



An Equity Review of the City of Calgary's Climate Resilience Strategy

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Introduction

Municipal governments have a responsibility to address ongoing, and in some cases increasing, inequities experienced by specific peoples and communities. Many of the inequities are intersectional - such as precarious housing, employment and poor health outcomes - and can only be addressed through holistic and integrated actions. These actions must be shaped by the meaningful engagement of equity-deserving people with relevant lived experience.

As many municipalities around the world increase the level of ambition in their climate strategies, they are purposefully planning climate actions and investments that contribute to critical, equity-related priorities. There is growing recognition that within cities some residents and communities disproportionately experience the impacts of climate change, and this is linked to other experiences of inequity and discrimination connected to residents' identities and socio-economic status, for example, age, race, gender, disability, sexual orientation, income, immigration status, health status and place of residence. Applying an equity analysis to climate plans must go beyond a minimal, harm reduction approach -- that focuses narrowly on preventing city climate actions from perpetuating and exacerbating existing inequities -- and use this opportunity to improve quality of life of equity-deserving residents.

Firstly, cities must urgently prioritize actions to protect disproportionately impacted residents and communities from the imminent threats posed by climate disruption to their health, wellbeing and livelihoods. Secondly, cities have a huge opportunity when updating or developing new strategies to design them in such a way that they create opportunities or “co-benefits” for equity-deserving peoples and communities (going beyond narrow ‘do no harm’ approaches). Lastly, most policymakers would agree that for climate mitigation and adaptation strategies to be successful, they ultimately require the full participation of all residents (as community members, workers, tenants, homeowners and business owners) to achieve the complete range of climate actions needed to become a low- or zero-carbon city. To achieve these interrelated goals, cities have to meaningfully engage equity-deserving people and communities on an ongoing basis – through policy design, implementation and evaluation cycles. This will require dedicated time and resources, and a commitment to relationship-building and learning.

We applaud the City of Calgary for beginning the process of undertaking an equity review of the Calgary Resilience Strategy: Mitigation and Adaptation Action Plans, and look forward to sharing our initial observations and recommendations.

Scope of this Equity Review

The Toronto Environmental Alliance (TEA) is an environmental non-governmental organization (ENGO) with over 30 years of experience in municipal environmental policy development, coalition building and community organizing. We have worked with collaborators in different Canadian municipalities to advance a stronger equity focus in climate policies and share good practices to promote greater inclusion of equity-deserving communities in climate action.

TEA was contracted to provide an equity-focused review of the Calgary Resilience Strategy: Mitigation and Adaptation Action Plans (referred to as the “Strategy” in this report) and provide support to the City as it undertakes an update of this Strategy. The City has expressed that it aims to include a strong equity analysis in the update process, create more opportunities for equity-deserving peoples and communities to shape the Strategy, and ultimately maximize the positive equity-related impacts and co-benefits for Calgarians through the Strategy.

TEA collaborated with Community Resilience to Extreme Weather (CREW) to conduct a section-by-section review of the Strategy document. CREW is an award-winning, volunteer-driven project of the MakeWay Shared Platform, which explores ways of communicating our need to adapt to the rapidly increasing risks and hazards of extreme weather. CREW has worked in collaboration with different communities, organizations and municipalities on numerous initiatives to build local climate resilience.

We conducted this review from September 13 to October 8, 2021, which involved the following steps:

- Review of background information provided by City staff;
- Meet virtually with City staff to discuss the Strategy update process and opportunity to establish an Equity Working Group to help guide and advise this process;
- Review and analysis of the current Strategy by TEA and CREW; and
- Document equity-focused observations and recommendations in this report.

It is important that TEA acknowledges the limitations of this initial review. Although we have worked with other municipalities and governments to provide expert feedback, and have done extensive work on environmental issues intersecting with social, racial and economic justice, our location in Toronto limits our perspective to a high-level external analysis. Given the review time frame requested by the City, we were not able to include a review of intersecting issues and related City strategies, or speak with local stakeholders (other than City staff).

