

**Utilities & Environmental Protection Report to  
SPC on Utilities and Corporate Services  
2020 April 15**

**ISC: UNRESTRICTED  
UCS2020-0308**

## **Climate Resilience Strategy Update 2019**

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### **EXECUTIVE SUMMARY**

The purpose of this report is to provide an update on implementation of The City of Calgary's Climate Resilience Strategy (The Strategy) in partnership with community partners, business units and service owners. The Strategy's 10-year Mitigation and Adaptation Action Plans focus on The City's role in carbon and energy management and reducing climate risks in Calgary and includes 244 actions across the corporation.

More than one year into implementation, many actions are underway, with some on-going actions embedded into business processes or programs. While progress has been made (i.e. risk and carbon reduction framework for infrastructure projects to energy efficiency in new affordable housing units) much work remains to ensure Calgary is a climate-resilient community. Since 2005, Calgary's greenhouse gas emissions have increased by 18 per cent which presents a major challenge in achieving the climate goals. However, on a per capita basis over that period, emissions are lower by 12 per cent. In 2019, emissions were essentially unchanged from the previous year.

Preparing and responding to the risks of climate will require years of action as opposed to months, and therefore different actions have different timelines. Greater internal governance will be required for effective decision-making in implementing the Climate Strategy and reducing our climate risks.

Calgary's climate governance includes the Calgary Climate Panel (CCP) as an advisory network. The Panel now includes 18 organizations collaborating with The City and their independent report, including feedback for The City's Climate Program, is an attachment to this report. Key CCP feedback includes an ask for continued City commitment to funding and support, effective scoping of climate actions to align outcomes with goals, leveraging partners' resources and continued leadership from City Council to advance the conversation, change policy and action initiatives.

The focus within the past year has been on establishing the CCP, energy and emission reductions, riparian protection and enhancement, flood mitigation, community outreach and education and corporate leadership. Calgarians have a growing expectation that decision-makers will take climate change into account when planning, building, and operating infrastructure.

Building upon efforts already underway in Calgary, Administration will be seeking more collaboration through partnerships in the community to achieve results. For instance, the Climate team will connect with external expertise on adaptation to guide investment and identify financial liability. There will also be an increased effort to reduce energy use & GHG emissions in both residential and commercial buildings.

Administration will strengthen its own governance to ensure effective delivery of the Climate Strategy. As programs and projects to build climate resilience are developed and evaluated, budgetary implications will be considered and brought forward, as necessary.

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### ADMINISTRATION RECOMMENDATION:

That the Standing Policy Committee on Utilities and Corporate Services recommend that Council direct Administration to return to Standing Policy Committee on Utilities and Corporate Services between annual reports with a briefing report update, as required.

### RECOMMENDATION OF THE STANDING POLICY COMMITTEE ON UTILITIES AND CORPORATE SERVICES, 2020 APRIL 15:

That Council direct Administration to return to Standing Policy Committee on Utilities and Corporate Services between annual reports with a briefing report update, as required.

### PREVIOUS COUNCIL DIRECTION / POLICY

On 2018 June 25 (UCS2018-0688 – Climate Resilience Strategy and Actions Plans) Council approved a strategy and 10-year action plans focusing on climate mitigation and adaptation for The City of Calgary.

### BACKGROUND

The changing climate poses an evolving risk to The City's ability to deliver services to Calgarians. The City of Calgary and its partners are striving to increase the capacity of individuals, communities, institutions, businesses, and systems within the city to survive, adapt and grow, despite the chronic climate stresses and acute shocks they may experience.

Calgary's emissions are greatly influenced by our demographics and economic growth, including a growing population, ongoing development and transportation mode choices, as well as available technologies, energy supply choices and individual behaviours. For example, Calgary has grown from just under one million in 2005 to 1.29 million people in 2019, which has resulted in a substantially increased land footprint.

Between 2005 and 2018, Calgary's carbon footprint has grown by 18 per cent. The share of emissions from different sectors over those 13 years has been fairly consistent; non-residential buildings remain the largest source of greenhouse gas emissions.

Council approved The Calgary Climate Resilience Strategy (The Strategy) in 2018, including 10-year action plans focusing on climate mitigation and adaptation. The strategy builds on a history of actions building resiliency to climate change and provides a coordinated approach to align management practices, business and budget prioritization and strategic oversight. Across the corporation, 244 actions were identified to work toward the program goals over a 10-year period. Actions range from policy updates, guidelines and process change, to multi-year projects. Council's priorities for 2019 to 2022 included a greater focus on climate change, reducing vulnerabilities and pursuing economic benefits.

