UVic Sustainability Scholars Program Report

Equity-driven Best Practices in Climate Adaptation Guide

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Disclaimer

This report is a product of the UVic Sustainability Scholars Program, a partnership between UVic and various on- and off-campus organizations offering internship opportunities to graduate students working on sustainability-focused research projects that advance sustainability in the region. This project was conducted under the mentorship of Community Social Planning Council staff.

Territorial Acknowledgement

I acknowledge and respect the lək̓ʷəŋən peoples on whose territory the city of Victoria and the University of Victoria stands and the Songhees, Esquimalt and WSÁNEĆ peoples whose historical relationships with the land continue to this day.

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Overview

The purpose of this guide is to review existing climate adaptation plans to a) identify gaps in addressing the needs of vulnerable populations, and b) identify best practices of integrating dimensions of equity in climate adaptions plans at the municipal level. The research questions include:

1. How can equity be effectively embedded in municipal climate adaptation planning and implementation?
2. How can best practices from other jurisdictions be replicated or tailored for the city of Victoria?

In this guide, climate adaptation is defined as the process of adjustment to current and anticipated climate change impacts and associated effects to minimize harm to human and natural systems, and capture benefits (IPCC, 2023). Canada's National Adaptation Plan asserts that adaptation involves everyone, in all sectors of society, "protecting each other and the places we value... ensuring that we are all better able to prevent, prepare, respond, and recover from climate impacts today and in years to come" (Environment and Climate Change Canada, 2024, 1). This establishes that although governments at all levels are expected to lead on climate adaptation, it is a whole-of-society responsibility. Climate change vulnerability describes how intensely people, assets and systems are likely to be affected by climate change and is a "function of compounding risks (i.e. conflicts, natural disasters, pandemics) and intersecting axes of social differences (i.e. gender, racial, socioeconomic inequalities) which can coexist and aggravate each other" (Amorim-Maia et al., 2022, 7). There are multiple factors that contribute to vulnerability, including socioeconomic status and geographical location; for example, living near a shoreline where sea level is rising and not having the financial or physical ability to move.

In the city of Victoria vulnerable populations include the elderly, those with chronic medical conditions, young children, those who are insufficiently or unhoused, low-income households, Black, Indigenous and People of Colour, (BIPOC) and two-spirit, lesbian, gay, bisexual, transgender and queer individuals (2SLGBTQ+) (Signer, Formosa and Seal-Jones, 2023, 120). Newcomers to Canada, especially those with English as a second or tertiary language, are also considered vulnerable due to greater barriers in accessing resources and decision-making processes, and other forms of discrimination. Renters, although they are less vulnerable than those who are unhoused, can experience housing precarity and may "have limited resources to control changes to their homes to reduce the impacts of climate change, such as cooling systems, air filtration, and insulation" (Laurent et al., 2022, 7). As 61% of residents in Victoria rent their homes, this is another important factor when considering vulnerability and adaptive capacity (City of Victoria, n.d.)

Equitable climate adaptation aims to reduce the vulnerability and increase the resilience of everyone, particularly marginalized people who currently have the least capacity to adapt due to lack of resources and exclusion from decision-making processes. This is what is referred to as low adaptive capacity. High adaptive capacity is associated with high resilience, a term that often appears in climate policies, research and discourse, and is often used interchangeably with adaptation (although there are important distinctions). Resilience is multi-layered, and can refer to people (individuals, families, communities), assets (buildings, powerlines, roads, community centres etc.), and systems (natural, economic, social, political etc.). The United Nations *Sendai Framework for Disaster Risk Reduction* defines resilience as the ability of people, assets and systems to predict, react, adapt and recover from the effects of climate change. When there is high resilience, they can do so in a timely, efficient and equitable way, that not only preserves basic structures' conditions and functions, but also restores and enhances them (UN Office for Disaster Risk Reduction, 2015). This guide is concerned with physical, social and emotional components of climate resilience, ensuring that the burdens and benefits associated with climate change are equitably distributed, and harms are mitigated as much as possible.

Structure of the Guide

1. Defining Equity in the Context of Municipal Climate Adaptation
    - Distributional, recognitional and procedural equity
    - Criteria for assessing climate adaptation plans

2. Case Studies of Best Practices for Equity-driven Climate Adaptation
    - Government of the Northwest Territories, Canada
    - City of Seattle, Washington State, United States of America
    - City of Vancouver, British Columbia, Canada
    - City of Barcelona, Catalonia, Spain

3. Conclusion and Recommendations
    - Recommendations and resources for implementation
    - Concluding remarks

Section 1: Defining Equity in the Context of Municipal Climate Adaptation

Distributional, Recognitional and Procedural Equity

Social equity refers to fairness and justice in policies, processes, outcomes and the way people are treated, especially for historically and/or currently underrepresented and/or marginalized people and groups. Climate equity considers power dynamics, access, opportunities, treatment, impacts and outcomes in terms of climate change mitigation and adaptation (UBC Equity & Inclusion Office, 2023). The ultimate goal is to address "historical inequities suffered by [vulnerable communities] allowing everyone to fairly share the same benefits and burdens from climate solutions and attain full and equal access to opportunities regardless of one's background and identity" (City of San Diego, 2019, 7). Three intersecting forms of equity are particularly important when evaluating climate actions:

1. Distributional equity (the fair allocation of goods),
2. Recognitional equity (the acknowledgment of historical/ongoing social inequity), and
3. Procedural equity (the inclusion and representation in decision making) (Lepp, 2023, 11)

In the context of urban resilience planning distributional equity refers to "equitable access to goods and infrastructure, environmental amenities, services, and economic opportunities" associated with natural resources (Meerow et al., 2019, 6). Distributional equity emphasizes the fair and equitable allocation of goods (rather than equal allocation) as different members of society have different needs and historical factors that influence what they may be owed in terms of reparations or reconciliation. As the name implies, recognitional equity entails publicly recognizing the communities who have been historically marginalized due to their differing identities (e.g. race, gender, class, age etc.), acknowledging how that marginalization is affecting their current ability to access resources, participate in decision-making and adapt to shocks such as climate impacts (Meerow et al., 2019). Flowing from this, procedural equity refers to efforts taken to increase the equitable participation of marginalized groups in decision-making processes (Meerow et al., 2019). Procedural equity often goes hand in hand with distributional equity as the "inclusion and engagement of an individual or group in decision-making is integral to the equitable distribution of goods, services, and opportunities" (Lepp, 2024, 46).

Evaluation Criteria

To evaluate the case studies, I borrow from the equity principle indicators and operative questions that Lepp (2024) developed to assess municipal climate adaptation plans' integration of distributional, recognitional and procedural equity. In her master's study "Advancing Resilience and Equity in Canadian Municipal Climate Adaptation", Madison Lepp evaluated plans from Toronto, Montreal, Calgary, Ottawa, Edmonton, Mississauga, Vancouver, Hamilton, Surrey and London. She identified three key findings:

1. Canadian municipal adaptation plans prioritize resilience over equity,
2. Complex theories of resilience are less commonly operationalized, and
3. Distributional equity is insufficiently operationalized in Canadian municipal adaptation plans (Lepp, 2024, i).

The indicators, operational questions and examples are outlined as follows.

EQUITY PRINCIPLE	INDICATOR	OPERATIVE QUESTION	KEYWORDS
Distributional equity	*Goods and infrastructure*	Does the plan explicitly promote equitable access to goods and infrastructure?	Equity, equitable, distribution, fair, access
	Environmental (dis)amenities	Does the plan explicitly promote equitable access to environmental amenities and the distribution of environmental disamenities?	
	Services	Does the plan explicitly promote equitable access to services?	
	Opportunities	Does the plan explicitly promote equitable access to economic opportunities?	
Recognitional equity	*Recognizing group history and needs*	Does the plan explicitly acknowledge community members' different intersecting identities, and recognize that these identities are shaped by historical injustices?	Justice, injustice, recognition, rights, tenure, colonialism, Indigenous, First Nations, exclusion, respect, inclusion
	Promoting respect	Does the plan explicitly foster respect for different groups?	
Procedural equity	*Participating in plan development*	Does the plan explicitly promote equitable public participation in the development of the plan?	Participation, marginalized, decision-making, outreach, engagement, underrepresented, vulnerable populations
	Participating in governance	Does the plan explicitly promote efforts to increase ongoing public participation in city governance?	
	Outreach to marginalized groups	Does the plan explicitly promote outreach to marginalised groups that often are underrepresented in traditional public engagement processes?	

