

Running head: ASSESSING GBA+ AS A TOOL FOR CLIMATE JUSTICE

Assessing GBA+ as a Tool for Climate Justice

by

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*“We’ve learned that quiet isn’t always peace,
and the norms and notions of what “just is” isn’t always justice.*

And yet, the dawn is ours before we knew it.

Somehow, we do it.

Somehow, we’ve weathered and witnessed a nation that isn’t broken,

but simply unfinished” (Gorman, 2021).

Abstract

In 2018, British Columbia's (BC) provincial government released CleanBC, and in 2021 BC released the Roadmap to 2030, two cross-ministry efforts to reduce greenhouse gas emissions and build a green economy. While governments worldwide are urged to contribute to climate change mitigation efforts, there are also increasing equity concerns about who benefits from and who bears the burden of these climate policies. Despite government initiatives including the use of Gender-Based Analysis Plus (GBA+) – an analytical tool used to assess how people experience policies and to advance evidence-based decision-making, the efficacy of such tools is uncertain. It remains unclear whether BC's climate policies adequately represent those most vulnerable to the effects of climate change. This study involved document analysis and interviews with eight key informants to understand the role of GBA+ and other governance practices in advancing climate justice (CJ). The research shows that the BC government does not adequately consider the needs of marginalized or vulnerable groups in its climate plans, and that GBA+ is beneficial as an introduction to intersectionality but is not sufficient for advancing CJ. Several actions are recommended to governments based on these findings, including being intentional about CJ, strengthening GBA+ implementation, fostering a culture of learning, and reimagining our systems. As the effects of climate change and the burdens of mitigation efforts are not evenly distributed, climate policies must emphasize community needs through a CJ lens.

Keywords: Climate Justice, Climate Policies, Equity, GBA+, Governance, Intersectionality, Policy Analysis

Self-Location

I am a settler of Irish, Scottish, and Norwegian ancestry. My pronouns are she/her/hers. I conducted this research as an uninvited guest where I work, live, and learn on the unceded territory of the WSÁNEĆ peoples.

I acknowledge that as a beneficiary of colonization, it is my responsibility to commit to conciliation with Indigenous peoples throughout my lifetime. I am committed to the lifelong journey of addressing the decolonization of both myself and these systems. As I consider climate justice, intersectional environmentalism, social inequities, and other themes prevalent throughout my research, I acknowledge the privileges that I hold in these spaces.

Table of Contents

Creative Commons Statement.....	3
Acknowledgements.....	4
Abstract.....	5
Self-Location.....	6
List of Figures and Tables.....	8
Definitions.....	9
Introduction.....	10
Research Objectives and Questions.....	13
Research Significance.....	14
Literature Review.....	15
Methodology and Methods.....	43
Data Collection.....	44
Data Analysis.....	47
Limitations.....	51
Delimitations.....	53
Results.....	54
Research Conclusions and Recommendations.....	86
Conclusions.....	96
References.....	97
Appendix A.....	108
Appendix B.....	110
Appendix C.....	115

List of Figures and Tables

Table 1.....54

Table 2.....55

Table 3.....57

Table 4.....65

Figure 1.....92

Definitions

Climate Justice: “As a form of environmental justice, climate justice is the fair treatment of all people and the freedom from discrimination in the creation of policies and projects that address climate change, as well as the systems that create climate change and perpetuate discrimination.” (Meikle et al., 2016, p. 493).

Frontline Community: “Groups of people who are directly affected by climate change and inequity in society at higher rates than people who have more power in society. They are *on the frontlines* of the problem. For example, people of color, people who are low-income, who have disabilities, who are children or elderly, who are LGBTQ, or who identify as women, have less advantages and access to resources in our society than other people” (NAACP, 2019).

GBA+: “Gender Based Analysis Plus (GBA+) is an analytical process that provides a rigorous method for the assessment of systemic inequalities, as well as a means to assess how diverse groups of women, men, and gender-diverse people may experience policies, programs, and initiatives. The “plus” in GBA Plus acknowledges that GBA Plus is not just about differences between biological sexes and socio-cultural genders” (Government of Canada, 2020).

Marginalized Populations: Individuals, groups, and communities that experience social, political, environmental, and economic discrimination and exclusion due to unequal power relationships across climate, environmental, economic, political, social, and cultural dimensions. The emphasis of this definition is placed on discrimination and exclusion.

Vulnerable Populations: Individuals, groups, or communities who are racial or ethnic minorities, children, elderly, socioeconomically disadvantaged, or with other identity factors whose economic, social, environmental, and/or health challenges are exacerbated as a result of climate change. The emphasis of this definition is placed on exacerbated life circumstances.

Introduction

In 2018, the provincial government of British Columbia (BC) launched the CleanBC Plan (CleanBC) a cross-ministry effort to reduce greenhouse gas (GHG) emissions and build a green economy. CleanBC strives to reduce GHG emissions by 40 percent below 2007 levels by 2030, targeting transportation, buildings, waste, industry emissions, and green job skills (Government of British Columbia, 2018). In October 2021, the Province released the Roadmap to 2030 (the Roadmap), an additional component of CleanBC which introduces bolder policies and actions to address critical emissions gaps projected through CleanBC.

The Roadmap introduces a range of climate mitigation actions across eight key areas, including low-carbon energy, transportation, buildings, communities, industry, forest bioeconomy, agriculture, and negative emissions technology. Fundamental aspects for emissions reductions include strengthening the carbon tax and Low Carbon Fuel Standard (LCFS), increasing Zero Emission Vehicle (ZEV) targets and charging infrastructure, green building design, and addressing large-scale industry emissions, among others. The Roadmap asserts that its actions will centre on reconciliation with Indigenous peoples and affordability as policy directions become clearer but does not yet indicate how it will achieve these objectives (Government of British Columbia, 2021b).

While governments worldwide are urged to reduce their GHG emissions through similar initiatives as the climate crisis increases the frequency and severity of environmental events, there is also growing evidence of the many ways that social inequities and climate change intersect. This growing discourse of climate justice (CJ) considers the differing social, economic, environmental, and health impacts of climate change on frontline communities - those most

vulnerable to the effects of climate change (Schlosberg & Collins, 2014), and those most likely to be burdened by climate solutions (Caney, 2010; Marino & Ribot, 2012).

Social inequities are a persistent issue which exacerbates the impacts of climate change and its related mitigation efforts (Bulkeley et al., 2013; Islam & Winkel, 2017; Okereke, 2018; Paavola & Adger, 2006). Demographic based inequities including race, socio-economic status, age, health, and gender result in greater exposure to and harms from climate events including natural disasters, industrial pollution, and declining food sovereignty (Islam & Winkel, 2017). The same inequities result in a greater level of burden as a result of climate solutions, such as rising costs, reduced access to land, and exclusion from incentives and other benefits (Marino & Ribot, 2012), despite these communities having contributed relatively little to the climate change crisis (Caney, 2010).

To address the intersectional nature of climate and social inequities, tools including Gender-Based Analysis Plus (GBA+) are being utilized by the Government of BC. GBA+ is defined as “an analytical process that provides a rigorous method for the assessment of systematic inequalities, and a means to assess how diverse groups of women, men, and gender diverse people may experience policies programs and initiatives” (Government of Canada, 2022). GBA+ was adapted in 2011 from Gender Based Analysis, and the plus indicates that analysis must consider factors beyond gender, including race, age, ability, socioeconomic status, geography, and other factors. When properly employed, GBA+ has the potential to assess the differing impacts of climate change and related solutions on sectors of Canadian society, and advance equity rather than equality (Cameron & Tedds, 2020). I define equality as the equal treatment of all individuals, contrasted with equity which requires the recognition of different needs among people.

Despite the encouragement of GBA+ and equity-driven tools in BC, climate policy experts continue to critique the government's climate mitigation policies over their lack of detailed actions and failure to take an equity informed approach (Government of British Columbia, 2021a; Hoogeveen et al., 2021; Lee, 2011; Williams et al., 2018). For example, The Sierra Club, a Canadian Non-Government Organization (NGO), announced in early 2022 that it is suing the BC Government for failing to provide a detailed plan for how it will meet its emission reduction and affordability targets through both CleanBC and the Roadmap (Crawford, 2022). These critiques indicate a lack of compliance with the Province's accountability legislation and suggest a strengthened approach to climate mitigation policy development and implementation is needed.

Examples of unjust climate mitigation efforts include inaccessible ZEV subsidies, building retrofit grants, and energy incentives (Lee, 2011). More broadly, climate policy and planning initiatives including a lack of public education and awareness of programs, issues around a just transition away from fossil fuels, and other climate mitigation actions that maintain poverty and systemic barriers are also critiqued (Hoogeveen et al., 2021; Lee, 2011; Mertins-Kirkwood & Deshpande, 2019).

The integrity behind many climate mitigation policies has been questioned, particularly those which reinforce inequities by primarily benefitting affluent individuals (Bulkeley et al., 2013; Caney, 2020). A prominent example of this includes BC's Electric Car Rebate Program, which provides rebates of up to \$8,000 for new electric vehicles, including luxury brands such as Tesla (Shaw & Griffiths, 2020). Without effective equity analysis and engagement with frontline communities – groups of people directly affected by climate change at higher rates than people with more power, affluence, and status within society – BC's climate mitigation approaches will

maintain systems of inequity, increasing overall sustainability challenges. There is a clear need for research that explores tools and approaches for strengthening equity within regional governments' climate change mitigation policies, to avoid perpetuating climate injustice.

Research Objectives and Questions

Using BC as a case study, the objectives of this research were to elucidate how provincial or regional governments recognize and address marginalized and vulnerable communities in climate plans, determine how GBA+ has and can continue to highlight social justice gaps and weaknesses in climate mitigation policies and provide recommendations for improving intersectional analysis within climate mitigation governance to advance CJ. To address these objectives, this research investigated the use of GBA+ within BC's climate mitigation policies through the following questions:

- 1) How do regional (e.g., provincial) climate mitigation policies and programs impact marginalized and/or vulnerable communities?
- 2) What factors contribute to social justice and equity considerations in provincial climate plans being effectively implemented? Have these social justice and equity considerations been taken in other regions?
- 3) What are the limitations and advantages of GBA+ in practice, within climate mitigation policymaking in provincial governments?
- 4) What governance strategies could provincial governments adopt (or improve upon) to advance CJ in its climate mitigation policies?

Research Significance

This research contributes to the knowledge of climate mitigation justice in governance and will inform specific evidence-based engagement and policy practices. As an employee and GBA+ advisor with the BC Public Service, I have influence over government practices, increasing the transferability of this research into practical solutions.

My position provided several advantages to supporting this research, including practical experience in developing climate policies, using GBA+, and training other government workers to use the tool. This experience provided insights into the challenges and benefits of intersectional policy analysis and climate justice in governance.

However, potential biases may occur as a result of my position, which were documented and addressed to maintain the legitimacy of the research (O’Leary, 2017). By focusing on the impacts of provincial climate mitigation policies on marginalized communities, this research has informed critical gaps in the implementation of CleanBC, the Roadmap, and future provincial climate policy making.

While this research focussed directly on CleanBC and the Roadmap initiatives, common challenges exist between governments and equity-driven communities that may be transferrable to other settings (Dale, 2018). Recurring challenges between regional governments and marginalized and vulnerable communities include inadequate engagement, centralized policymaking, and a lack of adequate community representation (Dale, 2018; Marino & Ribot, 2012; Ostrom, 2012). The data collection and analysis conducted through this research have the potential to inform climate policy making beyond CleanBC initiatives, with the potential to generalize findings to other climate and environmental policies in BC, within Canada or globally.

Literature Review

The following section reviews relevant literature on CJ at varying scales, from the international to sub-national levels. Ethical considerations of the burdens and responsibilities of climate action are discussed, and populations vulnerable to climate mitigation solutions are identified. Literature presenting the foundations of intersectionality, the limitations and advantages of GBA+, along with three other frameworks for intersectional policy analysis are explored. This review concludes with a discussion on the importance of emphasizing the resiliency and assets of frontline communities, rather than solely emphasizing vulnerabilities for advancing CJ.

Defining Climate Justice

There are many definitions of CJ, but all are centred on principles of justice, which assert right, fair, and appropriate behaviour, treatment, and outcomes (Caney, 2020). This research will use the following definition of CJ: “As a form of environmental justice, climate justice is the fair treatment of all people and the freedom from discrimination in the creation of policies and projects that address climate change as well as the systems that create climate change and perpetuate discrimination.” (Meikle et al., 2016, p. 493). It is concerned with equitable approaches to the responsibilities and burdens associated with climate change mitigation and adaptation, which are often asymmetrical due to varying contributions, impacts, and abilities to participate in climate action (Okereke, 2018).

On human rights related to the environment, Caney (2010) suggests that all people have the right not to suffer from climate change and should be able to meet their basic needs. Both Caney (2010) and Schlosberg (2012) suggest that these rights are not new, but that climate change, and its associated policy responses, may threaten established fundamental rights.

Similarly, Robinson and Shine (2018) assert that all humans have equal and inalienable rights, which are put at risk due to climate change.

In their research, Schlosberg and Collins (2014) state that CJ considers the differing social, economic, environmental, and health impacts of climate change on frontline communities – those most vulnerable to its effects. While rooted in similar principles, Schlosberg and Collins suggest that CJ differs from the environmental justice movement in that it supports a shift in the climate dialogue beyond GHG emissions and ecological impacts, and toward the inclusion of human rights, including the rights of future generations to a healthy environment and climate.

Many inherent rights are infringed upon by climate change as a result of health impacts, expansion of diseases, the effects on agriculture, shelter, mental health, and forced departures resulting from climate emigration (Paavola & Adger, 2006; Schlosberg, 2012; Schlosberg & Collins, 2014). Robinson and Shine (2018) provide examples of climate change impacts and affected human rights, such as rising temperatures leading to increased health risks and fatalities infringing on the right to life and health, and an increased risk of extreme weather events damaging livelihoods and affecting the right to an adequate standard of living beyond subsistence. Another example of potential rights infringements includes Indigenous peoples being forcefully dislocated from their traditional hunting, fishing, and harvesting sites as a result of climate change (Whyte, 2019).

In addition to vulnerabilities to climate change impacts, marginalized, vulnerable, and frontline communities are often disproportionately harmed by the political interventions that strive to mitigate climate change (Marino & Ribot, 2012). Examples of such climate solutions include energy policies, carbon taxation, land dispossession, unfair payment schemes, exclusion from markets, physical displacement, and denial of agency in climate leadership (Whyte, 2019).

For example, Whyte states that climate mitigation policies are often used to justify solutions that harm Indigenous peoples, further perpetuating colonial systems of power, privilege, and injustice. These potential harms operate at varying scales, from the international, to national, and sub-national or local climate governance regimes (Adger, 2001; Okereke, 2010).

International Responses to CJ

Many responses to CJ have assumed that the international level is the most suitable for addressing equity concerns, notably between nations in the Global South versus the Global North (Bulkeley et al., 2013; Jordan et al., 2015; Okereke, 2018). Contrasting opinions assert that justice in the international regime is illogical, as states are self-serving entities, striving to maximize their individual assets (Okereke, 2010). Posner and Weisbach (2010) argue that in order to effect actual change, international treaties must ultimately serve the interests of high emitting states, although Caney (2014) refutes this point based on the ethical responsibilities of high emitting states which morally outcompete the interests of states. Additionally, some scholars suggest that international CJ considerations may prevent effective climate change agreements by distracting from the issues of GHG emission reductions (Okereke, 2010).

There is discussion in the literature regarding who should be burdened with climate action at the international level, including present versus future generations and developed versus developing countries (Caney, 2010; Marino & Ribot, 2012; Okereke, 2018). These debates centre on issues of burden-sharing justice or sharing the burden fairly among duty-bearers (Caney, 2014), namely the developed Global North and the developing Global South (Paavola & Adger, 2006). Of significant consideration is an asymmetry in contributing to climate change, with the 20 largest economies contributing approximately 82 percent of all carbon dioxide emissions (Dale, 2018; Okereke, 2018), along with an inability of developing countries to pay

for climate change adaptation and mitigation (Marino & Ribot, 2012). Ostrom (2012) and Adger (2001) suggest that since developed countries contributed the most to climate change, they should be required to pay the most both now and into the future. The disproportionate negative impacts of climate change on developing countries are also considered, along with the reduced ability of developing countries to participate in climate policy and decision-making (Okereke, 2018; Paavola & Adger, 2006).

These disproportionate negative impacts, framed in the international regime as *loss and damage* of climate change, include the existing and unavoidable impacts of climate change and the need for adaptation, actions that may cause harm to certain regions or groups, and actions that a community or region do not have the financial resources or expertise to undertake (Warner & van der Geest, 2013). Since the establishment of the loss and damage proposal at the Conference of the Parties (COP) 19 in Warsaw, disputes over the legitimacy, equity, and fairness of the framing have continued (Mechler et al., 2019). Loss and damage were further debated in the development of the Paris Agreement and at COP 26 in Glasgow (Rowling, 2021). Many justice-seeking communities advocate for the incorporation of funding from countries in the Global North to address loss and damage from climate change in the international regime (Mechler et al., 2019).

Advocates propose that developed countries should address the loss and damage of climate change. Debates between developed and developing countries have persisted over this, with the former striving to address loss and damage under climate adaptation actions, while the latter strives for monetary compensation from developed countries (Warner & van der Geest, 2013). This debate remains unresolved following COP26, which failed to reach a consensus on the obligation of developed countries to financially address loss and damage (Rowling, 2021).

Despite debates over the legitimacy of CJ at the international level, the UN is increasingly striving for just approaches to climate action (Okereke, 2018). The United Nations Framework Convention on Climate Change (UNFCCC) states that countries should participate in climate change mitigation and adaptation based on equity, and common but differentiated responsibilities and capabilities (CBDR) (United Nations Framework Convention on Climate Change, 1992). The UNFCCC suggests that the CBDR framing be used to address differences in responsibility for GHG emissions, and abilities to cope with climate adaptation and mitigation burdens (Adger, 2001). CBDR establishes that all states are responsible for addressing climate change but cannot be held equally responsible. Regardless of the stated intentions of the UNFCCC and the international climate regime, Okereke (2018) highlights stark disparities between the representation of countries in the Global North versus the Global South within international climate decision-making forums.

