

Climate Reporting Framework

NOW THEREFORE BE IT RESOLVED:

Notice of Motion (NoM) Action 1:

That Council direct Administration to develop a **framework to measure and report** on the Climate Strategy actions, budget and annual spend.

NoM Action 2:

That Council direct Administration to provide **ongoing expenditure reports** to be submitted to Audit Committee;

- a. **Future reports will explore financials** including cost of action/inaction, avoided costs and cost savings as it relates to climate mitigation and adaptation.
- b. **Qualitative reporting** to include indigenous world view, equity, and environment.

This attachment provides a progress update on The City's development of a climate reporting framework, climate expenditure reporting and qualitative reporting on Indigenous world views (as they relate to climate), climate equity, and the intersection of climate and environment. The attachment is divided by actions 1 and 2, as outlined in the Building Accountability into the Declaration of a Climate Emergency and Call to Action (EC2021-1698).

Action 1: Climate Reporting Framework

The City reports on climate progress and performance through a variety of reporting mechanisms. To enhance transparency, accessibility and alignment of various reporting outcomes, a climate reporting framework as outlined in Figure 1, has been developed to consolidate information into three central City reporting documents: the Accountability Report, Annual Financial Report, and the Climate Progress Report.

Table 1 describes what types of climate-related information will be included in each report and Table 2 provides more details about the specific metrics which track The City's achievements as they relate to the goals of the Climate Strategy. Furthermore, The City is exploring an overarching strategy for an Environmental, Social and Governance (ESG) reporting framework, to be advanced in parallel with national and international reporting programmes including the International Sustainability Standards Board (ISSB) and the Public Sector Accounting Board (PSAB)

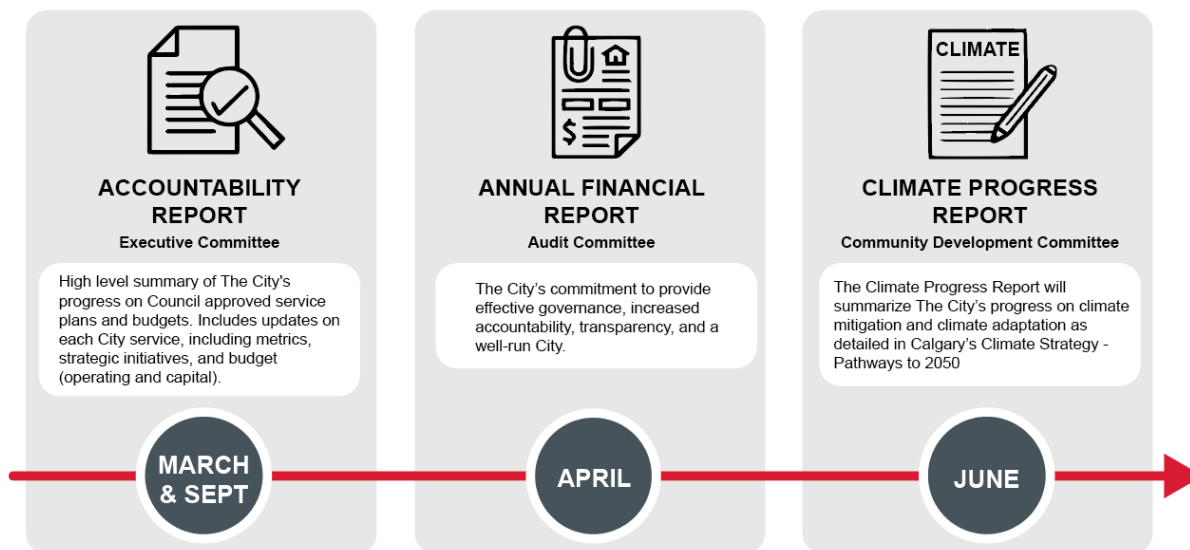





Figure 1: The City of Calgary’s annual climate reporting framework timeline and main reporting processes.