Figure 1 Equity Principle Indicators (Lepp, 2024, 17)

Examples of Distributional Equity:

- "Access to goods and infrastructure: a community hub is placed where varying modes of transportation are present.
- Access to environmental amenities and the distribution of environmental disamenities: a community garden is strategically placed in a marginalized community where access to green space is lacking. Disamenities or pollutants are not placed in marginalized communities.
- Access to services: a new library is opened in an area where access to this service is lacking.
- Access to economic opportunities: municipal farmers market subsidizes x number of stalls for marginalized groups." (Lepp, 2024, 45)

Examples of Recognitional Equity:

- "Recognizing group history and needs: an initiative acknowledges the impact of historical inequities (e.g., the impact of colonial legacies on Indigenous peoples or systemic racism).
- Promoting respect: an initiative explicitly addresses respect in relation to diverse knowledge, culture, language, beliefs, worldviews or norms." (Lepp, 2024, 45)

Examples of Procedural Equity:

- "Participation in development: surveys are sent out seeking information on how different interested parties have experienced climate change during the developmental phase of the initiative.
- Participation in governance: community members are part of the monitoring and evaluation process (e.g., part of the committee) and can influence the adaptive governance of the initiative over time. The adaptation steering committee includes representatives of various community groups or interests (and the steering committee has decision-making authority).
- Outreach to marginalized groups: Invitations to participate are sent out asking for participants to self-disclose series of diversity questions (e.g., age, gender, status as either racialized, non-racialized, or Indigenous) and then selected participants are selected controlling for demographics." (Lepp, 2024, 46)

In their paper "Intersectional climate justice: A conceptual pathway for bridging adaptation planning, transformative action, and social equity" Amorim-Maia et al. (2022) outline five sub-components needed to operationalize intersectional thinking in urban climate adaptation. As shown in Figure 2 this includes:

1. Tackling underlying economic reinforcers of racial and gender inequalities,
2. Redressing drivers of differential vulnerabilities,
3. Developing an ethics and politics of care,
4. Adopting place-based approaches, especially those promoting invisible or unmapped senses of place and place-making; and
5. Promoting cross-identity activism and community resilience building.

(Amorim-Maia et al., 2022, 5)

Fig. 2. Intersectional climate justice: a conceptual framework for urban adaptation planning.

Table 1 unpacks the intersectional climate justice framework subcomponents, drivers of injustices and pathways to achieve intersectional climate justice.

Table 1
Intersectional climate justice framework subcomponents, drivers of injustices and pathways to achieve intersectional climate justice.

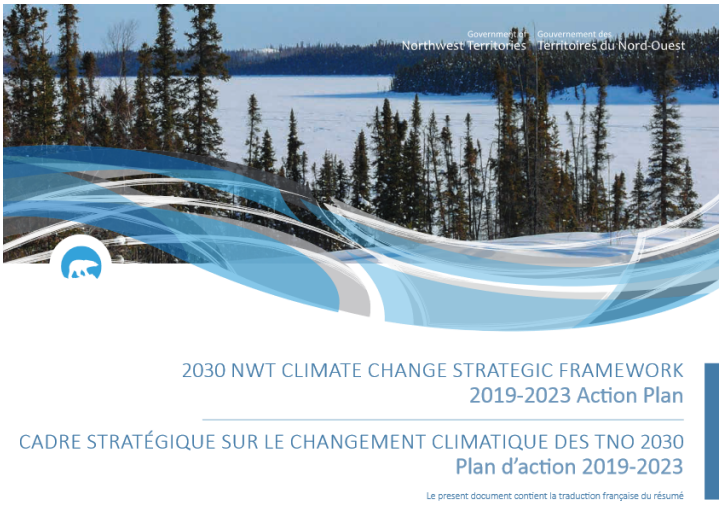
Component	Driver of injustice	Intersectional climate justice pathways
Tackle underlying systemic reinforcers of racial and gender inequalities	- Racial and gendered capitalism - Gender- and race-blind climate policies	- Recognize and question economic reinforcers of racial and gender inequalities - Dismantle systems of gender and racial oppression and subordination - Devise racial and gender equality goals in key regulations, plans and programs
Redress drivers of differential vulnerabilities	- Historical and structural inequalities, pre-existing risks and urban vulnerabilities - Exclusionary land use planning, zoning, and unequal enforcement of land use regulations	- Consider historic legacies of social and environmental injustices in adaptation planning - Address enduring inequality in land use planning - Include the most vulnerable in decision-making
Take politics and ethics of care seriously	- Cities centered on productive over reproductive work - Austerity, devaluation, and crisis of care	- Rethink planning from a care perspective, putting caring relations, reproductive uses, and self-care needs at the fore - Recognize and value unpaid care, reproductive and other forms of invisibilized work - Set measures and services that regenerate people's physical and emotional wellbeing
Adopt place-based and place-making approaches	- Colonial, scientific, technocratic, and expert-driven approaches to planning and development - Policed state and disciplined landscapes and practices	- Foster decolonial / postcolonial approaches to planning and development - Recognize traditional, situated, and local knowledge arising from diverse and often invisible experiences of place and space - Arrange reparations and access to land and natural resources for marginalized residents
Promote cross-identity climate action and community resilience building	- Limited citizen involvement and engagement in adaptation planning, implementation, and evaluation - Limited or tokenistic civil society participation	- Empower local communities to manage their resources and lead the change - Invest in mentoring programs leveraging local leaders and promoting stewardship opportunities - Support participation and representation of, and training/business opportunities for minority-focused organizations and social movements

Lastly, the evaluation considered how the case studies define equity-denied and/or vulnerable populations, and the depth and breadth of the public engagement/consultation processes used to develop and implement the climate adaptation plans (to the extent this information was publicly available).

Section 2: Case Studies of Best Practices for Equity-driven Climate Adaptation

The above definitions, indicators and conceptual frameworks were considered and utilized during a literature review and jurisdictional scan to identify suitable case studies. Case studies were selected in consultation with the Climate Equity team at the Community Social Planning Council. The selection criteria for the climate adaptation plans included that they a) be authored by a municipality/local government, b) share similar projected climate-related hazards to the city of Victoria (i.e. sea level rise, drought, extreme heat), and c) strongly demonstrate one or more forms of equity and components of intersectional thinking. The only exception to the first two criteria is the Government of the Northwest Territories, which was included due to its small population size relative to other provinces and territories and recognized leadership on climate equity, in particular centering Indigenous leadership and traditional ecological knowledge.

Case 1: Government of the Northwest Territories (NWT)



Key Documents: *Government of the Northwest Territories (GNWT) 2030 Climate Change Strategic Framework* (2018) and *GNWT 2030 Climate Change Strategic Framework 2019 – 2023 Action Plan* (2019)

Definition of equity-denied groups and/or vulnerable populations:

Even though the Government of the Northwest Territories (GNWT) refers to vulnerable populations in numerous sections of the 2030 Climate Strategic Framework, they do not define who is in this category apart from stating that "Indigenous people and other residents of the NWT are particularly vulnerable to climate related changes since, for generations, they have depended on the land, water and wildlife for their livelihood and sustenance" (GNWT, 2018, 7). The GNWT does not use the terms equity or justice at all in the Strategic Framework or Action Plan.

Engagement Process

For the development of the Strategic Framework, GNWT engaged stakeholders through six regional workshops, a public survey and written submissions. For both the Strategic Framework and Action Plan, the government released drafts for four-week public review periods in which they received comments from Indigenous governments and organizations, community governments, federal departments, industry, non-government organizations, co-management boards, academia and the general public (GNWT, 2018; GNWT, 2019). Indigenous governments and/or organizations and the Northwest Territories Association of Communities are also listed as implementation partners in the Action Plan.

Strengths

The 2019 – 2023 Action Plan foregrounds the following principles: "respecting Aboriginal and Treaty rights; including climate change considerations in planning, decision-making and operational activities; sharing responsibility for taking action on climate change; strengthening collaboration between residents and community, Indigenous, territorial and federal governments; and, recognizing the importance of traditional, local and scientific knowledge in understanding climate impacts and adaptation measures" (GNWT, 2019, 6). The Strategic Framework and Action Plan are unique from other jurisdictions' plans in how they centre the role of traditional ecological knowledge (TEK) and the contributions of both elders and youth in community adaptation planning. In terms of the social dimensions of climate adaptation, they go beyond merely including public health and safety concerns to strongly emphasizing elements of heritage and culture that need to be protected, including food security and access to traditional country foods. Within their discussion of public health, GNWT also highlights mental health impacts of climate change and the loss/degradation of culturally important places, ecosystem services, and ways of life.

While this is not stated within the Strategic Framework or Plan, the GNWT demonstrates procedural equity through the creation of the Climate Change Council and Climate Youth Advisory Group which delegates decision-making power to residents considered vulnerable, primarily Indigenous peoples and youth. The Climate Change Council comprises of territorial government, Indigenous government, non-government and community representatives that provide guidance and advice to inform climate change and environment programs. In 2023, their priorities included engaging on the NWT (Adaptation) Risk and Opportunities Plan, advising on the coordinated implementation of the National Adaptation Plan in NWT, informing Adaptation Capacity Positions, and initiating the Climate Youth Advisory Group (GNWT, n.d.). The Climate Youth Advisory Group (CYAG) seeks to amplify the voices of NWT youth to influence policy and action by decision-makers (GNWT, 2023). It consists of 12 NWT residents and encourages equitable participation by providing honorariums, recruiting equally from six different regions of the territory, and where possible, selecting one junior youth (18-24) and one senior youth (25-30) from each region (GNWT, 2023).