The UNFCCC enacted the Kyoto Protocol in 1997, an International agreement with the goal to reduce GHG emissions worldwide. The Kyoto Protocol committed industrialized countries to limit and reduce GHG emissions according to individual targets (Adger, 2001). The Protocol included Annex I versus Non-Annex I countries, divided by developed versus developing countries, respectively (United Nations Framework Convention on Climate Change, 1997). The Kyoto Protocol exempted developing nations, while the successor agreement, the 2015 Paris Agreement enacted by the United Nations, included both developed and developing nations in committing to climate action. This differentiation moved the international regime to still consider CBDR and the distribution of the benefits and burdens associated with climate change adaptation and mitigation measures while committing to necessary climate action globally (Caney, 2020; Okereke, 2018; Robinson & Shine, 2018).

The Paris Agreement is an international treaty, with the goal to limit climate change to 1.5°C compared to pre-industrial levels (United Nations Framework Convention on Climate Change, 2015). The Paris Agreement led to non-legally binding nationally determined contributions (NDCs) toward emission reductions (Okereke, 2018). NDCs include efforts by each country to reduce emissions and adapt to climate change. NDCs are pledges determined by countries individually, rather than at the international level. NDCs and other facets of the Paris Agreement promote climate action while still acknowledging CBDR, as a foundation for integrating justice principles (Okereke, 2018). Some scholars have questioned whether the inclusion of pledges from all countries, including the Global North and Global South, has taken a step backwards in terms of equity considerations (Falkner, 2016), while others assert that action by all countries is essential to avoiding dangerous levels of climate change (Robinson & Shine, 2018).

In addition to attempts to integrate justice principles, Okereke (2018) notes that the Paris Agreement led to greater inclusion of non-state and subnational actors, leading to more local levels of action, but potentially impacting the efficiency of the regime by introducing more actors (Jordan et al., 2015). Okereke and Ehresman (2015) suggest that greater inclusion of non-state actors in the climate regime may lead to greater levels of emission reductions, as they can operate on their own principles, rules, and norms in comparison to government actors. The introduction of more actors, including regional and non-state entities, also leads to more complexity, which Okereke suggests could exacerbate existing inequalities in countries less able to navigate multiple sites of governance. This argument contradicts that of Adger (2001), Schlosberg (2012), and Gunn-Wright (2020), who suggest that multiple levels of governance are

essential for improved policymaking that considers a diversity of perspectives, experiences, and needs.

Critiques of CBDR principles in the international regime include that it promotes inaction (Binaz, 2002), and the definitions remain too vague to be effective (Matsui, 2002). Okereke (2010) suggests that while the international regime has attempted to address global inequality in climate change culpability through the UNFCCC, the Kyoto Protocol, and the Paris Agreement, it has failed to adequately challenge the underlying systems and structures that promote global inequalities. These considerations discussed at the international level, including varying contributions to global GHG emissions and climate change, abilities to pay for climate action, and overall political influence play out at varying scales beyond the international level, including nationally and sub-nationally (Adger, 2001).

National Responses to CJ

Upon assessing the numerous challenges associated with the international climate regime, such as uninterrogated systems of inequality, vague definitions of CBDR, and inaction throughout the Kyoto Protocol and the Paris Agreement, Jordan et al. (2015) suggest that climate governance has increasingly shifted to smaller scales. Ostrom (2012) states that solely relying on global climate governance regimes is inadequate, and a greater emphasis is needed on small to medium scales of governance. Both Ostrom and Jordan et al. urge for polycentricity in global climate governance, which involves multiple governing bodies interacting and mutually adjusting, including at the national level. Okereke (2018) corroborates these claims, stating that “the global community has entered a new phase of more polycentric climate governance” (p. 321), influencing CJ through issues of effectiveness, transparency, and accountability.

Recent trends toward polycentricity in the global climate governance regime have led to an increase in responses by national actors to address CJ (Okereke, 2018). The rationale for addressing CJ at the national level includes that power and income structures, geography, race, and other identity factors impact rights, burdens, and benefits of climate change impacts and solutions in similar ways that divide the Global North and South (Colenbrander et al., 2018; Davies & Kirwan, 2010; Williams et al., 2018).

An example of a national response to the need for CJ includes Canada's federal equity strategy using a carbon tax rebate, which provides an income-based tax credit to offset the costs associated with climate action (Government of Canada, 2020). A potentially more transformative example of a national equity strategy includes the proposed Green New Deal (GND) in the United States, an economic and environmental plan to address legacies of systematic oppression by viewing climate action through the lens of neoliberalism, capitalism, and racism, rather than solely as a task of infrastructure improvements and GHG emission reductions (Gunn-Wright, 2020; Klein, 2020). On the most suitable scale to address justice issues within climate mitigation, Adger (2001) suggests that it varies from global to national to local levels – with multi-level responses being the most appropriate given the diverse impacts of climate change adaptation and mitigation.

Sub-national Responses to CJ

Islam and Winkel (2017) explore various factors of climate change that lead to greater social inequities and prevent CJ within a region. This contrasts with international justice considerations which Okereke (2018) suggests have dominated the literature, compared to sub-national inequities which are less understood. Williams et al. (2018) suggest that Fourth World, or “sub-populations living in a First World or economically developed region, but with living

standards of those of a Third World or developing country” (p. 5) are experiencing worsening social and economic inequities as a result of climate change.

Debates in the literature presented on the international and national scale are also valuable for sub-national CJ investigations. Similar justice considerations can be applied to low-income (Marino & Ribot, 2012), women (Rochette, 2016; Terry, 2009), Indigenous (Whyte, 2019), immigrant, and racialized peoples, (Giang & Castellani, 2020), including that they likely contribute relatively little GHG emissions through travel, affluence, consumerism, and other measures in comparison to others (McKinnon, 2015; Ostrom, 2012; Williams et al., 2018). It is also likely they will be further burdened by climate change and unable to afford climate policies or benefit from incentives, due to an inability to move to accommodate flooding or wildfires, pay for home building retrofits, or purchase an electric vehicle, as examples (Hoogeveen et al., 2021; Lee, 2011; Marino & Ribot, 2012).

Colenbrander et al. (2018) suggest that climate change adaptation and mitigation responses by regional governments operate within the same systems that create climate vulnerabilities, including systemic poverty, racism, sexism, colonialism, ableism, ageism, and others. This leads to social, economic, and political systems which sustain inequalities even through climate adaptation and solutions measures (Colenbrander et al., 2018). To avoid perpetuating these systemic inequities, many scholars suggest the need for decentralization of power and decision-making to more local levels (Jordan et al., 2015; Okereke, 2018; Ostrom, 2012; Williams et al., 2018), along with enhanced equity analysis mechanisms (Cameron & Tedds, 2020; Christoffersen & Hankivsky, 2021), and a reallocation of resources to the most vulnerable and marginalized populations (Gunn-Wright, 2020; Lee, 2011; Terry, 2009).

My research addressed CJ at the sub-national level, due to the relative inattention regional-level CJ has received in comparison to international scales (Bulkeley et al., 2013; Okereke, 2018) and the potential for stronger climate governance and equity outcomes at smaller scales (Adger, 2001; Ostrom, 2012). It focussed on policy applications for CJ, as there remains a gap between translating justice concepts and principles into feasible policies (Okereke, 2010; Schlosberg, 2012).

CJ in Mitigation Versus Adaptation Responses

Climate mitigation actions focus on reducing GHG emissions or creating negative emissions through carbon sinks such as with carbon capture and storage. Climate adaptation involves making changes to the built environment or other unique aspects of a region, organization, or community so that they can maintain their quality of life within new climate conditions. Examples of climate adaptation efforts include improved building cooling features and flood preparedness (Government of British Columbia, 2018).

While adaptation and mitigation are considered to be separate actions, Adger (2001) highlights that the impacts are often linked, with adaptation potentially reducing the costs and challenges associated with mitigation, and vice versa. Marino and Ribot (2012) discuss how initial burdens from mitigation approaches can result in a decreased adaptive capacity, as community vulnerabilities grow.

A BC-specific example of the overlapping nature of climate mitigation and adaptation includes the use of heat pumps, an energy-efficient alternative to furnaces and air conditioners. Heat pumps may be viewed as a climate mitigation measure as they reduce household energy usage (Government of British Columbia, 2021b) or they may be understood as a necessary climate adaptation measure as the frequency and intensity of heat waves harms health

compromised and elderly individuals (Hoogeveen et al., 2021). Despite the interconnectedness of climate mitigation and adaptation approaches, to maintain the scope of this research, they will be treated as separate categories of action.

Hoogeveen et al. (2021) explore how climate change impacts are felt amongst diverse populations in BC, by using interviews and GBA+ to consider sex, gender, race, ethnicity, religion, age, and mental or physical ability, among other factors. Many scholars have limited their research to consider equitable climate adaptation measures that address increased vulnerabilities amongst specific populations (Adger, 2001; Hoogeveen et al., 2021; Williams et al., 2018), rather than mitigation measures. While Hoogeveen et al., Adger, and Williams et al. analyses are valuable in contributing to climate adaptation justice, there remains a research gap on climate mitigation justice efforts in governments, and in particular using intersectional analysis tools to identify these vulnerabilities (Cameron & Tedds, 2020; Hoogeveen et al., 2021).

Climate Change Mitigation Policies in BC

As part of the Canadian Centre for Policy Alternative's (CCPA) Climate Justice Project (CJP), Lee (2010, 2011) explored CJ through mitigation policies in BC. Over the course of six years, the CJP's research goal was to better understand the linkages between climate action and social justice, using BC as a case study to determine methods of more inclusive and effective policies (Lee, 2011). Lee's culmination of research from the CJP highlights critical climate policy considerations for BC's government, including approaches to making carbon taxation more equitable, creating better green energy policies, and improving transit accessibility (Rochette, 2016). BC's CSC (Government of British Columbia, 2021a), and many scholars (Hoogeveen et al., 2021; McKendry, 2016) have stated similar concerns and calls to action to increase government equity considerations. Since the CJP's end, BC has had a change in

government, along with several new climate plans and associated policies, but many of Lee's recommendations to address climate mitigation policy inequities have not been implemented (Government of British Columbia, 2018; Government of British Columbia, 2021b).

While much of the literature has focussed on intersecting climate risk factors in Canada through an adaptation lens (Giang & Castellani, 2020; Hoogeveen et al., 2021; Williams et al., 2018), my research seeks to contribute to a knowledge gap about government policy approaches to supporting equitable climate mitigation. This research will contribute to practical efforts for CJ through climate mitigation policies, by exploring GBA+ and other intersectional analysis tools, and identifying solutions to inequities within climate mitigation plans.

Ethical and Theoretical Approaches to Climate Justice

Lee (2010) models BC GHG emissions by income group, to explore inequities in emission reduction policies, and understand approaches to climate mitigation based on equity and justice. Lee divides BC households into income quintiles, or groupings of 20% from lowest income to highest income. Lee's research finds that an individual in the bottom quintile produces approximately 30% fewer emissions than the average British Columbian, while someone in the top quintile produces 27% more emissions than the average person (Lee, 2010; Lee, 2011). These findings are consistent with the modelling of climate inequities by Dennig et al. (2015), which demonstrates that GHG consumption levels and income are directly related, with emissions decreasing as income decreases.

Given the unequal contributions to GHG emissions in BC that Lee (2010) models, questions of who should bear the burden of climate change mitigation action in BC are relevant (Lee, 2015; McKendry, 2016; Whyte, 2019). These questions are of distributive justice, which is the concern over equitable distributions of burdens and benefits associated with climate change

(Caney, 2010). To address distributive justice within mitigation policies, it is valuable to explore the ethical debates present in CJ theory.

Climate Justice Ethics

Schlosberg (2012) frames approaches to CJ as distributional versus rights-based approaches, with frameworks including the Polluter Pays Principal (PPP), equal per capita emissions, and rights-based approaches. PPP suggests that those who historically caused the problem of climate change through GHG emissions, deforestation, and other environmentally harmful actions should bear the burden of mitigation, as those parties have a greater responsibility (Caney, 2020; Schlosberg, 2012). The equal per capita argument seeks to give everyone an equal share of the carbon budget, determined by the total amount of GHGs that can be emitted to prevent dangerous levels of climate change and dividing it amongst the global population (McKinnon, 2015).

A rights-based approach to CJ suggests that all humans have the right to reasonable levels of development and environmental rights (Schlosberg, 2012). Shue (1993) claims that developed countries should not prevent development in other countries and should pay for the current luxury emissions they enjoy that encompass emissions beyond maintaining a basic quality of life. Missing from Schlosberg's (2012) assessment of ethical approaches to CJ but explored by Caney (2010) is the Ability to Pay Principal (ATP), which suggests that those who have the greatest ability to pay should bear the burden. Caney compares the merits of the PPP and the ATP, striving to address weaknesses within both frameworks.

Caney's Hybrid ATP-PPP Framework. The PPP takes a historical view of GHG emissions, where those who have contributed to climate change through emissions, even in the past, are viewed as responsible for addressing climate action. Caney (2010) describes several

challenges with the PPP, including uncertainty in determining causality and responsibility, and issues of the polluter's awareness of their harmful actions. On the merits of PPP, Klinsky and Dowlatabadi (2009) state that "making polluters pay for the impacts of their actions internalizes what would otherwise be an externality and creates a disincentive for future emissions" (p. 90).

The ATP suggests that the wealthy should bear the burdens of climate change, and this level of duty increases as an individual's wealth increases. The ATP emphasizes future solutions, rather than historical responsibility. Caney (2010) identifies common challenges with ATP, including that individuals do not want to pay for issues that they did not cause, and that it has the potential to ignore historical responsibility. Additionally, Caney suggests that differences in the way that wealth is accumulated should be considered in determining the duty to pay, either morally or amorally through GHG emissions, land theft, slavery, and other means (Gunn-Wright, 2020; Whyte, 2019).

To address weaknesses associated with the PPP and ATP, Caney (2010) suggests creating a hybrid model for allocating responsibility and burden. This revised principle suggests that people should bear the burden of climate change they have caused, as long as it does not cause poverty or a substandard quality of life. This aligns with Klinsky and Dowlatabadi's (2009) assessment of responsibilities, as they suggest those who cause climate change are responsible to fix it, but this must occur through the protection of the most vulnerable by transferring resources to those at the greatest risk of harm.

Caney's (2010) hybrid model suggests additional emissions that cannot be quantified and assigned to a polluter, such as natural causes of climate change, should be the responsibility of the wealthy. This corresponds with Klinsky and Dowlatabadi's (2009) assessment of equal

burden sharing, whereby wealthy individuals will be less burdened by additional responsibilities, compared to low-income individuals.

Schlosberg's Capabilities Approach. Schlosberg (2012) suggests that the CJ frameworks discussed here, including PPP, equitable distribution of GHG emissions, and rights-based discourses often lack practicality beyond theory. Schlosberg (2012) suggests incorporating a capabilities approach to climate policies, in which decision-makers look beyond the ideal distribution of burdens and benefits of climate change, and toward the range of environmental, energy, and livelihood capacities needed for individuals and communities to function. This approach frames climate injustices as limiting the ability of humans to meet their basic needs, and this can help to identify vulnerabilities and strengthen policies according to community needs (Lee, 2015; Marino & Ribot, 2012; Schlosberg, 2012).

Using Caney's (2010) hybrid PPP-ATP framework and Schlosberg's (2012) capabilities approach, my literature review suggests that the ethical responsibility for addressing climate solutions in BC should fall to the wealthy. This specifically includes those extremely wealthy who would not be threatened with poverty due to climate action (Schlosberg, 2012) and those whose wealth was accumulated in unjust ways, namely through excessive GHG emissions, deforestation, and land theft from Indigenous peoples (Whyte, 2019).

Communities Vulnerable to Climate Mitigation Responses

Marino and Ribot (2012) discuss how social stratification, or the division of societies into groups such as class, gender, profession, race, ethnicity, age, and ability, shapes the unevenly distributed outcomes associated with climate change events and interventions. Paavola and Adger (2006) state that "vulnerable groups are likely to be at the sharp end of the policy responses to climate change" (p. 604). Robinson and Shine (2018) suggest that climate

mitigation policies that do not incorporate social values can have an adverse impact on human rights.

Climate solutions can be regressive, neutral, or positive, meaning low-income households would pay more than proportionate, the same, or less than proportionate, respectively, compared to high-income households (Zachmann et al., 2018). On the nature of regressive policies, Adger (2001) states “national perspectives on the impact of energy and other mitigation policies rarely account for the impact on marginalized social groups – (e.g.) fiscal measures in energy and transport” (p. 924). While income level is typically considered a leading indicator of climate vulnerability, Adger (2001) suggests that income may be irrelevant in some circumstances, and climate vulnerability could result from other intersectional factors, such as region, race, age, livelihood diversity, and other factors.

Through intersectional analysis research, Hoogeveen et al. (2021) highlight that in BC, the populations most vulnerable to climate change include low-income individuals, Indigenous peoples, people of colour, women, and those with existing health conditions. These factors are intersectional, with compounding equity challenges associated with multiple disadvantages (Paavola & Adger, 2006). For example, an Indigenous woman, or a low-income person with health conditions face additional intersecting barriers and challenges (Crenshaw, 1991; Terry, 2009; Williams et al., 2018).

In another example of intersectionality from a national comparison of health risks within communities of colour, Giang and Castellani (2020) show that in BC, racial, income, and other factors lead to various climate and environmental injustices including higher concentrations of air pollution in urban areas. Giang and Castellani indicate that intersectional analysis approaches which assess how different identity factors combine are necessary to understand vulnerabilities

and strengthen policy responses, which aligns with the findings of Adger (2001), Cameron and Tedds (2020) and Hankivsky et al. (2014).