Climate risk is increasing globally:

- Citizens have joined a growing global movement that seeks to mobilize action by all orders of government, industry, and individuals.
- Countries have begun re-assessing their national goals (Canada has not yet re-stated its target).

## **Climate Resilience Strategy Update 2019**

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- Various levels of government have made ‘climate emergency’ declarations to initiate society-wide mobilization for action. Over 1,100 jurisdictions in 22 countries have made a declaration, including 460 in Canada.
- The new UN Principles for Responsible Banking received commitment from 130 banks holding US\$47 Trillion in assets (about one-third of the global banking sector) to strategically align their business with goals of the Paris Agreement and Sustainable Development Goals.

### **INVESTIGATION: ALTERNATIVES AND ANALYSIS**

This section summarizes key progress within the first year of Calgary’s Climate Resilience Strategy implementation and upcoming opportunities. Of the 244 actions detailed within the 10-year action plans, 36 have been completed with 166 other actions underway, embedded into business processes or programs. Calgary’s carbon footprint has increased by 18 per cent from 2005 to 2019. The emissions are a result of overall city growth in conjunction with economic and population growth with the largest source of emissions from buildings and transportation. However, on a per capita basis over that period, emissions are lower by 12 per cent. In 2019, Calgary’s emissions were essentially flat.

The external governance of Calgary’s Climate Resilience Strategy includes the Calgary Climate Panel (CCP), which was established in November 2018 and now includes 18 organizations. The CCP has prepared an independent report summarizing feedback on the first year of The City’s Climate Program, which is included as an appendix to the Climate Resilience Strategy Annual Report 2019 (Attachment 1). Key CCP asks include continued City commitment to funding and support, effective scoping of climate actions to align outcomes with goals, leveraging partners’ resources and continued leadership from City Council to advance the conversation, change policy and action initiatives.

Internal governance of the Climate Resilience Strategy has not yet been formalized, and finding the balance with other Administrative priorities has been challenging. The experience of distributed climate governance and implementation has delivered fewer expected results and certainty of future results than expected.

#### Progress and Opportunities

Notable progress since The Strategy was approved in 2018 includes:

- Installations of solar photovoltaic (PV) systems have grown by 42 per cent. The City made amendments to the Land Use Bylaw in June 2019 to exempt building owners from development permits for most small-scale PV installations. This is a first step to be ready for increased demand in future years.
- Calgary Transit began service on four new MAX bus rapid transit lines in 2019. The MAX lines offer more frequent service, fewer stops, dedicated bus lanes, and more direct connections to people’s destinations to help make public transit a preferred travel mode, reducing the number of cars on the road and subsequent emissions.
- Calgary Transit is shifting to lower carbon fuels for buses, with a growing number of vehicles running on compressed natural gas. This is motivated by cost savings and also as an ongoing commitment to improving environmental performance.

## **Climate Resilience Strategy Update 2019**

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The City is also working towards greater climate resilience in response to the forecast risks and the impacts we're already seeing. Some of the highlights from the past year are:

- *Natural Asset Management*: The City is investigating how we can better protect and manage our natural infrastructure, including classifying it as a formal asset, and enabling valuation to inform investment decisions. The *Resilient Calgary Strategy*, approved June 2019, also highlights municipal natural infrastructure as a key pillar in a resilient City.
- *Riparian Restoration Project*: Three riparian restoration projects were completed with native plants and watered with fit-for-purpose river water through temporary diversion licenses, solar powered water pumps and drip irrigation water delivery systems in 2019. This low cost, low energy solution, helped establish healthy riparian areas that are more resilient to flooding, a future climate driven risk projected to increase.
- *Flood risk mitigation* projects are being built to protect Calgary. The West Eau Claire project was completed in 2019 and provides an increased level of flood protection to the downtown core. Flood barrier improvements are completed at Centre Street, which includes groundwater flood protection as well as overland river flooding.
- *Climate Education*: In the community, the first cohort of students began a new Integrated Water Management diploma program at Southern Alberta Institute of Technology. It includes the first course on campus explicitly dedicated to climate adaptation.

Another major area of focus is community outreach and education. Progress highlights in the last year included:

- Calgary Emergency Management Agency (CEMA) launched their Disaster Risk Explorer, a web-based education tool designed to share information on the types of disasters that Calgary could experience and what The City and CEMA are doing to help mitigate potential impacts.