Table 1: Climate Reporting Framework

 <p>ACCOUNTABILITY REPORT Executive Committee</p>	<p>Focus: City’s Progress on 4-year Service Plans and Budgets</p> <p>The City has updated climate-related performance measures for the new Climate & Environmental Management service as part of the 2023-2036 Service Plans and Budgets. Cross-corporate climate reporting is being incorporated in a comprehensive and integrated way into the Accountability Report for the 2023-2026 Service Plans and Budgets starting with the 2023 Mid-Year Accountability Report, including reporting on the expenditure and associated results of the cross-corporate primary (direct) climate investment approved through the 2023-2026 Service Plans and Budgets</p> <hr/> <p>Key climate information provided in report</p> <ul style="list-style-type: none"> • Accountability reporting by service, including challenges, emerging issues or opportunities, progress on approved initiatives and performance measures, and comparison of budgeted to actual expenditures (operating and capital). • Reporting on Council’s Climate Resilience foundation including community indicators: <ul style="list-style-type: none"> ○ Calgary community-wide greenhouse gas (GHG) emissions ○ Projected Calgary Community Climate Risk (with and without Adaptation) ○ Concern about impact of extreme weather events on one’s life • The Climate and Environmental Management service comparison of budgeted to actual expenditure (operating and capital) and climate-related performance measures: <ul style="list-style-type: none"> ○ Corporate GHG emissions ○ Tracking Adaptation and Measuring Development (TAMD) score • High-level summary of the cross-corporate primary climate investment approved budget and associated expenditure.
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	<ul style="list-style-type: none"> • High-level summary of the corporate and community carbon budget and evolution of the carbon budget framework including the status of the integration of the carbon budget framework into City decision making and budget processes. • Progress on climate-related Council focus areas and highlighted performance measures.
 <p>ANNUAL FINANCIAL REPORT Audit Committee</p>	<p>Focus: Financial Health of the Corporation</p> <p>The City's Annual Financial Report provides a comprehensive view of consolidated financial statements in accordance with Public Sector Accounting Board (PSAB) for local governments. In 2021, The City's Annual Financial Report included The City's first year of unaudited Climate-related Financial Disclosure (CRFD). The City will continue to evolve the content of this section to align with reporting from other large Canadian municipalities and international standards.</p> <hr/> <p>Key climate information provided in report:</p> <ul style="list-style-type: none"> • Audited section of Report <ul style="list-style-type: none"> ○ Annual expenditure by segment which may include climate-related information as climate-related financial disclosure for the public sector and accounting standards are developed and evolve. • Unaudited section of Report (CRFD) <ul style="list-style-type: none"> ○ Total cross corporate climate-related budget (the primary climate investment which includes operating and capital funding to implement actions specific to accelerating climate action (significant focus on reducing GHG emissions and/or climate risk)). ○ Climate governance and strategy around climate-related risks and opportunities and how these impact planning and financial decisions, including: <ul style="list-style-type: none"> ▪ High-level summary of climate policy and decision-making frameworks ▪ Corporate and community GHG emissions ▪ High-level summary of corporate and community Carbon Budget (<i>future 2023 CRFD</i>) ○ Climate risk management processes used by The City to identify, assess and manage climate-related risks. ○ Metrics and targets used to assess and manage relevant climate-related risks and opportunities as outlined within guidance set out by the Task Force on Climate-Related Financial Disclosures (TCFD).
 <p>CLIMATE PROGRESS REPORT Community Development Committee</p>	<p>Focus: Progress on Calgary Climate Strategy</p> <p>Annual climate progress reports were provided for the 2019 and 2020 reporting years. The Climate Progress Report's scope will be adjusted to align with the updated Climate Strategy - Pathways to 2050 (Mitigation and Adaptation Plans) and the 2023-2026 Climate Implementation Plan. The first report will focus on progress achieved in 2023 and be delivered in June 2024.</p> <p>The Strategy includes two primary climate goals: meeting the Council-approved target of net-zero emissions by 2050 and becoming a climate-resilient city.</p>

