

Climate action assessment in three small municipalities in British Columbia: advancements vis-à-vis major neighboring cities



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ARTICLE INFO

Article history:

Received 17 September 2019

Received in revised form 28 July 2020

Accepted 23 August 2020

Keywords:

Assessment framework

Climate action

Local government

Climate change

Development path

Policy strategies

ABSTRACT

This paper applied a recently developed Local Government Climate Action Assessment Framework to identify whether small municipalities in British Columbia are on track to meet their climate targets and to better understand the effectiveness of their climate-related actions. The aim of this paper was (1) to further test the assessment framework by evaluating its applicability for smaller municipalities, (2) to evaluate and categorize local progress in three small cities, namely Campbell River, Prince George and Revelstoke, and (3) to contrast these climate actions with actions taken by larger municipalities in BC, using the same assessment framework. This assessment revealed that key external support made available to expand on their Integrated Community Sustainability Plans provided for striking similarities among the three case studies regarding their strategies and plan formulations for which actions were largely transformative or reformatory. However, the three small cities were lacking periodic reporting and monitoring of actions and presented shorter timeframes of up to 20–50 years for their planning horizons, all of which negatively impact their prioritization strategies. The main difference between larger and smaller cities was found among actions related to the feedback and evaluation category of the framework, with smaller cities performing more poorly. Greater shift in priorities away from climate change-related actions were evident in smaller local governments, signalling their more vulnerable position regarding changes in leadership in local and provincial administrations. This study highlights the key role that strategic alliances, networks, and external champions as partners play in planning and implementing climate action and in increasing public interest in sustainability. Thus, these should be fostered and promoted to keep building local capacity and effectively accelerate greater change through e.g., strengthening their capacity to implement, monitor and evaluate climate actions.

1. Introduction

Assessing change in current development paths is complicated, given the myriad of actors, institutional, cultural, socio-technical factors and economic variables. The nature of ‘positive’ change itself is contested and implicates normative social values, as demonstrated by the continuing debates between pipelines and no pipelines, and growth versus no growth strategies. Even in circumstances where values are similar from community-to-community, policies and strategies required for change will differ according to place-specific adaptation and mitigation needs (Newell et al., 2018). A useful concept for understanding progress with respect to sustainable development or climate action and the changes required to accelerate progress is that of ‘development path’. Local development paths are trajectories that define the societal, ecological, and physical changes in a community, and the rate of change is determined by a set of political,

environmental (human-made or natural), cultural, social, and economic conditions (Dale et al., 2019). For a detailed definition of development path we refer to Burch et al. (2014). Development paths underlie the GHG emissions trajectories and climate change vulnerabilities (Cohen et al., 1998; Robinson et al., 2006). There is thus a need to fundamentally change the current development path trajectories to transition toward sustainable community development (Jost et al., 2020).

In order to effectively change local development paths, it is essential to have methods and approaches for understanding and assessing the nature of change. Development paths tend to reflect the ways in which communities define well-being at any given moment. Therefore, monitoring and evaluating their position regarding a well-being ‘target’ state, serves as an indication of the level of alignment between the communities’ goals and values and their current development path. Moore et al. (2018) provide a theoretical lens for understanding development path change, which ranges

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in degrees of change from modest incremental steps toward climate action to dramatic transformations in social, economic, technological, and political systems. They argue that incremental changes (e.g., mitigation through modest increase in energy efficiency) are in many contexts and communities status quo, and thus effectively addressing the climate emergency would require transformation of development paths. Accordingly, understanding whether local development path change is merely incremental or represents transformative change is critical for assessing progress toward sustainable development (Jost et al., 2020).

This paper discusses the application of an assessment framework developed through the Meeting the Climate Change Challenge (MC³) project for assisting local government decision-makers in identifying whether they are on track to meet their climate targets, uncovering areas that require more drastic change. This is the second paper from a two-part study, which examines development path change while recognizing that geography and community-size may influence the needs and capacity for change. Among the 52 cities in British Columbia's 162 municipalities, 37 are between 7,000 and 100,000 inhabitants, accounting for 26% of BC's population (Statistics Canada, 2019). In the first paper, we applied the framework to three large municipalities (i.e., communities within metropolitan areas between 350,000 and 2,500,000 people) in British Columbia. In this paper, we assess the utility of its application to three smaller and medium sized municipalities (i.e., communities within metropolitan areas between 7,000 to 100,000 people) to highlight their commonalities and differences.

2. Methodology

2.1. Research context: meeting the climate change challenge (MC³)

This study is part of the Meeting the Climate Change Challenge (MC³) project — a research project that explores climate action and innovation in local communities (city-wide; henceforth referred to as ‘community’) across the province of British Columbia, Canada (mc-3.ca). The first phase of the project (2011 to 2013) analyzed 11 local governments, identified as having either progressed significantly on implementing or implemented strong climate change strategies (Burch et al., 2014; Dale et al., 2013). The research employed comparative case study methodology in addition to data collection that involved semi-structured interviews with local governmental officials and key external actors (e.g., non-profits, community organizers, etc.). Further details on key actors and data collection procedure are available in Shaw et al. (2014).

Phase two of MC³ (2015 to 2018) is the focus of this paper, which used a longitudinal analytical approach to examine changes taking place in the 11 case study communities from when they were initially interviewed. Interviews were conducted with a subsample of participants from the first phase, and as with the first phase, it involved a protocol employing open-ended questions in semi-structured interviews. The objective of the second phase was to identify whether or not changes had occurred in current development paths and to assess whether climate-related actions in local governments could be characterized as incremental, reformative or transformative (see below). This was done by applying a Local Government Climate Action Assessment Framework to the case studies, developed using three theoretical lenses, namely the multi-level perspective on transitions, social practice theory and social-ecological systems (Dale et al., 2018; Moore et al., 2018).

2.2. Assessment framework

The Local Government Climate Action Assessment Framework (henceforth referred to as the ‘assessment framework’ or the ‘framework’; www.changingtheconversation.ca/assessment-framework-table-1) used in this study was created to evaluate local government actions that influence how communities develop for the purposes of better understanding community development path(s). The development of the assessment framework began with a wide environmental scan of action areas related to development path change (Dale et al., 2019). Most of the assessed indicator systems included categories that explored climate change and sustainability

in a holistic manner. Among these were the Fraser Basin Council's Report on Implementation of Community Sustainability Plans, the Smart Prosperity Institute, the Urban Climate Change Research Network, the Global City Indicators Facility, the Open Working Group's work of the UN's Sustainable Development Goals, OECD, and Eurostat Measuring Sustainable Development indicator set. Furthermore, literature review also included government documents such as annual reports, strategic plans, Official Community Plans (OCPs), Integrated Community Sustainability Plans (ICSPs), web pages and staff reports from the MC3 project's eleven case study communities (from two periods of time: 2009–2012 and 2013–2016). The scan of existing indicators highlighted three key ideas: well-being, the importance of governance to development path trajectories and the nature of societal change (Moore et al., 2018).

The framework was developed by the MC³ research team over six months. For this, local action/policy areas related to development path change were identified (see www.changingtheconversation.ca/assessment-framework), as well as indicators for the type/degree of change occurring – incremental, reformative, and transformative (Moore et al., 2020). Thereafter, local government staff from the case study communities were brought together with the MC³ research team in two peer-to-peer learning exchanges to evaluate the framework. Their feedback was used to further refinement and then vetted in two learning exchanges. Feedback from the first learning exchange (February 24, 2017) indicated framework language was too academic, and it was revised accordingly. In the second learning exchange (October 18, 2018), participants unanimously indicated that the assessment framework has value for informing local decision-making, providing only minor recommendations (cosmetic changes) for improving its clarity and applicability.