Rochette (2016) discusses the impacts of regional energy policies, in that raising energy rates disproportionately impacts people living in poverty, particularly women, without directly reducing their energy consumption or contributing to GHG emission reductions. This is because people living in poverty often cannot afford energy-efficient appliances, and renters typically have little control over building design, window insulation, and other sustainable and cost-effective retrofits (Rochette, 2016). Rochette's examination of gender issues aligns with Terry's (2009) findings that climate change events and solutions can exacerbate gender inequality issues. Other examples of regional energy policies impacting specific communities include land use change leading to competition between crops for food and biofuels, and bioenergy projects negatively impacting soil nutrients and water availability in a community (Robinson & Shine, 2018).

The literature suggests that the challenges associated with intersectionality, vulnerabilities, and climate change mitigation policies are abundant, while the solutions remain less clear (Hoogeveen et al., 2021; Williams et al., 2018). The next section reviews the existing literature on proposed climate mitigation policy solutions to advance CJ.

Proposed Policy Solutions for Climate Justice

To avoid the regressive nature of climate solutions, which place disproportionate burdens on low-income or otherwise marginalized or vulnerable populations, special considerations and analyses are required to avoid strengthening systems of inequity (Gunn-Wright, 2020; Lee, 2015). Despite the potential issues of certain climate solutions, Robinson and Shine (2018) state that "the risks to human rights of climate change... far outweigh the risks to human rights posed

by climate action” (p. 5). Despite this evaluation, Robinson and Shine suggest that to minimize potential harm, the inclusion of human rights into policies is needed. This section explores proposed policy solutions to address regressive or otherwise inequitable climate mitigation policies.

Zachmann et al. (2018) suggest that investing in research to increase disaggregated data on marginalized populations and assessing the distributional consequences of climate policies to make decisions accordingly can improve equity outcomes. Zachmann et al., Marino and Ribot (2012) and Lee (2011) suggest developing climate policies that benefit low-income households through actions such as supporting social housing retrofits and affordable public transit, which may address the regressive nature of climate policies.

The policy recommendations from Zachmann et al. (2018) correspond with Lee (2011), who states that climate mitigation policies such as carbon pricing can be effective and equitable by compensating low- to middle-income households and using carbon tax revenues to strengthen other aspects of climate action. Rather than revenues benefiting industry and corporations, Lee (2011) states that at least one-third of revenues from BC’s climate policies such as carbon taxation should go to a low-income tax credit that offsets impacts on low-income households. The additional revenues should be directed towards aligned climate actions including expanding public transit (Rochette, 2016), and increasing affordability by investing in low-income building retrofits including rental units and community-level energy projects (Marino & Ribot, 2012).

On solutions to addressing gender and income inequities within climate mitigation policies, Rochette (2016) and Terry (2009) state that transportation policies must consider the differing needs of men and women, low- and high-income earners, along with rural and urban populations. Additionally, Rochette (2016) suggests that many climate mitigation incentives,

such as BC's ZEV incentive program financially benefit high-income men at a greater rate than other demographics, so must better incorporate gender and intersectional analysis tools, such as GBA+, to avoid exacerbating social inequities.

In their study on differing air pollution concentrations within Vancouver, Montreal, and Toronto, Giang and Castellani (2020) find that vulnerable groups experience higher air pollution burdens, particularly Indigenous, immigrant, and low-income residents. Giang and Castellani suggest the need for cumulative hazard screening indicators for use in Canadian environmental policy development to advance justice. This suggestion aligns with the approach taken by Schlosberg (2012), in quantifying community vulnerabilities to strengthen climate policy approaches. As environmental and climate justice indicators are not routinely included in policy development at local, provincial, and federal levels in Canada, this review of the literature suggests their inclusion is essential for equitable climate policies.

Schlosberg (2012) suggests that the process of governments creating equitable policies that maintain an individual's and a community's right to a healthy environment begins when "disadvantages – or vulnerable capabilities – are recognized, indexed, and prioritized by governments" (p. 458). By mapping vulnerabilities to climate change in an interactive and bottom-up way with local communities, Schlosberg (2012) along with Giang and Castellani (2020) suggest that governments clarify their policy responses and strengthen them.

Giang and Castellani (2020) state that community input should inform such vulnerability analyses, to contribute to CJ through procedural mechanisms of inclusion in decision-making. Hankivsky and Jordan-Zachery (2019) find that while mapping intersecting vulnerabilities through community participation supports more responsive policies, systems change is needed to transform inequities. My research explores the potential for intersectional analysis tools, such as

GBA+, to be used in this community vulnerability mapping process (Hankivsky & Jordan-Zachery, 2019; Schlosberg & Collins, 2014) to improve climate mitigation policies.

Intersectional Analysis Tools

Intersectionality is an analytical framework formally conceptualized by legal scholar Kimberlé Crenshaw in 1989, which describes how identity factors such as race, gender, age, class, sexual orientation, physical ability, and others combine to create different facets of discrimination and privilege (Crenshaw, 1991). The foundations of intersectionality theories are in Black feminist scholarship and activism (Hankivsky & Jordan-Zachery, 2019). Crenshaw (1991) describes that individuals cannot be reduced to a single identity characteristic and that human experiences cannot be accurately understood by singling out one specific factor (Hankivsky et al., 2014).

On the intersections of gender and race, Crenshaw states that “because of their intersectional identity as both women *and* of colour within discourses that are shaped to respond to one *or* the other, women of colour are marginalized within both” (1991, p. 1244). The intersectionality framework has led to the development of many tools designed to identify unequal impacts of policies and programs based on intersecting identity factors.

Hancock (2007) explores intersectionality as it relates to policies, differentiating between unitary approaches (e.g., assessing income), multiple approaches (e.g., assessing income and race), and intersectional approaches (e.g., assessing income and race as a dynamic relationship). Hancock suggests that intersectional approaches to research and governance can improve policies, by targeting funds, programming, and resources toward those who need them most. Hankivsky and Jordan-Zachery (2019) suggest that intersectionality is increasingly recognized as a way of understanding the impacts of government policies on diverse groups, however, the

siloed nature of bureaucracies (Dale, 2018) often poses challenges to addressing the complexities of intersectionality. Both Hankivsky and Jordan-Zachery, along with Hancock determine that intersectionality encourages a new method of policy development, including defining problems, and solutions, identifying who is included, and determining how the policies are evaluated.

While intersectionality tools present potential methods of enhancing equity within public policies, Rochette (2016) states two major challenges with them for use in climate change mitigation policies. The first is a lack of dedicated government resources, and the second is a “hostile and indifferent institutional culture” which perpetuates the status quo without interrogating misogyny, capitalism, and unsustainability (Rochette, 2016, p. 406). This aligns with Cameron and Tedds (2020) analysis of GBA+, which will be further expanded upon below. Scala and Patterson (2017) assert that intersectional and feminist analysis tools require those working in governments to develop a *bilingualism* between bureaucratic norms and principles, and equity principles. Effecting positive change through intersectional analysis within governments requires the navigation of institutional rigidities, through active resistance to the status quo by practitioners (Scala & Patterson, 2017).

Four intersectional analysis tools will be explored for their advantages and disadvantages, including Gender-Based Analysis +, Intersectionality Based Policy Analysis, Critical Feminist Policy Analysis, and Culturally Relevant GBA+.

GBA+

GBA+ is an analytical policy tool introduced in 2011 by the Canadian government. It is used to determine how identity factors such as gender, Indigeneity, region, education-level, class, and health impact the way individuals experience government policies and initiatives (Government of Canada, 2020), and is based on Crenshaw’s (1991) intersectionality framework.

The tool was adapted from Canada's Gender-Based Analysis (GBA) to integrate the intersectional framework and the consideration of factors beyond gender (Scala & Patterson, 2017).

Despite this intersectional analysis tool being mandated in each Ministry of the BC government as of 2018, the efficacy of GBA+ for both BC Public Service employees and vulnerable or marginalized populations has not been determined, leading to questions of its value by both scholars and practitioners (Cameron & Tedds, 2020; Christoffersen & Hankivsky, 2021; Hankivsky & Mussell, 2018; Hoogeveen et al., 2021). In an assessment of its value in the Canadian federal government, GBA+ was found to be inconsistent and incomplete in most federal departments and agencies and is reportedly often viewed as a *checklist item* rather than a meaningful process (Scala & Patterson, 2017). An example of this inconsistency includes differing approaches to GBA+ implementation between government ministries and departments, leading to a patchwork approach to the use of the tool.

Through interviews with the Canadian federal government, scholars, and non-government organizations, Hankivsky and Mussell (2018) identified inadequacies of GBA+ in a broad government context. These inadequacies include that GBA+ is based on GBA, an earlier federal initiative which solely focussed on gender analysis. The recent addition of the 'plus' indicates that other factors need to be considered, including but not limited to race, income, geography, culture, religion, age, and health. Scholars have suggested that adding the 'plus' indicates an additive approach, whereby sex and gender are considered first, with race, class, geography, age, and other aspects considered secondary (Cameron & Tedds, 2020; Christoffersen & Hankivsky, 2021; Hankivsky & Mussell, 2018).

Cameron and Tedds (2020) assert that because GBA+ is a government tool, it leaves systems of power that governments operate in uninterrupted. Similarly, Hankivsky and Jordan-Zachery (2019) state that the most feasible policy solutions are those that maintain the status quo, do not address the complexity of intersectional differences, or advance social justice, and this leads to challenges with policy development using tools such as GBA+. In contrast, Scala and Patterson (2017) suggest that GBA+ analysts in bureaucratic settings can take seemingly small actions to implement incremental changes to systems of power.

Scala and Patterson (2017) interviewed GBA+ analysts in the Canadian government, describing the issues of pursuing social equity goals while striving to operate as neutral public servants. Scala and Patterson's research participants identified the dichotomy of operating between government systems' intersectional goals, stating "you want to sell it [GBA+] to people who don't know how to do GBA+, particularly men... so, you have to kind of separate that notion of feminism from GBA +" (Scala & Patterson, 2017, p. 434). To "sell the tool", participants identified the need to remain neutral, assert organizational mandates for equity analysis and better outcomes, and utilize hierarchical structures within the organization, such as by gaining support from senior managers (Scala & Patterson, 2017). While scholars have identified many benefits of the tool, Christoffersen and Hankivsky (2021) suggest that the bureaucratic barriers in GBA+ implementation are often too great to achieve meaningful outcomes in its current condition.

Hankivsky and Mussell (2018) suggest changing the name to 'intersectionality-based analysis' (IBA) to remove the emphasis on gender and effectively communicate differences from its previous iterations. Additionally, scholars emphasize that stronger networks are needed to share success stories and collaborate amongst practitioners, gather disaggregated data, and utilize

multiple existing tools (Cameron & Tedds, 2020; Hankivsky & Mussell, 2018; Hankivsky et al., 2014). These suggestions are consistent with the interviews conducted by Scala and Patterson (2017) with GBA+ practitioners, who suggested that strong horizontal and vertical organizational relationships were essential to addressing the siloed nature of GBA+ analysis in bureaucracies. My research offers insights into the practicality and challenges of utilizing GBA+ within regional climate mitigation policies.

Intersectionality-Based Policy Analysis

Hankivsky et al. (2014) introduced intersectionality-based policy analysis (IBPA) as a framework for strengthening GBA+ by removing the emphasis on gender and incorporating questions to address underlying systemic issues and power imbalances present in governments. Hankivsky et al. state that IBPA provides a structure for critical policy analysis, captures different dimensions of policy contexts such as history, politics, and worldviews, and generates transformative insights that move beyond other equity-focused frameworks such as GBA+.

IBPA poses twelve guiding questions that shape analysis, including descriptive and transformative questions. Descriptive questions aim to reveal assumptions in government priorities, along with types of populations, inequities, and privileges created (Hankivsky, 2012). Transformative questions strive to identify alternative policy responses that promote social justice (Hankivsky et al., 2014). These questions move beyond the problem identification focus of GBA+, and towards transformative policy solutions (Cameron & Tedds, 2020).

On the challenges associated with IBPA, Hankivsky et al. (2014) suggest that many practitioners in government are not willing to challenge the status quo or ask difficult questions about power. Additionally, many policy analysts maintain an additive approach to determining vulnerabilities (e.g., gender + race + location), with gender being prioritized over other factors

(Cameron & Tedds, 2020; Christoffersen & Hankivsky, 2021). Finally, the authors state that disaggregated data and information on intersectionality are often lacking (Hankivsky et al., 2014). The principles and challenges associated with the IBPA framework have informed my research by shaping policy recommendations to improve GBA+ within the BC government.

Critical Feminist Analysis

McPhail (2003) developed a critical feminist policy analysis framework, which points to aspects of policy such as values and language, approaches to gender equality, and roles in the state, market, and family. Additionally, McPhail's framework addresses how power relations are played out in the state and society (Cameron & Tedds, 2020). This framework explores the many CJ concerns discussed by Terry (2009) and Rochette (2016), relating to the interplay between gender and the adverse impacts of climate change and related policy solutions. The critical feminist analysis framework (McPhail, 2003) poses questions including but not limited to: Does the policy achieve gender equality? Does the language infer male dominance or female invisibility?

The critical feminist analysis focuses on sex and gender first, considering other aspects such as race, income, religion, disability, sexual orientation, and other factors as secondary (McPhail, 2003). Sauer (2018) highlights that feminist policy analysis frameworks often centre white feminism, while ignoring or discounting gender non-binary and two-spirit peoples, along with the intersecting role of race and other factors (Crenshaw, 1991). This poses similar challenges discussed in the review of GBA+, by concentrating on sex and gender, rather than following the principles of intersectionality theory which state that people experience power structures and systemic issues in simultaneous and intersecting ways (Crenshaw, 1991; Hankivsky & Mussell, 2018).

Culturally Relevant GBA+

Various iterations of GBA+ have been developed to better suit the demography of specific regions, including culturally relevant GBA+ tools which seek to better represent Indigenous peoples including Indigenous, Métis, and Inuit Peoples. An example of such a tool used in the BC government context includes a Métis-specific gender-based analysis toolkit. This toolkit integrates culturally relevant historical, political, cultural, and current realities for Métis populations. It strives to use Métis worldviews including centering definitions of equity from a Métis perspective, incorporating Métis women's historical roles, and acknowledging gender is non-binary and inseparable from culture (Women of the Métis Nation, 2019).

The Métis-specific gender-based analysis tools also address issues of data by equally valuing quantitative, qualitative, and mixed methodologies, along with traditional sources of information such as stories, art, consultations, knowledge keepers and others. Such culturally relevant iterations of the GBA+ tool are often considered a valuable improvement to a predominantly Western-based tool (Women of the Métis Nation, 2019).

Overview of Intersectionality Tools. This brief overview of intersectionality analysis frameworks including GBA+ (Government of Canada, 2020), IBPA (Hankivsky et al., 2014), critical feminist analysis (McPhail, 2003), and culturally relevant GBA+ (Women of the Métis Nation, 2019) highlights the similarities and differences in approaches to equitable policy analysis. While my research focuses on the value of GBA+, a comparison with other frameworks allows for a better understanding of the strengths and weaknesses of GBA+, other tools to incorporate, along with potential areas for improvement.

Importance of Equity in Climate Governance

Poorly designed climate policies and transitions away from fossil fuel dependence have the potential to disproportionately threaten the livelihoods of poor, Indigenous, immigrant, and other disadvantaged communities (Marino & Ribot, 2012), such as regressive policies (Zachmann et al., 2018) and other unjust mechanisms. Many scholars argue that CJ is essential for successful and lasting climate action (e.g., Gunn-Wright, 2020; Okereke, 2018; Paavola & Adger, 2006; Schlosberg, 2012), as unjust policies will lead to worsening inequities, and increased political resistance, negatively impacting their implementation (Lee, 2011). Global development trajectories have shown that environmental damage is often a result of traditional economic growth (Okereke, 2010) and that people who are preoccupied with survival often cannot simultaneously address concerns over climate change (Gunn-Wright, 2020; Mitchell-Weh'NaHa'Mu Kwasset, 2020).

Due to systemic barriers, those in positions of power with influence over climate policies are often removed from the daily lived experiences of poverty and racism (Hankivsky & Jordan-Zachery, 2019; Marino & Ribot, 2012). Mitchell-Weh'NaHa'Mu Kwasset states that marginalized and vulnerable community voices are often ignored or silenced, which has led to the centralization of power and decision-making. Therefore, it is unreasonable to assume that political decision-makers can fully assess the negative impacts of policies on low-income individuals, people of colour, and other diverse groups, without community involvement and representation (Gunn-Wright, 2020). Mitchell-Weh'NaHa'Mu Kwasset asserts that unless governments create space for the systematic inclusion of the marginalized and consider beyond colonial and patriarchal paradigms, and address the impacts on poor, Indigenous and people of colour, immigrants, women, and the elderly, societal inequities will only worsen as climate

change progresses. Gunn-Wright (2020) states that to create these socially just policies, new perspectives and actors are needed within state climate planning. Both Schlosberg (2012) along with Giang and Castellani (2020) suggest that bottom-up climate governance processes that involve local communities can contribute to procedural justice.

Dale (2018) asserts that there is a growing understanding that diversity in systems, strategic approaches, policies, and people strengthens climate action, beyond what a single approach can achieve. Mitchell-Weh'NaHa'Mu Kwasset (2020, p. 220) says that “human diversity is just as critical to society as biodiversity is to an ecosystem, without it, there can be no proper functioning”. Homogeneity limits a system’s resilience to disturbance and its ability to innovate, highlighting the benefit that considering diversity in climate policies has for governments. Dale (2018), Gunn-Wright (2020), and Mitchell-Weh'NaHa'Mu Kwasset (2020) assert that CJ is essential because it creates stronger policies and stronger social, economic, and ecological systems.

