only related to jurisdictional issues, but also in overcoming political divides, including the division between urban and rural communities. As discussed in previous chapters, ideas about what constitutes transformational change may vary from one individual to another, as do ideas about what is considered just, sustainable, and desirable. What kind of changes are seen to be possible on this scale? How do leaders and policy makers view the types of changes that are required with respect to the current landscape and regime, and do these ideas fall into the “practical sphere” of technological and behavioural change, or include broader systemic change? Do the changes envisioned encompass integration of mitigation and adaptation, broader sustainability goals, and equity? Where do people see blockages and inertia in the system, and where do they see

niches where seeds of change are being or could be sown? The responses of interviewees on the question of regional opportunities and challenges provided some insights to these questions.

The majority of interviewees indicated interest in working together alongside other local governments. They also demonstrated a strong understanding of the benefits of networks and collaboration in supporting their work, including learning from one another, replicating results without duplicating efforts, sharing resources, building professional relationships, and increasing overall capacity. Interviewees pointed to specific areas that could be targeted for collaboration, including the building industry, transportation, solid waste management, procurement, adaptation planning and emergency management, food security, energy, and collaboration on grants, shared studies and data. They also highlighted examples where collaboration, at varying scales and levels of formality, is already happening.

Interviewees also spoke about how participation in networks can support personal mental health through providing an opportunity to commiserate and a reminder that they are not alone in the sometimes difficult work of being immersed in climate change. Climate change related fear and anxiety is becoming increasingly common, and a growing body of research documents not only the rise in anxiety among the general public (Kelsey, 2020; Schwartz et al., 2023; Wale & Shallard, 2023), but also highlights the heightened risk of mental health effects on those who work in the climate change sphere (Kelsey, 2020; Pihkala, 2020). Knowledge of the scale and severity of environmental problems combined with constant exposure can lead practitioners to feelings of isolation and burnout (Kelsey, 2020, Pihkala, 2020). Validating and sharing openly about these types of difficult feelings is important for supporting the health and resilience of those who are engaged in climate-related fields (Kelsey, 2020; Kretz, 2017; Wale & Shallard, 2023).

Opportunities to share, see ourselves as part of a larger community, and act collectively also supports building a sense of agency, which can be channelled into productive impact (Kelsey, 2020; Kretz, 2017; Schwartz et al., 2023; Wale & Shallard, 2023). For these reasons, the findings of this thesis point toward important co-benefits of collaboration in strengthening resilience, highlighting that collaboration is not just a means to an end, but an inherent good in and of itself. Through formal and informal collaboration, we create community, form allies, build personal resilience, and fundamentally contribute toward building a narrative of community and cohesion. This creation of community strengthens climate action intrinsically, including by supporting and building political will and helping to overcome resistance. The findings related to relationships and networks, while seemingly intuitive and not necessarily unexpected were not entirely expected either; in other words, the importance of trust, relationships, and networks expressed by interviewees emerged as a stronger theme than was anticipated. This seems to bode well for regional climate action: where a foundation of trust exists, collaborative efforts are occurring. Prioritizing relationship building beyond this initial foundation could lay the groundwork for expanded collaboration and partnership opportunities.

What is needed to form the necessary connections and alliances to amplify existing pockets of climate action? Interviewees highlighted a number of critical needs, most notably: the need for more support

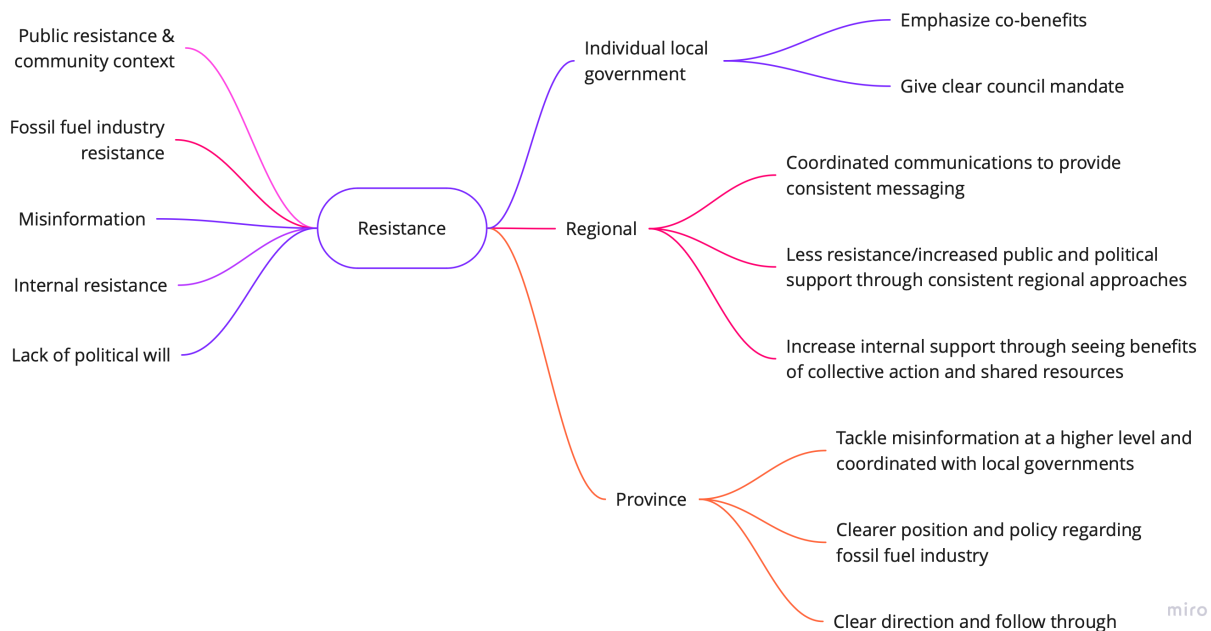
from higher levels of government through supportive provincial level policies, including those that delegate greater local level authority; policy alignment across all levels of government, and consistent funding along with improved funding mechanisms. The needs identified by interview participants clearly point to an important role for the provincial government to provide greater support for local and regional level climate action. Interviewees also highlighted the possibilities for greater coordination and collaboration at the regional scale, suggesting ways in which policies and communications could be better aligned across jurisdictions. In fact, a coordinated regional approach was one of the top needs identified by interviewees, after higher level government policy and funding needs, pointing to the importance of coordinating climate action both horizontally and vertically.

5.3.2 Addressing Barriers to Local Climate Action Through Regional Collaboration

As alluded to above, of the barriers that were identified through this study, many can be addressed at least in part through coordination and collaboration at the regional scale, while others require vertical policy alignment and/or action at the local or provincial scales exclusively. The following figures illustrate an attempt to parse apart some of the potential actions that could be taken to address resistance, capacity, and governance challenges at various scales, noting that these are not exhaustive lists.

The study illuminated some potential actions at various scales of governance to counteract resistance to climate action (Figure 6).