In addition, while TEA works to achieve environmental justice goals with diverse communities and partner organizations, our organization does not represent specific equity-deserving peoples and communities. As reviewers, we strive to acknowledge how our various individual experiences of privilege and/or inequity have influenced this work, and that we carry either conscious or unconscious biases which may influence our analysis.

In this initial review, we have aimed to provide a framework and recommendations that will support the City of Calgary to conduct further equity-focused analysis and meaningfully engage local equity-deserving communities in the Strategy update process, and on an continuing basis. In the coming months, it will be of critical importance that these local perspectives inform the key equity-related priorities and commitments in the Strategy, and we are encouraged by the City's initial plans to establish an Equity Working Group to provide advice and guidance in this regard. As such, we view this review as a first step in what we hope will be a longer and deeper process to integrate local equity considerations into the Strategy.



Climate Resiliency in Calgary

Potential New Sections

We have included some recommendations on new sections. The headings are only inserted to organize our recommendations – we are not suggesting that the City use this specific wording in the updated Strategy.

Relationship with Indigenous Peoples

We are encouraged that the City has already embarked on a process to engage Indigenous treaty-holders and partners in the process of updating the Strategy.

We recommend that updated Strategy include a section at the beginning of the document that contains the following:

- Acknowledge and describe the Indigenous territory on which the City of Calgary is built, and the Indigenous peoples and nations that have lived, and continue to live, on this land
- Describe the City’s overarching relationships with, and commitments to, Indigenous nations and peoples
- Describe how the City has engaged Indigenous treaty holders, organizations and peoples to shape the updated Strategy
- Outline how the Strategy honours and draws from Indigenous knowledge (if it is offered) and how it supports/connects with Indigenous-led climate initiatives (if it does)
- Describe how the Strategy’s actions aim to benefit, and foster collaboration with, Indigenous communities, residents, organizations and businesses (if it does)

These are general recommendations. Through the process of engagement, the City should seek direct feedback from Indigenous treaty holders and peoples on how their contributions should be recognized in the updated Strategy.

Equity and People

The Adaptation Plan has a “People” theme. We recommend that this should be a central theme in the Climate Resilience Strategy, which

overarches both adaptation and mitigation plans, as well as being articulated within each plan. We recommend including a section that is centered on people and provides a high-level equity analysis with the following:

- Describe how specific place- or identity-based communities and equity-deserving peoples are (or will be at risk of being) disproportionately impacted by climate change in Calgary
- Describe how the Strategy helps to achieve the City's overarching commitments to address equity (e.g. fight racism, reduce poverty, create opportunities)
- Outline how (at a high level) the actions in the Strategy will generate co-benefits for communities that have positive equity impacts
- Recognize where the City is in relation to its commitments to integrate equity into climate action (it's a process!), and recognize the contributions of stakeholders in shaping equity considerations in the Strategy (e.g. working group)

As discussed, there are a range of identities, perspectives and lived experiences that would be important and valuable in developing and integrating an equity analysis into the updated Strategy which include: people with Disabilities/Disabled people; racialized people, newcomers and refugees; LGBTQ2S; people with low and moderate incomes, tenants and under/ precariously housed people; youth, seniors and women (especially those that hold intersecting identities).

An Equity Analysis of Current Sections

1. The Climate Program

There is mention of alignment to other projects and processes (e.g. 100 Resilient Cities and the City Charter) in order to integrate climate resiliency to business planning, budgeting, and economic initiatives. However, there is the opportunity to consider alignment and synergies with other municipal policies and initiatives that serve equity-deserving communities.

2. Climate Planning - The Climate Resilience Strategy

This section describes the first phase as focusing on collaborating with IC&I sector stakeholders. The description of the second phase could be more inclusive of residents, communities and civil society organizations, recognizing both the importance of "choice" (individual actions) and the City's responsibility to advance the wellbeing of residents and communities.