Several approaches have tried to conceptualize change (Fazey et al., 2017), including literature on sustainable transitions under socio-institutional, socio-technical, and socio-ecological approaches (e.g., Geels and Schot, 2007; Loorbach et al., 2017; Markard et al., 2012), as well as on the degree of change e.g., resistance, incremental adjustments, and transformational (Pelling et al., 2015); or adjustment, reformist, and transformational (Basset and Fogelman, 2013). Based on the above, we defined: (a) “incremental actions” as measures that marginally affect but maintain the status quo, as a continuation of historical local policy practices; (b) “reformative actions” as measures that push institutions or people out of their comfort zones, changing features originating the problems but without questioning the bases of the system; and (c) “transformative actions” as measures that originate a radical redefinition of institutional and individual norms and values, thus - as a difference from the previous - fundamentally changing the system.

As a result, the assessment framework is organized in terms of types of policy responses, rather than in terms of types of system change. The assessment framework is composed of a set of 34 areas where local actions can be taken, and these are organized into six categories (Table 1). The first five categories relate to local government competences: agenda setting and strategy, policy and plan formulation, implementation (of policies and programs), public feedback and evaluation and dissemination of information and best practices. The remaining category focuses on actual GHG emissions reductions and captures quantitative indicators for evaluating progress of local governments towards becoming a low-carbon (i.e., incremental change), carbon neutral (i.e., reformative change) or carbon restorative society (i.e., transformative change). Definitions were developed for each assessment area, corresponding to three levels of climate-related actions – incremental, reformative, and transformative. Thereafter, and based on the criteria in the columns (www.changingtheconversation.ca/assessment-framework-table-1), users of the framework designate which of the three levels of actions are taking place at the local government level.

2.3. Case study municipalities

This paper analyzes three case study municipalities—Campbell River Prince George and Revelstoke — of the 11 local governments studied during the MC3 project. They were identified as having either demonstrated

Table 1
Local government climate action assessment framework.

Climate action category	Action area
Action setting and strategy	Strategic approach; Champions; Motivational drivers; Mandate; Integrated planning and programs; Mitigation and adaptation
Policy and plan formulation	GHG accounting and inventories; Community engagement; Science-policy capacity; Direct and indirect costs/benefits; Climate policy networks; Policy congruence and alignment; Integrated planning framework; Planning horizon; Climate action; Jurisdiction
Implementation	Corporate climate actions; Partnerships and strategic alliances; Local government controlled service delivery; Rule-making (local government climate regulations); Experimentation and innovation; Institutional arrangements; Institutional capacity; Horizontal linkages; Vertical policy support
Feedback and evaluation	Outcome measurement; Performance monitoring and evaluation; Indicators
Dissemination	Information sharing and learning; Sharing networks (policy and research)
Greenhouse gas emissions and reductions	Corporate emissions target; Absolute change in corporate emissions; Percentage change in per capita emissions

significant progress towards implementing or already implemented climate change strategies (Burch et al., 2014; Dale et al., 2013). To ensure the case studies were comparable and the findings and analysis were robust, a multi-step evaluation approach detailed in Shaw et al. (2014) was undertaken.

The three cities examined in this research are located in the province of BC. Among the three, the city of Prince George is the largest municipality; it has a population of just over 74,000 people (Statistics Canada, 2019) and is the largest city in northern BC. Located at the confluence of the Fraser and Nechako rivers, the city's main activities (and historic population growth) are related to the primary economic sector, namely the forestry and pulp and paper industries; however, since the late 1990's, the city began to attract a diversity of people and interests partly due to the establishment of the University of Northern British Columbia (Newell and King, 2012). The City of Campbell River has a population of approximately 32,500 (Statistics Canada, 2019), and is located on the north-east coast of Vancouver Island. Residents have traditionally gained their livelihoods from the extraction and processing of natural resources, with fishing, logging and mining activities forming the backbone of their economy (Brown, 2012). Revelstoke is a city in southeastern BC, located on the banks of the Columbia River, and with a population of about 7,500 people (Statistics Canada, 2019). With a modest size, steep physical geography and a long history of community planning, Revelstoke's economy is largely driven by the forestry sector (employing approximately 21% of the community). However, the transportation, tourism, and government services which are also significant employers (Burch, 2013).

Case summaries providing detailed context of the three case studies are available from the MC3 case study library webpage (mc-3.ca/campbell-river; mc-3.ca/prince-george; mc-3.ca/revelstoke). It includes information on their climate action progress, critical success factors, emerging opportunities, and constraints, among other details.

2.4. Climate action assessment

This study analyzes three relatively small case study municipalities: Campbell River, Prince George and Revelstoke. The aim of the analysis is, first, to further test the assessment framework by evaluating its applicability for smaller municipalities. Second, to illuminate commonalities and differences in the three communities' development paths. Third, to enhance our understanding of reasons for successes and challenges in climate action progress.

The assessment framework was designed with a focus on the methods commonly used for evaluations of government strategies and policies, namely, interviews, observation, focus groups or peer-to-peer learning

exchanges and documentary analysis (Baynham and Stevens, 2014; Bowen and Bowen, 2008; Picketts et al., 2013; Vogel and Henstra, 2015). This study accordingly applies the assessment framework to the interview data from MC³ phase one and two and secondary sources of data, such as strategic plans, reports and information made available online by local governments. The framework, which provides a fairly comprehensive list of action areas, was completed after the interviews took place. For that reason, data that emerged from the interviews failed to cover all 34 action areas described in the framework. Additionally, the publicly available government documents that informed this study covered a limited number of action areas across the three case studies.

As a result, rather than the full set of 34, a subset of 14 action areas were used to carry out this analysis. A brief review of the adequacy of the selected action areas for this assessment is provided in Section 4. The subset represents five of the six action area categories presented in the framework, and results of the assessment are presented in four sections (see Table 2). For each action area, we evaluated the actions taken by local governments as being incremental, reformative or transformative, based on our interviews, observations and documentary analysis. These actions were thereafter contrasted with the classification system provided in the assessment framework in the corresponding action areas. Finally, we followed the explicit classification criteria given for the three types of action (incremental, reformative and transformative) in each action area. Only local government actions that took place between the first and second phase of MC³ were assessed (2012 to 2018), as this represents the time frame between data collection periods used for longitudinal analysis.

3. Climate action assessment of small urban areas

3.1. Agenda setting and strategy

The Agenda Setting and Strategy actions relate to the local governments' strategic approach, as well as their motivations for addressing climate change (Table 3). The assessment also includes the degree of integration between different levels of government and between adaptation and mitigation planning and policy, a variable we considered to be crucially important for implementation (Shaw et al., 2014).

Strategic approach actions were influenced by provincial leadership advancement and took place prior to the time frame of this particular study. The rationale behind including these climate actions in the assessment is that it allowed for a better understanding of the nature of development path change over time. Specifically, the importance of examining actions through a temporal lens to differentiate between approaches that progress over time and those that are simply viewed as 'positive' was considered to be very relevant to this analysis (Jost et al., 2019).

In accordance with their strategic plan, the City of Prince George developed the myPG sustainability plan, where they articulated their key focus areas and project priorities, to define their city's strategic direction. Approved in 2010, myPG served as the community's Integrated Community Sustainability Plan (ICSP), and it provided the framework to achieve the city's long-term vision out to 2040 and beyond (Prince George, 2010). Following an extensive public and stakeholder engagement process, they developed a shared vision of a sustainable future with strategic directions reflecting principles of sustainability. Sustainable strategies are integrative, helping to achieve several goals at once, including environmental goals (Prince George, 2010). Based on their ICSP, the city updated their Official Community Plan (OCP) in 2012. Focused on community level development and growth strategies, the OCP — a bylaw providing high level direction and policies that guide land use — has a major role to play in energy and climate change. Together, the OCP and ICSP provide the key framework to climate-related initiatives and programs. Thus, we qualify the efforts (that began prior to 2012) regarding their strategic approach as transformative actions.