Emphasizing Individual and Community Resiliency

Existing literature suggests that climate policymaking should move beyond a vulnerability narrative to also emphasize the strengths and assets that Indigenous peoples, women, people of colour, youth, the elderly, and other diverse peoples have (Dale, 2018; Paavola & Adger, 2006; Williams et al., 2018). Marino and Ribot (2012) state that “vulnerable communities are not passive victims but are actively engaging the world and attempting to alter the status quo” (p. 326). Cameron and Tedds (2020) emphasize that examinations of vulnerabilities must also acknowledge the resiliency of marginalized or vulnerable populations, to avoid shifting the blame to individuals instead of acknowledging systemic and structural inadequacies (Williams et al., 2018). While my research highlights the potential for

disproportionate burdens of climate mitigation policies on disadvantaged communities, along with approaches to minimize them through improved intersectional analysis, it will also reflect marginalized and vulnerable populations as being strong, determined, and resilient.

Summary

While relevant literature exists on CJ through adaptation measures, there is currently a research gap about just climate mitigation policies within regional governments, and the intersectional analysis tools that increase the equity of such policies. The literature has guided my research by providing a theoretical and practical analysis of justice within international, national, and sub-national climate mitigation policies, along with analyses of the strengths and weaknesses of GBA+ and similar policy analysis tools. The literature has provided a framework to structure the following document analysis, interview data, data analysis, and policy recommendation processes. My research expands upon the scholarly works reviewed and explores methods of emphasizing the needs and voices of marginalized and vulnerable communities, to create effective climate mitigation policies and programs for all British Columbians regardless of race, gender, age, ability, or socioeconomic status.

Methodology and Methods

I used qualitative methodological approaches to investigate intersectional analysis tools for advancing CJ within a provincial government (Creswell, 2009). As the research focussed on governance practices of climate policy analysis, and the experiences of marginalized and vulnerable communities with climate mitigation policies, I determined that a qualitative approach was appropriate for this investigation (Carter & Little, 2007). Addressing the research questions required a depth of knowledge and expertise on topics which often lack sufficient disaggregated

data, including the intersectional aspects of race, income, geography, gender identity, and other factors (Cameron & Tedds, 2020). To effectively utilize this depth of knowledge, questions that qualitatively address human phenomena and actions were explored (Carter & Little, 2007; O’Leary, 2017).

Data Collection

I collected data through both document analysis and semi-structured interviews with subject matter experts. Literature review and document analysis addressed research question one, exploring the impacts of regional climate mitigation policies on marginalized and vulnerable communities, and two, factors that contribute to the successful implementation of social justice and equity considerations within regional and provincial governments.

Document analysis included the CleanBC Plan, the Roadmap, Indigenous and public climate engagement session data from 2019-2021, Canadian and BC government’s GBA+ resources, and climate plans from Washington and California. These documents were analyzed using thematic coding for qualitative information, producing key themes and document summaries to inform the interview process and overall analysis.

Following the document analysis, eight key informant interviews with subject matter experts were used to gather information from professionals with experience in CJ, equitable climate mitigation strategies, and GBA+ or similar intersectional analysis tools. The key informant interviews expanded upon the document analysis and specifically addressed research questions three, the limitations and advantages of GBA+, and four, governance strategies for advancing CJ.

Key informants were found through an online search, the use of my existing professional and organizational knowledge, and snowball sampling techniques in which existing participants

recommend other relevant individuals to interview (O’Leary, 2017). As social inequities are intersectional, the selection of a variety of climate and social justice professionals, local and provincial government officials, GBA+ practitioners, and climate mitigation policy experts offered a reasonable representation of knowledge on social inequities, including systemic racism, sexism, poverty, misogyny, health problems, and reduced access to education opportunities (Islam & Winkel, 2017).

While engaging and researching collaboratively with frontline community members would be valuable, and is included as a recommendation for future research, I determined that this was beyond the scope of this research. As my research focussed on the advantages and disadvantages of various policy analysis approaches and tools, my research relied on the expertise of local governments officials, non-government organizations, and scholars with experience working within bureaucracies, who strive to advance CJ, and who may seek to represent the needs of populations vulnerable to climate change. These selection criteria offered a practical approach to gaining insight about government tools and processes related to climate justice but does not replace the need for direct research with frontline community members.

I interviewed eight subject matter experts between March 2022 to July 2022 to inform this research. I interviewed three scholars specializing in intersectionality, and one scholar specializing in climate and energy justice, with all scholars focussing their research on BC-specific case studies. I interviewed two local-level government officials, one from Summerland, BC, and one from Vancouver, BC. Finally, I interviewed two non-government provincial-level climate policy experts, one based in Squamish, BC and another in Vancouver, BC. This variety of participants allowed for a diversity of perspectives and understandings of CJ and intersectionality to inform this research.

Having a baseline knowledge of policy and governance was essential to participate in this research, given the specificity of my questions relating to governance practices including policy analysis, collaboration amongst the public and other levels of government, the forming of working groups, and other actions within bureaucracies. Additionally, specific knowledge and experience with climate change and CJ was essential, although relevant cross-over was found with professionals who primarily identified their work within environmental justice, energy justice, and the transition justice movement.

Two distinct interview guides were used, depending on the level of familiarity that participants had with CJ and GBA+. One guide focussed on CJ, while the other focussed on GBA+ (Appendix C). My interview style allowed for the opportunity to build rapport, trust, and comfort with the participants (Dilley, 2000; O’Leary, 2017). With the consent of participants, the interviews were audio-recorded. Interviews were semi-structured (Dilley, 2000), allowing for flexibility while starting with defined questions to gather basic information about participants’ experience with climate change, CJ, and GBA+ and then moving to more open-ended questions, allowing the conversation to flow (Dilley, 2000). A semi-structured approach allowed me to ask follow-up questions, often steering the discussion on valuable tangents, and supporting a more conversational tone to the interviews.

Flick (2007) emphasized the importance of a “systematic triangulation of perspectives” (p. 53), rather than simply a combination of methods. This study triangulated perspectives and information through a literature review, analysis of public documents, past climate engagement data, and the perspectives of various CJ and policy professionals, to provide a more holistic understanding of CJ implementation within CleanBC mitigation practices. Triangulation

increases the trustworthiness of the research, by using multiple data sources and assessing them for commonalities (O’Leary, 2017).

Ethical Considerations

As this research involved data collected from human participants, an ethical review was required. I gained approval from Royal Roads University’s ethics review board to ensure that interviews I conducted were completed with participant’s consent, and that the interview questions were ethically informed. As I am an employee of BC’s provincial government, an ethics advisor from the BC Public Service was consulted to ensure the research was conducted ethically.

Interviewees were asked to review and sign a consent form which provided details on the research, interview, and data analysis processes (Appendix B). Prior to conducting the interviews, I reminded participants of the details of the consent form and received verbal consent to proceed with and record the interview to support transcription and data analysis.

Data Analysis

This research utilized qualitative data analysis (QDA) for both the documents and interview data collected. Each method involved a systematic approach to QDA, beginning with data collection and ending with research conclusions and the building of a conceptual framework.

Document Analysis. A variety of documents were analyzed using qualitative methods and thematic analysis. These data sources include CleanBC, the Roadmap, Indigenous and public engagement responses, and GBA+ training materials from the Canadian government and the BC government.

Climate plans from Washington and California were included to allow for comparison with CleanBC and the Roadmap. Both Washington and California were selected for their regional proximity and similar scope of climate change mitigation ambition with BC, and their alliances through organizations such as the Pacific Coast Collaborative (PCC). The PCC is a collaboration between BC, Washington, Oregon, California, and several major cities, working to build a low-carbon economy, sharing goals for GHG emission reductions and low-carbon economic development.

QDA began with a review of each document to note biases, expectations, and initial impressions using analytical memos (O’Leary, 2017). This initial scan was followed by the selection of relevant passages to aid in data reduction. Using Adobe Acrobat PDF Editor, I colour-coded the document text by initial themes, including affordability, equity, policy actions, environment, and economy. These themes were developed through inductive coding methods, in which codes emerged as I reviewed the data. This holistic coding approach is defined by Dey (1993) as “an attempt to grasp basic themes or issues in the data by absorbing them as a whole... rather than analyzing them line by line”. This holistic coding process prepared the data for more detailed first and second-cycle coding (Saldaña, 2013).

Following holistic coding, passages that I determined were relevant to my research questions were selected from the documents, by compiling those that reflected the vision, goals, or actions of the government related to social equity, CJ, and climate change. Relevant data were extracted from the documents and imported into Microsoft Excel for first-cycle inductive coding. First-cycle coding consisted of line-by-line coding using a combination of descriptive and in vivo coding, and analytical memos to track key observations and connections. Descriptive coding “assigns labels to data to summarize in a word or short phrase the basic topic of the data”

(Saldaña, 2013, p. 262), while in vivo coding “uses words or short phrases from the participant’s own language in the data record as codes” (Saldaña, 2013, p. 264).

Following several rounds of coding, codes were sorted to fit into themes, and coding rules were developed which support consistent QDA. These coding decisions were further refined using sub-coding, which tags second-order descriptions to a primary code to further enrich it (Saldaña, 2013). Inductive coding choices were reviewed several times, to allow for revisions, improvements, and refinements from my initial analysis.

Second cycle coding consisted of a further refinement of the data, reviewing initial choices, and making changes where appropriate, using pattern and frequency coding methods. Upon reviewing and finalizing the codes assigned to the data, they were sorted into themes that I determined were appropriate given my research questions, and several codes were removed due to their irrelevance or infrequency. The final themes that emerged from the coding process include Seeking Equity and Justice, Promoting Equality, Gaps in Equity, Bureaucratic Issues, Organizational Achievements, and Identity Factors. These six themes will be expanded upon below in the Results chapter.

Finally, document summaries were produced to summarize the main findings and patterns of each document. This component of my research informed the interview process by identifying and summarizing potential policies that may exacerbate social inequities, gaps in existing government engagement and policy strategies, and potential successes or failures of the government’s climate initiatives.

Interview Analysis. The audio recordings of interviews were transcribed using Trint, an Artificial Intelligence (AI) based software. Following preliminary transcription, I confirmed the

accuracy of the transcription, correcting the AI where necessary, and providing clarifying context in brackets when something did not easily translate from conversation to text.

I edited each transcript to remove filler (e.g., “um”, “you know”, “that sort of thing”), and edited sentences to enhance readability while striving to ensure that I did not change the original meaning of the sentence. Following this transcription and editing process, I sent the refined transcript back to the interview participants.

This step served as a member-checking opportunity, to ensure my transcription and edits did not remove the original meaning of sentences, and to provide participants with an opportunity to clarify, add, or otherwise remove components that they did not want to be included in the transcript. This step was valuable in shifting the power dynamic between interviewer and interviewee, increasing comfort and the overall ease of conversation during the interview as participants were aware there would be a chance to revise, add, or delete content if needed.

I provided participants with 14 days to review and approve their transcripts. I informed participants that if I did not hear from them within 14 days, I would continue with data analysis and would consider the transcript approved. Overall, four participants took part in this member-checking process, and four did not respond to the request to review their transcripts. One participant requested minor edits, removing one paragraph of text and adding clarifying information to the transcript, while three simply approved it.

Following this, I performed an initial review of the interview transcripts for first impressions and biases. I then de-identified the data by using pseudonyms, changing place names, occupations, and other identifying information as required through my ethical review process, and as agreed upon by participants (Saunders et al., 2015). I performed an initial

reduction of the data, selecting key sections of the transcript that were relevant to the research questions, and omitting sections of my speech, clarifying questions, and other sections that deviated too far from my research topic. I imported the reduced data into Microsoft Excel, tagged data for keywords and phrases, sorted it into themes, and created codes, in a similar process to my document analysis (O’Leary, 2017).

I engaged in line-by-line first-pass inductive coding, by applying codes to the text based on emerging themes. Second-level pattern coding was then performed, by sorting the data into themes and constructs to allow for a comparison of emerging patterns between interviewees. Thematic analysis of the data involved identifying recurring patterns, main points, and differences between interviews.

End Stage Analysis. At this point of QDA, nodal connections, themes, and patterns from the document analysis and interviews were compared, contrasted, and related to the literature to apply a conceptual framework to the data. This process allowed for theoretical explanations of recurring themes, which informed policy and governance recommendations for integrating CJ within CleanBC and the Roadmap’s climate change mitigation policies.

Limitations

Characteristics of the study that limited its generalizability included document analysis being limited to publicly available government materials, due to confidentiality concerns within my workplace. Time and resource constraints further limited the research, as I was responsible as the sole researcher for all phases of data collection and analysis. Additionally, the COVID-19 pandemic limited the interview method to virtual meetings taking place over Zoom. Despite

these limitations, the knowledge gap about this topic has benefitted from this study on the subject, maintaining the significance of my research.

Effective research requires the acknowledgement and consideration of bias throughout the research process (O'Leary, 2017). This research used secondary data sources to conduct a document analysis. To effectively consider biases in the secondary data analysis, an evaluation of credibility was performed, including a review of researcher credentials, an assessment of the data collection methods, determining consistency with other sources, and considering the goal of the data collection (O'Leary, 2017).

Both personal and participant biases likely occurred throughout the interview process. Personal biases that I controlled for included working with the BC Public Service as a GBA+ advisor and policy analyst for the Ministry of Forests. Methods of avoiding subjectivities due to my professional role included being clear and open about my position with research participants (O'Leary, 2017). I provided a statement of positionality while framing questions as an independent researcher to avoid swaying participants based on my personal experiences.

Other potential biases that I considered included the selection of key informants. To avoid personal relationships impacting the interview process, colleagues, and professionals with whom I do not have a close relationship were selected. This allowed for the utilization of existing connections to identify participants practically, without selecting close colleagues or friends.

Document Analysis Biases

Potential biases in the QDA of secondary document data were managed to control for subjectivities (O'Leary, 2017). Potential biases included collecting an incomplete range of documents that supported my expectations. Bowen (2009) observed that organizational

documents, such as BC government reports and guides, may favour corporate policies to the benefit of the organization. Additional biases identified included the selection of specific passages within documents that supported my initial expectations, which I addressed using holistic coding to sort the documents into initial themes.

Interview Analysis Biases

Potential biases that may have occurred during the QDA of interview data included favouring certain interpretations of interview passages to align with my research expectations. The methods I employed to reduce potential biases included developing and adhering to coding guidelines to ensure consistent code selection. Other approaches included member checking, in which research participants validated my interpretation of their opinions and beliefs through the sharing and approval of interview transcripts (Birt et al., 2016).

Other methods used for reducing bias in the interview QDA processes included outlining expectations of results before conducting the review, analysis, and coding (O'Leary, 2017). Examples of initial research expectations for key informant interviews included that GBA+ lacks adequate means for implementation and does not provide enough foundational equity training. Expectations for discussion of government practices include that intersectional analyses are often rushed and performed as a checklist item and that CJ must be more firmly rooted in community voices. These expectations were further explored and detailed before conducting data analysis.

Delimitations

To increase its feasibility, this research was limited to studying CleanBC and the Roadmap's use of GBA+, engagement approaches, and policy making. This research did not include other climate mitigation, planning, or adaptation efforts being conducted by the BC

government. The selection of a specific sample population of professionals with expertise in the subjects of CJ, equitable climate policies, GBA+ and intersectionality further increased the project's feasibility while capturing the valuable experiences of this specific sample population.

Results

In the following section, I will summarize the main findings of both the document and interview analyses by discussing significant codes, patterns, and emergent themes. Codes and associated themes are provided below in Table 1 (document review codes) and Table 2 (interview codes).

Table 1

Document Review Data Analysis Themes and Associated Codes

Theme	Code Label	Theme	Code Label
Bureaucratic Issues	Siloes	Identity Factor	Youth
Bureaucratic Issues	Relationship	Promoting Equality	Benefits
Bureaucratic Issues	Resources	Promoting Equality	Affordable
Bureaucratic Issues	Motivation	Promoting Equality	Generalizing
Bureaucratic Issues	"Brand"	Promoting Equality	Minimizing struggle
Gaps in Equity	Personal choice	Promoting Equality	Energy costs
Gaps in Equity	Industry	Promoting Equality	Savings
Gaps in Equity	Consultation lacking	Promoting Equality	Upfront costs
Gaps in Equity	Regional diversity lacking	Seeking Equity and Justice	Health
Gaps in Equity	Benefits (-)	Seeking Equity and Justice	Inclusion
Gaps in Equity	Unfair	Seeking Equity and Justice	Responsibility
Identity Factor	Race	Seeking Equity and Justice	Intentional
Economic Benefits	Growth	Seeking Equity and Justice	"Local voices"
Economic Benefits	Jobs	Seeking Equity and Justice	"Burdens"
Economic Benefits	Investment	Seeking Equity and Justice	"Environmental justice"
Economic Benefits	Technology	Seeking Equity and Justice	Resilience

Economic Benefits	"Low carbon economy"	Seeking Equity and Justice	Regional diversity (RD)
Identity Factor	Indigenous	Seeking Equity and Justice	"Comfortable"
Identity Factor	Low income	Seeking Equity and Justice	Fair
Identity Factor	Students	Seeking Equity and Justice	Safe
Identity Factor	"Owners"	Seeking Equity and Justice	Place
Identity Factor	"Renters"	Seeking Equity and Justice	Intersectional
Identity Factor	Seniors	Seeking Equity and Justice	Accessibility (Awareness, Social media)
Identity Factor	Ability	Seeking Equity and Justice	Industry action
Identity Factor	Gender	Identity Factor	Future generations

Note. I defined each code, created inclusion and exclusion criteria, and provided an example of each code in the document review codebook. Codes in quotations denote in-vivo coding.