3. International to Local Context

There is an opportunity for the City to acknowledge its commitment to contributing to broader efforts by the international community. Many jurisdictions have adopted, or are adopting, a carbon budget approach to setting short and long term GHG reduction targets. From an equity perspective, Canadian cities are important contributors to achieving Canada's "fair share" of reductions to meet the Paris Agreement's objectives and reduce emissions more quickly than low-income nations. We recommend reviewing recent IPCC reports¹ for updated global analysis, and Navius Research's recent modelling estimating Canada's fair share². An important action that the City can undertake is to map a pathway that is in line with up-to-date "fair share" models.

4. The Challenge

There is a need to reframe this section to be more people-oriented, instead of emphasizing the costs to the city. The focus on delivering and preserving services and minimizing costs is fair, but could be re-written to underscore how future service outages impact Calgarians and local communities, especially those already at risk or vulnerable.

5. The Opportunity - Climate Resilience in Calgary

This opportunity section could better emphasize the positive opportunities right from the beginning. It is good to see mentions of local job creation as a key economic opportunity; this could go even further by being specific on how these investments can benefit specific neighbourhoods and demographics (e.g. local businesses owned by and serving equity-deserving groups or create workforce pathways). When there is mention of "growth and prosperity", we encourage a deeper analysis of equitable development -- where is the growth happening? Prosperity for who? Who is positioned to take advantage of programs and services, and for whom are targeted initiatives and supports needed?

In addition, there is a list of "individuals, communities, institutions, businesses, and systems" who need to increase their capacity to adapt to climate change and future shocks. However, much of the additional language in the section speaks to business-oriented audiences "investors, customers, employers, taxpayers". This may not be accessible or relatable to residents.

6. From Vision to Actions

The Vision “A great place to make a living; a great place to make a life” is a good starting point to dive deeper into equity considerations.

For the guiding principles, “Inclusiveness” is not about the number of stakeholders (quantity), but instead should be more considerate of who needs to be included or is currently excluded. There can be a value in having overarching principles that highlight equity as an important tenet of a climate strategy. For example, Toronto’s TransformTO Climate Strategy (2017) contains the following guiding principles:

a) advance social equity; b) improve affordability particularly for vulnerable populations; c) protect low-income residents d) contribute to poverty reduction e) enhance and strengthen the local economy; f) maintain and create good quality local jobs; g) improve public health; and h) create resilient communities and infrastructure.

The City of Vancouver has taken a different approach by integrating principles into specific action areas. For example, the guiding principles of its Embodied Carbon Strategy are summarized as follows: climate urgency, neutrality of materials, healthy materials and buildings, circularity, equity and responsibility, affordability, and shared knowledge and vision.

Our first impression of the five themes for climate mitigation is that they are conveyed as straightforward without any references to human impacts. This is in contrast to the climate adaptation theme, which has a direct mention of “People: A city where people can thrive” right at the top.

While the City may use this language of “business cycles”, this may not be a relevant timeframe for most residents. We recommend writing with residents in mind.

Visual elements can help to improve accessibility for some audiences such as the graphic showing the mitigation-adaptation intersection (p.9). From a technical content and equity perspective, the “intersection” of the graphic could be expanded to include actions like climate-proofing/retrofitting buildings and also people-centered systems such as climate engagement and preparedness networks.

7. The Way Forward

The Governance section describes the importance of convening a group that will offer an “independent voice” and “authoritative

advice” to the City (we assume that the Climate Panel is playing this role). Moving forward, it would be important to articulate a commitment to including the voices of equity-deserving communities in such a structure.

As indicated, public monitoring, reporting and communications on Calgary’s progress are an important part of the Strategy. Equity-focused climate indicators/measures can be developed collaboratively with community members and organizations, and be incorporated into annual reporting frameworks. For example, the annual reporting process to Council could include metrics tracking the (inequitable) distribution of climate impacts and costs, and related measures to improve resilience in low-income and racialized communities. It could also include progress made to achieve co-benefits like enhanced green space equity, access to green employment opportunities, food security, energy costs, or respiratory health.