	<p>Key climate information provided in report:</p> <ul style="list-style-type: none"> • Detailed reporting of the cross-corporate primary climate investment approved budget and associated expenditure, including the ability to multiply impact by attracting external funding and/or resources. • Detailed reporting of GHG emissions and carbon budget (community and corporate) and the integration of the carbon budget framework into City decision making and service planning and budgeting processes. • Sector-specific GHG emissions targets and milestones as per the 12 pathways identified in the Climate Strategy. • Detailed Tracking Adaptation and Measuring Development (TAMD) scorecard and program specific indicators for implementation of climate adaptation actions and outcomes • Progress on climate action, including: <ul style="list-style-type: none"> o Progress of the Program Pathways within the Mitigation Plan o Progress on the Focus Areas within the Adaptation Plan o Progress towards understanding Indigenous world views and climate equity o Climate governance (internal and external partners) o Progress on civic partners and subsidiaries alignment with Calgary’s risk reduction goals and emissions reduction targets o Education and outreach (including external) o Implementation of the Growth and Development Climate Framework o Economic analysis and benefit of climate action (i.e., costs of action / inaction, cost avoidance, cost savings, and cost benefit analyses).
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Table 2: Key Climate Metrics

Metric	Description
Primary Climate Investment (budget and expenditure)	The primary climate investment approved within the 2023-2026 Service Plans and Budgets is as follows; \$3.8 million in new base operating; \$44.1 million in one-time operating; and \$207.8 million in capital. The associated annual expenditure of the total cross-corporate operating and capital investment approved through the 2023-2026 Service Plans and Budgets will be reported in all three reports and in more detail by the focus areas within the annual Climate Progress Report .

<p>Calgary community-wide greenhouse gas (GHG) emissions</p>	<p>Community GHG emissions are calculated based on the measured amount of carbon dioxide (CO₂) equivalent (e) released from an inventory of activities known to be primary sources of GHGs (scope 1 and 2 emissions) in Calgary, including:</p> <ul style="list-style-type: none"> • Energy used in buildings for heating, cooling, power, and light in the industrial, commercial, and residential buildings and facilities (i.e., electricity and natural gas consumption) • Vehicle transport of all types including public, commercial, and private vehicles (i.e., diesel and gasoline) • Methane from waste and wastewater facilities <p>Calgary's GHGs are typically reported as a cumulative total for all of Calgary, or by the primary source or energy type. Calgary's Climate Strategy: Pathways to 2050 has set a long-term target to be 'net zero' emissions by 2050, with an interim target of 60% below 2005 levels by 2030. This metric will be reported as a community indicator in all three reports.</p>
<p>Corporate greenhouse gas emissions</p>	<p>Corporate greenhouse gases are those produced by The City's activities, or City-owned projects, buildings, or assets. Corporate GHGs also have a target of net-zero emissions by 2050. This metric will be reported as a performance measure in all three reports.</p>
<p>Carbon Budget – Corporate and Community</p>	<p>A carbon budget defines the amount of GHGs available to be "spent" (i.e., emitted) to keep global temperature rise below 1.5 degrees C. Every action or decision that results in GHG emissions "spends" more of the carbon budget. A carbon budget has been developed for both the Corporation and the community and will be reported in all three reports.</p> <p>The carbon budget framework is a GHG management system that allows The City to quantify and report its planned corporate and community GHG emissions prior to decision-making processes. When fully developed and implemented, the community carbon budget framework will provide transparency about how Administration and Council decisions impact Calgary's ability to achieve its community GHG reduction targets (see Attachment 7). The evolution of the carbon budget framework will be reported in the Annual Financial Report and in more detail in the Climate Progress Report.</p>
<p>TAMD Score</p>	<p>TAMD scorecard is an overall annual assessment score which considers the following climate adaptation indicators:</p> <ul style="list-style-type: none"> • Integration of climate resilience into planning, policy and strategies • Coordination of climate risk management across relevant institutions • Climate adaptation budgeting and financial reporting • Knowledge and training in climate change issues and mainstreaming processes • Institutional capacity for decision-making under climatic uncertainty • Participation, public engagement, and awareness <p>The score is expressed as a percentage of best-practice adaptation measures developed and implemented by the organization. This metric will be used as a performance measure in the Accountability Reports and in more detail in the Climate Progress Report.</p>