The GNWT operationalizes distributional equity through the provision of training, financial support and public outreach materials to support communities in building resilience and adapting to human health concerns. This includes supporting capacity-building for health and social service workers by integrating climate change and health topics into clinical, public health

and social services training, and developing and delivering educational materials to residents, communities and first responders on the impacts and responses to all climate-related hazards (GNWT, 2018, 99 - 100). This suggests that they are operationalizing an ethics/politics of care, by taking a care perspective on climate adaptation and investing in "measures and services that regenerate people's physical and emotional wellbeing" (Amorim-Maia et al., 2022, 6). Unfortunately, the exact funding amounts for these initiatives is not disclosed in either the strategy or plan. The GNWT also promote involving youth and elders in on-the-land programming to document the use of traditional knowledge and ensure Indigenous languages and TEK are passed on to future generations (NWT, 2018, 100). Overall, the GMWT's biggest strength is in their adoption of place-based and place-making approaches, followed by operationalization of climate action through fostering decolonial approaches to planning, recognizing and cultivating traditional knowledge, leveraging local leaders (through the Climate Council and CYAG), and promoting stewardship opportunities.

Weaknesses

The Strategic Framework and Action Plan demonstrate a degree of recognitional equity in their centering of Indigenous governance, TEK and involvement of youth and elders in climate adaptation. However, the omission of an explicit and intersectional definition of vulnerable populations in their publications and website might cause other marginalized community members to not be adequately included, such as people with disabilities, those with chronic-health conditions, women, and non-Indigenous racialized residents. Therefore, it is not likely to tackle gender and race inequalities or sufficiently redress drivers of differential vulnerabilities apart from those directly impacting Indigenous residents. While there are some promising indications of distributional equity, the action plan is sufficiently vague in terms of implementation, making it difficult to ascertain to what degree community members and Indigenous governments and organizations will be given monetary and other resources to enable their full participation in climate adaptation initiatives. This also undermines the degree to which the actions planned will redress drivers of differential vulnerabilities and succeed in operationalizing community resilience.

Case 2: City of Seattle

Key Documents: *City of Seattle Climate Preparedness Strategy* (2017) and *Environment & Equity Agenda* (2016)

Definition of equity-denied groups and/or vulnerable populations

The City of Seattle centres race in their definition of equity-denied groups and vulnerable populations and describes how the "legacy of institutional and systemic racism in our economic, government, and social systems has resulted-and continues to result-in the disproportionate distribution of the benefits and burdens of our society for people of color" (2017, 4). They also acknowledge that other historically disadvantaged groups such as "lesbians, gay men, people who are transgender, women, people with disabilities, low-income households" etc. also experience systemic inequity that may make them vulnerable to climate change impacts (2017, 4). An understanding of intersectionality is demonstrated by the acknowledgement that "[m]any people and communities live at the intersection of these identities, for example lesbians of color, experiencing multiple inequities at once" (2017, 4). The Seattle Office of Sustainability and Environment (SOSE) has further delineated equity in geographic and socioeconomic dimensions through the creation of Environment & Equity Initiative (EEI) Focus Areas and Focus Populations. EEI Focus Areas are "geographic areas highly impacted by socioeconomic and environmental challenges" such as gentrification, sea level rise, location near waste sites etc. (SOSE, 2017, 18). EEI Populations include "communities of color, immigrants and refugees, people with low incomes and limited English proficiency individuals" (SOSE, 2017, 18). Both are displayed in an interactive story map, discussed further in the recommendations section.

Engagement Process

Unfortunately, the Climate Preparedness Strategy is vague in terms of the engagement process undertaken to create it, with no specific dates, numbers of people or types of engagement activities listed. The Environment & Equity Agenda on the other hand names all the members of

the Community Partners Steering Committee which led its creation, including representatives from environmental, poverty-reduction and food security organizations, African, Latino and Asian communities, and students from the University of Washington (SOSE, 2016, 3).

Strengths

The Climate Preparedness Strategy takes an asset-based and structural approach to climate equity, seeking to address the "underlying causes of disproportionate climate risk and transition to a community-centered planning model where those most impacted have power in the planning process" (SOSE, 2017, 16). SOSE recognizes that although frontline communities experience higher vulnerability, they also "provide inspiring examples of resilience in the face of these injustices" (SOSE, 2017, 14). Rather than lead with physical and natural infrastructure required for climate adaptation, SOSE's planning priorities are unique in that they start with equity, first and foremost prioritising "actions that reduce risk and enhance resilience in frontline communities", followed by those which produce co-benefits and use nature-based solutions (SOSE, 2017, 3). They also commit to empowering vulnerable communities as leaders in the planning process, recognizing this will require the city to rebuild trust in government "that has been eroded as a result of systemic racism and classism" (SOSE, 2017, 18).

Distributional equity is demonstrated by various initiatives, most notably the Environmental Justice Fund (EJF). The EJF was established in 2017 to "support efforts that benefit and are led by, or in partnership with, those most affected by environmental and climate inequities: Black, Indigenous, People of Color, immigrants, refugees, people with low incomes, youth, and elders" (SOSE, 2023). They fund a range of community efforts including those that focus on "arts and storytelling, community education, organizational or community capacity building, climate change preparedness, skills building, and trainings related to green jobs, and community planning or visioning" (SOSE, 2023). The primary criteria for eligibility are that projects: a) advance climate and/or environmental justice, b) are led by or in partnership with those most affected by environmental and climate inequities and c) benefit people who live in Seattle (SOSE, 2023). As of the 2023 funding cycle, they award $10,000-$40,000 for midsize projects and $40,001-90,000 for large projects, with a total of $100,000 available to be granted (SOSE, 2023). Distributional equity can also be seen in access to information: the City of Seattle offers materials translated into 19 different languages to support neighbourhood emergency preparedness (SOSE, 2017, 76).

SOSE's approach to procedural equity is exemplified by their Environmental Justice Committee (EJC) which supports the implementation of the Equity & Environment Agenda, adjudicates the EJF, and channels community input into environmental program and policy design. The EJC consists of twelve members from diverse backgrounds with "expertise in working with communities of color, immigrants and refugees, Native and Indigenous peoples, and low-income residents and English language learners" (SOSE, n.d., b). EJC committee members advise City staff on policy and actively co-create and participate in learning activities about relevant programs or policies from other regions and City-led environmental investments and programs (SOSE, n.d., b). In 2021 EJC members and partners supported the Food Action Plan, Road pricing, and Green Pathways for Youth programs within the city. They also select the recipients of project grants through the Environmental Justice Fund. The EJF and EJC fulfill multiple intersectional climate justice pathways as described by Amorim-Maia et al., including

recognizing economic reinforcers of racial inequality, including the most vulnerable in decision-making and empowering local communities to manage their resources and lead the change (2022, 6). Thus, Seattle is making strong and tangible progress on tackling race inequalities, redressing drivers of vulnerabilities for Black and People of Colour, immigrants, youth and elders, and operationalizing climate action and community resilience, although a stronger emphasis on gender would further improve these.

Weaknesses

While the City of Seattle centres race in their equity approach, they do not mention specific considerations or actions for Indigenous community members, and do not broach the topic of reconciliation, Indigenous governance, or the inclusion of TEK in climate adaptation. This seems to be a glaring omission given Seattle sits on the ancestral lands of the Duwamish, Suquamish, Stillaguamish, and Muckleshoot People. Of the five components of the intersectional climate justice framework, they are weakest in adopting place-based and place-making approaches given the lack of decolonial practices. It also does not appear that community members with disabilities were actively included in the creation of the Environment & Equity Agenda, and disability and accessibility are not mentioned at all in that document. So, while they might be eligible for the EJC and EJF for other reasons (i.e. they hold intersectional identities), people with disabilities are not explicitly named among the focus populations. In the Climate Preparedness Strategy, the only instant where disability and accessibility are mentioned is in the context of assessing the impacts of various climate hazards such as sea level rise according to social variables such as “income, age, minority status, disability, language, transportation accessibility, and housing situation” (SOSE, 2017, 16). Thus, no specific actions to redress drivers of vulnerability for people with disabilities are committed to in the Strategy or Agenda. Overall, these omissions indicate that developing ethics and politics of care is not a priority for the City of Seattle.

Case 3: City of Vancouver

Key Documents: *City of Vancouver Climate Adaptation Strategy: 2024 Update and Action Plan* (2024) and the *Resilient Vancouver Strategy* (2019)

Definition of equity-denied groups and/or vulnerable populations:

In the 2024 Climate Adaptation Action Plan, the City of Vancouver defines equity denied groups as those "who have been excluded from the design of current societal, governmental, and legal systems, and whom face marginalization and discrimination as a result of that exclusion" (City of Vancouver, 2024, 47). This includes "Indigenous, Black, and racialized groups; people with disabilities and chronic illnesses; people who live with mental health challenges; 2S/LGBTQIA+ and gender diverse people; people with low incomes; refugees, newcomers, and undocumented people, minority language communities; women and girls; youth and seniors" (City of Vancouver, 2024, 47). The Action Plan refers to the Equity Framework Vancouver published in 2021 which describes equity efforts as "ways to transform current structures, policies, and processes in order to balance power and influence, expand access, and create new ways of working together that nourish all people" (2024, 47). The Equity Framework also includes tools and guidance for applying an intersectional approach to city planning and policy. In 2019 Vancouver created a Resilience Strategy, a holistic approach to prepare for various types of shocks and stresses including climate impacts, the housing/affordability crisis, food insecurity, the Opioid cris, social isolation, gender inequity, and racism, among others. This intersectional understanding of urban resilience necessitates that Vancouver make progress not only climate mitigation and adaptation but also reconciliation, community health, and a growing green economy, among other socioeconomic goals (City of Vancouver, 2019, 13).