In the graphic on p.16 depicting monitoring and reporting timelines, it would be helpful to establish more specific interim targets between 2026 (end of next business cycle) and 2050. These could include both GHG reduction targets in specific sectors (e.g. buildings, transportation) as well as other key targets for measures of progress including equity-focused indicators (as noted above). An annual schedule would promote strong governance and public accountability, help to establish processes and deadlines among City staff working towards specific reporting targets.

Procurement policies can be powerful tools and provide an excellent opportunity for the City to “lead by example”. The City has an opportunity to develop and implement procurement policies that are aligned and contribute to the goals of the Climate Resilience Strategy and prioritize equity (e.g. fair wages, buy local food and goods, prioritize recycled and/or circular products, procure goods and services from local businesses owned by and/or employing Indigenous people and members of equity-deserving groups). This strategy can go further than just influencing the supply of specific products, by using actual funding to shape the market and support people directly.

Municipalities have developed effective and innovative ways of funding and financing climate action. It will be important for the City to consider the range of revenue tools that are within its power to enact. If one does not currently exist, we recommend developing a framework for assessing and guiding the development of potential revenue options that integrates equity and fairness as guiding

principles (e.g. does not place a financial burden or penalize low- and moderate-income residents or small businesses; funds or incentivizes climate action that will benefit local communities).

Climate Mitigation Action Plan for Calgary (2018)

Summary

Overall, this plan needs a stronger people-centered lens throughout in addition to the discussion of business, industry, technology, infrastructure, and City services. This work would benefit from a greater recognition that residents have very different levels of access to technologies to reduce GHG emissions, including energy efficiency upgrades and retrofits, electric vehicles, or safe cycling and walking infrastructure. The City's plans will be much more effective if equity considerations factor into ongoing actions and make them more accessible to all residents.

The plan's emphasis on costs to the City also needs to expand to consider implications for residents, and in particular, for low-income and racialized residents. While modelling shows that Calgary can reduce emissions through cost neutral investments (adopted at no net cost to the city's economy), this will have different implications for residents. Will the costs of climate action and climate adaptation be equitably distributed across the city? For example, while there are multiple benefits from energy efficiency, programs are usually geared towards homeowners. The split incentives of who pays utility bills (tenants) and who pays for energy efficiency upgrades (landlords) may prevent these lower housing and energy costs from being realized.

Section by Section Recommendations

Chapter 1: Climate Mitigation

It is helpful to see a connection established early between the escalating impacts of climate change, the need to build resilience to these impacts, and the need to mitigate these impacts by taking action to reduce GHG emissions through better energy management, implementing renewable energy projects, and supporting a low-carbon economy.

We are encouraged to see references to the Paris Agreement's objectives, which include: "differentiated expectations for developed nations, including Canada, that they will reduce their emissions sooner than developing nations." It is imperative that Canadians take responsibility for our disproportionate contributions to global

climate change. As mentioned earlier in this review, an important action that the City can undertake to address this disproportionate share of global emissions is to map a GHG reduction pathway that is in line with up-to-date “fair share” models.

Chapter 2: Emissions Inventory and Projections for Calgary

Current Emissions: Calgary’s largest source of GHG emissions by energy type is electricity - specifically, from coal and other fossil fuels used to supply the electricity grid. Although the decision to rely heavily on coal is not within municipal jurisdiction, we recommend including an analysis of the inequitable health impacts of burning coal in various populations, with young children, the elderly, and people with existing health conditions considered most at-risk.³ Indigenous peoples are also often disproportionately impacted by industrial air pollution from many sources, including electricity generating plants.

Future Emissions: In assessing the economics of cost projections, we suggest additionally incorporating an assessment of cost burdens on low-income and other equity-deserving groups vs. higher-income populations. There is a large body of research indicating that higher-income residents who consume more resources tend to emit more GHG emissions, while often experiencing cost burdens that are proportionally much lower in relation to their incomes. Understanding the finer details underlying “cost-neutral” projections could reveal inequitable distribution of costs and benefits.

This section includes a mention that a low carbon future could help reduce energy poverty. We suggest exploring this important possibility, and the actions necessary to support this possibility, in Chapter 3.