Figure 6. Potential Actions to Address Resistance Related Barriers at Different Scales

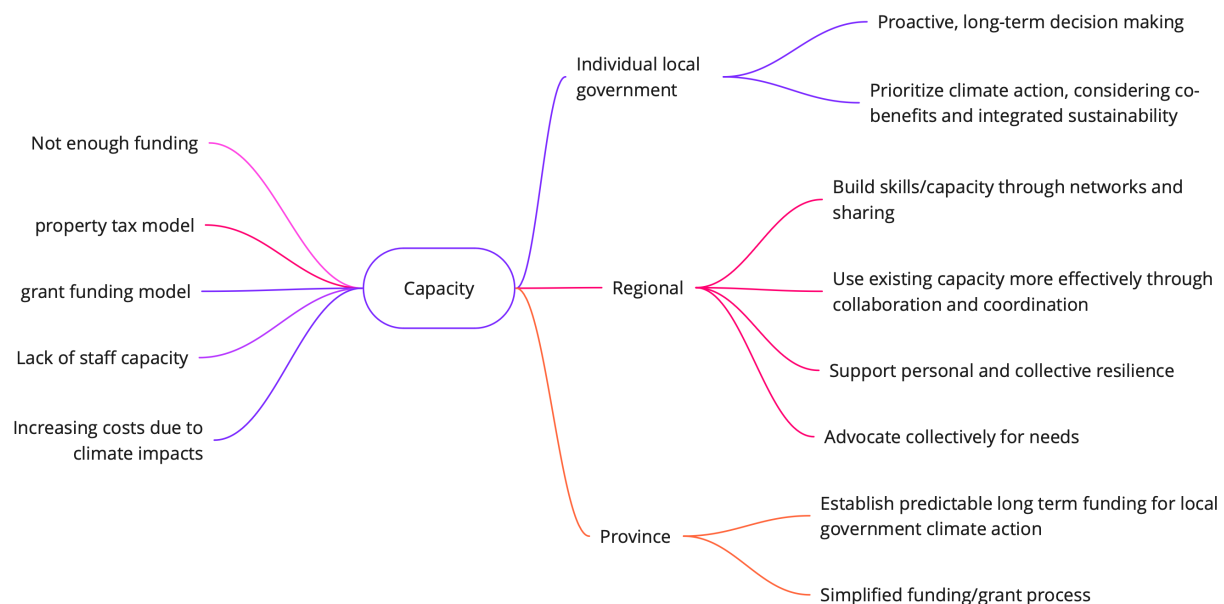


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Highlighting the co-benefits of climate action was strongly emphasized by research participants, which can be implemented directly at the local government level as well as at other levels as a general principle of communication. On the regional scale, coordinated communications (regionally as well as vertically) was suggested by interviewees as a way of both providing consistent messaging and leveraging limited local government resources. There is a clear role for actions to be taken at the provincial level related to vertically aligned policy and communications. Linking to capacity and governance challenges, consistency in messaging and approaches, as well as seeing the benefits associated with regional collective action and sharing of resources could reduce internal and external resistance, especially where the resistance stems from concerns about resourcing climate action. Greater sharing also provides opportunities for local governments in a region to show leadership and act as models for one another, which could likewise lower internal resistance and help address risk aversion. As related to the point about building personal and collective resilience through networks (regional or otherwise), one of the fundamental benefits of collaboration relates to the building of community and a sense of cohesion. This strengthening of ties and building of allies can intrinsically contribute to overcoming resistance and building the political will to support transformative action.

In thinking of capacity related barriers (Figure 7), a regional scale approach could support building staff capacity through sharing information and resources in networks, building skills, and supporting personal and collective resilience (some of these benefits could also be achieved through non-regional networks).

Figure 7. Potential Actions to Address Capacity Related Barriers at Different Scales



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A regional scale approach could also leverage existing capacity through coordination, such as shared information campaigns or cross-jurisdictional projects where data is shared and/or administrative

burden is reduced through sharing the load. Yet some capacity related barriers cannot be resolved solely through regional action – for example, funding challenges that stem from the property tax system and complex granting processes. Importantly, even where regional scale collaboration may not be able to directly address a barrier, there is a role for supporting collective advocacy to other levels of government.

Similarly, governance related barriers to climate action can be addressed at multiple scales (Figure 8), including at the local government level to address internal challenges related to organizational structure, lack of accountability, and policy inconsistency.

Figure 8. Potential Actions to Address Governance Related Barriers at Different Scales



The findings pointed to an important role for higher level government, particularly the province, in supporting vertically aligned policy and a cohesive approach. A cohesive approach also involves

coordination horizontally, or regionally, which is where regional scale coordination can provide support. Once again, there is also an important role for coordinated regional advocacy to the provincial government in relation to governance barriers, such as advocating for greater local authority, aligned policy, and standardized methodology. At the regional district level, there is the opportunity to consider a model similar to that of the Capital Regional District by establishing a climate action service. Finally, considering the benefits of regional collaboration, a critical step at the provincial level would be to provide a framework and funding mechanism to support regionally coordinated action.

In relation to barriers associated with various forms of resistance to climate action, the division of responsibility is less clear, as many of these specific barriers tend to be interwoven with each other and with other types of barriers. It is important to consider the dynamic interactions between barriers in relation to all of the key themes, but perhaps especially when it comes to resistance, both because of this dynamic nature and because these challenges run so deep, relating as they often do to deep seated values, beliefs, and worldviews.

Again, these are simplified diagrams, and the actions suggested are not exhaustive, but rather stem from both direct suggestions made by interviewees as well as natural extensions of the barriers and enablers that were identified through the study. As was discussed above, barriers interact and influence one another in dynamic ways, so it is difficult to draw direct causal relationships. As well, the figures above set out potential actions for three levels of governance, yet additional spheres of authority and influence exist. Despite these limitations, the analysis provides a starting point for considering how regional scale collaboration might work to overcome the barriers that have been identified, and some of the actions required at other scales of governance to more fulsomely address the challenges preventing transformative climate action at the local government scale.

5.3.3 Regionally Coordinated Action: A Path Forward

While definitive answers about how best to catalyze climate action were not provided by this study, the observations made by interviewees about the need to better coordinate regionally and the examples of voluntary regional networks in the form of regional climate collaboratives in other jurisdictions suggest a possible path forward. Returning to the example of the Southeast Florida Regional Climate Change Compact (SFRCCC), the objectives of the compact – to share regional tools and knowledge, increase public support and political will, and coordinate action across the region – seem well aligned with the needs in the VICC region and could potentially serve as a model. As was highlighted by the Institute for Sustainable Communities (2019) report, because regional climate collaboratives (RCCs) consist of local governments with adjacent and/or overlapping boundaries, they are able to go beyond the sharing of best practices common in other municipally oriented networks to support coordinated, collective actions to mitigate and adapt to climate change within their shared systems. While RCCs, by definition, are initiated from the bottom up (by local governments), rather than top down, they require funds and resources to sustain them, which points again to a role for higher levels of government to support a similar model in BC. Existing examples of regional collaboratives include a variety of governance and

funding models; as highlighted in the Regional Collaborative Formation Toolkit provided by Alliance of Regional Collaboratives for Climate Adaptation (ARCCA), there is no one size fits all formula (ARCCA, 2022).

In thinking about how to move forward to catalyze climate action in the VICC region and beyond, consideration of all three spheres of transformation is important. If we focus only on the more concrete limitations and barriers related to availability of technology, jurisdictional issues, financing, and so on, we may miss the broader context including potentially deeper divisions related to beliefs about what should and can be done. Can a regional approach to climate action help to overcome some of the barriers cities have faced in implementing action, and can the inclusion of diverse voices at the regional table help to move forward a more just and hopeful vision of the future? It appears to be a promising path forward.