<p>Projected Community Climate Risk Index (CCRI) (with and without Adaptation)</p>	<p>The Community Climate Risk Index (CCRI) is designed to assess the degree of climate risk and to highlight the drivers of vulnerability to climate change within each Calgary community. It illustrates, geospatially, where Calgary is most exposed and vulnerable to six hazards that are being made worse by climate change. Each community is assigned current and future (2050s) “hazard risk scores” and a current and future overall “climate risk score”, based on the degree of exposure and vulnerability to each of these hazards within the social, built, and natural environments.</p> <p>The goal of the climate adaptation program is to shift communities facing high and moderate risk in the 2050s to the low risk and very low risk categories through adaptation measures. This community indicator compares the projected 2050 community climate risk against the projected 2050 target with adaption measures implemented. This metric will be reported as an accountability indicator in the Accountability Reports and in more detail through a publicly facing online tool.</p>
<p>Citizen Perspectives</p>	<p>To help in “making life better every day” for Calgarians, The City conducts the Citizen Perspectives Survey at various intervals throughout the year. Surveys have been carried out with questions related to climate change since 2018.</p> <p>Community indicators derived from the survey include:</p> <ul style="list-style-type: none"> • Percentage of Calgarians who are concerned about the causes of climate change (total concerned vs total non-concerned). • Percentage of Calgarians who are concerned about the impacts of extreme weather events on one’s life (total concerned vs total non-concerned). • Percentage of Calgarians who are seeing or experiencing the effects of climate change, such as an increase in extreme weather events. • Percentage of Calgarians who feel The City, and Calgarians, need to do more about climate change. <p>This metric will be reported on as a community indicator in the Accountability Reports and in more detail in the Climate Progress Report.</p>

Additional Climate Reporting Framework Actions:

Public Facing Reporting Dashboard

Updating The City’s annual Climate Progress Report format and scope with the intention of providing more timely, succinct and accessible information to Council and the public. As part of this outcome, Climate & Environment is exploring options for an online public-facing climate reporting dashboard and/or report card to provide current information on key climate metrics and progress reporting on climate actions.

Accountability and Auditing

At the 2022 July 5 Council Meeting, City Council carried a motion assuring to “**direct** the Calgary Climate Strategy **includes** provision for independent, objective audits to support accountability and transparency in reporting to Calgarians on the progress made towards successfully implementing the Strategy”. An independent objective audit provides Calgarians with robust assurance that The City is effectively

implementing the Calgary Climate Strategy and is on track to achieve climate-related targets and objectives.

The City Auditor's mandate (as established in Bylaw 30M2004 [as amended]) establishes the ability to provide independent and objective assurance, advisory and investigative services to add value to The City and enhance public trust. The City Auditor will incorporate consideration of climate-related risks into the development of future annual audit plans and will utilize internal resources and external subject matter experts to provide assurance to Council through Audit Committee. The City Auditor will continue to liaise with other providers of assurance such as The City's External Auditor to collectively provide the most efficient and effective assurance regarding climate-related reporting to Council via Audit Committee, including information reported in the Accountability Report, Annual Financial Report and Climate Progress Report.

Action 2: Financial Reporting

The City currently tracks and reports on annual financial budgets and expenditures through various reports, including Accountability Reports on the service plans and budgets and the Annual Financial Report. This financial information is not specific to climate-related expenditures but rather rolled up to the departmental level for both operating and capital expenditure. Currently climate-specific information is available only within the unaudited CRFD section of The City's Annual Financial Report.