Chapter 3: Climate Mitigation Themes and Action

We commend the City’s good practice of naming the stakeholders engaged in the mitigation working groups. As previously mentioned, the Strategy update would benefit from a more diverse range of community and civil society stakeholders that bring perspectives that are underrepresented in the current Strategy and valuable from both a technical GHG reduction and equity lens (e.g. tenants, workers, transit riders, residents using mobility devices).

We strongly recommend that the City undertakes an equity analysis of each action area in the Mitigation Plan as part of the update process. However, we have included an analysis of some specific

programs that we believe have high potential for equity impacts (both opportunities and risks). We strongly recommend that the City engages external stakeholders (such as the equity working group and other knowledgeable, community-centered individuals/ organizations) in analyzing these areas.

Buildings and Energy Systems

Energy Performance Standards

- We recommend including analysis about how building upgrades or performance standards - all necessary and positive steps - could impact the cost or stability of housing for tenants or low-income homeowners; this analysis should be accompanied by suggested action items to mitigate these impacts
- Consider designing incentive and financing programs that target low-income homeowners, and additionally prioritize affordable and stable housing for low- and moderate income residents with appropriate safeguards in place to ensure that upgrades improve living conditions and do not result in renovictions or rent increases that could lead to displacement
- Similarly, incentive programs for commercial spaces should consider the impacts on the leases and day-to-day operations of small and medium local businesses including those that serve specific cultural, ethnic and place-based communities
- It is important that tenants (residents & businesses) and property owners (residential and commercial) who do not speak English as a first language have access to translated information and language-supporter services to participate in City energy performance programs and other climate-related initiatives

Renewable and Low-Carbon Energy Systems

- The commitment to support community ownership of renewable energy generation is very positive, and we suggest exploring alternative ownership models in more depth with comprehensive input from communities, especially those who have not traditionally participated in the renewable energy sector
- This commitment could benefit from pilot projects in the short term to test which models might be a good fit for which communities

Transportation and Land-use

Electronic and Low-Emissions Vehicles

- In the context of limited resources, it's important to assess how City investments (including staff time) proportionately benefit different income groups
- Strategies that focus on incentivizing private-use EVs are likely to disproportionately benefit middle and high income individuals if compared to strategies to electrify transit fleets (including investments in infrastructure, free charging and rebates)
- It is also important to determine if infrastructure plans and investments oriented towards single-occupancy vehicles (v.v. other transportation uses) have any impact on mode-shift behaviour / displacement of other modes
- We suggest exploring the health co-benefits of vehicle electrification, particularly for residents who live close to major roads and experience much greater impacts of traffic-related air pollution from gas-powered vehicles, which tends to correlate with income status
- In addition to supporting the electrification of commercial fleets, Calgary has an opportunity to lead by example by setting target dates to electrify City fleets

Low or Zero-emissions Transportation Modes

- The emphasis on shifting Calgarians out of single-occupancy vehicles to lower or no emissions transportation modes, or to higher-density complete communities, is a very positive step. However, we suggest articulating how the City will support and consult residents who currently don't use single occupancy vehicles to ensure these residents continue to see value in low-carbon modes of transportation. For example, transit enhancements to attract drivers shouldn't mean increased fares for existing transit users to cover the capital costs associated with these enhancements
- From an equity perspective, it is important to understand qualitatively and quantitatively how Calgarians from different communities and neighbourhoods experience different transportation modes, and opportunities for and barriers to modal shift
- For example, communities may have disparate access to continuous bike lanes or opportunity to own a bicycle and become comfortable with cycling. Suburban residents often experience more hesitation to cycle or walk due to larger streets with less cycling or pedestrian infrastructure and higher traffic speeds

Land-use and Transportation Planning

- It is positive to see land use planning tied in with transportation emissions reduction and managing climate risk in this section
- From an equity perspective, this is an important consideration for low-income residents who may have to consider the costs of travel (e.g. longer commutes if they cannot afford to live close to their workplace), or may have to balance housing affordability with travel costs
- Overlaying a complete communities framework with the Calgary Equity Index (or highlighting the CEI indicators that relate to land use and amenities & service access) may generate some valuable insights