Engagement Process

For the Climate Adaptation Plan's vulnerability assessment, city staff used the Provincial Hazard, Risk and Vulnerability Analysis (HRVA) toolkit and drew on existing engagement summaries and data from other planning processes such as those for the Vancouver Plan and the Vancouver City Planning Commission memo on Extreme Heat and Air Quality (City of Vancouver, 2024, 24). The city also commissioned the nonprofit Evergreen to engage with vulnerable populations and equity-denied communities for the 2019 update, but the timeline was extended, so the information gathered informed the 2024 update instead. Starting in 2017, Evergreen interviewed 21 key stakeholders from community service organizations and conducted 13 case studies of municipal adaptation plans that equitably address vulnerable populations (Green Municipal Fund, n.d.). From June to November 2019, they held guided discussions with nine groups of community members and customized surveys with 306 community members at local events, engaging 546 people in total in five languages (GMF, n.d.). This included homeless and marginally housed individuals, people with low income, people with disabilities, those in assisted living, women, LGBTQ people, seniors, people who spoke languages other than English, veterans, and newcomers. The City of Vancouver states in the Action Plan that another round of community engagement is planned as part of the forthcoming 2026 Update. Consultations for the Resilient Vancouver Strategy involved over 2,500 stakeholders, with all organizations and partners listed on pages 22 and 90. This included community service-providers who enabled outreach to residents, especially underrepresented voices within neighbourhoods (2019, 22). They also consulted the city level Advisory Committees for Youth, Persons with Disabilities, LGBTQ2+ and Urban Indigenous Peoples respectively (2019, 90).

Strengths

The 2024 Update and Action Plan is the third iteration of Vancouver's climate adaptation strategy and features a renewed focus on equity: "prioritizing adaptation measures that support populations disproportionately impacted by climate change" (5). This is exemplified in the structure of their Action Evaluation and Prioritization Matrix. The first factor is the degree to which an action "integrates equity into all aspects of the proposed action" from development to implementation and evaluation (City of Vancouver, 2024, 51). Each action is scored as equity unintentional, equity intentional or equity transformative. The goal of the climate equity evaluation framework is to enable "continuous learning, feedback, and improvement throughout all aspects of the policy cycle from design, implementation, and end-cycle evaluation to ensure climate adaptation actions are achieving equitable outcomes and supporting transformative change." (City of Vancouver, 2024, 61). However, it's important to note that the authors do not provide a concrete definition of what they mean by transformative change within the document. The Guiding Principles for the Resilient Vancouver Strategy include Reconciliation, Equity & Intersectionality, Sustainability, Recovery, and Reciprocity (2019, 8). This strongly demonstrates the intersectional climate justice pathways of considering historic legacies of social inequalities and devising specific equity goals in regulations, plans and programming (Amorim-Maia et al, 2022, 6).

One of Vancouver's strengths in terms of distributional equity is ensuring access to information and resources to respond to climate-related hazards, namely extreme heat and poor air quality. They commit to enhancing public communications through developing key messages with considerations for "audiences that existing City communications don't reach, and outlin[ing] mediums and platforms that are relevant and accessible to these communities" (City of Vancouver, 2024, 63). This includes publishing resources in not only English, French, but also Tagalog, Mandarin, Vietnamese, Spanish, Korean, Portuguese, Punjabi, Farsi and Japanese. For physical resources, the city has committed to distributing 6,500 cool kits to residents, investing in a heat pump incentive program and providing taxi vouchers to transport seniors and people with disabilities to cooling centres (52 – 55). Cool kits help people moderate their temperature without mechanical cooling, and include a thermometer, tote to fill with water, spray bottle, towel and gel compress (53). To respond to poor air quality (largely associated with wildfire smoke in the province) the City is providing supplies for 300 air cleaners, and guidance for community members to build their own (56). Structurally, they are exploring "expanding social capital grants program to support resilient retrofits for social infrastructure that address near-term needs related to extreme heat and poor air quality events" and creating a requirement for City-partnered emergency homeless shelters to install cooling and air quality infrastructure (56 - 57). The City of Vancouver demonstrates ethics of care through providing these tools and infrastructure to support people's physical wellbeing and putting healthcare concerns at the fore.

When it comes to procedural equity there are fewer concrete examples, but one is establishing a Climate Friendly Buildings Advisory Committee which "will advise staff on the development of future regulations and programs in a way that meets the diverse needs of those living in multifamily buildings without causing unintended harm or barriers" (62). In the Resilient Vancouver Strategy, they also mention seeking new opportunities for resident-led decision-making, exemplified in the West End Participatory Budgeting Pilot. Participatory budgeting seeks to "put budget decisions directly into the hands of local residents and help build trust and understanding between the community and government" (City of Vancouver, 2019, 54). Resilient Vancouver also commits to supporting a community-led Downtown Eastside Neighbourhood Disaster Response and Recovery planning process (2019, 55). To the extent to which these commitments are actualized, they could be effective methods of empowering local communities to manage their resources and promote climate action and resilience building. Overall, there is not one or more components of the intersectional climate justice framework that Vancouver especially excels at. Rather, they show strengths and promise in pathways under all the components, indicating a well-rounded (but perhaps not comprehensive) approach.

<u>Weaknesses</u>

Following Amorim-Maia et al.'s (2022) framework, the areas most in need of improvement are tackling underlying systemic reinforcers of racial and gender inequalities and redressing drivers of differential vulnerabilities. Vancouver's approach can be largely characterized as providing resources and supports to equity-denied communities that will improve their adaptive capacity going forward, rather than addressing root causes of systemic climate injustice. For example, the City of Vancouver's Climate Equity Working Group (comprised of 17 members from equity-denied communities) worked for over two years to create a Climate Justice Charter but in February 2023 the City Council rejected the charter, to the great

disappointment of working group members, municipal staff and climate and equity advocates alike (Laurent et al., 2022; Bhat, 2023). From a basic accessibility perspective, the city of Vancouver has a diverse policy landscape of multiple strategies that is confusing to a layperson/non-government audience. Pages 18 – 20 of the 2024 Update include an infographic and short descriptions of multiple strategies which overlap with the scope of the Climate Adaptation Plan, including the Climate Emergency Action Plan, Healthy City Strategy, Resilience Strategy, Equity Framework, Social Infrastructure Strategy, and more. Having so many overlapping strategies under different city departments may indicate siloing, redundancy, and policy incoherence especially from the point of view of stakeholders who have historically been excluded from decision-making processes. For example, apart from referring to the 2022 Accessibility Strategy, accessibility and specific supports for people with disabilities are not mentioned at all in the Climate Adaptation Strategy Update and Action Plan. This implies to me that rather than mainstreaming accessibility within the various strategies and city departments, these concerns have been 'offloaded' to the Accessibility Strategy. Lastly, TEK nor shared decision-making with Indigenous nations is mentioned in the Action Plan, despite the declared commitment to reconciliation. The Plan does however acknowledge that more collaboration and engagement with Indigenous nations and other equity-denied populations is needed and will be prioritized for the next update in 2026 (46).

Case 4 Ajuntament de Barcelona (City of Barcelona)

Key Documents: *Barcelona Climate Action Plan 2018 - 2050* (2018) and *Barcelona Resilience Action Plan: Resilience to Climate Change with Focus on the Urban Water Cycle 2020 – 2030* (2020)

Definition of equity-denied and/or vulnerable populations

The Barcelona Climate Action Plan (2018) employs the language of climate justice rather than climate equity, emphasizing the "need to put the most vulnerable people at the centre of climate policies" (9). While it appears to be an intentional choice, this difference in terminology could also be attributed to the plan being originally written in Catalonian and Spanish and then translated into English. The Plan assesses vulnerability in the context of wealth, access to water and energy, life expectancy, health by neighborhood, and age and training, noting how there are wide disparities in these indicators between the various districts of Barcelona (22). The City anticipates that the population of those considered most vulnerable will increase in coming years due to increases in dependent children, single-person households, migration, and the elderly (24). Their primary concerns for climate justice relate to energy poverty, heat impacts on the elderly, and rising food prices exacerbating food insecurity (25). The Barcelona Resilience Action Plan does not refer to the term equity apart from referencing the inclusion of climate justice in the Climate Action Plan. The human dimensions of the Resilience Plan's risk and vulnerability assessment largely focus on how residents' health and wellbeing are impacted by climate-related

hazards such as coastal/pluvial flooding, drought, heat waves, storm winds and combined sewer overflows (2020, viii).

Engagement Process

The Climate Action Plan underwent a six-month co-production process engaging 119 people through four in-person sessions and an additional 112 through an online portal (Barcelona City Council, 2018, 50 - 51). The Resilience Action Plan makes references to stakeholder involvement on multiple pages, but without any explicit description of the engagement or consultation process. Neither provide any specific information as to if, and how many, residents from equity-denied or vulnerable communities were included in the co-production and/or consultation process.