Table 2

Interview Data Analysis Category and Associated Codes

Theme	Code Label	Theme	Code Label
Bureaucratic Issues	Quick fix	GBA+ Challenges	Course lacking
Bureaucratic Issues	Policy impacts	GBA+ Challenges	Intersectionality vs GBA+
Bureaucratic Issues	Impacting people 'over there'	GBA+ Challenges	Not good enough
Bureaucratic Issues	Scale	GBA+ Challenges	Legacy effects
Bureaucratic Issues	"Do something about it"	GBA+ Challenges	Checklist item
Bureaucratic Issues	Less barriers to action	GBA+ Challenges	"Do we think about equity?"
Bureaucratic Issues	"Risk averse"	GBA+ Challenges	White women benefitting
Bureaucratic Issues	Leadership diversity lacking	GBA+ Challenges	Education lacking
Bureaucratic Issues	Denial	GBA+ Challenges	Incrementalism vs transformation
Bureaucratic Issues	National imagery	GBA+ Challenges	Extractive
Bureaucratic Issues	"Elephant in the room"	GBA+ Challenges	Intimidating
Bureaucratic Issues	"Water we swim in"	GBA+ Challenges	"It's irrelevant to my work"
Bureaucratic Issues	Better in comparison	GBA+ Challenges	New tool
Bureaucratic Issues	Change within the system by the system	GBA+ Challenges	Data issues (Quantitative bias)
Bureaucratic Issues	Ministry of Finance (-, +)	GBA+ Challenges	Data issues (Qualitative constraints)
Bureaucratic Issues	"white men"	GBA+ Challenges	Data issues (Disaggregated)

Bureaucratic Issues	Slow progress	GBA+ Challenges	Data issues (Hidden populations)
Bureaucratic Issues	Barriers	GBA+ Challenges	Data issues (Ownership)
Bureaucratic Issues	No tools in place	GBA+ Challenges	Western tool
Bureaucratic Issues	Under the surface	GBA+ Challenges	Doesn't necessitate change
Bureaucratic Issues	Gaslighting	GBA+ Challenges	Work is gendered
Bureaucratic Issues	Misogyny	GBA+ Challenges	Name of tool
Bureaucratic Issues	Hiring diversity	Government Solutions	Global solidarity
Bureaucratic Issues	Status quo	Government Solutions	Legislate
Bureaucratic Issues	People left behind	Government Solutions	Measurable
Bureaucratic Issues	Safety concerns	Government Solutions	Prioritization
Bureaucratic Issues	Benefitting rich people	Government Solutions	Influence
Bureaucratic Issues	Limited awareness	Government Solutions	Alignment
Bureaucratic Issues	Political will	Government Solutions	Collaboration
Bureaucratic Issues	Electoral reform	Government Solutions	Experimentation
Bureaucratic Issues	Burnout	Government Solutions	Culture shift
Gaps in Equity	Ignoring impacts	Government Solutions	Mandate
Gaps in Equity	Social vs environment	Government Solutions	Intentional
Gaps in Equity	Environmental racism	Government Solutions	Catalyst
Gaps in Equity	Energy poverty	Government Solutions	Shared language
GBA+ Benefits	Challenge bias	Government Solutions	"Champions" (individuals, support)
GBA+ Benefits	Multiple tools	Government Solutions	Naming it
GBA+ Benefits	Place to start	Government Solutions	Accountability
GBA+ Benefits	No one size fits all	Government Solutions	"Closest to the ground"
GBA+ Benefits	Science-dominated areas	Government Solutions	Hope
GBA+ Benefits	Understand current inequities	Government Solutions	Community
GBA+ Benefits	Equity vs equality	Government Solutions	Inclusion
GBA+ Benefits	Don't throw it away because it's imperfect	Government Solutions	Trust
GBA+ Benefits	First step	Government Solutions	Vision

GBA+ Benefits	Concrete tool	Government Solutions	Advocate
GBA+ Benefits	Asset based inquiry	Government Solutions	Systemic change
GBA+ Benefits	"Work with the overwhelm"	Government Solutions	Mistakes
GBA+ Challenges	Bring our lens first	Government Solutions	Learning in community
GBA+ Challenges	Inconsistent	Government Solutions	Long-term commitment
GBA+ Challenges	Vulnerability	Government Solutions	"Little interruptions"
GBA+ Challenges	A nice to have	Government Solutions	Succession planning
GBA+ Challenges	Side of desk	Government Solutions	"Keystone issue"
GBA+ Challenges	Gender first	Government Solutions	Reimagining
GBA+ Challenges	Single issue focus	Government Solutions	Leadership buy-in
		Government Solutions	Change management

Note. I defined each code, created inclusion and exclusion criteria, and provided an example of each code in the interview analysis codebook. Codes in quotations denote in vivo coding.

Document Analysis

The document analysis resulted in the generation of six emergent themes from the data, which will be discussed in further detail below. Themes will be defined and described, and relevant comparisons made among documents to support conclusions. Table 3 provides an overview of the dominant themes that resulted from each of the analyzed documents.

Table 3

Documents Analyzed and Dominant Emergent Themes

Document	Dominant Theme
CleanBC	Promoting Equality
Roadmap to 2030	Promoting Equality

CleanBC ‘What We Heard Engagement Results’	Seeking Equity and Justice
Roadmap to 2030 ‘What We Heard Engagement Results’	Seeking Equity and Justice
BC Active Transportation Plan Engagement	Seeking Equity and Justice
Canada’s GBA+ Research Guide	Seeking Equity and Justice
Canada’s GBA+ Checklist	Identity Factors
BC’s GBA+ Overview	Seeking Equity and Justice
Washington’s 2020 Energy Action Plan	Seeking Equity and Justice
California’s 2018 Climate Action Scoping Plan	Seeking Equity and Justice

Note. The dominant theme through most documents was ‘Seeking Equity and Justice’, while CleanBC and the Roadmap were dominated by the theme ‘Promoting Equality’.

Seeking Equity and Justice

This theme included data on actions, goals, or outcomes that promote equity and justice for marginalized communities. Examples include promoting outcomes such as safety, comfort, and the equitable distribution of climate change impacts. The inclusion of local voices, regional diversity, intersectionality, considerations of responsibility for GHG emissions, and accessibility were other key elements of this theme.

While this theme was prevalent in both Washington’s 2020 Energy Action Plan (Washington) and California’s 2018 Climate Action Scoping Plan (California), it was underrepresented in both CleanBC and the Roadmap. Both Washington and California emphasize the importance of integrating local voices into the policymaking process and discuss environmental justice throughout their plans. For example, Washington’s plan states “experience

tells us, and data confirm that the costs and benefits of our energy future will not be shared equitably without intentional action. Policymakers must embed equity, resiliency and inclusivity into policy design and implementation” (Washington State, 2020). This theme was the most frequently mentioned goal throughout BC’s Indigenous and public engagement data. The intentional inclusion of equity and justice is common throughout Washington and California’s plans but appeared to be lacking in BC’s climate plans.

Among the most frequently discussed topic under the seeking justice and equity theme was accessibility, defined as the ease of ability to use, obtain, or benefit from a specific government action. Accessibility was a key factor in all engagement data, GBA+ documents, and within Washington State and California’s climate plans. On the inaccessibility of many CleanBC programs, one engagement participant stated:

Inadequate housing, lack of money to adequately maintain infrastructure, lack of credit to purchase vehicles, and minimal access to emergency response planning are all emblematic of communities and individuals forced to work extra hard to do the things that those who are not impoverished do not have to do (Government of British Columbia, 2019a).

Accessibility concerns such as a lack of high-speed internet connectivity, specific exclusions from programs like ZEV incentives, and a general lack of knowledge on available climate mitigation grants and incentives were frequently discussed in the documents (Government of British Columbia, 2021b). Several CleanBC engagement participants suggested the BC government should begin utilizing social media and other innovative communication methods for increasing accessibility, although these options were not explored within BC’s climate plans.

Another frequently explored topic in this theme included industry action, which emphasizes holding industries accountable for their emissions and aligns with definitions of CJ. This theme emerged throughout all documents and is a significant factor within equity and CJ as it shifts the responsibility from individuals and their personal choices, towards holding industries accountable for large-scale emissions.

Promoting Equality

This theme identifies actions by governments or organizations that promote equality rather than equity. These actions include generalizing groups of people which undermines their individual needs and minimizing the struggles of certain groups by homogenizing the challenges that “all British Columbians face” (Government of British Columbia, 2021b). Other actions included in this theme were promoting general goals such as affordability, savings, and benefits, which while positive overall, tended to focus more on benefits for “all British Columbians”, rather than those who need them the most.

In contrast to the Seeking Equity and Justice theme, BC’s climate plans tended to be dominated by language, intentions, or actions that promote equality. While goals such as “reducing inequalities so everyone has the opportunity to participate in, and benefit from our growing clean economy” (Government of British Columbia, 2021b, p. 14), are positive statements, without intentional actions to advance equity and justice, it is unlikely that everyone will have the opportunity to benefit from BC’s growing economy. To contrast BC’s stance on equality versus equity, Washington and California’s plans explicitly assert that promoting equality in the absence of equity will maintain systemic injustices such as poverty, racism, sexism, ableism, and ageism.

The most common code in this category was *generalizing*, where people were put into broad categories, which often led to a reduction in equity and the promotion of equality. Examples of such statements include “urban planning and design choices that make communities livable also make them less energy and emissions intensive, benefiting everyone” (Government of British Columbia, 2021b). While sustainable urban design often leads to co-benefits for people, to state that it benefits everyone diminishes the voices of those facing gentrification, rising costs, and homelessness, and oversimplifies a complex issue.

Gaps in Equity

This theme identifies language, practices, or approaches that directly prevent equitable outcomes. Examples of Gaps in Equity include framing climate change mitigation actions as simply being a personal choice and over-emphasizing the importance of individual versus systemic action. Other recurring actions in this theme include promoting better outcomes for industries rather than people, lacking regional diversity in policies, lacking consultation, or otherwise creating unfair policies, initiatives, or outcomes.

Dominant patterns under this theme within CleanBC include over-emphasizing the role of individuals to make sustainable choices, and under-emphasizing the need for industry, government, and other systems to mitigate GHG emissions. Dominant patterns under this theme in the Roadmap include framing social improvements as a co-benefit of climate change, rather than a pre-requisite for meaningful climate action. Statements such as “pointing to important co-benefits such as reducing inequality and advancing reconciliation with Indigenous peoples” (Government of British Columbia, 2021b, p. 65) may function to devalue equity within climate policies and suggest that BC may understand equity as a bonus, rather than an essential component of meaningful and lasting climate action.

Among active transportation and CleanBC engagement data, lacking regional diversity in policies was the most frequent issue stated by participants. A lack of regional diversity in policies led to concerns throughout the documents ranging from a lack of relevance for climate action incentives outside of urban areas, to the complete disregard for the lived experiences of rural and remote communities (Government of British Columbia, 2019a; Government of British Columbia, 2019b). Given the province's regional variability, many participants urged BC to better integrate this diversity into its climate policymaking for relevance beyond urban centres.

Identity Factors

This theme includes the identification of specific groups of people, including Indigenous people, youth, health-compromised individuals, low-income individuals, racialized peoples, the elderly, women, and other historically marginalized or under-represented groups. Among CleanBC and the Roadmap, groups that appear to be most represented in the text include Indigenous peoples and low-income households. Youth, future generations, seniors, and women are each mentioned once throughout both documents. This assessment indicates that specific demographics, including youth, seniors, those with differing abilities, health-compromised individuals, future generations, immigrants, Black and other racialized peoples, and other marginalized or vulnerable groups may be underrepresented in BC's climate plans.

GBA+ documents that I analyzed appear to emphasize gender more than any other identity factor, including Indigeneity, race, age, income level, region, and ability (Government of British Columbia, 2017; Government of Canada, 2021). These observations conflict with the principles of intersectionality, which considers identity factors as interacting systems of oppression rather than being hierarchical or additive.

In comparing BC's climate plans with Washington and California's, a similar composition of identity factors was discussed through both documents. Both States predominantly mention low-income individuals and Black people, with one mention of Indigenous people. This theme is valuable in identifying which groups are being represented, which groups may be missing from the documents, and how identity factors are treated overall.

Bureaucratic Issues - Documents

This theme identified challenges specific to the operations and decisions of bureaucracies including governments, such as a lack of dedicated resources to address equity, questionable motivations, and a lack of a fulsome understanding of justice-related issues. Other bureaucratic issues discussed in the documents included strained relationships between governments and equity-seeking groups, along with siloes in government – defined as systems, processes, or departments which operate in isolation from others.

While CleanBC and the Roadmap did not discuss BC's bureaucratic issues, key patterns emerged in the Indigenous and public engagement data regarding perceived issues with the BC government's decisions (Government of British Columbia, 2019a; Government of British Columbia, 2019b). Siloes remain the largest bureaucratic issue observed across groups, with one CleanBC Indigenous engagement participant stating, "there is an artificial siloing of issues within government... for climate change, for example, this means that health issues [need to] cover the health of people, water, air, culture, which would take an all-of-government approach" (Government of British Columbia, 2019a).

Strained relationships were the second most frequently discussed bureaucratic issue within CleanBC engagement. Participants indicated the need for "a recognition that there is an inherent level of distrust towards government" (Government of British Columbia, 2019a). A lack

of resources was another significant bureaucratic issue recurring in the data. Resource issues included a lack of targeted funds for marginalized or vulnerable groups, and inadequate time, staff, or expertise to make a difference, all of which contributed to undesired outcomes identified by engagement participants.

Organizational Achievements

In some circumstances, governments were identified as contributing positively to social equity and CJ, leading to the theme of Organizational Achievements. In both Washington and California's climate plans, the idea of intentionality was introduced to the data, defined as a statement that indicates an intentional action, motivation, or policy which incorporates justice and equity. Intentionality is observed in statements such as:

Efforts were made to ensure that the Plan would benefit all Californians... the Environmental Justice Advisory Committee (EJAC), a Legislatively created advisory body, convened almost 20 community meetings throughout California to discuss the climate strategy and held 19 meetings of its own to provide recommendations on the Plan (California Air Resources Board, 2017).

The intentional action of California creating the EJAC through legislation, and Washington creating an Environmental Justice Task Force (EJTF) indicate that these regions recognize issues of environmental and climate justice within climate change and take tangible steps to address these challenges.

Intentionality recurred throughout the GBA+ materials which suggested that researchers, policy, and decision-makers must intentionally seek out information on vulnerable or marginalized groups and incorporate it into all facets of their work. While BC claims to support

good outcomes for all, this document analysis indicates that it does not intentionally include CJ and equity within its climate change plans.

Interviews

Data analysis of eight key informant interviews resulted in the generation of five themes, including Bureaucratic Issues, CleanBC and Roadmap Issues, Benefits of GBA+, Challenges of GBA+, and Government Solutions. Pseudonyms are used throughout this research to protect the identities of research participants (Table 4).

Table 4

Interviewee Pseudonyms and Description of Expertise

Intersectionality Scholars	Maggie, Laura, Jane
Climate Justice Scholars	Helen
Local Government Officials	Jodie, Alison
Non-government Climate Policy Experts	Matthew, Sadie

Note. Pseudonyms and general workplace descriptions are used throughout my research to protect the identities of interview participants.

Bureaucratic Issues – Interviews

The theme *Bureaucratic Issues – Interviews* emerged through discussions on aspects of bureaucracies that prevent CJ. Examples of bureaucratic issues identified through the interviews include a willful ignorance of inequities, such as through Canada and BC's portrayal of themselves as peacekeepers, represented through denial of the past, and not talking about the elephants in the room of racism and colonial violence. One participant referred to this as “Canada’s National Imaginary”, or a set of institutions and beliefs residing within a set of

geopolitical borders. When discussing the role that Canada's denial has in preventing CJ, Alison stated:

Canada does not like to talk about race and racism, because we think we're better than the States. It's like we always point down south. So, it's important... to name the elephant in the room and to really debunk this myth of Canada as the nice place. As the place that took the slaves and gave refuge to people who are running from slavery. So really naming racism and grounding equity on racial justice.

Another bureaucratic issue identified included that we often consider climate change to be a problem impacting people *over there*. Laura said, "we can talk about how climate change is impacting people *over there*. And often our imagination is the Global South or low-income countries... or it's going to impact us in a future state". Participants suggested that this disconnection in bureaucracies from the realities of climate change and its current impacts often functions to prevent CJ as it results in governments denying the realities of marginalized or vulnerable populations.

Fundamental structural issues in governments were also discussed, such as the risk averse nature of governments functioning to prevent innovation while maintaining the status quo. On this risk aversion and the importance of experimenting with policies and approaches to advance CJ, Helen stated:

Governments are, for the most part, quite risk averse. And yet, how do we know something's going to work if we don't try? And how are we going to make a difference if we don't try? I'd love for it to there be a way that it's okay for not every policy to be successful. But what's successful is the learning that happens throughout that, so the next time we can do better.

Additionally, a lack of leadership and employee diversity, and frequent occurrences of gaslighting and misogyny by "old white men" (Sadie) were mentioned when discussing issues of intersectionality in governments and other large organizations. Regarding these discussions on "old white men" throughout the interviews, all instances seemed to be about the ideas and systems that are represented by this demographic, rather than specific people. On this lack of diversity in governments, Alison stated "bureaucrats just sit together with no diversity in the room, no lived experience. And then you create policies that are experienced quite differently and negatively even, within various communities".

Another frequently discussed bureaucratic issue was the notion that advancing justice and equity in governments requires "change within the system, by the system", whereby the system that perpetuates the injustice is the one claiming the capacity to reduce injustices. Maggie posited the question "once you've identified systemic barriers, how do you even begin to dismantle them if the processes within which you're trying to dismantle them are put there so you can't do it?".

Two participants used the metaphor of our culture as the "water we swim in", where these bureaucratic issues are invisible and all-encompassing, making it particularly difficult to describe and change because everyday inequities are seemingly invisible. Jane discussed how "they want to shift the dials. But then the structural change that needs to happen to shift those dials, they're not ready to do that. Then the champion gets left with *make change, don't spend anything... don't change anything*".