Consumption and Waste

- It is extremely positive to see waste considerations move beyond methane generated in landfills to include the emissions embedded in the products we use and dispose of - life cycle analysis can be effective in understanding the different carbon footprints of low- and high-income households
- We support the proactive approach of reducing emissions by reducing the amount of waste that is created in the first place - this is important from an equity perspective as the waste we generate can have harmful and disproportionate impacts on low-income and racialized communities, or smaller communities “receiving” waste from large urban centres, which are situated in closer proximity to toxic landfills
- We suggest exploring the impacts of construction and demolition waste as a significant source of embodied GHGs - in this section. City policies are likely the only way to drive diversion for this type of waste, and city infrastructure projects could be a good opportunity to lead by example. Textile diversion could provide another significant area of waste emissions reductions.
- This section could benefit from more connections to the circular economy as it relates to local job creation. For example, there are 10 times as many jobs in the 3R's (reduce reuse recycle) than in disposal (landfill or incineration)
- Key actions can also go beyond just promoting reduction, and work to support more ‘circular’ programs like repair cafes, sharing libraries, and support for community programs (e.g. sewing repair hubs, bike repair) which can also help reduce household costs
- There is also a potential tie-in to the Adaptation Plan in the

recommendation to improve access to local food. Local food access supports communities in times of climate stress or economic instability

Natural Infrastructure

- We suggest modifying the lens throughout this section to assess the value of natural systems beyond corporate and ecological costs. It is important to acknowledge the role of these spaces in improving quality of life, air quality, public health, and mental health.
It is also important to consider the equity dimensions involved in work to restore and create new green infrastructure
- How will this action impact access to these green spaces for people who don't have backyards, cars, or private green spaces? How can the creation of green spaces and natural infrastructure help bring more equitable access to green spaces across the City, and across income groups?
- This is an important area of intersection with the Adaptation Plan, especially as it relates to the protective impacts of green infrastructure (e.g. flood management; cool spaces during heat waves)
- It is encouraging to see “green space area” as an indicator in the CEI, but specific communities’/neighbourhoods’ experience of accessing local green space may not be understood purely by area measurements

Leadership

- It is positive to see a strong commitment from the City to demonstrate leadership in the construction, operations, and maintenance of City-owned buildings, facilities, infrastructure and fleet
- As discussed, as the City “greens” its own operations, it has an opportunity to develop climate-friendly procurement policies that give priority to local businesses owned by and or employing Indigenous people and members of equity-deserving groups (including creating pathways / capacity building programs to become a green City supplier)
- This section highlights the central role the City has to play in climate communications and engagement. Developing strategies that make climate-related information and programs accessible to different cultural and linguistic communities is important from an equity perspective
- Recognizing the role of the “messenger” and partnering

with community groups and organizations with deep local roots to implement climate change awareness, education and behaviour change programs is critical.

- Developing and resourcing ways to specifically engage equity-deserving communities such as neighbourhood / community climate engagement grants administered by local partners can create pathways for climate messages to reach new audiences.
- Investing in capacity building (led by equity-deserving people/ organizations) for City staff that increases learning and skills to understand how equity concepts apply to climate action, undertake equity analysis, and build community relationships can be valuable and demonstrates a “lead by example” ethos

Chapter 4: Plan Implementation and Next Steps

- Equity must be considered more deeply when developing metrics to evaluate the City’s progress towards climate change mitigation.
- We recommend adding new primary metrics which assess the impact of the City’s mitigation efforts on equity-deserving people. For example, it will be important to evaluate the demographics of who is accessing incentives or programs to accelerate the adoption of low carbon technologies to ensure equitable distribution of City resources.
- A commitment to including equity analyses in annual or regular reporting on the City’s climate plan would be a positive step and help ensure ongoing evaluation of the effectiveness of equity actions

Climate Adaptation Action Plan for Calgary (2018)

Summary

In general, the Climate Adaptation Action Plan lacks recognition and analysis of the differential impact of climate change and extreme weather on low-income and racialized communities, and other equity-deserving people, who are currently experiencing greater cost burdens, and more pronounced physical and mental health impacts. As climate change escalates this inequity will become even greater. The City of Calgary should take action now to protect those most impacted by climate change.