Strengths

The Climate Action Plan is organized around four strategic lines, five areas, eighteen lines of action and seven values/pillars. The strategic lines include "mitigation, adaptation and resilience, climate justice, and promoting citizen action" (9) with the five areas being "people first, starting at home, forming communal spaces, climate economy, and building together" (60). The values/pillars express a vision of a Barcelona that learns and is "socially fair, habitable, healthy, efficient & renewable, low carbon & distributive, and committed" (45 – 46). While the majority of the eighteen lines of action intersect with climate justice/equity in one way or another, those most relevant are "taking care of everyone, no cuts, preventing excessive heat, planning with a climate focus, food sovereignty, cultural action for the climate, climate cooperation and let's get organised" (158 - 159). Barcelona's strengths in terms of distributional equity are ensuring access to adapted homes, energy, climate shelters and social services. *Taking care of everyone* emphasizes improving services, facilities, and homes, especially for those most vulnerable, as seen in their commitment to covering 100% of renovation expenses for 94,000 dwellings by 2030. The renovation program will ensure "minimum habitability, safety, security, accessibility, hygiene and energy-efficiency conditions by carrying out basic alterations on housing" where people in vulnerable situations live (63/66). *Taking care of everyone* also involves the creation of social superblocks to complement existing mobility superblocks which reorganize street networks to prioritize people over vehicles and introduce resting and social interaction places. The social superblocks aim to care for dependent neighbours (such as elderly people and those with disabilities) who live within a small area (65 - 66). Barcelona will disperse 4,000 home care workers in teams of 10 – 14 who will care for upwards of 50 people, with greater presence in low-income neighbourhoods (C40 & Barcelona, n.d., 3 - 5). These actions show that Barcelona is taking politics and ethics of care seriously, through rethinking planning from a care perspective, and investing in training and services to support physical and emotional wellbeing of those most vulnerable.

No cuts commit to zero energy poverty by 2030, and in the interim banning utility companies from cutting off water, electricity and gas to those who are unable to pay (68). Barcelona City Council also spearheads Energy Advice Points, specialist offices that provide information and assistance to residents on how they can exercise their energy rights and improve energy efficiency (C40 & Barcelona, n.d., 3 – 5). Thirdly, *preventing excessive heat* pledges to

create at least one water garden per district and ensure 100% of the population will be within a 10 minutes' walk of a climate shelter by 2030 (Barcelona City Council, 2018, 63). Recent news indicates that Barcelona is well on its way to the latter goal, with over 350 climate shelters open 10 minutes' walk away for 98% of residents and 5 minutes for 68% of residents (Barcelona for Climate, 2024b). The shelters offer safe accessible places with cooling, rest areas, water and shade, and are all free aside from municipal pools (which are subsidized for vulnerable populations) with locations and opening hours publicly available on an interactive map (Barcelona for Climate, 2024b).

Under *Cultural action for the climate*, Barcelona plans to provide subsidies for citizen-led climate projects, including those that address climate adaptation and climate justice. These must be cooperative projects with a minimum of three partner organizations, and the subsidy can cover up to 80% with a maximum of €20,000 per project (Barcelona City Council, 2018, 133). The Barcelona Climate Action Plan is unique from the other case studies in its recognition of the global dimensions of climate justice and equity, highlighting how Spain contributes disproportionately to climate change (by per capita emissions) and how that unjustly places the burden of impacts on Global South countries who have contributed less. They explicitly acknowledge their ecological debt to other nations and promise to learn more about this as a city government, educate residents and "encourage climate solidarity" (133). Three of their medium to long term actions (2021 – 2030 for implementation) relate to this:

> "17.4 Foster climate solidarity between peoples and develop projects that address the issue of correcting the effects of climate change on the most vulnerable countries and societies (2025).
> 17.5. Promote cooperation between cities on climate justice, urban resilience and energy policy matters, and start up technical support processes between Barcelona City Council and other cities that are highly vulnerable to climate change (2025).
> 17.6. Prepare to take in climate refugees (2030)." (Barcelona City Council, 2018, 137)

These actions suggest Barcelona is making progress on promoting climate action and community resilience building through investing in local projects, leveraging local leaders and encouraging citizens adopt a climate justice lens.

Weaknesses

The Climate Action Plan is extremely comprehensive but organizing it around strategic lines, areas, pillars/values and lines of action seems unnecessarily convoluted. As I critique about the City of Vancouver's policy landscape, this level of complexity, rather than useful, is potentially in disservice of the plan by confusing readers. The City of Barcelona's Climate and Resilience Action Plans are the weakest in procedural equity. The lack of information on the engagement processes is a clear sign that more work needs to be done to better include those most vulnerable in decision-making. While there are grants for climate action projects, there was no evidence that local communities will be empowered to manage their own resources and make decisions about funding allocations. Under the Climate Action Plan pillar of 'socially fair Barcelona' the City mentions gender and cultural diversity being considered when applying policies and measures, but ethnicity, race and gender are not otherwise mentioned or prioritized within the document (44). On the Barcelona For Climate webpage, they do highlight investing in

women-led climate projects through C40 Cities' Women4Climate programme, but this was the only gender-focused action I could find (2024a). The Resilience Action Plan is largely focused on adapting physical infrastructure to climate-related hazards and protecting public health and does not discuss equity concerns in any detail. All these examples suggest the City has work ahead of them to meaningfully recognize and dismantle reinforcers of racial and gender inequalities, and better integrate racial and gender equity goals in regulations, plans and programs.

Section 3: Conclusion and Recommendations

The above sections provide an overview of four case studies' definitions of vulnerable/equity-denied populations, the community engagement undertaken to develop their adaptation/resilience plans and analysis of the plan's strengths and weaknesses in terms of procedural, recognitional and distributional equity, and intersectional climate justice. Section 2 is not a comprehensive list of all the ways in which these plans embody equity principles, but rather seek to highlight examples, offer critiques, and provide ideas that may be useful for the city of Victoria and other jurisdictions. The following recommendations stem from best practices demonstrated by the case studies and documented in climate adaptation and equity academic and grey literature. The recommendations include integrating equity and co-benefits into action development, prioritization, and evaluation; communicating about climate adaptation through arts, storytelling and community mapping; supporting and funding community-led adaptation and ensuring accountability and transparency in reporting.

<u>Recommendations for the city of Victoria:</u>

1. Integrate Equity and Co-Benefits into Action Development, Prioritization and Evaluation

As shown in the case studies, integrating an equity lens into not only the development of climate adaptation actions but also prioritization and evaluation is key. One way of aligning equity with climate adaptation and other priority areas is through adopting a multisolving or co-benefits approach to policy and planning. Multisolving refers to intentionally designing solutions which address multiple intersecting issues at once and/or designing a solution to one problem that will have co-benefits for other areas, such as health, equity, resilience and environmental sustainability. Importantly, a multisolving approach is efficient in terms of energy and resources, using the same investment of time, money, or effort to address multiple problems at the same time (Climate Interactive, n.d.). Co-benefits can be thought of as the outcomes of a multisolving approach and is the terminology most used by the case studies.

<u>Examples from the Case Studies</u>

Co-benefits are mentioned in the planning priorities and/or evaluation metrics of the Seattle, Vancouver and Barcelona climate adaptation plans. In the Seattle Climate Preparedness Strategy, a multisolving approach is seen in their planning process' emphasis on designing and implementing "resilience strategies that advance community goals by enhancing physical spaces and services in ways that support quality/livable urban environments, health, and social

cohesion" (SOSE, 2017, 3). While the term multisolving is not mentioned in the Equity & Environment Agenda, the essence of the concept is embodied in multiple areas, such in how Seattle is seeking to align environmental equity initiatives with youth employment pathways and economic opportunities. This includes "creation of accelerated pathways to leadership for people of color", "support for those within the community to take on roles in environmental program and policy development", "development of green careers to support formerly incarcerated individuals" and "connections for youth to environment through art, food, skills-training" among other proposed actions (SOSE, 2016, 13). Seattle has further committed to developing "an equitable climate preparedness planning and evaluation tool that will better enable understanding of the underlying causes of disproportionate impacts and strategies to address those impacts" (2017, 19). By utilizing a cumulative impacts assessment methodology, they will be able to understand how climate, environmental and equity impacts intersect on social, physical, emotional and economic dimensions (2015, 36). Although the Government of the Northwest Territories does not employ the language of co-benefits or multisolving, they also emphasize cumulative impacts monitoring. In their Climate Strategy Action Plan, the territory commits to supporting the "collection, analysis or synthesis of traditional knowledge through the NWT Cumulative Impact Monitoring Program to better understand environmental trends and cumulative impacts for use in decision-making" (2019, 15). Additionally, GNWT's emphasis on preserving and revitalizing Indigenous governance systems, cultural sites and traditions and languages as an important part of climate adaptation could also imply a multisolving approach as Indigenous cultural and linguistic revitalization is closely linked to 'co-benefits' such as food security, ecological stewardship and social cohesion.