Some interviewees suggested that an ongoing bureaucratic issue preventing lasting equity is a lack of political will. Maggie gave the example of the significance of political will in advancing justice and equity from Alberta's government. A switch from Rachel Notley's New Democratic Government to Jason Kenney's United Conservative government saw the

dismantling of any gender-based budgeting or equity teams. One participant suggested the need for electoral reform in BC to see meaningful change and to “bring more voices in a different way to government”.

CleanBC and Roadmap Issues

Specific problems with policies and practices in CleanBC and the Roadmap were identified by many participants. Common gaps that emerged through the interviews included governments discounting the impacts of their climate change mitigation policies on vulnerable and marginalized groups, leaving people behind, or altogether ignoring the voices of frontline communities.

Other CleanBC and Roadmap issues frequently discussed through the interviews included high-income individuals and families benefitting from the BC government’s climate change mitigation policies. In relation to BC’s ZEV incentive program, Sadie said “Where I’m from, people don’t buy new cars. They buy used cars. So those incentives are definitely just benefiting rich people”. When asked about overall impressions of the climate mitigation policies within the Roadmap, Jodie stated:

We hear about electric vehicles, and we hear about the incentives and grants that you can get to move to a heat pump, which is great. But there are people that to consider a heat pump, never mind an electric vehicle, it’s just not a consideration.... When you’re bringing in these policies, there is the tendency to look at the mainstream and not to spend too much time making sure that it works for other people too. Only the people that can afford to be part of the [climate] solution can be part of the solution.

In discussing the regressive nature of BC’s climate mitigation policies, Matthew suggested the need for government action to urgently address energy poverty through CleanBC

and the Roadmap. Matthew said, “Just give people heat pumps. Forget the incentives, just give poor people heat pumps... We could skip all the really complicated [stuff]”.

When discussing marginalized people who are excluded from benefitting from BC’s climate change mitigation policies, and government services more broadly, Sadie noted that oftentimes, those struggling the most do not have the time, resources, or energy to navigate government systems. They state that:

A lot of people who reach out to us, a lot of our stakeholders and clients who reach out to us, are people who have the time to reach out to us. And people who are struggling to live are not reaching out to us because they're like, I don't know who you are, and I don't have time.

Safety concerns in CleanBC and Roadmap policies were another significant topic discussed through the interviews. On these safety concerns and the exclusion of marginalized communities from benefitting from climate change mitigation, Sadie said:

I love building electrification; I think it's the way forward. But I'm also like, what are poor people going to do? [People] who can't afford to have these systems installed safely and can't afford to have the proper electricity supply?... Some people get permits for their work and some people don't. And the people who do not, just don't get safety.

Another issue within the BC government’s climate change mitigation approaches included the framing of these issues as “social versus environmental”, where the two are presented as a dichotomy rather than two ideas that can be addressed simultaneously. For example, Helen said, “the social focus folks aren't always fully up to date and aware of all the environmental side”. Similarly, Alison said that “we only focus on the environment, the green aspects of it, and not the social part – the inequities”.

Benefits of GBA+

These discussions highlighted the many benefits that GBA+ as a tool, and conversations of intersectionality more broadly, bring to governments. Commonly discussed benefits include that the tool provides a starting point for government employees and leaders to challenge their own biases, understand the ideas of equity versus equality, and have conversations about intersectionality. Jane stated that “it becomes a friendly entry point into thinking about some of those really complex intersections that need to be considered in these spaces”.

Particularly as it applies to advancing CJ, interviewees saw specific benefits of the tool in more technical or scientific realms, as a way of bringing the human element into the work, to understand current and future inequities as a result of climate change, and as a way to "work with the overwhelm" inherent to climate change policy. On this, Maggie stated “particularly in technical areas... [such as] environment and climate change, this is a hurdle - people think - well, this is science-focused, this is data-focused, there's no room for qualitative research or lived experience or anecdote”. Laura discussed how GBA+ allows governments to remove the distance between climate impacts, and “attune ourselves to the populations that are already experiencing climate change impacts” such as northern and Inuit communities in Canada.

Another benefit of GBA+ mentioned by several participants was the potential for the tool to break siloes within the government and other organizations. By highlighting the interconnections between issues like climate change, health, regional diversity, age, income level, race, and gender, participants suggested that the tool may function to break siloes between ministries in governments. Maggie stated that “GBA+ is a framework for making those linkages at least, and getting in the mindset of – *look, these things really are enmeshed*”. Jane stated that

“all of these things are connected, and it [GBA+] gets you starting to break down pieces of the really big picture of how things are connected”.

Another benefit of GBA+ in climate change policy analysis is the potential to use other tools concurrently, including asset-based inquiry which focuses on the strengths and the “good news stories” of a community, and other culturally relevant tools such as Métis or First Nation-specific GBA+. The ability to use multiple tools is important, as no one size fits all in approaches to an intersectional analysis of projects, policies, or other applications of GBA+. On this, Jane said:

If you're working with this specific community or population in mind, and there is a tool that's more tailored to the specific realities of that population or community, [you would benefit from] using that with GBA+, and then grounding in living and lived realities.

When asked about the overall merit of GBA+ in contributing to CJ, participants made statements indicating that we should not throw away the tool just because it is imperfect and has flaws. For example, Laura stated:

If we throw away the first tool that we've had collectively that we all have to organize around because it's not perfect, we actually throw away our ability to tell an equity story, a data-driven equity story that we haven't had.

Another significant benefit of GBA+ that emerged through the interviews is the potential for the tool to bring awareness to the impacts of inequitable events such as BC's 2021 extreme heat wave which killed many individuals, the Lytton wildfires in 2021, and the COVID-19 pandemic. Several interviewees mention these three events as being catalysts that spurred demand for change and suggested that tools like GBA+ support analyzing the disparate impacts of such events and allow for targeted solutions to address inequities.

GBA+ Challenges

Challenges associated with GBA+ include that the person using the tool brings their lens to policies they analyze, which brings unavoidable biases with it. To effectively acknowledge these biases requires vulnerability, learning, and self-reflection from the user of the tool. On this specific challenge, Matthew stated:

I come to intersectionality with a class-lens first, which I think is very common for white men who are in that space. When I see folks coming from racialized backgrounds, many often bring the race analysis first, that's their starting point of intersectionality. And white women often bring a gender analysis first, and that's their starting point for intersectionality.

Other user-specific challenges include that government employees often suggest that the tool is irrelevant to their jobs and specific areas of work. Laura stated they frequently hear BC government employees saying things like “Well, why? Why do we have to do that? It just seems like it's not really relevant to our work because we're technical, we're this kind of a scientist or this kind of a technical department.” Interviewees suggest this is more common in science-dominated areas like climate change, forestry, energy, mining, and other areas historically dominated by quantitative data and decision-making methods.

Other challenges identified include that GBA+ is often viewed as a *nice to have* in governments and other organizations, often being implemented off the side of people's desks, and viewed as a checklist item. Sadie stated that “equity is the first thing to go if you're in a rush with a project deadline or for money... It's like an icing on the cake”. The BC government's lack of prioritization of equity outcomes compared to economic growth outcomes was said to be a major deterrent in achieving climate justice.

Another user-specific challenge with the tool included that GBA+ is applied inconsistently across ministries, with little standardization or shared knowledge of best practices. On this, Laura said that they observed one ministry with a “yes or no checklist of whether equity was taken into consideration”, in comparison to another ministry looking more deeply at the theory and principles of intersectionality. They state that “there’s not a lot of standardization... there’s a complete unevenness [between ministries]”.

Legacy effects of the tool were frequently discussed as a challenge. As GBA+ has been adapted from the Canadian government’s Gender-Based Analysis tool, there are many pre-conceived notions of the tool, and a gender-first approach is often insinuated, which does not align with intersectionality theory. Among these discussions on legacy effects, the name of the tool was viewed as a barrier to properly communicating the significance of taking an intersectional approach. On this topic, Maggie stated “That is one of the bigger hurdles that governments face in implementing a framework that's called Gender-based Analysis Plus. For people who aren't familiar with it, what are they going to think when they hear that term?”. Similarly, Jane said “It's almost like gender-based analysis – plus don't forget about the others. It's not in its name, it's not challenging people to think about the intersections”.

A structural challenge specific to the BC government’s implementation of GBA+ included their choice to house the initiative with the Ministry of Finance. Maggie noted the potential for intersectionality and GBA+ to be lost within the Ministry of Finance, although suggested potential benefits to this choice included GBA+ being closely connected to the government’s budget process. To contrast this perspective, Matthew supported GBA+’s position within the Ministry of Finance, noting this Ministry to be a powerful voice in implementing the tool. Matthew stated “If every Treasury Board submission has to include [GBA+], you're going

to start seeing some very interesting and different things... If I could pick a leader to champion that, [Ministry of] Finance would be my choice”.

Data issues were a frequently discussed challenge with GBA+, particularly the government's bias towards quantitative data, along with resource and time constraints preventing adequate qualitative research. Additional data issues discussed included a lack of disaggregated data in BC, hidden populations such as the unhoused and immigrants, and challenges associated with data ownership, particularly when working with Indigenous peoples. On qualitative constraints, Laura said, “We might have enough time and money to fund a quantitative study, pulling data that already exists. But we don't have time or energy to do a qualitative study to fill in data gaps”. Jane stated:

We're looking at youth experiencing poverty, who are Indigenous, who are living on a reserve in northern B.C. There are so many overlapping contexts, specific things that need to be considered when you're trying to model climate change impacts for populations across Canada ... There are a lot of stories that fall between the cracks that qualitative research can fit in, although it takes a lot of resources and time.

Finally, fundamental flaws of the tool emerged and included that governments operate incrementally, while intersectionality often demands transformative change. Jane noted that this contrast often leads to overwhelm and burnout of those involved in climate change and intersectionality work, stating:

A lot were... really involved in the climate movement, trying to advocate for justice and change. And they burnt out, they didn't see enough change quick enough, people caring quick enough. And then they just burnt out. They couldn't do it anymore. It was too emotionally taxing. And we see it with youth. They become so frustrated that things that

need to happen can't just happen because of all these structural inequities and other systemic issues.

Other fundamental flaws include that GBA+ is a Western tool and using solely this tool cannot adequately capture the lived experiences of all cultures. On this challenge, Laura stated:

The tool draws our attention to intersectionality, but it doesn't draw attention to some of the things that are really important for Indigenous communities. So, there are some limitations to the equity capacity of the tool. It doesn't necessarily reflect Indigenous worldviews, it's still a pretty Western tool. And that can create some alienation.

Additional flaws include that GBA+ alone is not enough to achieve climate justice because it does not necessitate change, it merely acknowledges existing inequities without providing future direction, political will, resources, change management, and other necessary actions. The participants suggested that many other tools including political will, resources, collaboration, and other actions are needed, which are further expanded on below.

Government Solutions

A wide range of government solutions were suggested through these interviews, ranging from practical or day-to-day solutions to transformative solutions. Practical solutions included ensuring justice efforts are measurable, with one participant suggesting CJ mandates be integrated into CleanBC and the Roadmap, and another suggesting the legislation of climate justice and intersectionality work in BC. On CJ targets and mandates, Helen stated:

If they have specific targets for [GHG] emissions reduction, they should have specific targets for climate justice outcomes... like reduce emissions by 2030 by 50 percent or whatever the number is. Reduce energy poverty by this amount. Have 80 percent of the population be within X amount of distance of these resources or this service.

Other practical actions that participants suggested governments could take included collaborating amongst other levels of government, Indigenous peoples, industry, academia, and the public, as well as being intentional in their approach to forming partnerships. One interviewee suggested this collaboration does not always need to take place in formalized settings, it can be informal and built through relationships over time. On the importance of collaboration, Jodie stated that “the more collaboration you have across a broad sector or broadly across sectors, I think that that will give you the best sustainable solution”. Helen suggested that:

Collaboration is really important because no one team or department or person is going to be able to solve these problems or come up with solutions. So, unless they understand and are actually open and willing and able to work with others, we're just going to kind of be doing the same thing again and again.

Another government approach to advancing CJ included prioritizing the integration of justice into the organization and climate plans. Interviewees noted that CJ does not just happen, governments and organizations must decide to prioritize it. On this suggestion, Matthew stated:

We need a theory of change for what climate justice looks like. Then we need to mobilize that in a whole of government approach. Everyone needs to have that baked into their work plans, and mandate letters. And it's not enough to say, "make sure you're keeping in line with CleanBC" as most of the mandate letters do. It's like, here are the material things that you must complete to have advanced climate justice. And we have a list, and we have the metrics and we're going to knock on your door tomorrow, and we're going to in five years or two years and ask you what you've accomplished there.

Other potential solutions included hiring and supporting strong organizational leadership. Leaders that provide support to employees to advance climate justice, leaders who value equity,

and those who are willing to take risks for justice were said to be essential for achieving CJ outcomes.

The importance of having individual champions who support the implementation of GBA+ and intersectionality more broadly was seen as essential to integrating CJ into governments. On the importance of champions, Helen stated:

You need champions in the room who say, we need this stuff needs to be included in our documentation. This is the language that we should be using, or it's not okay for us to talk about this topic without having people in the real world from those communities. You need to have someone who is going to be able to say the things that need to be said. To push for the sort of those nuances, to push for doing things differently. So, I think champions do make a really big difference in organizations.

Regarding champions in organizations, Jane suggested that while essential, champions are often left with an impossible task and minimal resources, further contributing to the burnout of intersectionality and climate change professionals. Providing adequate resources including time, money, and staff support were deemed necessary to make champions effective and sustainable within organizations.

Transformative government solutions included the idea of experimentation, which was prevalent through the interviews, with participants suggesting that governments need to be more comfortable making mistakes, trying new things, and learning in the community. On this experimentation, Helen stated that governments need “a willingness to try, a willingness to experiment, a willingness to learn. And through all that means a willingness to fail”.

Overall, these shifts towards justice would require systemic change rather than simply policy change, requiring a change management strategy, and potentially the "reimagining" of

new systems that are more equitable and just. On this work of reimagining, Matthew stated “there's working within our system that we're stuck with for now, and there's working to build new systems”.

Discussion

I will now relate the findings of my literature review, document analysis, and interviews to my research questions and objectives.

Question 1 Discussion: How do regional (e.g., provincial) climate mitigation policies and programs impact marginalized or vulnerable communities?

The data show that provincial climate change mitigation policies and programs often exclude marginalized and vulnerable communities while benefitting affluent individuals, furthering existing equity gaps. Marino and Ribot (2012) suggest that these groups are often disproportionately harmed by climate change interventions such as energy policies, carbon taxation, and exclusion from decision-making. This is due to the often-regressive nature of climate policies, where low-income households pay more than is proportionate for said policies, in comparison to higher-income households (Zachmann et al., 2018).

However, in considering the principles of intersectionality theory, along with observations by Adger (2001) and several interviewees, my research shows that income alone can sometimes be an irrelevant factor in determining climate vulnerabilities. Identity factors such as race, geography, age, education level, gender, and structural challenges such as a lack of internet access may determine the benefits and burdens associated with climate change mitigation.

I observed this trend within the document analysis, where BC makes no specific mention of marginalized or vulnerable communities aside from supporting low-income families in its climate change mitigation documents. Had intersectionality theory been applied to CleanBC and

the Roadmap, a variety of other individuals and communities would likely be included when assessing vulnerabilities to climate change and related mitigation efforts, including health-compromised, elderly individuals, those in rural and remote regions, Indigenous peoples, women and non-binary people, immigrants, and others (Hoogeveen et al., 2021). Among other groups mentioned in CleanBC and the Roadmap, youth, future generations, seniors, and women were each included in the document once, but the data suggests they were not adequately integrated into the policies, programs, and initiatives in a meaningful and equity-driven way.

Interview data further corroborated these observations, with several participants suggesting that climate change mitigation policies and incentives such as ZEV and heat pump incentives only benefit rich people. Jodie, Matthew, Sadie, and Jane made comments asserting their opinion that many of BC's climate change mitigation incentives solely benefit rich people, leaving many people behind, and do not adequately consider marginalized or vulnerable populations. This aligns with the perspectives of Rochette (2016) who suggests that many climate change mitigation incentives benefit high-income white men at a greater rate than any other demographic.

Question 2 Discussion: What factors contribute to social justice and equity considerations in provincial climate plans being effectively implemented? Have these social justice and equity considerations been taken in other regions?

Despite BC's mandates to implement and utilize GBA+ for the benefit of all British Columbians, GBA+ or intersectionality were not mentioned in either CleanBC or the Roadmap documents. Instead, my analysis found that the provincial government often homogenizes the needs of all British Columbians, rather than taking an equity and intersectionality-informed approach. The data indicate that throughout BC's climate change mitigation plans, identity

factors are treated as distinct, separate, and not overlapping. This single-issue focus aligns with the findings of Hancock (2007), who states that unitary and even multiple approaches to vulnerability assessment are ineffective, and that intersectionality is required to fully understand and address inequities.

Equity was often framed as a *nice to have* throughout BC's climate change mitigation documents, by using language that suggests just and equitable outcomes are co-benefits to climate action, rather than prerequisites. Interviewees also suggest that equity is not prioritized in governments and is often the first thing to go from a project when time, resources, and staff levels are reduced.

Despite critiques over BC's integration of equity principals within CleanBC and the Roadmap, interviewees did mention the implementation of some equitable strategies. As an example, Sadie stated, "the hydrogen in remote communities, piloting the replacement of diesel generators with hydrogen.... That was one specific targeted policy that I thought makes sense".

Participants suggested that specific policies which integrate equity are present, but often still inaccessible to many due to a lack of internet connection in remote regions of BC, a lack of time to learn about available resources, a lack of capacity due to more imminent concerns over livelihoods, a lack of trained personnel in small communities to issue permits for safe electrical installation, and many other barriers. These examples of ongoing barriers suggest gaps in the social justice and equity analysis strategies currently used throughout CleanBC and the Roadmap.