After becoming signatory to the BC Climate Action Charter in 2007, the city of Campbell River committed to work towards environmental sustainability. They adopted the "Green City Strategy" and identified a series of

Table 2
List of the 14 selected action areas used as a basis for this study, divided into 4 sections.

Section 1	Section 2	Section 3	Section 4
1.- Agenda setting & strategy Strategic approach Motivational drivers Mandate Mitigation & adaptation	2.- Policy & plan formulation GHG accounting & inventories Planning horizon Climate action	3.- Implementation Corporate climate actions Partnerships, strategic alliances	4.- Feedback & evaluation Outcome measurement Performance monitoring & evaluation 5.- GHG emission reductions Corporate* emissions target Absolute change in corporate GHGs % change in per capita emissions

* We used the term “corporate” throughout this paper to describe the municipalities’ corporate operations.

sustainability priorities during the “Sustainable Campbell River Initiative”, where their vision for a sustainable community was developed. They subsequently engaged in a one-and-a-half-year (2010/2011) participatory planning process, which informed the development of their ICSP: “Sustainable Campbell River: Framework” (Campbell River, 2012). Using an integrated approach, the framework outlines the strategies, goals and local actions that now guide the city towards delivering on the community’s vision. In parallel, this vision also guided the development of the objectives and policies of the Sustainable Official Community Plan, adopted in 2012 and updated in 2017 (Campbell River, 2017). The sustainable priorities that the community seeks to achieve in the long term relate to environmental, social and economic aspects of Campbell River, and are divided into three main areas: social and cultural well-being, economic vibrancy and environmental health. Climate-related initiatives are embedded within the ICSP, and are identified as essential components in meeting their sustainability objectives. They embrace the nested sustainability model, recognizing that the “economy and human society are dependent on a healthy and functioning environment” (Campbell River, 2012, 2017). Therefore, we qualify Campbell River’s strategic approach as transformative actions.

Revelstoke adopted the vision to be “a leader in achieving a sustainable community by balancing environmental, social and economic values within a local, regional and global context” as early as 1994. This has set the city on a sustainability development path that has guided their trajectory over the last two decades. All community development plans, such as the Community Development Action Plans in 2001 and 2007, or the recently updated OCP, state a commitment to sustainability, integrating environmental, social and economic values to secure long-term well-being. In 2013, they completed their ICSP, which provides the city with a strategic framework, detailing sustainability priorities and local actions. Sustainable priorities were also grouped in three main sections, namely social and cultural systems, the local economy, as well as the environment and climate (where climate-related actions are described). To achieve their goals more effectively, integrated strategies were developed to incorporate sustainable priorities into all actions, enabling optimization of the community’s resources (Revelstoke, 2013a, 2013b). Finally, to ensure that the vision of the community is embedded into the OCP, the plan to integrate the ICSP into the updated OCP was approved for funding under the Federal Gas Tax in 2018 (Revelstoke, 2018). Thus, Revelstoke’s actions related to their strategic approach can be considered as transformative, as early as 1994.

Regarding **motivational drivers**, the three municipalities have implemented their ICSP making use of the funding available to local governments under the Gas Tax Agreement (GTA), between the federal government and the Union of BC Municipalities. Under the GTA, federal funding was transferred to local governments for eligible capacity building projects,

including the development of ICSPs (BC Government, 2007). All local governments that receive GTA funding committed to developing ICSPs, taking a long-term look at their future and focusing on finding ways and defining forces of change that will make a transformative difference (i.e. sustainable strategic priorities) to become more sustainable (Prince George, 2010; Campbell River, 2012; Revelstoke, 2013a). Having created this common vision, these three municipalities find themselves now in the process of implementing sustainable community development.

The city of Prince George, for example, has stated in their ICSP that they are “working hard to improve its quality of life, maintain a healthy environment and ensure a prosperous future” (Prince George, 2010). Throughout in-person during a peer-to-peer learning exchange with local government staff (peer-to-peer learning exchange, Prince George, October 18, 2018, www.mc-3.ca/peer-peer-learning-exchange-2018), approximately half of the participants evaluated their city’s actions as reformative, focusing on the pursuit of innovation and economic diversification, while the other half considered climate actions to be motivated by a vision for a healthier and more environmentally conscious future. The former is supported in their ICSP (Prince George, 2010, p8), where although mitigation and adaptation of climate change were among the community goals, priorities were given to greening the city and economic diversification. Moreover, in 2015 the city council endorsed the “Healthy Communities Declaration” to protect people’s rights to a healthy environment (Prince George, 2015). Besides reinforcing the city’s strategic plans, existing policies and annual work plans towards the continued health and success of the community, this declaration was intended to inspire “action at other government levels, ultimately resulting in a healthier country for all” (Prince George, 2015, p3). When contrasting the above actions with the classification system provided in the assessment framework, the city’s motivational drivers are identified as being between reformative and transformative.

A main driver for motivation to act on climate change in Campbell River is the opportunity for integration of diverse community goals, in a way that makes them more successful and effective. By making use of existing, or newly identified co-benefits, a number of measures can become appealing to a larger portion of the community. For example, “restoring our shorelines which is really all about adapting to climate change...makes our shore more inviting for the public” (I1, Campbell River, telephone interview, 2018). Furthermore, they focus on broader strategies and goals such as community health, and draw on these specific climate-related benefits. However, the City has other drivers to act on climate change such as its value as a co-benefit for the development of other sectors and economic diversification as their primary motivations, which are more closely related to the “reformative actions” classification of the assessment framework. Finally, because Campbell River’s climate actions are motivated by broader sustainability objectives and include the improvement of local environment

Table 3
Assessment framework: subcategories for agenda setting and strategy.

Action areas	Campbell River	Prince George	Revelstoke
Strategic approach	Transformative actions	Transformative actions	Transformative actions
Motivational driver	Transformative actions	Reformative actions	Transformative actions
Mandate	Transformative actions	Transformative actions	Transformative actions
Mitigation and adaptation	Incremental actions	Transformative actions	Reformative actions

and community health, their motivational drivers were considered to be more transformative than reformative.

In the case of Revelstoke, the focus to include social, environmental and cultural dimensions of community life had already shifted prior to developing their ICSP (Revelstoke, 2007). Revelstoke created a Community Development Action Plan in 2007 with the expectation that certain events will influence the community's directions and priorities previously articulated in their OCP planning process, particularly the development of the Revelstoke Mountain Resort. The adjustment to a warming climate was explicitly described as a contextual driver for the plan (Revelstoke, 2007, p5). Among their community goal analysis, they stated the following: "All of the environmental goals support the community character and health and wellness goals which reflect the importance citizens' place on the contributions of a healthy environment to quality of life" (Revelstoke, 2007, p22). Currently, the incumbent council has identified livability and sustainability as two of their five main priorities. This demonstrates that nowadays — and even before their commitment to develop ICSPs — their motivational driver to act on climate change is intended to improve community health and quality of life, thus qualifying as transformative action due its integration of broader imperatives.

