



GOVERNANCE STANDING POLICY COMMITTEE REPORT

Title Climate Adaptation Strategy and Action Plan

Meeting Date June 27, 2024

Submitted By Mandi Parker, General Manager Waste & Environment

Presented By Mark Svenson, P.Biol., Manager of Engineering & Environment
Twyla Kowalczyk, Associated Engineering

Summary

In alignment with the City of Lethbridge Municipal Development Plan, the Climate Adaptation Strategy and Action Plan (the Plan) provides strategic direction including principles to guide decision-making on climate action within our organization. The Plan provides a foundation to position the community to be resilient to the challenges of extreme weather by:

- identifying challenges with respect to water management, emergency preparedness, extreme weather, and changing climate conditions;
- evaluating potential risks across social, natural, built, and economic systems, particularly the disproportionate impact of extreme weather on vulnerable communities; and
- prioritizing actions that the City and the community can take to help mitigate the risks, with a focus on the next ten years (2024-2034).

While we already live in a climate of extreme weather, it has been notably extreme as per these few recent examples:

- June, 2023: Environment and Climate Change Canada issued a tornado watch for the city of Lethbridge and issued tornado warnings for Picture Butte and Lethbridge County.
- August, 2023: Extreme wind knocks down power poles.
- September, 2023: Environment and Climate Change Canada issued special air quality statements for all of southern Alberta due to wildfire smoke. The air quality health index in Lethbridge was rated "7", which is considered high risk.
- December, 2023: 123-year-old heat record broken in southern Alberta.
- January, 2024: Extreme cold warning issued for all of Alberta. Temperatures around -30°C with wind chill values close to -40°C (and some dipping to -50°C). Cold temperatures lasted through to the weekend, setting cold weather records in upwards of 38 municipalities, and straining the provincial grid. The Government of Alberta issued a grid

alert calling for residents to cut back on unnecessary power usage to prevent rolling brownouts, or all-out black outs.

The Plan is focussed on climate adaptation and community resilience: adjusting to actual or expected climate impacts to reduce negative effects on people, society, infrastructure, and the environment. The Plan does not include priority actions to mitigate climate change or reduce greenhouse gas emissions.

The Vision and Guiding Principles for the Plan were presented to the Assets and Infrastructure Standing Policy Committee on June 1, 2023 for input and validation and were also provided to the public for additional feedback. The Climate Adaptation Strategy and Action Plan vision statement is “a thriving, climate resilient community” with the following guiding principles:

- Safe & Secure: Protect wellbeing of people, the environment, infrastructure, and local economy.
- Sustainable & Reliable: Durable, diversified, and adaptable infrastructure and programs to consistently provide basic needs and services.
- Trust: Effective, transparent, and accessible communication people can trust.
- Community Support Networks: Strengthen self-reliance and collective action in response to climate impacts.
- Affordable, Fair Access for All: Ensure the most vulnerable are not left behind.
- Accountable: Embed climate considerations in City decisions.
- Leadership: Provide direction, advocacy, and support for local and regional climate action.

The vision and principles can be applied across service lines to help improve climate resilience at the City of Lethbridge.

The results of the community vulnerability and risk assessment indicate that the highest climate risks to Lethbridge are extreme heat, drought, ecoregion shift, and grassfires and grassfire/wildfire smoke. The adaptation actions identified in the Plan were focused on these high risks to the community. The priority actions were co-created through workshops with various internal and external stakeholders aided by a cost of inaction analysis, vulnerability mapping, a community risk assessment, and a review of municipal initiatives. The Climate Adaptation Strategy and Action Plan contains thirty-three (33) actions organized into eight (8) themes to advance climate resilience in Lethbridge. Each theme has a distinct goal, target, and indicator to tangibly track progress; these metrics will continue to be refined through project implementation. The eight themes and the associated goals are summarized in the table below.