CHAPTER 6: CONCLUSION

6.1 Introduction

A well-known traditional folklore tale³⁵ tells the story of how a traveller, arriving in a village with nothing but an empty pot and a stone in his pocket, manages to persuade the hungry villagers to each offer an ingredient for his “stone soup”, until before long a delicious and nourishing meal is ready, with more than enough soup to feed the entire village. Many versions of this tale have been shared since at least the 1700s, and it is still told to children today to teach about the value of working together as a community and sharing with one’s neighbours. The story tells us that the whole is greater than the sum of its parts.

The parallels between this traditional tale and the imperative to work together to tackle climate change are clear. Collective action at multiple scales is required to enact the widescale socio-ecological transformation required to limit the worst impacts of global climate change. Local governments have a key role to play due to their influence in shaping patterns of emissions and because of their position on the front line of responding to climate impacts on communities. Yet despite this potential, local governments face constraints that limit their ability to enact transformative change. This research set out to assess the barriers preventing transformative climate action at the local government scale, and to better understand the ways in which collaboration at the regional scale might better support local governments to overcome these barriers.

6.2 Barriers to Transformative Climate Action: Key Findings

One of the most compelling stories that emerged regarding barriers to climate action relates to resistance and governance: though funding and capacity issues were identified in a previous survey as the top constraints to local climate action (Rhodes et al., 2021), the interview data tell a different story. Although capacity constraints are significant, the findings point to deeper and more fundamental challenges. Interviewees generally agreed that more funding would be helpful, and capacity constraints are real, especially in smaller, rural communities, but the bigger challenges highlighted by participants point to climate action at the local government scale being fundamentally a political struggle. We have seen that governments are capable of making drastic changes in short periods of time and mobilizing massive resources when called for by urgent demand, such as in the response to the Covid-19 pandemic,

³⁵ The *Stone Soup* parable is an old story of unknown origin, with many different variations. While the first written version appears to have been published in France in 1720, it is not clear whether an oral tradition existed previously (Rubel, 2015). Variants of the story have also been identified from Russia, Sweden, Belgium, England, Jamaica, Korea, the Philippines, and China (Kimmel, 2013). In some versions, a nail or other object replaces the stone (Kimmel, 2013). The description here comes from my memory of the tale from my own childhood, which I have more recently come across again through participation in events with my children. Variants of the story are popular in elementary schools for teaching the values of sharing, as the story of *Stone Soup* offers a clear metaphor for collaboration (Kimmel, 2013).

which is why some have called for war-time approach to tackling climate change. Some interview participants observed that the response to the Covid-19 pandemic provided a positive example of how large social changes can occur over a short time frame and how governments are able to mobilize massive resources in an emergency situation. This was seen as providing hope that a similar response to climate change is possible.

Yet in spite of the apparent growing consensus that climate change is an urgent priority, and the proliferation of climate action declarations and plans, we have not seen the same level of resourcing and coordination needed to actually implement plans and attain GHG reduction targets. Local governments have influence over important sectors and sources of emissions, and more needs to be done at the local level related to mainstreaming climate action, but ultimately, resistance related to underlying values, beliefs, and worldviews as well as structural influences is challenging for local governments to overcome independently. Recent years have seen opposing factors create a push-pull effect, as increasing frequency and intensity of climate events is waking many people up to the realities of the need to take climate action, while at the same time economic pressures and competing priorities are increasing resistance. Political will is needed at various levels of governance which depends to a large extent on public support. The dynamic and interrelated nature of barriers is key to note here, as barriers within the three thematic categories identified in this thesis are interwoven with one another, particularly with respect to resistance to climate action.

Although many communities have seen some degree of forward momentum when it comes to climate action, the influence of corporations, especially fossil fuel industry marketing and lobbying, is frequently in direct opposition to the stated climate action goals of governments and presents a major challenge to local governments to counter. It was notable the extent to which fossil fuel industry influence was emphasized by research participants as a barrier to transformative change, and as discussed in the previous chapter, resistance, misinformation, and even direct interference of the industry has only continued to grow. Scholars associated with the Corporate Mapping Project³⁶, an initiative involving partnership between academic and community-based researchers, have made important contributions to our understanding of how deeply entrenched and entangled “fossil capitalism”³⁷ and corporate influence is within Canada’s politics, economy, society, and culture (Carroll, 2021; see also, Carroll et al., 2018; Daub et al., 2020; Graham et al., 2020; Neubauer & Graham, 2021).

³⁶ From the Corporate Mapping Project website: “The Corporate Mapping Project brings together a large team of academic and community-based researchers, and advisors from environmental, Indigenous, labour and independent media groups. The project is hosted by the University of Victoria, and jointly led by UVic, the Canadian Centre for Policy Alternatives and the Parkland Institute, together with a larger group of partners.” The stated aim of the project is to “shine a bright light on the fossil fuel industry by investigating the ways corporate power is organized and exercise”, with a focus on mapping the influence of Western Canada’s fossil fuel sector and its connections to other sectors of the economy and society (Corporate Mapping Project, 2016).

³⁷ “Fossil capitalism” is defined by the editor in the introduction to the volume as “a form of capitalism predicated on the growing consumption of fossil fuels, and therefore generating a sustained growth in emissions of carbon dioxide” (Carroll, 2021).

The fossil fuel resistance highlighted by this research is part of a wider trend of misinformation and disinformation flourishing online around the world, often intentionally organized by bad actors actively seeking to undermine efforts to address some of the most pressing issues of our time, including climate policy (King, 2023; Klepper, 2023). These new levels of interference have implications for all levels of government, and requires a strong and coordinated response. To counter resistance and anti-climate action narratives, interviewees called for action at higher levels of government as well as a more coordinated approach, both horizontally and vertically, to provide cohesive policies and messaging.

Overall, the findings of this study point to a need to consider how to access deeper leverage points that lie in the outermost personal and political spheres of transformation. The study revealed that while barriers related to resistance and governance are deeply entrenched, they also offer opportunities for leveraging transformational change. Mapping the key barriers – resistance, capacity, and governance – onto O’Brien’s (2018) three spheres of transformation framework suggests a need to move beyond behavioural changes and technologies to target deeper leverage points related to systems, structures, and the personal sphere in order to effectively address underlying barriers and enact the rapid and widescale socio-ecological transformation required to limit the worst impacts of climate change.

6.3 Regional Collaboration: Key Findings

Local governments are constrained not only by the barriers discussed above, but also by geographical scales and tiers of governance, as climate action and impacts frequently extend beyond jurisdictional boundaries. The need for a coordinated approach to climate action, including policy alignment and coherence across scales of governance, highlighted in the literature on multi-level governance as well as by research participants, provides a bridge to the second core research question: how might regional-scale collaboration support overcoming barriers? While an abundance of research exists on municipal barriers to climate action, most existing case study research has focused on individual municipalities, often large ones. Over the past three decades, municipal networks in various forms have expanded the scope of local government action, establishing a framework for local governments to collaboratively work together to build capacity, share knowledge, and amplify their impact, as well as contributing to a polycentric governance model where the importance of local government climate action is recognized at the global scale. However, there is limited experience and documentation of regionally scaled networking within Canada. Through this research, I sought to address a gap in knowledge related to how local governments might work more effectively together on a regional scale within the Canadian context.