When assessing their **mandates**, a difference between more populous regions such as Greater Victoria and Metro Vancouver (e.g., Jost et al., 2020) and these three smaller community case studies is that the latter have not yet developed a regional growth strategy, likely due to smaller population and limited resources. Nonetheless, as members of the Federation of Canadian Municipalities (FCM) and the Partners for Climate Protection (PCP) program, as well as signatories of the Climate Action Charter and members of the Union of BC Municipalities (UBCM), the three municipalities are well aligned and supported by diverse programs in their roles and responsibilities regarding climate action. A number of programs have been and are still being supported by different intergovernmental sectoral committees such as: the Revelstoke Community Energy Corporation supported by Natural Resources Canada; the Prince George Air Improvement Roundtable supported by the Regional District of Fraser Fort George and the Ministry of Environment, Lands, and Parks (currently, the Ministry of Environment and Climate Change); the City of Campbell River's incentive program for new buildings provincially supported by the BC Energy Step Code; among many others. As stated by a Campbell River interviewee, "where there's provincial policy so like with the Energy Step Code as an example, ... that really helps us to continue moving projects forward as well" (I1, Campbell River, telephone interview, 2018). Further, as mentioned above, all three municipalities were supported in the development of their ICSPs, including climate strategies and actions with assigned roles and attributions; all of which are integrated into sustainability frameworks. For these reasons, we consider actions related to mandates to be transformative in the three cities.

To test the efficacy of integration of their **mitigation and adaptation** strategies, we assessed synergies and/or contradictions identified by the local government in their respective plans. Local governments can increase funding opportunities and maximize the effectiveness of actions by advancing these approaches through integrated strategies (Winkelman et al., 2017). In Prince George, the ICSP mentions both adaptation and mitigation in their environmental goals (Prince George, 2010), and the importance of the inter-relationships between adaptation and mitigation was recognized together with their trade-offs and synergies (IPCC, 2007; Swart and Raes, 2007) when identifying their adaptation priorities (Picketts et al., 2009). Each adaptation action is accompanied by recommendations in which relevant climate change mitigation co-benefits and trade-offs are also considered (Picketts et al., 2009). In Prince George's OCP (adopted in 2012 and updated in 2018), the climate adaptation section explicitly states its close relationship with many other components of the OCP and emphasizes how the city's actions should be coordinated with mitigation actions (Prince George, 2018a). It also states the need to identify strategies that address both concurrently, and suggests that including them among their six main objectives and five general policies will ensure that adaptation and mitigation efforts are complementary. Therefore, we consider actions made by Prince George to be transformative.

Both mitigation and adaptation are featured in Campbell River's updated Sustainable OCP and ICSP (Campbell River, 2017; Campbell River, 2012). A specific plan focused on adaptation measures is expected to be completed by 2020 as they are currently in the process of identifying local vulnerabilities (e.g., NHC, 2019). On the other hand, in 2016, alongside the review of their OCP, the city updated their Community Energy and Emissions Plan (Campbell River, 2016), revising their original 2011 CEEP plan and actions directed to reduce energy use and greenhouse gas emissions. Although they recognize the need for action toward both mitigation and adaptation (I1, Campbell River, telephone interview, 2018), synergies and trade-offs between these measures have not been reflected to date in their climate action plans. Accordingly, we consider Campbell River to be slowly transitioning from incremental to reformative actions.

Similarly, the case study of Revelstoke reveals that actions on climate change were explicitly divided between mitigation and adaptation (Revelstoke Climate Action). Both imperatives were originally planned to be addressed in a sustainability plan in their amended OCP (Revelstoke, 2012a), and were later considered as part of their sustainable priority of having a "climate resilient and healthy ecosystem" and "carbon neutral energy and emissions" (Revelstoke, 2013a). Additionally, the city has incorporated both mitigation and adaptation in its plans—namely mitigation is captured in their Corporate Energy and GHG Emission Inventory and Reduction Strategy (Revelstoke, 2011a) together with a CEEP (Revelstoke, 2011b) while adaptation has been incorporated into the Strategic Asset Management Plan (Revelstoke, 2017). Adaptation needs will also be addressed through their forthcoming hazard risk vulnerability assessment and storm water management plans (CARIP Revelstoke, 2018). Despite this progress, trade-offs and synergies between both approaches have not been well stated or integrated. There was only one reference during their Climate Adaptation Scanning and Planning Workshop (Revelstoke, 2012b) — where the integration of mitigation and adaptation was identified as an opportunity when discussing considerations for future development. Therefore, actions in this area by the city of Revelstoke have been evaluated as reformative.

3.2. Policy and plan formulation

The way in which municipalities structure and formulate their policies and plans reflects the level of advancement and potential success of their strategies. Additionally, it can provide insights on the congruency of their goals, their development path and the sequential actions they are willing to take in the short-, medium- and long-term.

From the ten action areas listed for this category in the framework, actions that supported policy formulation were found to provide the most valuable insights (Jost et al., 2020). Among the latter, three action areas — from which information was publicly available — were selected for this assessment (Table 4).

The cities of Campbell River, Prince George and Revelstoke are signatories to the BC Climate Action Charter, and they have pledged to become carbon neutral in their corporate operations and report on their progress. They are required to complete annual Climate Action Revenue Incentive Program (CARIP) reports, which involves **inventorying their corporate GHG emissions** on a yearly basis. The accounting method used is standard among local governments in BC (BC Ministry of Environment, 2016) and includes GHG emissions generated by their facilities, including electricity and natural gas for buildings, transportation emissions produced through their contracted and municipal fleet vehicles, equipment and paper supplies. Total emissions from each sector are incorporated using the "SMARTool" (or a similar tool/process) and presented in annual reports, as required by the provincial government. The use of this accounting method makes emission outcomes from local governments consistent and comparable. However, these results are presented as highly aggregated values, only dividing them between services directly delivered by the local government and contracted services. Additionally, no background is given to their final values, making it very difficult to monitor the performance of climate actions and evaluate policies. Finally, the current price established on

Table 4
Assessment framework: subcategories for policy and plan formulation.

Action areas	Campbell River	Prince George	Revelstoke
GHG accounting and inventories	Reformative actions	Reformative actions	Reformative actions
Planning horizon	Transformative actions	Reformative actions	Reformative actions
Climate action	Transformative actions	Reformative actions	Transformative actions

corporate carbon emissions for all three cities is set at \$35 per tonne. Taking the low carbon prices and the small disaggregation of GHG emissions into consideration, we qualify the three cities' efforts as reformative actions.

Revelstoke's ICSP sustainability framework provides a perspective for the community's **planning horizon** for a 20-year long-term vision. In addition to the long-term (15 years) financial plan (Revelstoke, 2019), the city's OCP (Revelstoke, 2012a) together with the CEEP (Revelstoke, 2011b) and other master plans set their policies and actions every 5-10 years. Annual plans and budgets detail short-term priority actions in 1-5 years (e.g. annual reports and five-year financial plans; Revelstoke, 2016). Furthermore, the City intends to assess the community's sustainability performance every 3-5 years and to update their detailed climate action (among others) timeframes and roles every 1-2 years, as stated in their "State of Sustainability Report" (Revelstoke, 2013b) and their "Sustainability Action Plan" (Revelstoke, 2013c) – the second and third section of their ICSP, respectively. Additionally, to ensure that the vision of the ICSP is embedded into the OCP, Revelstoke is integrating it into an updated OCP (Revelstoke, 2018). Despite having planned regular updates to their ICSP climate actions and sustainability reports, no monitoring reports or updates have taken place to date. The previous data combined with the short-to-midterm planning horizons indicate that the city qualifies as implementing only reformative actions.