Under the updated climate reporting framework, The City will report financial information on climate-related risk, expenditures, cost-savings and cost-avoidance through each of the primary reporting mechanisms detailed above (Accountability Report, Un-audited CRFD section of the Annual Financial Report, and Climate Progress Report). The type of financial information that will be provided will fall into two broad categories:

- 1) Climate-related expenditures
- 2) Economics of climate action: costs of action / inaction, cost avoidance, cost savings, and cost benefit analyses

The City is currently working to develop tools, systems, and processes to enable the identification, quantification, and tracking of actual climate-based expenditure. The eventual desired outcome would be the inclusion of climate-related financial reporting in The City's Annual Financial Report, if and when PSAB develops prescribed requirements to undertake this type of reporting.

Extracting climate-specific expenditures from other operating and capital expenditures is challenging. This work will require defining types and making distinctions of investment through a climate lens as per Figure 2. These investment distinctions include primary (direct) climate-related expenditures; purpose of investment is to reduce emissions or climate risk, (i.e., electric vehicle infrastructure) versus secondary (indirect) expenditures; purpose of investment is for alternative outcomes/service provision; however, provide climate benefit (i.e., Calgary Transit Buses).

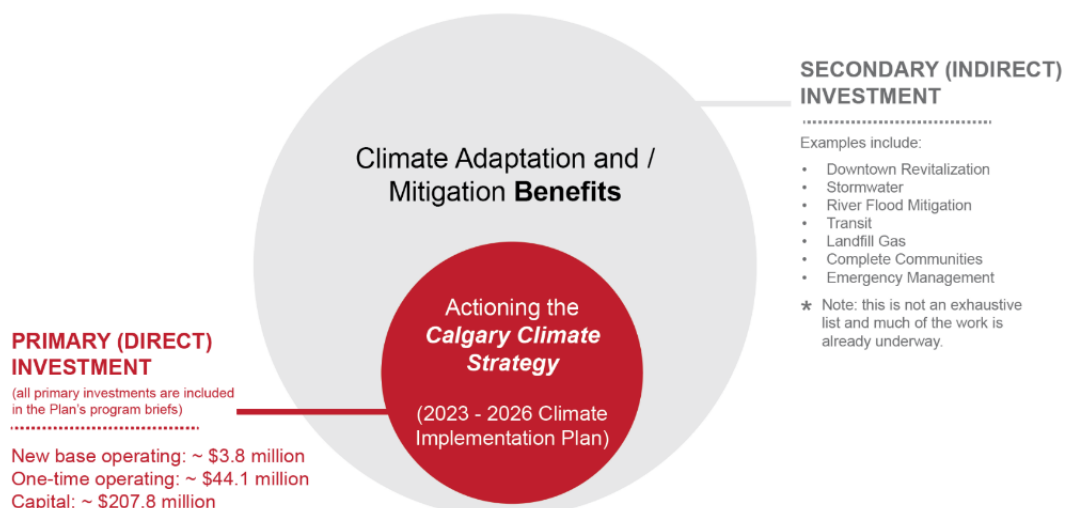


Figure 2: Climate Lens Investment Categories

The primary climate investment approved within the 2023-2026 Service Plans and Budgets is detailed in Table 3, and its associated annual expenditure will be reported in the Accountability Report and in more detail within the annual Climate Progress Report.

Assessing and reporting secondary (indirect) investment however will take more time to evolve as The City, to date, has not engineered its financial reporting systems to track what aspect of a project was specifically focused on a climate outcome. For example, currently the costs for a making a building more energy efficient may be rolled up into overall project design and/or building cost and not necessarily itemized per expenditure type. Financial tracking to enable this type of reporting in the future will require significant resourcing, new department IDs, and new processes to ensure the validity, comparability and replicability of results and the ability to replicate financial results and reports for current time periods, into the future.