In considering how greater collaboration at the regional scale might support catalyzing transformative climate action, the study illuminated potential actions at various scales of governance to address resistance, capacity, and governance challenges. Of the barriers identified through this study, many can be addressed at least in part through greater coordination and collaboration at the regional scale, while others require action at other scales of governance. Providing policy consistency and coordinated messaging, as noted above, is a key benefit of regional collaboration. Building skills and capacity, leveraging resources, and using existing resources and capacity more effectively through coordinated

action across jurisdictional boundaries are additional key benefits. A regional scale approach also offers the opportunity to advocate collectively to higher level government, which is important since actions at the provincial scale were highlighted by participants as being critical to overcome barriers, particularly as related to funding, policy alignment, enabling legislation, and standardized processes. Notably, networks, learning from others, relationships, partnerships, and collaboration were key enablers of climate action described by interviewees, all of which clearly point to the importance of a coordinated and collaborative approach. The top needs identified in the study (which can also act as enablers when aligned) coalesced around higher-level government policy, funding, and horizontally and vertically aligned policy and communications. All of these needs can be supported through regional collaboration, either directly, or indirectly through advocating collectively.

An additional contribution of this research is the key insight that collaboration in a regional Canadian context is not just a means to an end, but an inherent good in and of itself. The co-benefits of climate action are often pointed to, within this study and outside of it, as a way of both bringing support to climate action and achieving broader sustainability goals. This thesis points to the co-benefits, not just of climate action, but of the collaboration itself in strengthening resilience. Research participants emphasized the importance of relationships and networks as some of the most critical enablers of climate action. Interviewees spoke of the benefits they have experienced from their participation in existing networks, which included not only sharing of information and resources but also immeasurable benefits related to feeling less alone. Some interviewees, both staff and elected, spoke of the direct mental health benefits they experience through being part of a community of people working toward shared goals, while others discussed the importance of social cohesion in building community resilience to climate change, an idea which can be extended to those working in climate policy. Through formal and informal collaboration, we create community, form allies, build personal resilience, and fundamentally contribute toward building a narrative of community and cohesion. This creation of community strengthens climate action intrinsically, including by supporting and building political will and helping to overcome resistance.

The findings overall suggest a strong case for supporting regional collaboration as a means of catalyzing climate action. A number of opportunities and challenges associated with regional collaboration were revealed through the study, including the identification of specific areas that could be targeted for collaboration, which include the building industry, transportation, solid waste management, procurement, adaptation planning and emergency management, food security, energy, and collaboration on grants, shared studies and data. Some collaboration, at varying scales and levels of formality, is already happening. Yet despite the overwhelming benefits associated with increased collaboration, challenges remain, which can include structural barriers, difficulty in finding agreement, regional variation including differences between urban and rural needs, and the absence of a framework and funding to support collaboration at the regional scale beyond regional districts.

6.4 The Current Context and Potential Ways Forward

Returning to the stone soup analogy, all of the villagers have something to contribute (both small and large, urban and rural communities), but they need to work together to make something worthwhile (effective climate action). Burch's (2010a) argument – that a wealth of human, financial, and technical capacity exists – is not wrong. However, adequate capacity may not exist within in a given municipality, administrative boundary, or silo. Rather, capacity exists across the system and can be harnessed by better ways of working together, both horizontally and vertically. From this perspective, while local governments often call for increased funding (and funding is indeed needed), what might be even more important is developing a stronger framework for collaboration.

To take the analogy further, in order to make the soup, you need the person with the stone to bring everyone together. This speaks to the importance of leadership, reflected in the literature as well as this study, to drive collaborative climate action. Interviewees in the study spoke to the importance of having someone in a coordinator role to support the convening and organizing of climate action. To make the soup (or support the collaboration), you also need a pot, which could be thought of in this context as the backbone organization that supports a collaborative initiative. In some cases, this can be at the scale of a regional district, as in the case of the Capital Regional District's climate service, or it can be through broader networks. Indeed, this is precisely the goal and the role of the regional climate alliances and collaboratives that are emerging in other jurisdictions, including Australia and the United States. While the regional climate collaboratives in the U.S. are largely driven by local governments, most rely on a backbone organization to provide structure and continuity (ISC, 2019). Finally, to make the soup you need a rock, that magical object that inspires everyone to come together in the first place, and a source of energy to cook the soup, but perhaps the analogy shouldn't be overstretched.

It was telling that the top enabling factors identified in this study revolved around networks, relationships, partners, collaboration, and learning from others. These findings make a strong case for the work that existing network builders are doing, both in BC and abroad, and for continuing to work toward a more robust framework for collaborating on a regional scale in the Canadian context. Questions remain about how effective existing networks are in terms of measurable changes, what characteristics make a network most effective, and what geographic scale and governance models are most appropriate; while these questions are out of scope of this particular study, resources available from the Institute of Sustainable Communities (ISC) and others provide valuable insights.³⁸

Existing collaboratives have demonstrated a number of key benefits related to regional climate action, including coordination of shared ecosystem services, leveraging of local and upper-level government resources, supporting convening, increasing capacity, and developing platforms for mainstreaming

³⁸ See for example: Institute for Sustainable Communities, 2019; Adams et al., 2016; Alliance of Regional Collaboratives for Climate Action (ARCCA), 2022; Bennett & Grannis, 2017; Boyd & Zukiwsky, 2019

climate action (Adams et al., 2016). However, they also face some key challenges, in particular, defining shared value propositions and goals, investing in long term strategies, respecting local authority, and complexity and scale (Adams et al., 2016). In a guidance document exploring the strategies emerging from collaboratives in the U.S., the authors describe a range of governance structures ranging on a continuum of increasing formality. One of the challenges that emergent collaboratives must grapple with is to “decide what it means to become a ‘thing’ – a recognizable entity that fits with the expectations and systems of governments, funders, and the broader climate change community – without losing the diversity and flexibility that has allowed collaboratives to adapt to their local contexts” (Adams et al., 2016).

As the VICC region moves forward in exploring options and opportunities for deepening regional collaboration, leaders will need to grapple with similar challenges to those outlined above. The findings of this thesis are highly relevant to the work of those working to advance a regional approach to climate action in the VICC and elsewhere in BC and Canada, providing evidence of the many benefits associated with a collaborative regional approach and suggesting some specific areas that could be targeted as places to start. Further, examples of voluntary regional networks in the form of regional climate collaboratives in other jurisdictions provide a possible model for what a collaboration could look like. An additional important consideration going forward is the need for an inclusive approach to collaborative governance with Indigenous Nations.

Developing the analysis in this thesis alongside my ongoing work with the VICC steering committee and other regional networks through my professional role with CEA has been interesting and has added extra layers of nuance to my thinking about regional scale collaboration. At the same time that regional collaboration in the VICC region has been evolving, regionally scaled collaborative initiatives have been blossoming across other regions. A number of regional scale networks have evolved independently and organically across BC, some at the request of local government representatives on the ground who recognize the inherent benefits in working more closely together. Emerging regional networks in BC are drawing increasing research interest, as researchers seek to explore the potential opportunities for advancing collaborative climate action in different regions and draw out key insights from the experiences of existing networks (Earley & Korn, 2023).