Campbell River's ICSP (Campbell River, 2012) was developed to articulate critical sustainability priorities, an implementation strategy and framework and to ensure that concurrent and future plans are guided by the same sustainability vision. The ICSP identifies the Sustainable OCP (Campbell River, 2017) as the defining policy document for all other plans and bylaw tools (updated every 5-10 years). Both the ICSP and the Sustainable OCP share the same 50-year vision of the community to ensure Campbell River remains vital and moves toward sustainability. Moreover, focusing beyond the required five-year horizon, the city's 10-year financial plan aims to ensure their ability to thrive and prosper by incorporating anticipation of and adaptation to incremental and unexpected changes into their planning process (Campbell River, 2019a). Additional medium-term planning processes have been integrated, such as the Master Transportation Plan (2012), the Green City Strategy (2008) and the CEEP (updated in 2016), demonstrating the City's sustainability priorities. Aside from their integrative framework, the City's ICSP also aims to ensure the implementation of their climate change priorities (among others) by a number of supportive tools and techniques such as: assigning sustainability indicators and performance metrics (see ICSP Appendix in Campbell River, 2012) to departments for regular monitoring and accountability, the use of a sustainability checklist for rezoning and development permits and council's annual reports. The latter received an award for making improvements by sharing more information and presenting it in a more accessible format. The city also recently introduced a scorecard section along with more infographics (Campbell River, 2019b). Therefore, we evaluate Campbell River's planning horizon actions as transformative.

Completed in 2010 and with a vision of Prince George to 2040, their ICSP is a stated 30 (to 50) year long-term plan, which includes short, medium and long-term goals. Climate goals and actions are linked to existing environmental strategies including projects, plans and bylaws (e.g., Energy and GHG Management Plan, 2007; Adapting to Climate Change in Prince George, 2009; Parks and Open Space Master Plan, 2008; Smart Growth on the Ground Downtown Prince George Concept Plan, 2009; Carbon Neutral Plan, 2010; Active transportation Plan, 2011). To complete the steps of the five-milestone framework of the Partners for Climate Protection (PCP) program the City developed a Corporate and

Community Update for GHG Emissions Reduction and Monitoring (Prince George, 2011). This detailed update assessed and reported progress from the Energy and GHG Management Plan, after four years of implementing actions. Moreover, the ICSP framed objectives for economic, environmental, social and land use development providing significant guidance in the development of the OCP, completed in 2012 (Prince George, 2010). The OCP guides decisions on planning and land use management for the community of Prince George for a period of 15 years. Prior to adopting the OCP, the council must approve the five-year Financial Plan (Prince George, 2019), which is updated on a yearly basis in accordance with the bylaw. This plan includes the Corporate Plan (2016–2018), which features key corporate strategies including climate-related strategies. To ensure that the OCP continues to reflect the City's goals as they are implemented, periodic monitoring is carried out through annual revisions and a five-year OCP Monitoring report (Prince George, 2017). The report serves as an overview of how OCP's goals and objectives are being implemented, and it informs potential changes to the OCP (Prince George, 2018a) and other policies, plans or practices. Despite the regular reporting and updating of the OCP and financial plans, plans have not been updated with clear sequential actions relevant to climate action since 2012. Therefore, we consider Prince George actions in its planning horizon to be reformative.

Climate action is detailed in the third section of Revelstoke's ICSP (Revelstoke, 2013c), which compiles actions from the city and community plans and reports since 2007, updating the Community Development Action Plan (Revelstoke, 2007). The highest priority actions (1-2 years short-term priorities) are listed with a new weighting system that determines their priority levels (i.e., medium-high, high, and very-high). The evaluation is based on the actions' costs (with a factor of 25%), ease of implementation (10%), community support (20%), impact including efficiency and effectiveness (20%), multiplier potential (15%) and potential to reduce risks (10%). Revelstoke's logical and robust approach to setting priorities and defining timing and leadership roles for each priority-based action demonstrates that the city is adopting transformative climate actions.

Similar to Revelstoke, Campbell River's ICSP identifies climate actions along with other priority actions with implementation timelines (short-, medium- and long-term) to facilitate progress in achieving their goals. Relevant climate actions described in the ICSP have been consolidated with CEEP key performance indicators and associated targets have been determined. The CEEP Steering Committee determined and validated the level of priority (on a rating scale) for each of the actions, based on economic impact potential, energy and GHG impact potential, the level of effort required and current status; all of which is detailed in these tables (Campbell River, 2016). We therefore evaluate Campbell River's climate actions as transformative.

Along the same lines, climate actions described in Prince George plans were not linked to a specific timeframe set for the short-, medium- and long term nor were priorities assigned. In their ICSP, some actions were classified as "early actions" (determined by urgency and need for timely action) and "feature actions" (having a significant impact by being impressive, co-beneficial and a foundation for long-term change) (Prince George, 2010). Nonetheless, there has been a lack of a strategic sequencing without specific indicators, monitoring and evaluation of the planned actions in the past 7 years, all of which have explicitly been recommended in their recent OCP monitoring report (Prince George, 2017). Moreover, despite including the environment as one of their major OCP topics and carbon emissions reduction as part of the ICSP's environmental goals, the OCP monitoring report failed to include GHG emissions as part of their

indicators (nor as part of their air quality indicators). The only climate actions linked to a work plan (as priority actions) are the ones described in the Council’s annual reports as well as the CARIP reports, both of which are proposed for following calendar year. Based on the former, Prince George’s formulation of their climate actions is classified as reformative.

3.3. Implementation

Municipalities have the ability to influence long- and short-term climate action by encouraging sectoral change, for example using incentives and through leading by example. This section focuses on the degree of climate leadership of the three municipalities and their strategic alliances and partnerships with governmental institutions, community associations, businesses and other organizations to stimulate climate action (Table 5). Implementation action areas were assessed primarily using available Climate Action Revenue Incentive Program (CARIP) public reports for 2012–2018 in each municipality (CARIP Campbell River, 2013, 2014, 2015, 2016, 2018, 2019; CARIP Prince George, 2013, 2014, 2015, 2016, 2017, 2018, 2019; CARIP Revelstoke, 2013, 2014, 2015, 2016, 2017, 2019).

In their corporate climate actions, the three municipalities have carried out energy efficiency upgrades to heating systems (including boilers and furnaces) and hot water tanks in their corporate facilities (four in Campbell River, six in Prince George, and six in Revelstoke). They have also made lighting upgrades at several facilities and retrofitted hundreds of street lights by implementing light sensors, LED and dimmer technology, reducing energy use, electricity and maintenance costs. They have implemented anti-idling policies and installed GPS tracking devices to their fleets to improve fuel efficiencies and reduce emissions. Furthermore, they have engaged in awareness raising activities targeted toward City staff by promoting energy efficiency and water conservation, composting programs at their city halls and participating in the bike to work week.

The City of Campbell River has continued fleet improvements and have replaced gas-powered vehicles with 7 new hybrids and an electric vehicle. In 2017, they enacted the BC Energy Step Code, adopting a performance-based approach (which will also be implemented for their corporate buildings) to meet energy-efficiency standards that go beyond the requirements of the BC Building Code.

Arguably the most significant energy initiative carried out in Prince George has been the development of the “Downtown District Energy System”, approved in 2010 and completed in 2012. The long-term agreement with Lakeland Mills Ltd. ensures the supply of space heating and domestic hot water from their sawmill residues to now 11 City facilities with the potential for future expansion. This is estimated to reduce more than 1900 tonnes of GHG annually. Their most recent addition was the RCMP building, constructed to LEED gold standard. Prince George additionally implemented solar heating system servicing to the public pool and a methane recapture system operating at and servicing the waste water treatment centre. Regarding the City fleet, they have purchased an electric car as a pilot program, together with 3 other institutions, and completed a right sizing review of their 200 units.

Revelstoke also has a district energy system, which was developed in 2005 and expanded in 2009, ultimately resulting in a system that services ten public and private buildings. The Revelstoke Community Energy Corporation, owned by the City, operates the wood residue-fuelled combustor to provide heat to the system as part of a 20-year cooperative agreement with the Downie Street Sawmills. This district energy system is estimated to

drastically reduce GHG emissions (approximately 3,500 tonnes annually) and improve air quality.