Table 3: 2023-2026 Cross-corporate climate investment

Implementation Plan Categories	Base Operating ~ (,000's)	One Time Operating ~ (,000's)	Capital ~ (,000's)
Communities	1,345	20,534	9,800
Buildings	200	18,498	49,069
Energy Supply	-	312	12,300
Mobility	290	3,126	103,961
Natural Infrastructure	1,829	-	31,123
Education & Outreach	-	1,187	-
Accountability & Reporting	165	454	1,501
Total	3,829	44,111	207,753

Supplemental Climate-related Financial Information

There are numerous studies underway to inform The City on the various quantitative economic and financial implications of climate action, which can be referred to in terms including the costs of action / inaction, cost avoidance, cost savings, and cost benefit analyses. The progress of this work will be reported throughout the various reports within the Climate Reporting Framework as they evolve.

New information will need to be developed to report on avoided costs and cost savings, at a level of analysis that has not been successfully completed to date by other municipalities or organizations in Canada. To identify cost-savings there must be an enhanced understanding of current investment and expenditure. As described in the Climate-related Expenditures section of this attachment, climate-related expense information that can be tracked with a reasonable degree of effort and timeline for delivery, needs to evolve throughout the 2023-2026 business cycle. Defining the principles for evidence-based savings that could be recorded in our financial systems, monitoring, and recording the savings will be more challenging. Acquiring this information will have a longer delivery time as it requires the configuration of systems and evaluation of contracts and related transactional activity. The City is in contact with other Canadian municipalities as we work to develop a framework for climate-related financials, models for data capture, and standards for validation.

While the work around cost avoidance and climate adaptation will require the greatest amount of research, as it incurs longer timelines and climate risk includes concepts of uncertainty, The City has launched some innovative work in this field. Methods to assess cost avoidance related to the impacts of climate change on Calgary are used in the various economic analyses that are underway to investigate the cost-benefits of climate adaptation. Estimating the necessary investment to *adapt* to climate change, including managing climate impacts to municipal infrastructure, service delivery, and citizens, requires baseline data and long-term climate projections at multiple scales. An economic climate risk and adaptation analysis was completed in early 2023 for City buildings including a cost-benefit analysis that integrates climate projections, remaining service life of building assets, and service disruption impacts to Calgarians and The City workforce. Results of this leading-edge work will support evidence-based asset management decisions, such as future operation and maintenance expenses, timelines, and renewal investment.

Additionally, many infrastructure and public realm projects are examined through The City's Climate Risk and Resilience Assessment process which includes a cost-benefit analysis of site-specific climate adaptation measures that can be integrated into capital projects and operating measures. The Central Climate Fund approved within the 2023-2026 Service Plans and Budgets may provide capital funding for City and Civic Partner capital projects to implement these climate risk reduction measures.

Qualitative Reporting

Qualitative reporting is description of events, observations, research or experiences, used to explore underlying reasons, attitudes, and motives and is more suited for topics in which numerical or quantitative data is inappropriate. In this case, qualitative reporting is used to better understand topics of Indigenous world view and equity through a climate lens. Progress on this work and the inclusion of qualitative metrics will be contained within the annual Climate Progress Report.

Indigenous World View

In 2021, A [Reconciliation and the Intersections of Indigenous Peoples and Climate Change](#)³ Report was commissioned by The City. Using the Four Ways Forward principles from The City's Indigenous Policy Framework, this report provides guidance for grounding climate strategies and actions in alignment with the Truth and Reconciliation Commission (TRC) and the [White Goose Flying Report](#) calls-to-action¹.