Higher levels of government are also acknowledging the benefits of a regional approach, with the provincial Climate Action Secretariat providing support to new and established regional networks. In addition to support for regional climate action networks, the work the provincial government has been doing recently to support cohesive policy and local level action should be acknowledged. This includes moving toward an integrated “all of government” approach, new and amended supportive legislation such as the Zero Carbon Step Code, and the establishment of LGCAP (local government climate action program) funding which is intended to be a predictable and stable source of long-term funding for local governments. The Province of B.C. also acknowledges the importance of regional collaboration when it comes to community adaptation planning and implementation, as noted in their 2022 *Climate Preparedness and Adaptation Strategy* (Government of British Columbia, 2022). The landscape around

climate action in BC is shifting rapidly, and while interviewees called for more provincial leadership through support and funding, and those calls need to continue to be elevated, there is evidence of movement in a positive direction in relation to provincial support for local government climate action.

At the federal level, there has also been increased attention to the benefits of regional scale adaptation initiatives, along with corresponding grant opportunities.³⁹ As the federal government pursues meeting its obligations under the Paris Agreement, and the BC government continues to work toward implementing the targets set out in their *CleanBC Roadmap to 2030* and to implement the actions prioritized in the *Climate Preparedness and Adaptation Strategy*, it will be important to continue creating supportive frameworks and funding to support climate action at the local and regional levels. This includes support for regional networks and initiatives, support for collaboration more generally, and support for local governments in working with Indigenous Nations. To effectively address the complex challenge of climate change, greater collaboration will be needed – including across disciplines, siloes, and geographies.

6.5 Limitations of this Research and Future Directions

As the literature suggests, barriers can be highly context specific, interrelated, and dynamic, and this research revealed nuances related to barriers and enablers that are perhaps specific to BC and/or the context of local governments in the VICC region. The identified barriers and enablers reflect the perspectives of research participants, and as with all qualitative research, there is some level of subjectivity. A key limitation, previously acknowledged, is the missing perspective and participation of First Nations. This missing Indigenous perspective on regional collaboration is an area in need of further research attention. It also raises the question of scale, and what unit makes sense regionally from a First Nations perspective.⁴⁰

The study raised interesting questions about role of regional districts in coordinating action and collaboration regionally. There are differences in how regional districts operate, with some doing more of this type of coordination than others. Within the context of existing governance structures, the Capital Regional District (CRD) climate service presents a potential model for other regional districts to consider.

³⁹ From Natural Resources Canada: “The Climate-Resilient Coastal Communities (CRCC) Program will provide funding to enable communities and sectors to work together at a regional scale to co-develop coordinated actions that increase climate resilience in coastal regions. The CRCC received \$41 million under the Government of Canada Adaptation Action Plan, which accompanied the release of the [National Adaptation Strategy](#). Regional-scale approaches provide multiple benefits for advancing adaptation action including: collaborative planning to address complex climate change risks (e.g. sea level rise, coastal erosion, extreme events); more efficient alignment of resources and short and long-term actions; enable innovative solutions; and reduce risk of maladaptation or shifting risks to others.” (Natural Resources Canada, 2023)

⁴⁰ An Indigenous Engagement report to the VICC-CLP steering committee suggested that scaling collaborative efforts in relation to the three tribal regions of Kwakwaka’wakw, Nuu-chah-nulth, and Coast Salish would support collaboration with First Nations (Alderhill Planning, 2023)

This model establishes a formalized structure with a mandate to collaborate through a service established by bylaw, resulting in a more unified approach within the regional district boundaries. On the other end of the spectrum, examples were provided from another regional district of working collaboratively and flexibly based on long standing relationships and trust as opposed to the formalized establishment of a regional service. The existing regional district structure and tools that regional districts have access to such as Regional Growth Strategies likely have the potential to be used more effectively to promote collaboration, pointing to an opportunity to turn these existing institutions into ones that could advance climate action.

Yet the research highlighted that the way regional districts work in practice is not necessarily conducive to collaborative action. Future studies could explore this potential further. With most research focusing on municipalities and the urban context, there is a need to develop a better understanding of the policy tools available to regional districts specifically and in rural areas more generally. A related line of enquiry would include examining further how municipalities and regional districts differ from one another in terms of legislative authority and climate action opportunities.

Related to the previous point about scale in the context of an Indigenous perspective, this study raised questions of scale but did not fully provide answers. The question of the “right” scale for regional collaboration is outstanding, and likely varies depending on a variety of factors related to the context and the specific problem at hand. Also as noted above, while this research revealed a number of benefits to a regionally scaled collaborative approach, and suggested possible ways forward based on existing networks and collaboratives, there are outstanding questions related to how effective existing networks are, the characteristics that make a network effective, and what geographic scale and governance models are most appropriate. While this study pointed to clear benefits associated with regional collaboration, and existing networks and collaboratives have demonstrated similar benefits, the extent to which the action catalyzed by such networks could be characterized as transformative versus incremental is also unknown. Future research could explore these questions further.

6.6 A Final Word

The super wicked problem of climate change requires an all hands on deck response. Recent years have seen the burgeoning of a multiplicity of responses by diverse actors and at multiple scales. This research has pointed to the importance of working together – vertically and horizontally, across disciplines, siloes, and geographies. Collaboration, regional or otherwise, has the potential to amplify responses to climate change through the sharing of resources and knowledge, building of skills and capacity, coordinated action, and collective advocacy. But the benefits of collaboration go beyond these practical considerations: they help us feel less alone in this difficult work, and contribute to building community, cohesion, and resilience in the face of what sometimes feels like a hopeless situation.

We know that rapid and widescale socio-ecological transformation is required to meet the challenge of climate change. Yet while changing systems can seem daunting, as O’Brien (2018, p.158) maintains,

“everyone is part of a system, and everyone has a sphere of influence.” The systems that exist were created by people, and can therefore also be changed by people. Achieving the necessary transformation, as O’Brien would argue and this research supports, requires activating leverage points in the political and personal spheres. In other words, a transformation of this magnitude requires a paradigm shift. One interviewee spoke of working to “build a coalition of the willing”, bringing to mind Donella Meadow’s wise advice regarding how paradigms can be changed:

How do you change paradigms? ...In a nutshell, you keep pointing at the anomalies and failures in the old paradigm...you don’t waste time with reactionaries; rather you work with active change agents and with the vast middle ground of people who are open-minded. Systems folks would say you change paradigms by modeling a system, which takes you outside the system and forces you to see it whole. We say that because our own paradigms have been changed that way.
– Meadows (1999)

Our beliefs about what is possible shape what actually is possible. There are many possible futures, and at the most basic level, our individual and collective ideas about what is just, desirable, sustainable, and possible shape the pathways we choose. Generating the transformative changes needed to effectively respond to climate change requires a shift in how we think about changes at the individual, collective, and systems levels, including how changes are interconnected (O’Brien, 2020). Just as inertia can build behind unsustainable pathways at various scales, so too can collaboration and other enabling factors instead sustain a virtuous cycle.