Our recommendation is to include specific analysis and assessment of climate change impacts on low-income, racialized, and other equity-deserving populations in all sections, and incorporate these learnings into planned actions and investments throughout. This assessment should include economic, social well-being and public health indicators, but should also include meaningful input from communities themselves.

We also suggest shifting the focus of the Climate Adaptation Action Plan to include a core focus on protecting residents, which would provide an important justification for protecting City infrastructure, budget, and services, which comes across as the primary focus at present. For example, a vulnerability and risk assessment is mentioned but only for City infrastructure and services - this type of action and analysis would need to expand to include, and prioritize, the impact on residents, and be informed by the lived experiences of community residents.

Section by Section Recommendations

Chapter 1: Climate Adaptation

- Targeted stakeholder engagement needs to include more organizations with direct connections to low-income, racialized and other equity-deserving communities
- Stakeholder engagement could draw on existing groups or committee of service providers consulted for pandemic community response, as many similar communities will be disproportionately affected by climate change

- We recommend including a timeline for consultations and engagements, and accountability structure (e.g. annual reports)
- Calgary Neighbourhoods can contribute to this but may not be able to capture all necessary feedback - multiple perspectives prevent one division being tasked with representing all equity-deserving and at-risk communities

Chapter 2: Climate Risks for Calgary

- This section provides a good opportunity to discuss how the described risks impact communities differently, e.g. heat impacts are harder to mitigate in lower-income communities with reduced access to air conditioning or shade, and lower income residents are more likely to live in river flooding risk areas
- In analyzing the potential for City service disruption, it will be important to include impacts of this disruption for at-risk residents
- In analyzing impacts on human health and community, break this down by income/demographic instead of providing blanket analysis for Calgary as a whole, which skips over critical inequalities and opportunities for targeted support
- Involve community services agencies who will have access to special local knowledge for emergency response, for example, where people need to travel to in a storm to get shelter and food, who cannot travel and must shelter at home, which transportation methods are most used, which languages are spoken in which areas, and how these communities can best be supported
- In analysis of the impacts of long-term drought, include a discussion of the long-term impacts on food prices
- Air Pollution is listed as a low likelihood, low consequence section - should the 2021 wildfire season cause this likelihood to be reassessed?
- Air pollution is also a chronic contributor to premature death and respiratory illnesses, in particular in low-income communities who are more likely to live close to major roads and sources of air pollution. Air pollution from wildfires can cause greater harm to communities who are already facing high health stress from air pollution
- In analysis of costs of climate change, include vulnerability assessment across different income levels to guide City actions and investments

Chapter 3: Climate Adaptation Themes & Actions

People

- Introduction to the “People” section includes the only significant mention of disproportionate impacts to vulnerable populations
- This factor should be mentioned at the start of the Adaptation Plan and considered throughout the People section
- Sections on air quality, extreme heat, etc are great opportunities to drill down into impacts on populations made vulnerable by climate impacts and other inequities
- Include special consideration of mental health impacts, including income stress as food and energy prices increase, and increasing eco-anxiety across populations

Infrastructure

- We support the proposal that priority should be given to facilities serving vulnerable populations in assessing the condition of power supplies in critical City facilities
- We recommend including an analysis of how Calgary Housing can prepare to respond to extended power outages, and what outcomes are expected from power outages
- Consider how Investing in infrastructure upgrades can also act as an economic stimulus which can protect or increase local jobs and improve residents’ access to services and quality housing
- Specify how these investments can positively impact specific neighbourhoods and demographics (for example, areas with local businesses owned by and serving equity-deserving groups)
- Consider potential co-harms associated with infrastructure investment, such as the permanent displacement of equity seeking groups, Indigenous people, small and/or ethno-cultural businesses, etc. and make a plan to mitigate these risks