The document analysis and interview data suggest that BC does not adequately incorporate equity directly in its climate plans, unlike regions including Washington and California. These two states have made clear efforts to consider CJ and the voices of marginalized and vulnerable

peoples through working groups and chapters in their climate plans dedicated to equity work. On the importance of setting a precedent with distinct equity sections through state and provincial-level climate plans, Jane stated:

Reports that don't explicitly mention disproportionate impacts as an equity issue and climate justice as needing to be the lens that we're taking action toward don't [work]. I think it's helpful when people name it explicitly because people can read... a report and just not have to pause to say, "Oh, okay, wait - equity considerations. Am I doing that?" Because people will take a report like [the Roadmap] and say, "Okay, let's replicate or let's modify and do this for our community".

Question 3 Discussion: What are the limitations and advantages of GBA+ in practice, within climate mitigation policymaking in provincial governments?

Among the biggest advantages of GBA+ that the data show includes its potential to break siloes common throughout governments. While Whyte (2019) suggested that siloes within governments often pose challenges to addressing intersectionality, interviewees suggest that GBA+ may function to break those siloes between Ministries, levels of government, industry, academia, Indigenous communities, and the public, by analyzing and addressing the many interconnections between working areas.

Another advantage of GBA+ is that it offers government employees a "friendly starting point" for exploring their own biases and for identifying blind spots which can prevent effective policy and program analysis. Interviewees suggested this is particularly true in technical areas such as climate change and environmental assessment. Unlike socially focused policy areas such as mental health, addictions, and education, which are often already immersed in topics of equity, climate change has remained a largely technical area. Interviewees suggested that this

provides unique advantages to using tools like GBA+, as it offers a starting point to integrate social considerations into the science-dominated realms of policy and decision-making.

An additional benefit of GBA+ is the ability to combine it with other approaches like asset-based or strengths-based inquiry. Asset-based inquiry approaches emerged through the literature as essential to grounding intersectionality and justice work in equity. Paavola and Adger (2006) and Marino and Ribot (2012) suggest the need to move beyond a narrative that only discusses vulnerability, with Cameron and Tedds (2020) stating that failure to do so will maintain systemic inequities by focusing on individual flaws rather than the need for systemic change. Alison and Jane placed a large emphasis on the importance of asset-based inquiry in moving the conversation beyond the identification of vulnerabilities, and toward concrete and actionable solutions that advance CJ.

Disadvantages of GBA+ frequently presented throughout the data include that it requires the navigation of rigid bureaucratic systems committed to the status quo. Rochette (2016) suggests that governments aim to leave systems of misogyny, capitalism, and environmental unsustainability uninterrogated, to avoid disrupting the status quo (Cameron & Tedds, 2020). Interviewees corroborated these claims, by highlighting that the advancement of CJ requires the dismantling of systems in which governments typically operate and thrive within. This creates a core disincentive to change, despite growing social pressures to alleviate inequities.

An additional challenge common in the document and interview analyses was the inconsistent approach to implementing GBA+. Both Canada and BC's GBA+ documents indicated differing approaches and uses of the tool and alternative organizational structures. This finding is supported by other research, for example, Scala and Patterson (2017) found an inconsistent implementation of GBA+ throughout Canadian federal government departments.

Interviewees also mention this inconsistency as a challenge in the BC context, with different ministries being at largely different stages in their implementation of the tool.

The tool's overemphasis on gender was another frequently discussed disadvantage. Document analysis indicated that gender is over-emphasized within BC and Canada's GBA+ guides. This aligns with the findings of Cameron and Tedds (2020), along with Hankivsky and Mussell (2018), who suggest that GBA+ overemphasizes the significance of gender while underemphasizing the importance of other identity factors. Hankivsky and Mussell (2018) suggest issues with the name, including legacy effects of the previous 'Gender Based Analysis' and the lack of emphasis on intersectionality. Maggie and Jane suggest the name acts as a barrier to the successful implementation of the tool and a reason for increased pushback and claims of irrelevance to government employees' work.

Another core challenge with GBA+ that emerged through my research is the reliance on data that often does not exist. Hankivsky et al. (2014) discussed how disaggregated data and intersectional-based information is often lacking, and Maggie, Laura, and Jane discuss this as a significant barrier to the effective use of the tool. BC's GBA+ Research Guide states that GBA+ "involves examining disaggregated data and research, and considering social, economic, and cultural conditions and norms", however, the guide does not suggest what to do when this disaggregated data does not exist.

The notion of biases towards quantitative data in governments, and a lack of resources, time, and valuing of qualitative data were frequently discussed issues through the interviews, but this theme did not emerge in the literature review or document analysis. BC's GBA+ Program Review guide stated that "most data (quantitative or qualitative) are "constructed", i.e., shaped by the categories used to gather and interpret it, and... by the way the research subject interprets

and decides to react to what is being asked”, but does not call for the collection of more qualitative data or address biases towards quantitative data.

Question 4 Discussion: What governance strategies could BC adopt or improve upon, to advance CJ in its climate mitigation policies?

The interviews and literature did not show a clear consensus on whether top-down or bottom-up climate action processes were preferable. While interviewees tended to suggest that all three levels of government need to be aligned and collaborate effectively with stakeholders, Indigenous governments, and communities, the emphasis of conversations did not indicate that justice needed to take place through grassroots initiatives.

This data contrasted the perspectives of Giang and Castellani (2020), who state that local voices need to be integrated into climate and environmental vulnerability mapping processes. The document and interview data did not mention the global scale of climate action, which contrasts the perspectives of Okereke (2018) who suggested that the international level is the most frequently discussed, and the most suitable for addressing CJ and equity concerns.

Jodie and Alison did suggest the importance of local-level action, given that local governments are closest to the people. This perspective aligns with that of Jordan et al. (2015) and Ostrom (2012) who suggested the need for a shift to small and medium scales of governance. Adger (2001) asserts the importance of multi-level responses to climate change mitigation, which interviewees tended to agree with. The data suggest that CJ outcomes are feasible at the provincial scale, assuming effective collaboration with other levels of government, and key actors beyond government.

The literature indicated that investing in the collection of disaggregated data is an essential first step to understanding the distributional impacts of climate policies, and to base decisions on

(Zachmann et al., 2018). Interviewees highlighted the importance of high-quality disaggregated data collection, and the use of qualitative research to understand gaps that quantitative studies cannot adequately capture. On the importance of addressing Canada's data issue, Laura stated:

We have a really huge data problem. If we want to do equity, then we have to talk about it and push back very strongly on... what is the evidence base... I think if we don't do that, then it's all a ruse. We're just going to have nice words.

A governance strategy for CJ mentioned in the literature and interviews includes targeting climate action incentives, along with carbon pricing rebates, to benefit the lowest-income households more effectively. Many interviewees asserted that by forgoing complex climate action incentive programs, processes could be simplified through actions such as providing heat pumps and ZEVs to low-income individuals and allowing used ZEVs to qualify for government rebates. These actions would address energy poverty while also encouraging GHG emission reductions. This suggestion to target benefits to low-income individuals rather than those with middle to high incomes aligns with the suggestions from Lee (2011), Marino and Ribot (2012), and Zachmann et al. (2018).

Efforts to reach those most in need would be further supported by measurable CJ targets integrated directly into CleanBC and the Roadmap, which several interviewees suggest is an essential first step for the government of BC to take. Examples of these measurable targets included "Reduce energy poverty by X% by 2030" and "Ensure X% of rural and remote populations have access to transportation".

On methods of advancing CJ, Robinson and Shine (2018) suggest the incorporation of human rights into climate policies. Interviewees suggest legislating CJ outcomes within the BC government, ensuring these goals continue throughout political changes over time. These

suggestions to implement measurable justice targets, legislate for CJ, and incorporate justice into policies could also address issues identified in the document analysis, where CleanBC and the Roadmap lack any direct incorporation of equity and justice principles, leading to gaps between identified community needs and public policy.

Another governance solution to advance CJ presented throughout the interviews, and by Mitchell-Weh'NaHa'Mu Kwasset (2020) along with Gunn-Wright (2020) included hiring people into government from more diverse backgrounds, to ensure that those analyzing, recommending, and creating climate policies have relevant lived experience to represent a diversity of British Columbians. Additionally, ensuring leadership diversity and leadership support of CJ and intersectional analysis was viewed as essential throughout interviews and the literature.

A final governance strategy that the data suggested BC adopt was embracing the truth of BC's past and present, including naming historical and ongoing systems of misogyny, racism, ableism, and other systems that maintain climate inequities. The data suggests that by naming inequitable systems and confronting the myths of Canada as "the nice place", the BC government may be able to confront the paradox of "change within the system by the system", where the system that creates and maintains inequities is the same one attempting change. Naming inequities has the potential to move the BC government from a place of paying lip service to goals like racial and gender equity, and toward true and lasting CJ.

Research Conclusions and Recommendations

The objectives of my research were to determine how BC recognizes and addresses marginalized and vulnerable populations in its climate plans, determine how GBA+ has and can continue to highlight social justice gaps and weaknesses in climate mitigation policies, and

provide recommendations for improving intersectional analysis within climate mitigation governance to advance CJ.

My study found that the BC government fails to adequately recognize and include marginalized or vulnerable populations in its climate change mitigation plans and that while GBA+ is beneficial for introducing intersectionality to the public sector, it is not enough to solely advance climate justice. Despite being insufficient on its own, GBA+ offers the BC government a valuable tool for policy analysts and decision-makers to identify personal biases, break siloes common within governments, and advance CJ incrementally.

Question 1 Conclusion: How do regional (e.g., provincial) climate mitigation policies and programs impact marginalized or vulnerable communities?

The data suggest that provincial climate change mitigation policies typically do not benefit marginalized or vulnerable peoples, and in some cases cause harm due to rising costs, land dispossession, and exclusion from decision-making. Despite the current way that climate change mitigation actions impact these groups, the literature and my interview participants asserted optimism that there is a better way to create these policies.

Specific suggestions recurring throughout the data include immediately giving low-income people heat pumps to address energy poverty and mitigate health inequities as heat waves increase in BC, along with adjusting approaches to low carbon fuel standards and carbon taxation to adjust for income level and other aspects of marginalization. These suggestions have been incorporated into the recommendations below.

Question 2 Conclusion: What factors contribute to social justice and equity considerations in provincial climate plans being effectively implemented? Have these social justice and equity considerations been taken in other regions?

My findings indicate that evidence of social justice and equity analysis strategies was not present within the CleanBC and Roadmap documents. While Washington, California, Oregon, and other regions show clear use of equity analysis and the incorporation of justice goals within their climate plans, BC does not indicate in any detail how it will incorporate equity.

The inclusion of CJ and environmental justice principals, and specific equity-analysis sections is a significant step that other regions have taken. Distinct equity sections in these plans, along with the formation of working groups including California's EJAC and Washington's EJTF indicate these governments are prioritizing justice outcomes, and this sets precedent for different regions and levels of government to do the same. On the significance of working groups to advance climate justice, Helen stated:

I understand why they're valuable and why they exist, because sometimes by creating and naming a committee or task force, you are acknowledging and identifying that this is an important issue for an organization, and that's important. You're saying it's important and you're devoting time and resources to that topic.

Overall, my research finds that CleanBC and the Roadmap do not adequately consider equity and justice principles, while similar and nearby jurisdictions do. By failing to implement equity into the plans, both through the documents and within their policies, BC sets a precedent for future reports and for other regions that these considerations are not necessary.

Question 3 Conclusion: What are the limitations and advantages of GBA+ in practice, within climate mitigation policymaking in provincial governments?

The data indicate that GBA+ has many benefits in contributing to CJ in the BC government, but also carries with it fundamental flaws and institutional barriers, which prevent the tool from being enough to solely advance CJ. Advantages include the potential to break siloes common to governments, offering an accessible place to begin discussions of intersectionality, and bridging gaps between science-dominated realms and social considerations. Other advantages include the potential to combine GBA+ with other tools for a more comprehensive approach to policy development.

Disadvantages of GBA+ include the need to navigate rigid bureaucratic systems, a tendency for the tool to maintain the status quo, an inconsistent approach to implementation in the BC government, and an overemphasis on gender in comparison to other identity factors. Finally, a lack of sufficient disaggregated data along with a bias toward quantitative data in governments were viewed as major barriers.

My research suggests that GBA+ should be viewed as one of many tools and actions for advancing CJ in regional governments and that more should be done to ensure CJ and create effective and lasting systemic change. All interview participants stated that GBA+ was not enough to solely advance CJ in governments. When asked if GBA+ alone was enough to advance CJ, Laura said:

No. I'm happy to invest a lot of time and energy in mainstreaming and tooling up this tool.

Because I think it really does get us far along the path. But the tool itself is a framework. It's just an analytical gaze.

Question 4 Conclusion: What governance strategies could BC adopt or improve upon, to advance CJ in its climate mitigation policies?

The data indicated that there are many additional approaches beyond GBA+ that the government of BC should take in advancing CJ within its climate change mitigation policies. The data also indicated that provincial governments are an appropriate scale at which to implement CJ.

Specific governance strategies that were explored include giving climate-action incentives directly to those with the greatest need and implementing measurable approaches to CJ targets such as “Reduce energy poverty by X% by 2030”. The data suggest incorporating CJ outcomes into legislation, along with ensuring more diverse and equitable hiring practices in governments, specifically for those in leadership positions. Finally, more transformative solutions were explored, and the data suggest that embracing the truth about BC’s colonial history and ongoing intersectional-based violence could support the formation of new and innovative approaches.

Evidence suggests that transformative governance solutions are an essential component in advancing CJ. BC’s government could implement a different approach toward policy experimentation, to shift from the status quo and break from traditional risk aversion. Interview participants and the literature suggest that this transformation is an essential component of advancing equity. For example, Hankivsky and Mussell’s (2018) IBPA framework integrates transformative questions posed to challenge the status quo of government systems.

My research indicates that reframing mistakes encourages innovation, learning, and change from the status quo, and supports an overall culture shift within government, including reimagining new and better systems. This level of change would require a reimagining of

governance systems, on which Matthew said “Why not? What's stopping us? Permission, small minds. We don't need to play by those rules”.

I am making the following recommendations to provincial-level governments to improve intersectional analysis and advance CJ within their climate change mitigation strategies. The data suggests that these recommendations are also relevant to local governments, federal governments, industry organizations, and non-government organizations interested in advancing CJ. Figure 1 provides a visual representation of recommended actions and outputs, to achieve the outcome of CJ in governments.

Recommendation 1: Name Inequities

The data suggest that generalizing the needs of people is insufficient and will maintain systems of inequity. As interviewees suggested, “Reports that don't explicitly mention disproportionate climate impacts as an equity issue and climate justice as needing to be the lens that we're acting towards just don't work”.

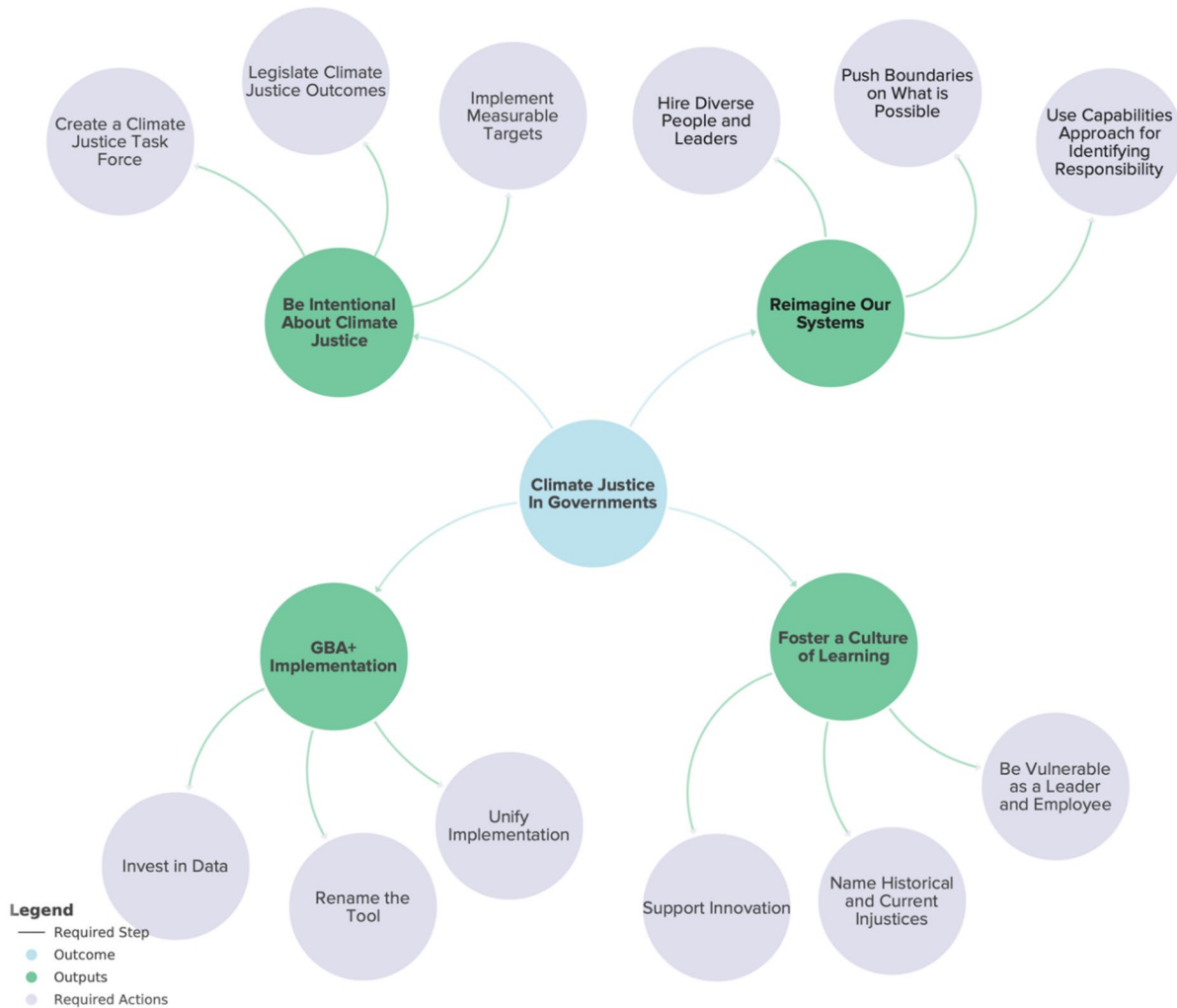
Recommendation 2: Invest in Data

Governments should invest in the collection of quantitative disaggregated data and expand perspectives on the validity of qualitative data to inform government practices. New expertise and procedures for analyzing this qualitative data in ways that effectively inform progress toward climate and social justice goals are needed.