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Appendices

APPENDIX A: First Nations Communities in the VICC Region⁴¹

Ahousaht First Nation
Cowichan Nation Alliance
Cowichan Tribes
Da'naxda'xw/Awaetlala First Nation (formerly Tanaktek Indian Band)
Ditidaht First Nation
Dzawada'enuxw First Nation (formerly Tsawataineuk Indian Band)
Ehattesaht First Nation
Esquimalt Nation
Gwa'sala-'Nakwaxda'xw Nations
Gwawaenuk Tribe
Halalt First Nation
Hesquiaht First Nation
Homalco (Xwemalhkwa) First Nation
Hul'qumi'num Treaty Group
Hupacasath First Nation
Huu-ay-aht First Nations
Ka:'yu:'k't'h'/Che:k:tlles7et'h' First Nations (Kyuquot)
Klahoose First Nation
K'ómoks First Nation
Kwakiutl District Council
Kwakiutl First Nation
Kwiakah First Nations
Kwikwasut'inuxw Haxwa'mis First Nation
Ts'uubaa-asatx Nation (formerly Lake Cowichan First Nation)
Lax Kw'alaams Band
First Nations of Maa-nulth Treaty Society
Malahat First Nations
Mamalilikulla First Nation
Mowachaht/Muchalaht First Nation
Musgamagw Dzawada'enuxw Tribal Council
'Namgis First Nation
Snaw-naw-as (Nanoose First Nation)
Nanwakolas Council
Naut'sa mawt Tribal Council (Alliance Tribal Council)
Nuchatlaht First Nation

⁴¹ List of Indigenous communities drawn from VICC CLP Indigenous Engagement Summary Report (2023), a report prepared by Alderhill Planning for the VICC-CLP Steering Committee

Nuu-chah-nulth Tribal Council
Pacheedaht First Nation
Pauquachin First Nation
Penelakut Tribe
Qualicum First Nation
Quatsino First Nation
Scia'new First Nation (Beecher Bay)
shíshálh Nation (Sechelt First Nation)
Snuneymuxw First Nation
Songhees Nation
Stz'uminus First Nation (Chemainus)
Te'mexw Treaty Association
Tla'amin Nation (formerly Sliammon First Nation)
Tla-o-qui-aht First Nations (formerly Clayoquot)
Tlatlasikwala First Nation
Tlowitsis Nation
Toquaht Nation
Tsartlip First Nation
Tsawout First Nation
Tseshaht First Nation (čišaaʔath)
Tseycum First Nation
T'Sou-ke Nation
Uchucklesaht Tribe
Yuuʔuʔiʔʔath (Ucluelet First Nation)
We Wai Kai Nation (Cape Mudge Indian Band)
Wei Wai Kum First Nation

APPENDIX B: Burch’s Typology of Barriers to Municipal Climate Action

Barrier category	Definition	Examples
<i>Cultural/behavioural</i>	The relationships between individuals in various critical positions within municipality, their personalities, and the collective ethos, values, and customs present within the organization	<ul style="list-style-type: none"> • Political leadership (lack of leadership, beholden to special interests, adherence to status quo, short term desire to be re-elected inhibits long term decision making) • Organizational culture (e.g. risk adverse, combative) • Silos between planning and operations (cultural differences, animosity, scepticism of initiatives from city hall, physical separation) • Relationship between staff and political representatives • Lack of leadership at provincial or federal level
<i>Structural/operational</i>	Features of the organization’s structures and procedures that influence day-to-day activities of staff and longer term policy direction	<ul style="list-style-type: none"> • Organizational hierarchy inhibits innovation and flexibility • Mechanisms for facilitating interdepartmental collaboration limited • Competitive party system inhibits collaboration • Budgetary structure (separation of operational and capital, lack of incentives for savings, no incentives to stimulate innovations) • Lack of mechanisms for institutional learning • Climate change not embedded in job descriptions, not part of performance criteria • Climate change isolated in organization rather than mainstreamed
<i>Regulatory/legislative</i>	The nature of the policy tools the municipality has at its disposal (e.g. OCP, bylaws) and the interactions between multiple levels of government	<ul style="list-style-type: none"> • Quality of policy & regulatory tools (lack of integration of climate change in key policies) • Absence of long term strategic sustainability/climate plan, • Lack of detailed implementation plans and monitoring/review • Inter-jurisdictional policy inconsistency • Policy signals sent by higher levels of government (e.g. provincial policies that increase emissions, lack of adequate support for communities) • Lack of power/authority at regional level
<i>Contextual</i>	The environment within which the municipality functions and the values and priorities of the public	<ul style="list-style-type: none"> • Public awareness of climate change & perception of risk • Broader economic and political climate • Competing priorities (e.g. demand for lower taxes) inhibit commitment to climate action • Community resistance to change

APPENDIX C: Human Research Ethics Board Approval



**University
of Victoria**

Office of Research Services | Human Research Ethics Board
Michael Williams Building Rm B202 PO Box 1700 STN CSC Victoria BC V8W 2Y2 Canada
T 250-472-4545 | F 250-721-8960 | uvic.ca/research | ethics@uvic.ca

Certificate of Approval - Annual Renewal with Amendments

PRINCIPAL INVESTIGATOR: Kara Shaw (Supervisor)	ETHICS PROTOCOL NUMBER 20-0097 Expedited review - delegated
PRINCIPAL APPLICANT: Katherine Pearce Master's student	ORIGINAL APPROVAL DATE: 24-Mar-2020
UVIC DEPARTMENT: Environmental Studies ENVI	APPROVED ON: 22-Mar-2022
	APPROVAL EXPIRY DATE: 23-Mar-2023

PROJECT TITLE: Exploring policies and priorities in the Vancouver Island and Coastal Communities region

RESEARCH TEAM MEMBERS:
Astrid Brousselle - Communications, UVic School of Public Administration
Tara Ney - Survey design; communications, UVic School of Public Administration
Tamara Kiwchenko - Territorial analysis; survey design; mapping of survey results, UVic School of Public Administration
Katya Rhodes - Co-principal Investigator, UVic School of Public Administration

DECLARED PROJECT FUNDING:
Pacific Institute for Climate Solutions (PICS), University of Victoria
Real Estate Foundation of British Columbia (REFBC),

DOCUMENTS INCLUDED IN THIS APPROVAL:
Ethics Application - Appendix 1 - Invitation to Participate Letter [Final].docx - 23-Feb-2020
Ethics Application - Appendix 2 - Sample Survey Questions [Final].docx - 23-Feb-2020
Ethics Application - Appendix 3 - Participant Consent [Final-Revised].docx - 19-Mar-2020
STAGE TWO Invitation to Participate March 8.docx - 08-Mar-2022
STAGE TWO Interview Questions.docx - 08-Mar-2022
Stage Two Consent Form March 8.docx - 08-Mar-2022
tcps2-epic2-certificate.pdf - 19-Mar-2022

Conditions of approval

This Certificate of Approval is valid for the above term provided there is no change in the protocol.

Amendments
To make changes to the approved research procedure in your study, please submit "Amendments" or "Annual renewal with amendments" form. You must receive research ethics approval before proceeding with your amended protocol.