Theme	Goal	Number of Actions
Theme 1: Enabling Initiatives	Climate adaptation action is coordinated both internal and external to the City.	4
Theme 2: City Emergency Preparedness Planning	Increase preparedness for climate-related emergencies.	3

Theme 3: Healthy, Safe, and Prepared Communities	Appropriate resources are readily available to support the health and safety of the community during extreme events.	5
Theme 4: Protecting Critical Infrastructure	Critical infrastructure is protected, and key services maintained, during extreme events.	3
Theme 5: Resilient Design	Communities and infrastructure are designed for future climate conditions.	5
Theme 6: Water Stewardship	Reduce community-wide water use and prepare for a future with less water in the summer months.	5
Theme 7: Transitioning Landscapes	Increase the equity of drought and heat tolerant landscapes across the City.	4
Theme 8: Protecting and Enhancing Nature	Value, conserve, and enhance the multiple services that natural areas provide.	4

The cost of inaction analysis is a high-level evaluation of the direct annual economic losses attributed to climate impacts (extreme weather) in Lethbridge if no adaptation or mitigation takes place. The cost of doing nothing is not free. The analysis projects an annual total cost of climate change in Lethbridge to be \$252M by 2055 and \$703M by 2085 if no adaptation occurs, with the largest costs realized through impacts to public health and buildings. The cost of inaction analysis illustrates the order of magnitude of economic losses to multiple services and was used to assist in prioritizing adaptation actions in the Plan.

The objective of this presentation is to have the Climate Adaptation Strategy and Action Plan approved by City Council with a direction to administration to implement the Plan (option #1). Approval of the Plan will provide a framework for climate adaptation action within the City and community and will provide guidance for future capital projects and operating programs to increase community resilience to extreme weather and climate events.

Recommendation(s)

The Governance Standing Policy Committee recommends that Council:

1. Adopt the Climate Adaptation Strategy and Action Plan, as in Attachment 1, in principle, as a guiding document to provide direction for the continued development of Climate Adaptation planning; and
2. Direct Administration to return to City Council, through the Economic and Finance Standing Policy Committee, for approval of any of the objectives identified in the Climate Adaptation Strategy and Action Plan that require a change in budget or service level, as follows:
 - a) Capital Projects to be submitted to future Capital Improvement Program (CIP) deliberations; and
 - b) Operating initiatives to be submitted to future Operating Budget deliberations.

Financial

The project is partially funded by the Climate Resilience Capacity Building Program administered by the Municipal Climate Change Action Centre, a partnership of Alberta Municipalities, Rural Municipalities of Alberta, and the Government of Alberta. To date, the City of Lethbridge has received \$60,000 to complete the Climate Adaptation Strategy and Action Plan with another \$20,000 expected following project closure. To receive the final \$20,000, the project must be completed by the end of July, 2024. The remaining \$120,000 of project costs is funded through existing Waste & Environment operating budget.

Any implementation of actions and initiatives presented in the Climate Adaptation Strategy and Action Plan that require a service level change or change in budget will be brought forward to City Council for approval. Existing capital improvement programs and operating budgets already cover several projects and programs identified in the Climate Adaptation Strategy and Action Plan.

Background and Prior Decisions

- In September 2014, the South Saskatchewan Regional Plan (SSRP) was adopted by the Government of Alberta. The SSRP outlines environmental, economic, and social values and outcomes for our region.
- Effective May 11, 2015, the Environment Policy (CC-51) commits the City to taking a responsible leadership role in the efficient use of natural resources and minimizing Lethbridge's ecological footprint.
- On March 9, 2020, City Council approved the Partners for Climate Protection (PCP) target of 40% reduction of Greenhouse Gases compared to the 2018 baseline assessment by 2030.
- In August 2020, Associated Engineering completed a City of Lethbridge Climate Vulnerability and Risk Assessment which included climate projections for the city. The Vulnerability and Risk Assessment focused on City-owned assets and infrastructure, which informed the development and prioritization of actions in the Climate Adaptation Strategy and Action Plan.
- On June 29, 2021, the Municipal Development Plan (Bylaw 6265) was adopted by City Council. The Municipal Development Plan set six desired outcomes for Lethbridge, one of them being "an environmentally responsible City". The Municipal Development Plan describes policies to help achieve these outcomes, and the Climate Adaptation Strategy and Action Plan is a project included in the policy statements.
 - Specifically, the MDP Policy 155: ENSURE the community is well positioned to be resilient to the challenges of climate change by creating and implementing a City of Lethbridge Climate Adaptation Plan. Create and implement a City of Lethbridge Climate Adaptation Plan (or similar) that recognizes challenges with respect to water management, invasive species, emergency preparedness, air quality, and overall community and neighbourhood resiliency and that identifies potential risks (social, economic, environmental and infrastructural), particularly the disproportionate impact of climate change on vulnerable communities, and strategies for mitigation, by clearly defining outcomes, guiding principles, key directions, targets, and reporting.