BC's lack of both quantitative and qualitative data is a major barrier to the successful implementation of GBA+ and intersectional analysis, and functions to maintain systemic barriers to justice. Better data would result in greater proof of climate inequities and allow for stronger targeted solutions to move beyond the current injustices faced by frontline communities.

Figure 1

Recommended Framework for Achieving Climate Justice Outcomes In Governments



Note. To achieve the outcome of CJ in governments, necessary outputs are identified in green, and specific actions that should be taken are in purple.

Recommendation 3: Measure Climate Justice

Governments should implement defined targets for climate and environmental justice into CleanBC and the Roadmap, similar to how these plans integrate GHG emission reduction and ZEV sales targets. Such CJ targets could include “reduce energy poverty by 50% by 2030” and

“provide 10,000 heat pumps to British Columbians earning below \$35,000 per year by 2030”.

These measurable CJ efforts would further necessitate better quantitative disaggregated data. As interview participants pointed out, “we can’t manage what we don’t measure”, and measurable targets function to hold governments accountable, further advancing CJ.

I also recommend legislating CJ outcomes to protect against political changes and ensure the integration of human rights into climate change policies into the future (Robinson & Shine, 2018).

Recommendation 4: Reorganize the Implementation of GBA+

Create a uniform approach to the implementation of GBA+ within governments and other organizations, to avoid the current patchwork approach which diminishes the overall effectiveness and workers’ belief in the ability of the tool. In this unification, consider implementing the recommendations of scholars and interviewees by renaming the tool “Intersectionality-Based Analysis” (Hankivsky & Mussell, 2018) to remove the emphasis on gender, and focus instead on intersectionality.

Recommendation 5: Build a CJ Task Force

Enact a BC Climate Justice Task Force (CJTF) which draws on the principles outlined through California and Washington's CJ and Environmental Justice Working Groups, and from the literature on essential components of justice within climate policies. This CJTF should involve members from local and federal governments, Indigenous Nations throughout the province, environmental groups, industry, youth, and from a variety of other equity-seeking communities to bring local and frontline community voices into the government decision-making sphere, while also addressing core challenges with the current lack of employee diversity in government settings.

Recommendation 6: Increase Employee Diversity in Governments

As another method to address the lack of diversity in employees and leaders within governments, I recommend re-evaluating hiring practices and barriers to employee recruitment such as education requirements, geographic locations of eligible candidates by allowing for remote work, and other barriers that maintain a predominantly white, formally educated, middle to the upper-class workforce in governments. A greater diversity of government workers and leaders would better reflect a variety of lived experiences in climate policy analysis and decision-making, improving the overall use of intersectional analysis, and further contributing to CJ.

Recommendation 7: Reimagine What Is Possible

Governance strategies and tools for CJ are not without barriers, given that governments often remain committed to maintaining the systems in which they operate. To address this fundamental challenge, I suggest that a reimagining of our current systems is also needed to move beyond tools and frameworks, and toward true and lasting CJ within regional governments.

Reimagining may take many forms, including re-evaluating whom the burdens of climate change should fall on. This could involve incorporating CJ ethics and theories into the political realm, including the implementation of Caney's (2010) hybrid PPP-ATP framework and Schlosberg's (2012) capabilities approach, which suggest that the ethical responsibility for climate solutions should fall to BC's wealthy, including the extremely wealthy, limited to those who would not be threatened by poverty due to the climate action.

The work of reimagining can be done by individual government workers, CJ task forces and committees, leadership groups, and others as they push the boundaries, explore new solutions and increase their willingness to fail, have difficult conversations with colleagues and managers, and continue to seek justice and equity for all. Reimagining what is possible can function to

incrementally transform the current regime as we work towards new, better, more equitable and just systems.

Future Research

To further understand the role of regional governments in the CJ movement, and to evaluate the best tools to achieve justice outcomes, I recommend the following future research.

A study should be conducted that involves interviews with frontline, vulnerable, and/or marginalized community members, to better understand their perspectives on tools like GBA+ and the role of the provincial government in advancing CJ. Research with frontline communities would offer invaluable insights into navigating relationships often strained by historical and ongoing injustice and trauma, while also exploring the role of asset-based inquiry in contributing to CJ outcomes. This research should be mutually beneficial while highlighting the long-term benefits of the research to participants, to avoid being extractive with the knowledge, time, and expertise of interviewees.

I also recommend future research include a study evaluating methods to address Canada's lack of disaggregated data and ongoing barriers to accessing data. Data issues emerged as a major barrier to success with using GBA+ and similar policy tools, and to achieving CJ outcomes in provincial governments. Research that looks at alleviating the government's biases towards quantitative data, methods of gathering more qualitative data, and increasing the availability of disaggregated data in BC would also be beneficial.

Finally, I recommend future research focus further on the area of change management within governments. The notion of "change within the system, by the system", was a fundamental flaw in efforts to integrate CJ within organizations. Further knowledge on change management as a way to overcome risk aversion and commitment to the status quo would benefit

efforts towards CJ while minimizing the burnout of those individuals committed to supporting intersectionality and CJ work.

Conclusions

My study explored the potential for regional governments to contribute to climate justice, a movement that requires an evolution in our thinking from solely reducing GHG emissions toward understanding and dismantling the interconnected systems of unsustainability and injustice. This research provided me with hope for the potential of a government that believes in and supports climate justice – a goal that can feel hopeless at times. My findings suggest that despite significant challenges ahead, climate justice can be achieved by regional governments, but only if the political will and resources are put in place to support this work.

While imperfect, tools like GBA+ are a step toward governance in which meaningful intersectional analysis is viewed as essential to successful climate policy development. Through incremental actions including acknowledging inequities, investing in data, measuring climate justice, improving intersectional analysis tools, building a climate justice task force, increasing employee diversity, and ultimately reimagining what governance systems can be, my research suggests that achieving climate justice is possible.

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Appendix A

Interview Invitation Letter

[Date]

Dear [Prospective Participant],

I would like to invite you to be part of a research project that I am conducting. This project is part of the requirement for the Master of Arts in Environment and Management degree at Royal Roads University. My name is Caitlin Moran and my credentials with Royal Roads University can be established by contacting Professor Leslie King, at [REDACTED]

The objective of my research project is to investigate issues of climate justice in British Columbia's (BC) climate mitigation policies by exploring the effectiveness of Gender-Based Analysis + (GBA+) and other government practices for identifying and addressing inequitable policies, programs, and initiatives. In addition to submitting my final report to Royal Roads University in partial fulfillment for a Master of Arts in Environment and Management degree, I will also be sharing my research findings with the BC Public Service in the form of a summary for policymakers, with the potential to publish my research and speak at meetings or conferences.

My research project will consist of a literature review, document analysis, and semi-structured interviews. Participation in the interview portion of this research will consist of a 45 to 60-minute video call in which interviewees will be asked seven to ten questions about BC's climate mitigation policies, including equity approaches, the use of GBA+ in climate policy analysis, and strategies for improving governance and advancing climate justice. No personal information such as names or other personally identifiable information will be used to attribute comments to participants.

You were chosen as a prospective participant because of your experience as a professional involved with [climate justice work] [OR] [GBA+ or similar intersectional analysis tools]. I believe your experience puts you in an ideal position to provide valuable first-hand information from your expert perspective. Your participation would provide invaluable insight into improving government processes for equity within BC's climate mitigation policies through intersectional analysis.

For more information, please review the detailed information outlined in the Consent for Participation in Interview Research form.

If you would like to participate in my research project, or if you have additional questions, please contact me at:

Email: [REDACTED]

Telephone: [REDACTED]

Sincerely,

Caitlin Moran

MA candidate in the School of Environment and Sustainability, Royal Roads University

Appendix B

Consent for Participation in Interview Research

Study Title: Frontline Community Voices in CleanBC: Assessing GBA+ as a Tool for Climate Justice

Investigator: Caitlin Moran

Academic Supervisor: Dr. Leslie King, Royal Roads University

Research Institution: Royal Roads University

Introduction

You are invited to be a research participant in a study exploring regional government equity approaches within climate mitigation policy development. You were selected as a possible participant because of your knowledge from your role as [describe role].

This interview is being conducted as a component of the thesis requirements for the Master of Arts in Environment and Management (MEM) degree from Royal Roads University. My credentials may be checked by contacting my academic supervisor, Professor Leslie King at

████████████████████

Before agreeing to participate in this research, I encourage you to read the following explanation of this study. This statement describes the purpose and procedures of the study. Also described is your right to withdraw from the study at any time prior to your review and approval of the interview transcript. Following your approval of the transcript, I will remove any identifying information to protect your anonymity. This study has been approved by the Research Ethics Board of Royal Roads University.

Purpose of Study

This research study is designed to examine the efficacy of Gender-Based Analysis + (GBA+) within the British Columbia (BC) government, for advancing equity within climate mitigation policymaking. The research will contribute to my master's thesis on methods to advance equity and justice within BC's climate mitigation solutions, including in the CleanBC and Roadmap to 2030 climate action plans.

Description of Study Process

If you agree to participate in this study, you will be asked to participate in a 45–60-minute audio-recorded interview, taking place over Zoom. Following the interview, I will provide you with a copy of your interview transcript. You will have 14 calendar days to review the transcript, and request any redactions, clarifications, or additions be made. This is an important component of ensuring the transcript uses the correct language, and that your intentions and beliefs are reflected accurately through text.

The interview questions will be provided to you prior to the interview for your consideration.

The interview will consist of approximately 7-10 questions.

Benefits and Potential Risks

This research study is anticipated to benefit you as a participant, by providing the opportunity to share your knowledge and expertise, contributing to an existing knowledge gap about climate mitigation justice within the BC government. You may also benefit from improving BC's governance practices of intersectional analysis and climate justice strategies.

This research is anticipated to benefit the BC government by contributing to improvements within policy and practice, and by advancing equity within climate mitigation policies. This will

lead to benefits for the public, by increasing the overall effectiveness of climate mitigation policies, addressing systemic issues, and advancing justice.

This study will benefit me by contributing to the partial completion of the Master of Arts in Environment and Management program at Royal Roads University.

As it is expected that you have experience in climate justice efforts and/or intersectional analysis approaches, discussing this subject matter is not anticipated to present risks to you as a participant.

The interview will be conducted over Zoom Pro, which is compliant with the protection of privacy legislation in British Columbia. The audio recording of this interview will be saved to my personal computer, which will mitigate the risk of your interview data being stored on a server outside of Canada.

Conflicts of Interest

I am the principal investigator of this research and am an employee of the BC Public Service, as a Policy Analyst with the Ministry of Energy, Mines, and Low Carbon Innovation. I also act as a volunteer GBA+ advisor with the BC Public Service.

I am engaging in this research as a master's student researcher, to advance the state of knowledge on this topic. Completion of this degree is not linked to any promotion or increase in wages and was self-instigated, not requested by my employer. In order to strengthen my research while minimizing the influence of bias I will be collecting enough detailed data that is then triangulated across literature review, document analysis, and other relevant sources, to provide a fulsome explanation that increases the credibility of my findings.

Confidentiality

The information collected for this study will consist of basic contact information (name, email and/or phone number, professional affiliations), and the responses you provide for interview questions. This information will be used to organize an interview time, communicate meeting details, and provide follow-up information such as your interview transcript.

Faculty and administrators from Royal Roads University will neither be present at the interview nor have access to raw notes or transcripts.

Your identity as a research participant will be kept confidential. I will remove identifying details including names, organizations, cities, and other identifying information. Raw data will be encrypted until the research is complete, upon which time it will be permanently deleted.

Please note that your valuable ideas and opinions will appear in the report itself. However, no personal information such as your name or personally identifiable information will be used to attribute those comments to you.

Payments

Your participation in this project is voluntary. Payments in the form of money or gifts will not be provided.

Rights to Refuse and/or Withdraw

Participation in this study is voluntary, and you may decline to participate at any time. You may withdraw and discontinue participation at any time before approving your interview transcript without prejudice or penalty. If you decline to participate or would like to withdraw from the study, your information will be permanently deleted. Following the approval of your transcript, I will remove identifying information, which will involve the use of pseudonyms, changing place

names, and any further de-identification required. At this point, data will be compiled into software to support data analysis, and you will then be unable to withdraw from the study.

To confirm your withdrawal from the study, a written request via email will be required. If you feel uncomfortable in any way during the interview session, you have the right to decline to answer any question or to end the interview.

Rights to Additional Information

If you have further questions on the study or the scientific and scholarly aspects of the research, please do not hesitate to contact me, Caitlin Moran, at [email address], or by telephone at [phone number]. For additional questions, you may contact my academic supervisor, Professor Leslie King, at [email address]. Any concerns regarding the research ethics for this study may be directed to [ethical review email address].

This research project has been approved by the RRU Research Ethics Board. If you have any questions regarding your rights as a research participant, please contact the Office of Research Ethics at [REDACTED]

Consent

Your signature below indicates that you read and understand the explanation provided above.

You will be provided a signed and dated copy of this form for your records.

By consenting, you have not waived any rights to legal recourse in the event of research-related harm.

If signing and scanning or an electronic signature is not possible, just reply to my email saying that you consent to be interviewed and the terms of the interview.

Participant Signature : _____ Date : _____

Researcher Signature : _____ Date : _____

Appendix C

Interview Protocol Guide

Study Title: Frontline Community Voices in CleanBC: Assessing GBA+ as a Tool for Climate Justice

Investigator: Caitlin Moran

Academic Supervisor: Dr. Leslie King, Royal Roads University

Research Institution: Royal Roads University

Beginning of Interview

- General rapport-building questions.

Introduction & Permission

This interview is being conducted as a component of the thesis requirements for the Master of Arts in Environment and Management degree from Royal Roads University. The title of my research is *Frontline Community Voices in CleanBC: Assessing GBA+ as a Tool for Climate Justice*.

I have presented you with a Consent Form where privacy and confidentiality procedures are outlined, as well as the option to withdraw from the study at any time prior to your approval of the interview transcript, which I will provide after this interview. Your signing of the Consent Form has granted me permission to proceed with interviewing you for this research purpose.

This interview is expected to take approximately 45-60 minutes.

If at any time during our discussion I ask a question you are not comfortable answering, you may decline to answer, and we will move on to the next question. You can end the interview at any point. If you require clarification about the purpose of my questions or the line of discussion we are following, please feel free to stop me and ask at any time.

Do you mind if I record this session? You can ask to pause or stop the recording at any time.

Opening Prompts

- The objectives of my research are to determine the impacts of provincial climate change mitigation policies on marginalized and vulnerable communities and to determine which governance strategies including GBA+ could highlight social justice gaps and advance climate justice within CleanBC and the Roadmap to 2030.
- GBA+ is an analytical tool used to assess the potential impacts of policies, programs, services, and other initiatives on diverse groups of people. The ‘plus’ indicates that the analysis considers identity factors beyond gender, including race, income, geography, education level, age, ability, and other aspects that make up intersectional identities.
- I am interested to hear about your perspectives on methods of advancing climate justice in BC’s provincial government or similar organizations.
- Do you have any questions at this point?

Introductory Question

1. Can you tell me how you came to work in this field, and in general your interest and experience with climate justice?

Main Questions

GBA+

1. What does climate justice mean to you?
2. Do you think climate justice can be accomplished solely through the use of GBA+?
Follow up: If not, what else is needed?
3. What do you think are the key benefits of using GBA+ in climate policy analysis?

4. What barriers might prevent success with using GBA+ in climate policy analysis?
5. In your experience, what are the most important assets of an organization needed to advance climate justice within policy?
6. How can individual employees within the government better support climate justice?
7. Overall, how effective do you think GBA+ could be in achieving climate justice goals?

Follow-ups: What gaps are present? What limitations are there?

[OR]

Climate Justice

1. What does climate justice mean to you?
2. Do you think that climate justice outcomes can be achieved at the regional government level? Why or why not?
3. In your experience, what are the most important assets of an organization needed to advance climate justice?
4. What institutional changes do you think are necessary to advance climate justice in the BC government or similar organizations?
5. How can individual employees within governments better support climate justice?
6. Do you think that climate justice working groups, similar to those in Washington and California, are effective in advancing equity and justice? Why or why not? What could make them more effective?
7. What do you think are the best ways of ensuring climate justice within BC's Clean BC and the Roadmap to 2030 climate mitigation plans?

Concluding Remarks

- That brings us to the end of what I have prepared, would you like to add anything else for now?
- If you think of anything after this interview that you would like included, please follow up via email or give me a call or text.
- I will now describe the next steps. After this interview, I'll prepare a transcript for your review. After I send this to you, I am requesting any comments, concerns, or changes you would like to make to the transcript within 14 calendar days. If I don't hear from you after 14 days, I'll consider it approved and will then begin to prepare it for analysis. This will include removing any information that could identify you, such as names, workplaces, cities, and other identifying information.
- Once I publish my thesis, I'll send a copy to you via email.

Thank you so much for your time and sharing your experience today. I couldn't do this project without your valuable contributions.

End of interview