Renewals
Your ethics approval must be current for the period during which you are recruiting participants or collecting data. To renew your protocol, please submit a "Request for Renewal" form before the expiry date on your certificate. You will be sent an emailed reminder prompting you to renew your protocol about six weeks before your expiry date.

Project Closures
When you have completed all data collection activities and will have no further contact with participants, please notify the Human Research Ethics Board by submitting a "Notice of Project Completion" form.

Certification

This certifies that the UVic Human Research Ethics Board has examined this research protocol and concluded that, in all respects, the proposed research meets the appropriate standards of ethics as outlined by the University of Victoria's policies for research involving human participants.

Dr. Sandra Gibbons
Chair, Human Research Ethics Board

Dr. Matthew Murphy
Vice-chair, Human Research Ethics Board

Certificate issued On: 22-Mar-2022

APPENDIX D: TCPS 2: CORE 2022 Certificate of Completion

PANEL ON RESEARCH ETHICS <i>Navigating the ethics of human research</i>	TCPS 2: CORE 2022
<h1><i>Certificate of Completion</i></h1>	
<p><i>This document certifies that</i></p>	
<p>Katherine Pearce</p>	
<p><i>successfully completed the Course on Research Ethics based on the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2: CORE 2022)</i></p>	
<p>Certificate # 0000810623</p>	<p>18 March, 2022</p>

APPENDIX E: Interview Guide for Participants

Project Description and Guiding Research Questions:

My thesis research will explore how local governments can work together at a regional scale to accelerate climate action. My objective is to assess the potential of regional level coordination to overcome barriers as well as facilitate greater collaboration and coordination between municipalities and between urban and rural communities. This research project focuses on the Vancouver Island and Coastal Communities (VICC) region as a case study (see attached map), where a collaborative process is currently underway to develop a regional climate action plan. Previous survey research was conducted in 2020 to identify the existing policies and planning priorities of local governments in the region. As a research assistant, I have been involved as an observer in the VICC climate action planning process, and was involved in the development and implementation of the survey, analysis of data, and drafting of the report (available here: <http://www.viccclp.com/research.html>). My thesis research will build on the previous survey findings to further explore how a regional approach could support local governments and catalyze climate action across the region.

Specifically, my project will examine the opportunities and challenges for a regional approach on Vancouver Island by exploring the following questions:

- 1) What are the barriers to transformative climate action at the local government scale in this region?
- 2) In what ways can a regional approach support local governments to overcome barriers in order to take meaningful climate action?
- 3) What can be learned and applied in the VICC region from regional approaches in other jurisdictions; conversely, what lessons can be learned from the VICC-CLP process?⁴²

Interview Questions

Part 1: Local Government Climate Action

1. Could you start by introducing yourself and your role?
2. Can you describe what your community will look like in 10 years if you are on the path toward climate resilience and sustainability that you hope for?

⁴² This question was subsequently dropped as a core research question, although it has been addressed in a roundabout way through the literature review and discussion of the VICC-CLP process

3. To what extent is your community progressing toward the vision you describe, and what do you think has been important for enabling successful climate action so far?
4. What are the barriers to advancing climate action in your community?
5. How could the barriers you've identified be overcome? What needs to change, and/or what could help bring these changes about?
6. How do you see the role of local governments in responding to climate change?

Part 2: Regional Scale Planning and Action

Switching gears to thinking about the region and regional scale climate action...

1. What has been your experience to date working collaboratively on a regional scale and/or with other local governments to advance shared priorities?

For VICCCLP steering committee members only:

- a) What motivated your involvement with the VICC Climate Leadership Plan Steering Committee?
- b) Can you describe your experience of the process so far, and any lessons learned?

2. What do you see as potential opportunities and challenges related to regional scale climate action?
3. What would a successful regional approach look like, and what is needed to make that happen?
4. Thinking about how your community fits within the larger region, what could your community contribute on a regional scale? What does your community need in terms of how it could benefit from working together?
5. If you had unlimited funding/resources, what would you do to address climate change within your community/region?

Before we end, is there anything important that we haven't covered or anything else you would like to share?

APPENDIX F: Interview Transcription Protocol⁴³

Getting set up:

Download audio/video files and automatically generated transcript from zoom cloud recording

Copy text file into a new Microsoft word document and save with file name format [Interview with [name] [date] – edited transcript [initials of transcriber]

e.g. “Interview with Luke Skywalker May 4, 2022 – edited transcript DV”

At the top of the document, add the following information:

Name of interviewee(s)

Name of interviewer

Date of interview

Name of transcriber

Date transcribed

Add page numbering

Enable track changes

Transcribing/Editing the transcript:

The transcript serves as the written record of the interview. Transcriptions are created by listening to the audio file and typing what you hear.

Transcribing from oral to written language is often more complicated than copying a person’s every word. The level of accuracy of the transcription depends on the type of research and its purpose. Everyday speech includes irregular grammar, filler words (uhs, ums, and ahs), and false starts. For this project, we are not concerned with details such as length of pauses, and every “ah” and “um”. Because we have a high level of detail from the auto-transcription, the transcripts should be maintained relatively verbatim, but you do not need to add in “ums”, etc.

⁴³ Borrowed in large part from Guide to Transcribing and Summarizing Oral Histories (Oregon Department of Transportation Research Section, 2010).

unless they add meaning/context. Any quotes used later in reports will be further edited for grammar and clarity. We are aiming to strike a middle ground between accuracy and readability.

The process of transcribing involves a level of interpretation, and should be the best representation you can make of what was said, but ultimately transcriptions will have inherent variation due to the awkwardness of transforming oral to written language. The recorded interviews will remain as the primary documentation.

Transcribing an interview is an iterative process. Once the initial account is compiled, the transcript should be reviewed and clarified.

In this case, zoom cloud recording generates an automatic transcript, which needs to be reviewed and edited, including correcting for misspelled/incorrect words, grammar, and punctuation. With multiple speakers, sometimes the auto-transcribe incorrectly attributes speech to the wrong person. Errors can occur when multiple people are speaking at the same time.

You will need to listen to the recorded interview, while reading and correcting the transcription document. This will involve frequent pausing and rewinding when you need to go back to listen again to what was said. A transcribing pedal if available may be helpful, and/or computer software that allows you to play the recordings at a slower speed and with shortcuts for pausing and resuming.

The format of the auto-transcription comes with time stamps. Please leave the numbering and time stamps as is when formatting the transcription, as it is helpful for going back and finding ones place in the recording.

If you are not able to complete the full transcription in one sitting, make note of where you left off so it is easy to find your place again when you resume.

Editing may be considered as a phased process, such as the one described below.

First Pass

This first pass through the transcript is done while listening to the audio version and correcting the document. This pass includes:

- catching and fixing transcription errors—wrong or missing words and phrases
- trying to identify inaudible passages
- making basic spelling and punctuation corrections

Second Pass

This pass corrects names and facts and makes global fixes wherever possible. It includes:

- correcting names in the transcript, noting the whole name at first appearance
- global fixes of capitalization, formatting, removing extra spaces and the like
- making a list of inaudible passages and name queries
- fixing remaining grammar, spelling, and punctuation errors
- breaking up run-on sentences and too-long paragraphs

If there are areas where you aren't sure what to do, please use the commenting feature in word to make a note.