Natural Infrastructure

- It is positive to see natural infrastructure included along with human-made infrastructure
- Address how natural infrastructure will be used in more built up spaces with a lot of existing built form, and how this might work (or not work) in low-income neighbourhoods with less green space

- Consider the co-benefits of new green space creation as they relate to people (e.g. health, mental health, food security, cooling potential) and include benefits to people and communities in anticipated outcomes
- We recommend adding an analysis of urban agriculture as a potentially essential food source over time with multiple benefits (as pointed to in mitigation strategy); urban agriculture of any kind needs to have intentional City support at both the policy and financial level to move projects forward, which could otherwise become mired in complex rules and regulations
- Consider the opportunity to improve green space equity at the same time as providing increased resilience - urban heat mapping can help show where urban green space is lacking and provide a path forward

Water Management

- For highlighted actions section, consider actions to investigate how flood vulnerability impacts people across income groups
- Does Community Scale Flood Risk Mapping (to be completed in 2021) measure impacts on all neighbourhoods? Information should be shared with residents through local communications channels that reach the greatest number of people
- Examine specific impacts on basement apartments, since many tenants have little or no insurance and are more financially and physically vulnerable to flooding events
- Long-term water supply - consider different impacts on resident abilities to respond to water supply impacts based on income, for example, those who can afford to buy bottled water vs those who are more dependent on tap water

Governance

- Consider who is missing from this introductory statement “A key prerequisite for effective adaptation to climate change is that The City, organizations, business associations, institutions and private individuals work together.” Include civil society, community groups and support networks
- Consider making targeted investments in communities bearing greater cost burdens - this could also save the City and other levels of government money in the end with fewer people seeking emergency supports when disasters happen
- Highlighted actions should include strengthening community emergency preparedness, response and support networks;

actions should include ongoing local emergency preparedness planning with communities

- Consider how emergency communications are delivered to equity-deserving populations who may not access mainstream communications. Is there a local communications channel through locally based service agencies etc?

Chapter 4: Plan Implementation and Next Steps

- Potential adaptation indicators need to include equity related metrics here - who is being impacted most, how is this changing over time



Conclusion

We applaud the City of Calgary for taking initial steps to better integrate equity into their climate change strategy development and planning processes. This work is rarely straightforward or easy, but is essential for including the perspectives of residents who are most impacted by climate change and maximizing co-benefits that advance equity-related priorities and improve the wellbeing of Calgary's diverse communities.

Strengthening the City's equity analysis and commitments through structures, processes and tools such as working groups, consultations, vulnerability assessments, surveys, disaggregated socio-demographic data, and ongoing dialogue, will make Calgary's Strategy more accessible, more inclusive, and therefore more effective, in encouraging more residents to participate in the shift to a low- or zero-carbon society and economy. Integrating equity objectives and metrics into regular Strategy monitoring, evaluation and reporting will help to ensure that the City continues to make progress on advancing equity commitments as plans evolve over time.

Lastly, we see a tremendous opportunity for the City of Calgary to generate valuable knowledge and lessons that can be applied to many areas of City work, as well as contribute to a growing body of peer-based learning, as many Canadian municipalities strive to improve how equity is integrated into their climate change policies, programs and civic processes.



Endnotes

1. IPCC Sixth Assessment Report (2021). Accessed at: <https://www.ipcc.ch/report/ar6/wg1/>

2. Navius Research (2021). Towards Canada's fair share: New modeling and analysis on achieving a stronger climate target. Accessed at: <https://www.naviusresearch.com/publications/towards-canadas-fair-share-2021/#:~:text=Average%20annual%20GHG%20reductions%20after,Stay%2Dthe%2DCourse%20scenario>

3. The Pembina Foundation, The Asthma Society of Canada, The Canadian Association of Physicians for the Environment, The Lung Association, Alberta & Northwest Territories and The Pembina Institute (2013). A Costly Diagnosis: Subsidizing coal power with Albertans' health. Accessed at: <https://www.ab.lung.ca/sitewyze/files/costly-diagnosis.pdf>