In their 2018 - 2030 Climate Action Plan, Barcelona City Council prioritizes actions that "provide a social return" defined as "a positive cost-benefit relationship for society", which are "co-beneficial...respond[ing] to more than one challenge" (46). Barcelona also includes co-benefits in their Resilience Action Plan, ranking the degree to which each strategy and action has co-benefits across economic, social and environmental dimensions, explained in-depth in the section titled "Co-Benefits and Impact on Resilience Objectives" (2020, 43). Based on the plan's in-depth risk and vulnerability assessment, this evaluative framework combines a Cost-Effectiveness Analysis with a Cost-Benefit Analysis to help inform policy-makers decisions (45). One of the guiding principles of the City of Vancouver's 2024 Update to the Climate Adaptation Plan is to "give priority to adaptation strategies that build on existing programs or policies and provide co-benefits with other community priorities" (24). In the plan's Action Evaluation and Prioritization Matrix, just below Equity is a factor for "Alignment and Co-benefits" defined as "the degree to which an action supports senior government priorities, meets or accelerates existing efforts occurring in other city work, contributes to other climate adaption and mitigation efforts, and is likely to be supported by community, stakeholders and elected officials" (51). In the introduction, the authors also list associated benefits of climate adaptation measures on financial, health and quality of life, and environmental aspects of the city (2024, 7). Figure 8 below further shows how co-benefits and equity are included in Vancouver's adaptation cycle.

Figure 8: The Adaptation Cycle

(City of Vancouver, 2024, 24)

Suggestions for Implementation

From the onset of policy and action development, adaptation research needs to acknowledge the multiple different forms of injustice and inequity at play and create an inclusive conceptual framework which identifies and describes these differences (Coggins et al., 2021, 15). Amorim-Maia et al., (2022) framework of intersectional climate justice is a strong example that could be adapted to Victoria's specific context and history under the guidance of equity-denied community members. The design and execution of interventions must be informed by stakeholder priorities and, where possible, enable them to define the purpose, design and implementation of projects (Spencer et al., 2017, 660 – 661). In their equity evaluation of the City of Calgary's Resilience and Climate Mitigation and Adaption Strategies, the Toronto Environmental Alliance (TEA) and Community Resilience to Extreme Weather (CREW) provide insightful recommendations that are applicable to other Canadian municipalities. They advise that Calgary integrates equity objectives and metrics into regular Strategy monitoring, evaluation and reporting, and develop the indicators collaboratively with community members and organizations representing equity-seeking populations (TEA & Crew, 2021, 22; 8). This makes it more likely that equity-seeking and vulnerable populations will take ownership of, contribute to and benefit from the climate adaptation action (Spencer et al., 2017, 661). The Tamarack Institute suggests the inclusion of both process-and outcome-oriented metrics, as equity can and should be both a process for and an outcome of climate adaptation (2024, 28 – 29). Meaningful participation involves inclusion of:

- All relevant levels of governance (national, provincial, regional and local),
- Those who may be adversely impacted by climate change initiatives,
- Those who are most in need of/likely to benefit from climate adaptation initiatives,
- And the poorest and most marginalized members of society;

And requires that participation of all groups is sustained throughout planning and implementation and adaptation Plan actions are tied to community participation, making them living documents to be regularly updated (Brooks et al., 2011; ICLEI Canada, 2020; City of Calgary, 2021).

Moser (2014), TEA & CREW (2021) and Spencer et al., (2017) emphasize communicating how the climate strategy in question will generate immediate, mid and long-term co-benefits for communities that have positive equity dimensions. Bringing together tangible incentives and long-term integrated impact assessment can multiply the positive impact of adaptation efforts (Spencer et al., 2017, 649). A multisolving approach just as much includes considering potential co-harms associated with adaptation planning that might further entrench inequity and making a plan to mitigate these risks (TEA & CREW, 2021, 19). This is why a cumulative impacts methodology should be included in or alongside risk and vulnerability assessments as seen in Seattle and the NWT. In addition to physical health and social implications, special consideration should be given to mental health impacts (i.e. income stress as food and energy prices increase, climate-anxiety, ecological grief), as done by the GNWT and City of Vancouver plans (TEA & CREW, 2021, 19).

Resources:

- Tamarack Institute paper on multisolving and case study of multi-solving in Toronto's Climate Action Strategy https://www.tamarackcommunity.ca/articles/changing-how-i-think-about-community-change-multisolving
- https://www.tamarackcommunity.ca/case-studies/transform-toronto-multisolving-in-action
- Multisolving Institute FLOWER Model and case studies on multisolving for heath and climate and climate resilience https://www.multisolving.org/resources/
- Youth Climate Lab Multi-solving Tool https://youthclimatetoolbox.com/hub/multi-solving-tool

2. Communicate about Climate Adaptation through Arts, Storytelling and Community Mapping

For vulnerable populations and equity-denied communities to be fully involved in climate adaptation planning and action implementation, communication must be tailored to their specific needs. Accessible and engaging knowledge translation is essential to ensure that necessary information about climate-related hazards, resources and emergency preparedness are communicated in culturally relevant ways to all community members. Disseminating and mobilizing climate data is an important aspect of climate adaptation; however, some forms of communication are more effective than others when engaging with audiences with varying levels of climate expertise, fluency in English, lived experience and trust in government. How climate impacts and adaptation messages "are perceived, understood, and interpreted, and how people conceive of responding to expected or experienced changes is influenced, in turn, by a wide range of influences—cultural, social, personal, and informational, but inevitably primed through whatever cultural filters and historical legacies exist around the issues at hand." (Moser, 2014, 343-344). In her article on the art and science of communicating climate adaptation Moser (2014) outlines the basic tenets of effective practice, including "knowing one's audience, relating to people in ways that resonate with preexisting values and beliefs, engaging respectfully and addressing the whole human being" and questioning assumptions that information deficit is the problem by understanding motivations, resistances and barriers to action (Moser, 2014, 349). Howard et al., (2017) further describe the communication preferences and unique needs of vulnerable populations such as those with disabilities and cognitive impairments, families with

small children, those with English as a second language, and the elderly. For example, newcomers experience greater challenges to accessing information due to language barriers and social isolation, and many people with disabilities are reliant on others, such as family members and caregivers, for the provision of information (Howard et al., 2017, 142).

Examples from Case Studies

All case studies demonstrate novel and dynamic ways of educating their residents about climate adaptation, notably using the arts, storytelling, and interactive maps. Seattle, Vancouver and Barcelona have invested in arts-based programming to engage community-members from equity-denied populations in climate adaptation conversations and capacity building. For their Resilience Hub engagements, the City of Seattle has been working with a team of local consultants with expertise in art, science, community organizing, policy advocacy, and climate justice to design and lead engagements, such as zine making workshops (Stipkovits, 2024). Barcelona has championed creative approaches to raise awareness and demonstrate what climate adaptation can look like on the ground. They have sponsored ephemeral gardens, mobile exhibitions, collaborative mappings, climate marathons, exhibitions (such as "After the End of the World") and theme-based festivals on art, photography, cinema, etc. (Barcelona City Council, 2018, 133). In 2019, through their Resilient Vancouver Strategy the City of Vancouver supported "a group of local Indigenous artists and knowledge holders to advise on ways of elevating and honouring Indigenous knowledge, art and culture" including exploring collaboration opportunities (City of Vancouver, 2019, 66). A shining example is the Sea2Sky Design challenge which "brought together two multi-disciplinary design teams, City staff, local coastal adaptation experts and Host Nation representatives, knowledge keepers, and designers from Musqueam, Squamish, and Tsleil-Waututh over a 12-month period to reimagine key sites along Vancouver's False Creek shoreline" (City of Vancouver, n.d.). Outcomes included 7 Decolonization and Indigenous Perspectives workshops and events, connecting with over 2,000 community members, advisory group members, collaborators, students and members of the public directly, and 160,000 people across social media platforms, and a Youth Manifesto written by the Youth Adaptation Lab (City of Vancouver, n.d.).

The Cities of Seattle and Barcelona, and the Government of the Northwest Territories have created various types of interactive maps highlighting climate-related hazards, stories from community members, and other important information to support adaptive capacity. As part of their Equity & Environment Agenda, Seattle developed an Environmental Equity Assessment to evaluate how equitably environmental impacts and outcomes are distributed. They use a Story Map to indicate the location of EE Focus areas and environmental hazards, and list socioeconomic factors and community assets, further elaborated with video stories told by EE populations (SOSE, n.d., a). This came out of recommendations from the Equity & Environment Steering Committee who highlighted that storytelling is a familiar and culturally appropriate way of engaging community members in data collection and education as many communities of colour have deeply rooted storytelling traditions (SOSE, 2016, 10). Purposefully connecting the story themes to data and policy can build a more comprehensive perspective on community issues, leadership, and solutions (10). Barcelona City Council's Resilience Atlas includes maps and information related to climate change, climate resilience, housing and public space as vectors of urban resilience. The Atlas highlights how access to public space and affordable,

climate resilient housing are equity issues, and use legends and descriptions to visualize how and where each climate-related hazard impacts vulnerable populations (Barcelona City Council, n.d.). Goal #2 of the GNWT 2030 Action Plan is to improve knowledge of climate change impacts through establishing online resources and producing information products such as models, projections and maps that are made accessible to the public and integrate traditional ecological knowledge (2019, 43). More specifically they commit to community hazard mapping with appropriate agencies and knowledge holders that will include "permafrost, flooding, wildland fire, erosion and other climate-related impacts" (2019, 27). Thus far, in collaboration with Indigenous land users, researchers at various universities, and the Northwest Territories Geological Survey, they have produced 'Rivers of Change", a Story Map that helps people visualize the changing permafrost landscape. The City of Vancouver does not currently have a publicly accessible map like those shown above but they have committed to creating a multi-hazard and risk story map by 2025, that among other spatial data, will indicate "inequitable distribution of risk across the City" (City of Vancouver, 2024, 63). What these best practices have in common is the integration of social equity and environmental/climactic data in their visualizations and maps, clearly articulating to viewers that an equitable approach to climate adaptation is necessary.