Formatting and Punctuation Guidelines

Here are a few common scenarios you might come across and how to format:

For questions specifically related to:

- Adding information not mentioned, but needed for clarification, see BRACKETS
- Noting an interruption during the interview, see DASHES

Acronyms

Acronyms have no periods. They should be spelled out in the first instance, using brackets to set off the full name.

Example:

"I worked for ODOT [Oregon Department of Transportation] from 1990 to 2009."

Brackets

In transcriptions, and quotations, brackets are typically used to include information not specifically mentioned (such as a full acronym name, a non-verbal occurrence, a proper name, to signify an inaudible passage, or to add clarification).

Example:

"She [my sister] was the one who practically raised me."

Commas

According to the *Chicago Manual of Style*, commas are used to indicate small interruptions in continuity of thought or sentence structure. Your ear is the best judge for determining comma placement.

Contractions

Contractions are more common in speech than text, but are equally valid. They add informality and help reproduce “real speech” (e.g. "it's" is less formal than "it is"). When contractions are used in the interview, they should be transcribed as such.

Dashes

The em-dash (—) is used to signify an interruption.

Example:

AP: Did you read the transcript? I feel it's—

JS: Sorry to interrupt.

Also use a dash to indicate a change of course mid-sentence, and enclose the thought in dashes if the sentence veers again or goes back to its original course.

Dates

No apostrophe is needed when indicating plural years (e.g. 1980s, or '80s).

Inaudible and Indecipherable Passages

First, try to make out the words by listening to the audio file multiple times. If the section is still indecipherable, indicate so in the text by placing brackets around the word "inaudible."

Example: Our first home was in east Portland on [inaudible] Street.

Note: “inaudible” means it is too quiet to hear, while “indecipherable” means you are unable to make out the word.

Irrelevant Discussion

You do not need to correct the transcript at the beginning and end introductions/close outs as these sections will not form part of the analysis. Simply mark where the edited transcription begins and ends using square brackets.

Quotes

For quoted dialogue, always use full quotes (“ ”), and put a comma before the quoted passage, which should begin with a capital letter.

Example: My wife said to me, "When you retire, I want to move back to Oregon."

Never use quotes for interior monologue, which is by definition thought, not said. Instead, indicate the thought with *italics* if it's a short passage.

Example: I thought, *What kind of a question was that?*

Non-Verbals

Use a bracket to indicate non-verbal communication such as laughter, gestures, etc.

Example: My grandfather is buried there [*pointing out the window*], under that large oak tree.

Example: I hitchhiked all the way from Missouri to Oregon, [*laughing*] my mom was so worried.

For pauses in the recording for a meal or other occurrence, place the word “break” (all caps) in brackets to indicate the pause.

Example: [BREAK]

References

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APPENDIX G: NVivo Codebook

Barriers

Name	Files	References
Barriers	15	459
1. Cultural-behavioural	10	39
internal gatekeepers	2	4
lack of political will	6	8
risk averse	3	7
self interest of politicians	3	4
staff - elected disconnect	1	6
staff culture - barrier	3	10
2. Structural-operational	5	6
collective agreements	1	1
departmental silos	1	2
lack of accountability	1	1
loss of organizational memory	2	2
3. Regulatory-legislative	15	149
bureaucracy	3	5
downloading	5	7
external gatekeepers	1	3
BC Transit	2	4
First Nations	1	3
financing	11	43
grant funding model - barrier	5	7
lack of funding	7	18
governance	12	54
jurisdiction and authority	9	23
lack of enforcement tools	1	3
RD structure and service establishment	5	12
inconsistent policies and actions	9	12
lack of clear mandate	2	12
lack of clear vision and metrics	2	8

Name	Files	References
lack of provincial follow through	3	5
4. Contextual	15	155
community context	15	87
car culture	3	4
cost concern	1	2
lack of public engagement in local politics	1	3
market forces	1	2
not wanting to change (inertia)	10	18
public opposition	7	16
rural challenges	6	25
social inequity	3	6
unsustainable growth mentality	2	3
worker shortage	4	6
competing priorities	9	24
covid challenges	9	21
fossil fuel industry	4	10
global context	1	3
indirect influence	1	1
marketing	1	3
mental health	1	1
misinformation	3	5
5. Other	15	109
adaptation	1	1
complexity	3	9
education	3	4
inertia	1	3
infrastructure	2	6
lack of capacity	9	31
lack of data	3	4
lack of expertise	3	5
lack of long term thinking	5	6

Name	Files	References
land use	3	19
relationship building	2	3
scale of challenge	4	5
too slow	4	8
uncertainty	1	2
vested interests	1	3

Enablers and Needs

Name	Files	References
Enablers	15	316
BC Hydro programs	1	2
building on success	3	6
capacity	6	14
clear mandate	3	5
climate change in the media	2	2
climate emergency declaration	3	6
co-benefit framing	6	15
committees	1	2
continous learning	2	2
continuity (staff and elected)	1	3
cost driven behaviour change	2	2
covid related opportunities	6	8
evidence of climate change	2	4
getting involved	1	1
global context	1	1
great staff	3	11
high energy cost	1	2
imperative to adapt	3	4
incentives and funding	4	12
infrastructure investment	2	3
knowledge translation	1	1

Name	Files	References
leadership	5	18
learning from others	8	27
leverage	1	5
low cost innovations	1	15
make mitigation fun	1	1
networking	9	44
organizational integration	2	3
partnerships and collaboration	9	22
policy alignment	3	5
policy creating jobs	1	1
political will	7	10
predictable ongoing funding	1	1
progressive immigrants	3	3
public support	5	9
raised awareness	2	2
relationships	3	13
science based	1	1
senior gov support	3	8
service authority	1	2
technology	2	4
value for money	1	2
willingness to take risks	3	8
youth	2	3
youth climate movement	2	3
Needs	15	254
accountability	1	1
address social issues	2	4
advocacy	6	8
auditing	2	3
behaviour change	7	15
better decision making processes	2	7

Name	Files	References
better rural representation	1	1
champion in leadership role	1	2
change management	2	6
clear mandate	2	5
clear vision	4	7
co-benefits focus	3	6
consistent funding	10	17
new funding mechanisms	4	6
coordinated approach	6	23
coordinator role	3	7
different development pattern	1	6
experiment - freedom to try things	1	5
full cost accounting	1	1
higher level government policy	11	40
learn from others	1	6
local authority	5	9
more staff capacity	2	7
political boldness	4	6
preventative approach	2	2
prioritization	1	7
public outreach and communication	7	18
public support	3	5
relationship building	4	5
reskilling - just transition	2	4
standardization	1	1
system change	3	5
tools for working together	2	2
training and education	3	6
understand service levels	1	4
vertical integration	5	10

Region and Scale

Name	Files	References
Regional challenges	14	74
Regional opportunities	15	241
advocacy	5	8
capacity building	1	1
coordination	3	11
examples	4	10
joint procurement	3	4
regional building industry	2	7
regional collaboration	15	97
regional servicing	3	4
shared communications	3	3
shared emergency planning	4	6
shared regional vision	3	3
shared resources	11	20
shared social planning	3	3
VICC-CLP	6	39
Scale	7	12