In the assessment framework, actions such as the implementation of passive new civic buildings, electric fleet, comprehensive retrofit programs, internal projects achieving corporate carbon neutrality and measures intended to reach 100% renewables by 2030 are illustrative of transformative corporate climate actions. Although, the three assessed cities have implemented a notable range of actions (including district energy systems), especially when compared to similar-sized cities, they fall short from being transformative. Nonetheless, as a result of the energy initiatives outlined above, we evaluate the actions related to energy systems in all three cities as reformative.

To understand how local governments engage in **critical partnerships and strategic alliances** to stimulate climate action, institutional partnerships and networks were reviewed in the three case studies. Partnerships were found with neighbouring municipalities, regional districts, regional health authorities, the Columbia Basin Trust, the Fraser Basin Council, the Union of BC Municipalities, the Provincial Government, BC Hydro, Fortis BC, BC Transit, the Provincial Agricultural Land Commission, the Real Estate Foundation of BC, Solar BC, City Green Solutions, the Home Performance Stakeholder Council, the Community Energy Association, the Federation of Canadian Municipalities (FCM), the Federal Government (e.g., New Building Canada fund, Clean Water Wastewater fund), National Resources Canada, Smart Energy Communities: QUEST Canada, the International Council for Local Environmental Initiatives: ICLEI Canada (PCP) and the Carbon Disclosure Program, among others. In addition, partnerships and strategic alliances with a variety of other organizations were observed, including members from industry (e.g. Revelstoke Mountain Resort), building and tourism associations, developers, First Nations and community groups, local food providers as well as research institutions (Pacific Institute for Climate Solutions, The Pembina Institute) and universities (UNBC, UWaterloo, UBC, UVic, RRU, and SFU).

These partnerships have given the three cities access to financial, technical and advisory support, critical to advancing their local capacity for continuing their climate action agendas, for both adaptation and mitigation and within a variety of sectors including transportation, building, energy, environment, health and waste management. The extent of engagement shown by these cities with external institutional intermediaries was found to be critical for effective climate action. As a local authority from Campbell River stated: “We’ve got a policy framework, we just don’t have resources always to make them happen”, or essentially “We’ve kept our climate action initiative alive through ...finding external funding and partnership” (I1, Campbell River, telephone interview, 2018).

In Prince George and Revelstoke local authorities have also explicitly expressed the significance of these partnerships, namely “I do think that the external funding agencies, whether that’s FCM or the province, or any of the other groups that are out there... Even just putting out those grants for us to apply for... Has us stop and think about those things” (I1, Prince George, telephone interview, 2018) or “it’s both policy and funding...The government changeover...federally and then...provincially, it’s a major shift. They changed all their funding...they are focusing heavily on...innovation and climate change” (I1, City of Revelstoke, telephone interview, 2018). Thus, in this action area the three municipalities are considered to have accomplished transformative actions.

3.4. Feedback & Evaluation and GHG emission reductions

Feedback & Evaluation and GHG Emissions Reduction assessments provide a deeper understanding about the contributions that local climate actions make towards actually reducing GHG emissions. GHG monitoring and reporting efforts not only inform people about their progress, but when detailed enough they provide feedback on the outputs of climate actions (see e.g., Newell and Robinson, 2018). They indicate the efficacy and efficiency of climate policies and allow local governments to re-evaluate and enhance them (Table 6).

Table 5
Assessment framework: subcategories for implementation.

Action areas	Campbell River	Prince George	Revelstoke
Corporate climate actions	Reformative actions	Reformative actions	Reformative actions
Partnerships, strategic alliances	Transformative actions	Transformative actions	Transformative actions

The primary source of data for tracking community GHG emissions for the three local governments is the provincial Community Energy and Emissions Inventory (CEEI). Therefore, their **outcome measurement** is dependent on the methodology, frequency of measurements and the results provided by the provincial government. The inventory captures energy use, greenhouse gas emissions and supporting indicators. This data is organized by sector, such as residential buildings, commercial buildings, light-duty to heavy-duty vehicles, solid waste and, for some municipalities, land-use change from deforestation. Plans were created in order to inventory every second year from 2010 onward (BC Ministry of Environment, 2017); however, CEEI data is currently only available for the years of 2007, 2010 and 2012 (CEEI Campbell River, 2016; CEEI Prince George, 2016; CEEI Revelstoke, 2016). The infrequent availability of community GHG emissions data in these municipalities, or the more recent lack thereof, qualifies the three cities in this action area as only incremental actions. As they explicitly recognize, missing data to track changes to energy consumption and GHG emissions is the first barrier that they have to overcome in order to continue, adapt or increase the implementation of climate actions to reduce their emissions (Campbell River, 2016).

When assessing **performance monitoring and evaluation**, we notice that as a consequence of limited progress in regular climate action monitoring, evaluation and updating actions (see Section 3.2), progress has been difficult to track. The three local governments prepare annual CARIP reports that are submitted to the Province. In addition to the highly aggregated corporate GHG emission data, the reports includes a summary of actions undertaken by the City to reduce community and corporate energy consumption and emissions. However, these only help to show that progress is being made in the right direction. Plans such as the CEEP in Campbell River (Campbell River, 2016), or the Corporate GHG Emission Inventory and Reduction Strategy in Revelstoke (Revelstoke, 2011a) are designed to monitor implementation progress (beyond energy and GHGs) regarding climate action (e.g., through changes in land use, transportation, waste and economic development). Nonetheless, they are not being monitored or reported on a regular basis, and the scheduled annual reports or updates in their action plans (e.g., every 1-2 years, Revelstoke, 2013c) have not taken place as of yet. The lack of performance evaluation, likely due to staffing limitations, creates an obstacle in both to identifying changes linked to strategies and to recommending actions and policy adjustments. Therefore, we evaluate actions in this area as incremental for all three cities.

The City of Prince George committed early on in 2007 to set a **corporate emission reduction target** of 10% from 2002 levels by 2012, in its Energy and Greenhouse Gas Management Plan (Prince George, 2007). Guided by the myPG Sustainability Plan, their OCP (adopted in 2012 and last updated in 2018) stated that as part of their general policies regarding their “green energy and reduce carbon emissions” objective, they would adopt longer term corporate and community energy targets. Furthermore, in the “Corporate and Community Update for GHG Emissions Reduction and Monitoring” in 2011, they recommended a reassessment of their reduction targets, relative to a new baseline year — 2007 or 2010 (Prince George, 2011). However, although planned for the next year, as of this date they have failed to update their corporate emissions reduction target, as stated on their last annual and CARIP report (Prince George, 2018b; CARIP Prince George, 2019). Their actions in this category are therefore evaluated as incremental.

Campbell River developed a “corporate carbon neutral plan” in 2011, which set corporate targets in parallel with the outlined provincial targets,

namely: 10% reduction below 2008 levels by 2012; 35% reduction below 2008 levels by 2020; and 85% reduction below 2008 levels by 2050. Nevertheless, in their revised CEEP they recommended reviewing the City GHG targets in their Corporate Carbon Neutral Plan (Campbell River, 2016). One year later, in their updated Sustainable OCP, only community-wide targets were described, namely for community-wide GHG emissions, per capita GHG emissions and community-wide energy use reductions (Campbell River, 2017, p36). The same is true in their CARIP reports, where information on the planned targets is only available for the community-wide section (CARIP Campbell River, 2013, 2014, 2015, 2016, 2018, 2019). If corporate targets for the City of Campbell River remain the same and are similar to provincial targets, we evaluate these as reformative actions.