Maps:

- Seattle Environmental Equity Assessment Story Map and Index https://www.arcgis.com/apps/MapSeries/index.html?appid=4c14645fec154ae8978dc642c94b76ba
- Barcelona Resilience Atlas https://coneixement-eu.bcn.cat/widget/atles-resiliencia/index-eng.html
- NWT Rivers of Change Story Map https://storymaps.arcgis.com/stories/becbcf4a703547d7844d5f52414eb905

Suggestions for Implementation:

Research shows that visual elements improve accessibility for a variety of audiences (TEA & CREW, 2021; Howard et al., 2017) by making climate impacts "more locally and personally relevant and tangible" thus increasing urgency and commitment to taking action (Moser, 2014, 345). Moser elaborates that communication instruments should not only visualize climate risks, but also the adaptation options that are being considered and/or implemented as well as "explain and visualize uncertainties in understandable ways and with clear relevance to the implications for actions at different times" (2014, 349 - 350). As shown in the case studies, the development and dissemination of easy-to-understand graphic resources and open-source web-based publications enable the democratization of information (Spencer et al., 2017, 663). Providing information in multiple languages is paramount, but also disseminating information through alternative sources, as culturally and linguistically diverse populations may not engage readily with mainstream media sources or community forums (Easton-Gomez et al., 2022, 17; TEA & CREW, 2021, 21). This could include through faith centres (churches, mosques, Sikh temples etc.), smaller news outlets and radio stations (i.e. Francophone radio, Channel Punjabi, Filipino TV etc.), and cultural festivals (such as Diwali, Lunar New Year, Eid-al-Fitr etc.). As shown in Seattle's Environmental Equity Assessment, including stories and personal examples of people from affected communities can inform policy and intervention strategies, as well as serve

to humanize equity-denied groups (Easton-Gomez et al., 2022, 12). Lastly, multiple studies have found that pro-social, pro-environmental and appropriate risk-related behaviours, including proactive adaptation, are enhanced when the communicator invokes place identity and attachment (Kennedy et al., 2024, 7; Moser, 2014, 348), which maps and photographs support.

Resources:

- ClimateXChange Communicating the Climate Crisis report https://climate-xchange.org/communicating-the-climate-crisis/
- ICLEI Canada Climate Communications Workshop in a Box https://icleicanada.org/project/climate-communication-workshop/
- University of Colorado's Natural Hazard Centre Guide to Communicating with Socially Vulnerable Populations Across the Disaster Lifecycle https://www.adaptationclearinghouse.org/resources/principles-of-risk-communication-a-guide-to-communicating-with-socially-vulnerable-populations-across-the-disaster-lifecycle.html
- Conservation through Reconciliation Partnership (CRP) Communications Guidelines for Indigenous-led Conservation https://ipcaknowledgebasket.ca/resources/balancing-the-narrative

3. Support and Fund Community-led Adaptation Responses

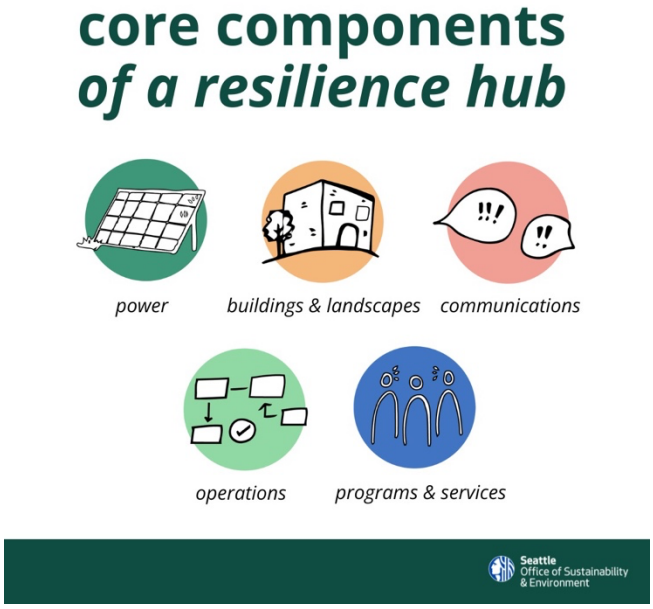
A key element of distributive and procedural equity is providing equity-denied groups resources and support, including financial and legal infrastructure, to enable them to design and implement community-identified solutions. Colebrander, Dodman & Mitlin (2018) argue that even "relatively small amounts of adaptation finance could have a catalytic effect on the capacities and impacts of local organizations" (902). Resourcing local civil society groups "can instrumentally reduce vulnerability by improving their ability to (co-)produce services and infrastructure that reduce exposure to risk" (Colebrander, Dodman & Mitlin, 2018, 912). Furthermore, it can spread decision-making power over a wider range of stakeholders, thereby redressing power imbalances that fuel inequity and exclusion from climate adaptation planning (903). When local governments enable collaboration across various communities of marginalized urban residents it can help blend priorities of different groups over different timescales and produce co-benefits (904). While this is vital from an equity perspective, it is also crucial to the effectiveness and efficiency of adaptation actions. Acceptance of adaptation policies is mediated by many factors, including choice and control. The degree to which stakeholders have control over when and how an adaptation action is implemented, including resources, design and timing determines their level of buy-in and the success of said measure (Moser, 2014, 348). Spencer et al., (2017) and Moser (2014) further emphasize the need for financial and nonfinancial incentives to motivate stakeholders.

Examples from Case Studies

The case studies demonstrate (to varying degrees) support of community-led adaptation through creating committees that fund and devolve decision-making power to equity-denied populations and convening and investing in neighbourhood/city-wide collaborations. In 2022 – 2024 the City of Vancouver's Resilience and Disaster Risk Reduction Team collaborated with

BC-based nonprofit Building Resilient Neighbourhoods to offer *Connect and Prepare* workshops in apartment and multi-unit buildings to increase community cohesion and emergency preparedness (Building Resilient Neighbourhoods, 2024). The 2024 Update to the Climate Adaptation Action Plan entrenches the city's commitment to formalizing the Resilient Neighbourhoods Program, prioritizing funding for underserved neighbourhoods facing the greatest risk (52). The formalization process includes convening and activating community-based organizations to work together on extreme heat, poor air quality and other risks. These organizations will contribute to updating the Resilient Neighbourhoods Toolkit "with community-led climate resilience actions to adapt to climate change and align with Neighbourhood and Community Placemaking Grants for 2024" (52).

Two of the key outcomes of the City of Seattle's Equity & Environment Agenda was the creation of the Environmental Justice Committee and Environmental Justice Fund to inform environmental policy and programs and disburse grants for environmental equity focused projects. These outcomes were called for by community members who expressed that "the most effective solutions come from the community itself" but that they require "resources to collaborate, make decisions, support existing leaders, build power, and identify new leaders" (SOSE, 2016, 12). Investment in community-led initiatives can also be seen in Seattle's plans to create a network of resilience hubs which will serve as cooling and warming shelters, community centres, food banks and educational spaces all in one. A spokesperson from the Seattle Office of Sustainability and Environment explained that the hubs require capital investments and programmatic investments "in education, training, and operations so that the hubs and community members are ready for disruptions and contribute to year-round resiliency" which SOSE is working on providing (Heberden, 2023). SOSE has announced that in 2024 they will lead a period of community engagement to inform the development of the Citywide Resilience Hub Plan. This will outline "how the City plans to develop and support resilience hubs and will include potential locations for future hubs and community partners excited about the project" (Heberden, 2023) as well as coordinating with different agencies to ensure they are "working in unison to invest in climate justice frontline communities" (Stipkovits, 2024).



(Stipkovits, 2024)

The Cultural Action for the Climate section of Barcelona's Climate Action Plan includes multiple short-, medium- and long-term investments in citizen-led initiatives. They created a specific call for grants to promote citizen climate action in 2018 and supported the energy sovereignty network in 2020 (2018, 133 – 134). They also committed to consolidating a networking of environmental education facilities in every district in the city "that act as vectors of information, training, participation, skills and citizen action" and promoting the creation of citizen co-responsibility networks at the neighbourhood level by 2025 (134). Lastly, the GNWT plans to "work with communities to identify potential cleaner air shelters and modifications required to reduce impacts of wildland fire smoke on human health" (2019, 26). While this is not made explicit in the plan, hopefully this will lead to the GNWT supporting community-led shelters, like Barcelona's climate shelters.