### **Moving Forward**

Preparing and responding to the risks of a changing climate requires years, not months. While Calgary has made progress in the first year, much work remains to ensure Calgary is a climate resilient community. In the upcoming year actions will focus on corporate energy and risk management, engaging citizens, collaborating with local partners and increasing internal governance.

### **Stakeholder Engagement, Research and Communication**

A main focus in 2019 was to establish the Calgary Climate Panel. The Panel, established in November 2018, is a diverse group that offers valuable guidance to The City in prioritizing a workplan and finding collaboration opportunities.

Working groups have been developed within the Climate Program and include various Panel members and other interested organizations, working on specific, focused program outcomes. Currently three working groups are active (Education, Utilities and Commercial Energy Benchmarking), with more planned to begin in 2020.

In September 2019, The City commissioned a survey with Calgarians to better understand their perceptions, attitudes and actions in terms of a changing climate. Over two thirds of Calgarians

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---

are concerned about climate change and thinks that we need to act now to address climate change.

The survey was conducted by NRG Research Group from September 16 – 23, 2019 with 504 Calgarians via telephone using random digit dialing. To ensure the data was gathered from a representative group of Calgarians, sample quotas were set by age, gender, and city quadrant of the general population aged 18 and older. Data were then weighted to the 2016 Civic Census for age and gender.

In November 2019, The City hosted the second annual Calgary Climate Symposium, which featured panel discussions, demonstrations and other public speaking events. The Symposium was fully registered with 1,230 attendees and a social media reach of 52,345.

### **Strategic Alignment**

The Climate Resilience Strategy aligns with or provides direction to other corporate strategies and policies underway or approved by Council including but not limited to:

- Council Priorities for 2019-2022 – A Green and Healthy City: Priorities H1 and H2
- Municipal Development Plan and Calgary Transportation Plan update
- Resilient Calgary Strategy
- Stormwater Strategy and Plan (Update)
- Water Efficiency Plan
- Corporate Flood Resilience Plan

### **Social, Environmental, Economic (External)**

Economic challenges will increase, especially with additional pressures from pandemics, such as the current Covid19 crisis. Climate change will exacerbate pressures on society with increasing impacts, including carbon emissions. Timely and well-chosen economic measures can be extremely cost-effective and reduce the severity of climate impacts. Early planning and investment in climate resilience are a better use of public funds than delayed and reactive responses to climate change impacts.

The City is looking towards supporting and growing the clean technology market, creating high quality local jobs, and the attraction and retention of businesses are all areas that benefit from a low carbon economy. This includes benefits such as cost savings from energy efficiency, financing and funding options to support innovative projects, and greater resilience through locally generated energy supply.

The natural environment plays a key role in developing resilience, for example established vegetation helps to reduce the detrimental impacts of flood and/or drought. The natural environment is frequently impacted by severe weather events and takes years to recover. Planning and investing in this key asset is crucial to maintain and enhance the natural environment in Calgary.

Calgarians expect that The City and other levels of government will guide and support them in their efforts to combat climate change and manage their energy. This will include policies and bylaws to enable them to get funding and support their ability to protect themselves.

## **Climate Resilience Strategy Update 2019**

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### **Financial Capacity**

#### ***Current and Future Operating Budget:***

As programs and projects intended to build climate resilience are developed and evaluated, budgetary implications will be considered and brought forward, as necessary.

#### ***Current and Future Capital Budget:***

As programs and projects to build climate resilience are developed and evaluated, budgetary implications will be considered and brought forward, as necessary. Any capital budget adjustments due to provincial, federal or other grants or funds will be reported to the Administrative Leadership Team and Council, as required.

### **Risk Assessment**

Calgarians who depend on municipal services have a growing expectation that decision-makers will take climate change into account when planning, building, and operating infrastructure. Climate mitigation and adaptation measures will also create new opportunities for job growth and revenue, such as innovative engineering solutions, efficiencies, and cost savings.

Risks related to implementation remain high. Inaction or unintentional management could lead to confusion within the community or negative perceptions within the investment, insurance, development or building industries.

#### **REASON(S) FOR RECOMMENDATION(S):**

In June 2018, Administration committed to reporting to Council annually with an update on the Climate Resilience Strategy and Action Plans. Administration will come back between annuals reports to update Council on any challenges and risks, as required.

### **ATTACHMENT(S)**

1. Attachment 1 – Climate Resilience Strategy Update 2019
2. Attachment 2 – Climate Resilience Strategy Update 2019 Presentation