Revelstoke based their targets on the PCP recommendations, namely a 20% GHG reductions target from the baseline over a ten-year period. To be consistent with their CEEP, the city adopted a 20% reduction target from the 2007 baseline by 2020 (Revelstoke, 2011a) in their “Corporate Energy and Greenhouse Gas Emissions Reduction Strategy”. A target re-evaluation in a period of 5-years was also recommended. The corporate target in their 2012 OCP amendment bylaw was also updated to be consistent with the target previously referenced. Since then, no amendments or re-evaluations of the target have been reported. Therefore, we evaluate the City’s corporate target actions as reformative.

For the last two action areas, data on corporate emissions were obtained from their respective CARIP public reports for 2012–2018 (CARIP Campbell River, 2013, 2014, 2015, 2016, 2018, 2019; CARIP Prince George, 2013, 2014, 2015, 2016, 2017, 2018, 2019; CARIP Revelstoke, 2013, 2014, 2015, 2016, 2017, 2019). As observed in Fig. 1, corporate GHG emissions were higher in Prince George due to its larger population size. **Absolute changes in corporate GHG emissions** in the three local governments amounted to less than 5% between years 2012–2018. In fact, emissions slightly increased in Prince George and Revelstoke with increments of 0.3% and 3.7% respectively, while it increased more significantly in Campbell River (21.7%). In this regard, the three Cities are far from reaching their proposed GHG emissions reduction targets, which do not even qualify as incremental actions.

When population growths are considered, we observed (Fig. 2) that per capita corporate GHG emissions are highest in Revelstoke. This can be explained by high tourism activity associated to the Revelstoke Mountain Resort. In addition, Revelstoke is the smallest of the three communities and there are certain basic services/facilities typically present in all communities regardless of the population size. Population grew in all three cities from 0.9% per year in Revelstoke to an annual increase of 1.7% in Campbell River (Statistics Canada, 2016, 2017).

Changes in corporate GHG emissions (%) in the three Cities show different trends when examining per capita rather than total values. More specifically, reductions of 6.1% and 0.8% were observed in Prince George and Revelstoke, respectively, whereas in Campbell River corporate GHG emissions per capita increased by 10.2% from 2012 to 2018. Therefore, only actions by Prince George and Revelstoke in this area are evaluated as incremental.

4. Conclusions and recommendations

This study used the Local Government Climate Action Assessment Framework to examine climate action of three small to medium sized municipalities in British Columbia. The study’s goal was (1) to further test

Table 6
Assessment framework: subcategories for feedback & evaluation and GHG emission reductions.

Action areas	Campbell River	Prince George	Revelstoke
Outcome measurement	Incremental actions	Incremental actions	Incremental actions
Performance monitoring & evaluation	Incremental actions	Incremental actions	Incremental actions
Corporate emissions target	Reformative actions	Incremental actions	Reformative actions
Absolute change in corporate GHG emissions	X*	X	X
% change in per capita GHG emissions	X	Incremental actions	Incremental actions

* X = GHG emissions increased, not even qualifying as incremental actions.

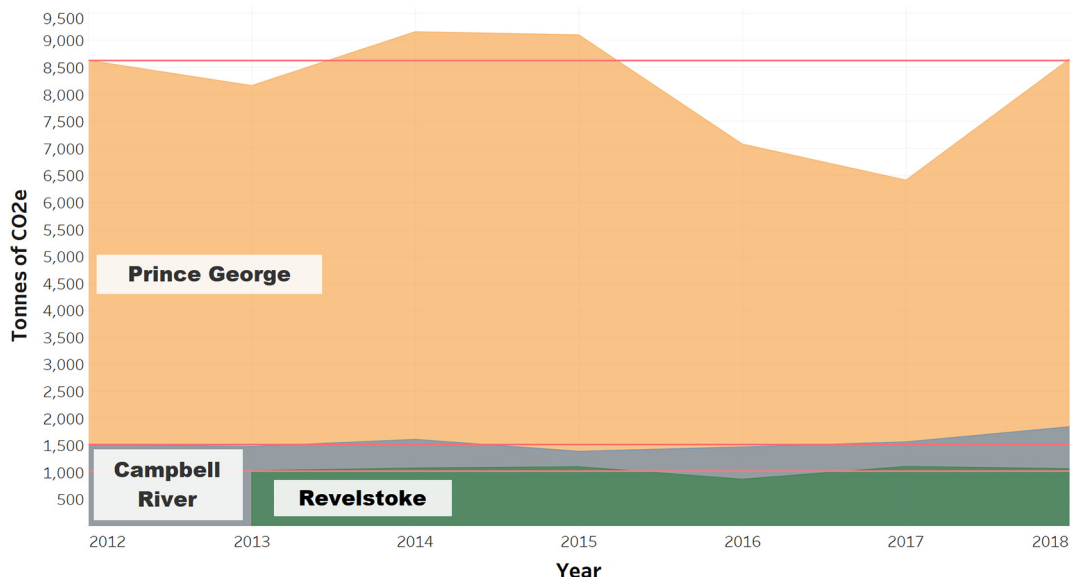


Fig. 1. Absolute corporate GHG emissions (in tonnes of CO2e) between years 2012–2018.

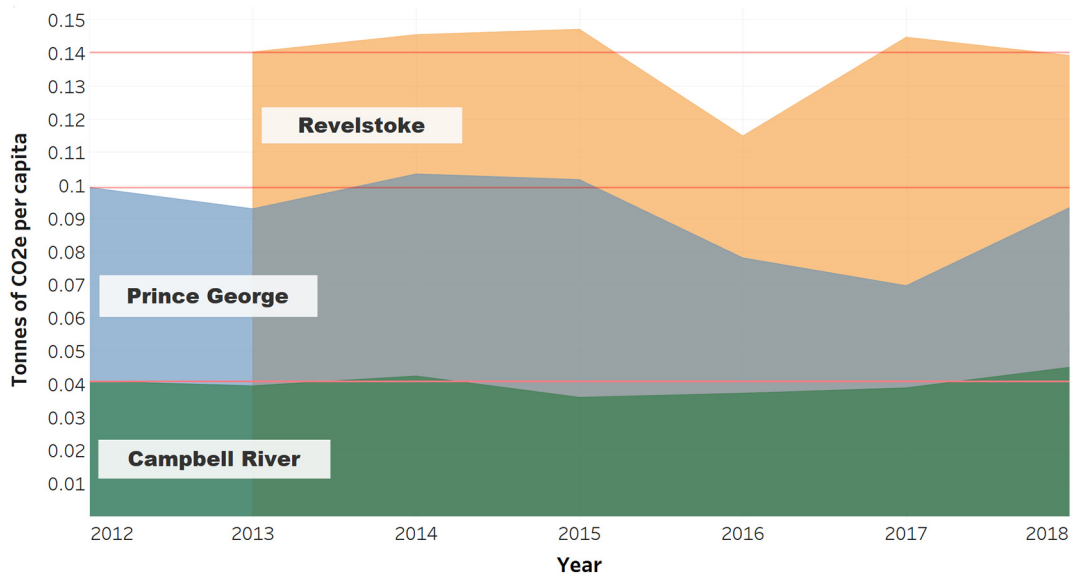


Fig. 2. Per capita corporate GHG emissions (in tonnes of CO2e per capita) between years 2012–2018.

the assessment framework by evaluating its applicability for smaller municipalities, (2) to evaluate and categorize local progress in three small cities, and (3) to contrast these climate actions with actions taken by larger municipalities in BC, using the same assessment framework.

By covering over 40% of the action areas listed in the framework, this assessment provides a general overview of progress made by the respective municipalities and identifies areas for improvement. Readily available secondary data informing this assessment provided coverage for only certain action areas across the three municipalities, with varying data monitoring practices across them been also a limiting factor. Thus, by not being comprehensive, there might be additional gaps or barriers limiting progress which are taking place in specific action areas not covered by this study but present in the assessment framework.