Suggestions for Implementation

Vancouver's Climate Justice Charter and best practices research conducted by the City of Calgary provide additional suggestions for how to redistribute resources and opportunities to communities disproportionately impacted by climate change. The Climate Justice Working Group recommends hiring members of equity-denied groups as city staff, providing climate-related grants, and investing in climate-friendly initiatives such as healthy, safe, efficient housing, green spaces, pedestrian and cycling infrastructure, affordable and accessible public transit, community food gardens and purpose-built cultural spaces (Laurent et al., 2022, 18). The City of Calgary highlights the City of Toronto's neighbourhood climate action grants that make "educational workshops, youth engagement, neighbourhood summits and fairs, local research, and art installations" possible (City of Calgary, 2021, 20). Foundationally, Calgary recommends integrating these considerations into adaptation development, by posing the question to "what extent have adaptation interventions increased the ability of individuals, communities and institutions to develop and pursue their own adaptation strategies and measures?" (City of Calgary, 2021, 22). This facilitates the allocation of funding and resources to community-led adaptation actions from the very start of the planning process. Funding is required on an organizational and individual level. Poverty reduction and disability advocate Rowan Burdge advises that "effective climate strategies must involve equity payment to people with lived expertise for their input, and provision of childcare, transportation and food" to properly compensate vulnerable community members and enable their participation (2024, 6).

Resources:

- Nonprofit Quarterly Primer for Participatory Grantmaking https://nonprofitquarterly.org/a-primer-for-participatory-grantmaking/
- Tamarack Institute Monitoring Collaboration Tool https://www.tamarackcommunity.ca/interactive-tools/monitoring-collaboration
- City of Halifax Case Study on Implementing a Participatory Climate Action Plan https://www.tamarackcommunity.ca/case-studies/case-study-implementing-a-participatory-climate-action-plan-in-halifax

4. Accountability and transparency in Reporting

The final recommendations centres around the evaluation, measurement and most importantly, reporting of progress on climate adaptation action to stakeholders in accessible and transparent ways. The level of accountability and transparency in governance is another key factor Moser identifies as influencing the public's perception of acceptable adaptation actions (Moser, 2014, 347). All the case studies disclose progress on their plans to residents, and most also disclose to communities of practice and global networks to a) share best practices and b) be held accountable to their targets.

Examples from Case Studies

The Cities of Barcelona, Vancouver and Seattle all voluntarily disclose progress on climate adaptation to the Climate Disclosure Project (CDP) CDP-ICLEI Track which is the world's leading climate reporting platform and accountability mechanism for local governments and their cities. According to the CDP, the City of Seattle evaluates and publishes the update of the Climate Preparedness Strategy every five years which would mean the next update is expected before the end of 2024 (CDP, 2023). In the Equity & Environment Agenda, the City of Seattle acknowledges the importance of communicating during and past the implementation phase, stating that it requires "consistent, creative engagement, with a feedback loop between community and government as well as a focus on both the process of developing environmental programs/policies and on the end results" (SOSE, 2016, 17). While the Office of Sustainability and Environment is responsible for the Agenda, the Race and Social Justice Initiative keeps track of City-wide Racial Equity Actions on an open-source website. It monitors progress on 421 actions across environment, equitable development, health, service equity, and jobs/economic justice categories (City of Seattle, n.d.). This includes the timeline, department responsible (with contact information for lead staff), associated outcomes and strategy used to achieve said goal(s). For the GNWT 2019 – 2023 Climate Action Plan, the Department of Environment and Natural Resources is responsible for coordinating "annual reporting to track progress on actions, provide updates on any new actions stemming from areas for future collaboration and identify resources expended" on implementation, in alignment with the Department of Infrastructures reporting on the Energy Action Plan (2019, 42). The annual report will be shared widely with partners, Indigenous and community governments, and the public. The Action Plan is meant to be a living document undergoing regular updates to reflect learnings gathered from partners, significant changes in federal approach and/or new developments in the climate change field (2019, 42).

Progress on the City of Vancouver's Adaptation Plan is monitored and publicly reported annually, with updates published at least every 5 years (CDP, 2023). Accountability is the fourth factor in the Action Evaluation and Prioritization Matrix and measured by the degree to which an action "can demonstrate clear goals with measurable outcomes and full cost accounting to ensure actions meet intended outcomes" (2024, 51). As with Equity and Co-benefits, accountability is scored between 1 – 4, the highest score going to actions with clearly articulated outcomes which are visible, explicit, and measurable (51). The city seeks to further harmonize climate mitigation and adaptation reporting and is working on providing "aligned, relevant progress and financial information to decision-makers, stakeholders, and the public" (2024, 64). For the Resilient Vancouver Strategy, the Overview and Partners section lists the Objective, Action,

Related/Supporting Initiatives, Lead City Department(s), Supporting Department and External Groups and Status (92). It is unclear however if the city plans to update the Resilience Strategy, and over what timeframe monitoring and evaluation takes place in. Barcelona's Climate Action Plan monitoring, evaluation and reporting on progress is annual (CDP, 2023). They also update the indicators annually based off evaluation meetings with the public and stakeholders, to give oversight on the development of collaborative projects promoting citizen action (City of Barcelona, 2018, 155). Barcelona's Resilience Action plan monitoring and review process takes place every two years and is described in detail on pages 47 and 48 (2020).

Suggestions for Implementation

Among other thing, accountability entails establishing a feedback loop with communities most impacted by the implemented climate policies and programs. ICLEI Canada's guide to Equitable Climate Adaptation provides helpful guidance on incorporating equity into all steps of adaptation planning, including implementation, evaluation and monitoring. ICLEI Canada suggests cities consider:

- "Have you reported the outcome(s) back to the communities you have engaged with? Have you provided support and continued commitment if these decisions did not address concerns and issues faced by individuals engaged?"
- Have you reported outcomes back to the communities you have engaged to reflect engagement directions and share how results inform ongoing plan and policy development?" (29)

The Tamarack Institute's Community Climate Transitions Network found that regular updates on progress and lessons learned, conveyed in accessible ways, paves the way for authentic feedback from equity-denied community members (2024, 26). Regularly checking in with community partners is also vital to ensure the project is realizing co-benefits (ICLEI Canada, 2022, 16). The City of Victoria already reports progress on climate action to the Carbon Disclosure Project, so reporting adaptation actions as well should be quite straightforward. An annual reporting structure is ideal, but the plan may not need to be updated that frequently and/or could be treated as a living document with ongoing community input, such as the GNWT's Climate Plan. Ultimately, incorporating the recommendations regarding communication will be key in ensuring the reporting back to communities is done in an accessible and culturally relevant manner.

Resources:

- C40 Inclusive Community Engagement Playbook (see section on Feedback and Evaluating) https://www.c40knowledgehub.org/s/article/Inclusive-Community-Engagement-Playbook?language=en_US
- Better Evaluation Knowledge Platform https://www.betterevaluation.org/
- C40 Toolkit for Equitable Impacts https://www.c40knowledgehub.org/s/article/Tools-for-measuring-the-wider-benefits-of-climate-actions?language=en_US

Concluding Remarks

The Northwest Territories, Barcelona, Vancouver and Seattle all provide important examples and best practices that can be applied to the city of Victoria's climate adaptation plan. While no single jurisdiction profiled has been perfect in integrating procedural, recognitional and

distributional equity nor all five components of intersectional climate justice into their climate adaptation policies and programs, they still provide lessons learned. As Lepp (2024) concluded in her graduate research, distributional equity is insufficiently operationalized in Canadian municipal adaptation plans. There is much to learn in this regard from how Barcelona and Seattle have equitably distributed funds, decision-making power, and other resources such as climate shelters and careworkers to marginalized and vulnerable populations in their cities. While all the jurisdictions demonstrated strengths in one or more subcomponents of Amorim-Maia et al.'s (2022) intersectional climate justice framework, my evaluation points towards the need for municipalities to better address the root causes of inequity in order to sufficiently redress the drivers of structural inequity.

Additional Equity Resources:

- ICLEI Canada Equitable Climate Adaptation: Considerations for Local Governments https://icleicanada.org/wp-content/uploads/2022/11/2022-11-08-ICLEI-Equitable-Climate-Adaptation-Considerations-for-Local-Governments.pdf
- A Municipal Guide to the Truth and Reconciliation Commission's Calls to Action https://www.abmunis.ca/advocacy-resources/governance/municipal-indigenous-relations
- Disability Alliance of BC Emergency Preparedness Resources https://disabilityalliancebc.org/category/publications/emergency-prep/
- BC Accessibility Hub Resources for Local Governments https://bcaccessibilityhub.ca/resources/resources-for-local-governments/
- Federation of Canadian Municipalities (FCM) and ICLEI Canada Integrating Equity, Diversity and Inclusion into Municipal Climate Action https://icleicanada.org/project/integrating-edi-into-municipal-climate-action/
- Urban Sustainability Directors Network (USDN) Equity Foundations Training https://www.usdn.org/equity-foundations-training.html
- Tamarack Institute Community Climate Transitions Network Guide for Advancing Climate Equity Through Place-Based Collaboration https://www.tamarackcommunity.ca/guides/10-a-guide-for-advancing-climate-equity-through-place-based-collaboration

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