Climate and Environment is working with Indigenous consultants to create a path forward for Indigenous engagement, rooted in respect, relationship building and ethical-space. A series of Summits to convene Elders, Knowledge Keepers and members of Treaty 7 Nations, Metis Nation of Alberta Region 3 and urban Indigenous Calgarians will take place starting in 2023. The Summit approach is based in a set of Common Principles that were identified by the First Nations of Treaty 7 and the Métis Nation of Alberta Region 3 during 2021/22 as part of the Calgary River Valleys Plan project. One of the Common Principles was to bring awareness that Elders, Knowledge Keepers and Consultation Coordinators are being asked to engage with multiple processes and projects with The City and with other agencies and governments. In recognition of the shared mandate within the Climate & Environment business unit, and with respect for the engagement capacity of Elders, Knowledge Keepers and Consultation Coordinators, the Summit approach was developed to be inclusive of 'Water, Land and Climate' topics. Four Summits are proposed to support a bioculturally diverse process that is based in respect, reconciliation, renewal, and reciprocity.

Climate Equity

Climate change affects people, places, or systems unequally as geospatial, socio-economic, and built environment considerations contribute to inequitable vulnerability, and therefore an inequitable experience of climate impacts. People who face physical, financial, or systemic barriers tend to be the most adversely affected by climate impacts, as are ecosystems and infrastructure that are already under stress.

The Community Climate Risk Index (CCRI) uses 40 evidence-supported indicators to estimate the exposure, sensitivity and adaptive capacity of social, built and natural systems within each Calgary community, allowing for a better understanding of which communities might be experiencing climate risk inequitably, and why. For example, the CCRI uses indicators of social vulnerability (e.g. low income status, age, minority status, etc.), built environment vulnerability indicators (e.g. age and condition of housing and infrastructure), and natural environment vulnerability indicators (e.g. tree canopy coverage, habitat condition rating of parks and open spaces, tree condition ratings, etc.) to illustrate the key drivers contributing to climate vulnerability.

By highlighting those communities that are most vulnerable to climate change, the CCRI provides a better understanding of where to focus climate adaptation actions in a just manner, and how to alleviate the unequal burdens that are created or worsened by climate change. The CCRI is currently an internal tool available to City staff to better inform land use planning and project design in consultation with the climate adaptation team. In 2023/2024 a publicly available version of the CCRI will be launched.

The City of Calgary has also identified that alleviating energy poverty in Calgary is one of the three priority program pathways in the buildings sector. The City has funded a pilot program with Alberta Ecotrust to provide grant funding to retrofit homes of people experiencing energy poverty. In 2023, The City will also

¹ Calgary Aboriginal Urban Affairs Committee (CAUAC). 2016. White Goose Flying Report: A Report to Calgary City Council on the Indian Residential School Truth and Reconciliation, Calls to Action. Available online: [white-goose-flying-calls-to-action-report \(1\).pdf](#).

develop a comprehensive energy poverty strategy to guide implementation of actions over the next four years.

[The Calgary Equity Index \(CEI\)](#) is a geographically based planning and decision-making tool with many indicators that are relevant for implementing climate actions including bike score, green space area, transit access, transit score, walk score, community spaces, and air quality. The CEI tool can show geographic inequities in these indicators and be overlaid with a variety of socio-demographic statistics to better inform place-based equitable decision making.

[The City of Calgary's Anti-Racism Program](#) identifies and addresses systemic racism and discriminatory patterns in The City's practices, processes, programs, and services through three areas of focus: organizationally, in community, and through public safety. The implementation of anti-racism practices are being embedded with climate mitigation and adaptation strategies and increasing community resilience in the Calgary Climate Strategy.

The policies, tools, and strategies described are important resources for ensuring that The City's climate actions and programs consider racial, cultural, religious, gender, and socioeconomic equity. The available tools and Subject Matter Experts will be consulted further as climate accountability and evaluation strategies develop.

Environment

[Calgary's Environment Strategy](#) (2021) is a guiding document that highlights the extensive environmental initiatives and our long-standing commitment to environmental protection across the corporation. The next phase focuses on advancing environmental awareness, action, and outcomes within our community and The Corporation. Aided by realignment, the Climate and Environment Business Unit is developing streamlined reporting mechanisms including an online publicly available dashboard to demonstrate accountability with key climate and environmental commitments, targets and goals. These reporting mechanisms will work in tandem to comprehensively evaluate environmental progress and performance.