That being said, the goal of the framework is to support local governments and researchers to evaluate the nature and potential impact of

their climate actions. It is, therefore, reasonable to assume that local governments will have access to recent and past non-publicly available information along with direct knowledge of their own jurisdiction addressing all action areas included in the framework.

Previous work employing the same framework on larger cities found it was useful for examining development path change (Jost et al., 2020). This research shows its applicability as a tool for characterizing the progress of implementing climate-related actions at the local government level in smaller communities. In addition, applying the framework to both larger cities and smaller communities, in this study, effectively highlights commonalities and differences between these community types.

The advantages of making use of the framework to evaluate and categorize progress made by local governments in different action areas as incremental, reformative and transformative are two-fold. Firstly, it allows researchers and policy-makers to identify areas for improvement. Secondly,

and mainly, it allows them to reveal gaps along the current development path in a straightforward way — and also better understand their nature — that prevent local governments to pursue a more sustainable future, as transformative changes become increasingly necessary.

And while defining the degree of change might be of particular use for local governments as they seek to differentiate their policy decisions, its classification proved to be challenging and might vary over time, especially when we consider that a number of these changes might only be recognized after a certain time period has elapsed. It is important to bear in mind, when applying the assessment framework and evaluating the outcomes, that the lack of action should not be directly correlated to the reluctance to change. The ability to enact development path change is dependent on the capacity and resources of communities, and financial considerations are often weighed against the willingness or desire to change, particularly in smaller communities (Burch et al., 2014; Shaw et al., 2014). Moreover, and independently of the framework, we recognize that climate actions that might result in development path changes (and the needs for enacting change) are context- and place-dependent. Yet, it is very important for governments to be able to assess whether their incentives and policy directions are leading towards more sustainable change in their development paths and which ones are more effective in reducing climate change impacts.

Baynham and Stevens (2014) noted that qualitative assessments of climate actions are more challenging than quantitative assessments. This research effort supports their claim, particularly in terms of motivational drivers (Section 3.1), where explicitly stated motivations — from previous governments — in the ICSPs, developed together with the collaboration and engagement of community members, may have changed. Actions involving climate change mitigation and adaptation were recognized in ICSPs as sustainability priorities and integrated as part of the strategies and steps to achieve their long-term goals. However, the motivation to keep these strategies as priorities may have shifted with changing governments. Moreover, a number of climate-related initiatives, implemented as a secondary additional benefit, are often reported without explicitly indicating the real motivation behind its implementation. Thus, as often occurs with political decision-making, motives behind their implementation are unclear, making the categorization of this specific indicator difficult to carry out.

As noted in Section 3.1, regional growth strategies which have positively influenced municipalities in more populous regions (Jost et al., 2020) were not present in the three case studies. Regional growth strategies allow local governments to align with the broader regional needs, providing them with a basis of principles to build upon (Harris, 2017). Thus, their development should be more encouraged at a district level in order to create more cohesive and consistent plans, particularly of benefit for smaller municipalities.

Striking similarities were found among the three case studies when assessing their strategies and plan formulations. Besides funding, the external support provided by the province and the Ministry of Community Services in the development their ICSPs has positively influenced not only their strategy and agenda setting but also their planning formulation. These include: pre-planning, which supported capacity building for local governments by providing them with guidelines and toolkits together with “sustainability facilitators”; the core planning phase, encouraging the use of a similar integrated sustainability framework; strategic plans; implementation of actions; and periodic monitoring and updating (BC Ministry of Community Services, 2007).

When compared with larger cities (Jost et al., 2020), we observe that planning horizons in this study tended to have a shorter timeframe — 20–50 years instead of 50–100 years. This might affect prioritization strategies particularly regarding longer-term climate adaptation requirements. The relatively limited integration between adaptation and mitigation plans apparent in Campbell River and Revelstoke is possibly a manifestation of the shorter timeframe. A deeper analysis of the planning horizons shows that steps previously formulated as part of their planned sustainable

development paths, namely periodic reporting and monitoring of actions as well as updating of plans, were absent. Changes in the administration after local elections took place in Prince George in 2011, along with a lack of staffing resources and cuts to the environmental division to address budgetary concerns (I2, Prince George, telephone interview, 2012), resulted in a shift in priorities away from climate change-related actions including monitoring and evaluation. Nonetheless, there are signs of recovery in Prince George as new staff members have been hired who are currently planning updates to their environmental plans with a focus on climate change adaptation and mitigation (Prince George, 2018c, p11). As explicitly stated by a local government official: “We’re in that rebuilding stageworking on where we need to move forward ... picking up where we left off back then” (I3, Prince George, telephone interview, 2016).

In all three cities, either transformative or reformative actions, with one exception, were identified in the assessed action areas of the first three categories, namely: agenda setting and strategy, policy and plan formulation along with implementation. When compared, actions in these areas were rated similarly or slightly below the ones taking place in the larger cities of Surrey, Vancouver and Victoria (Jost et al., 2020). Essentially, the main difference between smaller and larger cities were actions pertaining to the feedback and evaluation category, where smaller cities performed more poorly, as previously outlined.

Additionally, the lack of pressure from the provincial government to implement municipal climate action due to the change in leadership following the 2011 elections, shifted local priorities on other issues. As expressed by a municipal official in Campbell River, “if the province is demonstrating leadership, it’s a lot easier for us to try and get on the bandwagon at the political level” (I1, Campbell River, telephone interview, 2018). These findings highlight the more vulnerable nature of smaller local governments, especially regarding changes in leadership in local and provincial administrations.

Planning for climate action requires inventories, surveys and measures to evaluate and develop specific guidelines, plans or policies as well as actions to “encourage” and “support” specific measures or “improve” and “enhance” services. However, as was the case in Revelstoke, these tend to be broad and vague when described in planning documents. A number of plans still have to be completed while improvements still must be identified so that funding can be acquired and specific measures can be implemented. When compared with larger cities in BC (Jost et al., 2020), this research indicates that much of the sustainability planning in smaller communities is still in early stages.

Through a study on OCPs in BC, Harris (2017) found there is no relationship between the size of municipality and the number of metrics or strategic priorities. However, she also noted that municipalities partnering with other community organizations to co-create their sustainability plans showed higher metric numbers. Although a high number of indicators might be beneficial for gathering feedback on performance and policy evaluations, they might be too ambitious considering the more limited capacity of smaller municipalities. Annual reports and CARIP reports lacked a proper evaluation of climate actions and their effects, preventing the tracking of progress towards achieving their desired outcomes. Moreover, the three Cities were dependent on provincially collected data to inform them on community GHG emissions, negatively impacting their ability to evaluate, adapt and reprioritize their climate actions, given the gap since the last provincial inventory in 2012. The lack of reporting in smaller municipalities found in the present study, also noted in Harris’s findings (2017), highlights the need to strengthen the capacity of local government to monitor and evaluate climate actions. The above emphasizes the key role, particularly for smaller local governments, that strategic alliances, networks and external champions as partners, play in planning and implementing climate action and even bolstering public interest in sustainability (Castán Broto, 2017; Jost et al., 2020; peer-to-peer learning exchange, Prince George, October 18, 2018). These should therefore be fostered and promoted to keep building capacity, leveraging resources for monitoring and evaluation and finally to effectively accelerate greater change.

Declarations of Competing Interest

None.

Acknowledgements

We are grateful to the Social Sciences and Humanities Research Council (SSHRC) of Canada for the funding that made this research possible and the Pacific Institute for Climate Studies (first phase).

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