- The Climate Adaptation Strategy and Action Plan also supports the following MDP policies: 147, 152, 154, 170, 171, 174, and 175
- On June 1, 2023, the Assets and Infrastructure Standing Policy Committee (formerly Civic Works SPC) provided input to the strategic direction of the Climate Adaptation Strategy and Action Plan.

Engagement

Engagement Activity	Date	Number of Participants
City Administration Strategic Direction Workshop	May 16, 2023	17
Presentation of the strategic direction to Assets and Infrastructure (formerly Civic Works SPC)	June 1, 2023	7
Public Engagement Survey: Vision and Principles	June 5 – 26, 2023	169
Community Workshop: Orientation and Impact Statements	June 16, 2023	26
Online Community Workshop: Risk Assessment	June 22, 2023	21
Online City Administration Workshop: Action Prioritization	Sept 12, 2023	34
Online City Administration Workshop: Action Implementation	Sept 28, 2023	34
Public Engagement: Community Conversation	Oct 23, 2023	357
Public Engagement Survey: Adaptation Actions	Oct 23 – Nov 29, 2023	258
Online Community Workshop: Action Identification – Health & Wellbeing	Oct 25, 2023	19
Online Community Workshop: Action Identification – Natural Environment	Oct 30, 2023	17
Online Community Workshop: Action Identification – Economic & Regional Context	Nov 3, 2023	16
Workshop with Kainai Ecosystem Protection Association	Nov 22, 2023	4
Online Community Workshop: Action Implementation	Dec 6, 2023	16

Participant details, engagement processes, and other information can be found in the [What We Heard](#) report on the Get Involved Lethbridge Climate Adaptation Plan project website.

Recommendation and Option(s) Analysis

1. The Climate Adaptation Strategy and Action Plan be adopted in principle, as a guiding document to provide direction for the continued development of climate adaptation planning, and direction for Administration to return to City Council during the 2027-2030 Operating and Capital Budget process for approval of any of the objectives identified in the Climate Adaptation Strategy and Action Plan that require a change in budget or service level.
- *Community/Citizen*
 - Social: increases public awareness of environmental issues; identifies personal adaptation actions for residents; climate adaptation actions consider disproportionate risk to vulnerable populations
 - Economic: a cost of inaction analysis was completed as part of this project to outline the potential economic impacts of neglecting climate adaptation in future planning. The analysis projects an annual total cost of climate change in Lethbridge to be \$252M by 2055 and \$703M by 2085 if no adaptation occurs.
 - Environmental: supports actions to conserve, protect, and enhance the environment for the Lethbridge community
 - *Risk*
 - Some of the actions and initiatives presented in the Climate Adaptation Strategy and Action Plan will require further direction from City Council and funding from operating budgets and/or potential capital improvement programs.
 - There are costs to adapt to climate change and in some cases financial resources may not be available. It would be pertinent to plan for adaptation and stage it into our processes so that it is not unforeseen or unexpected. Planning can also support operating cost reductions in terms of operating more efficiently and with more efficient technology.
 - Certain strategies may have unintended consequences on the local ecosystem or biodiversity.
 - Climate adaptation involves multiple stakeholders with competing priorities. Coordinating can be challenging but not impossible.
 - While we have been planning based on climate projections, there is the potential to mismatch the planned vs. the actuals. However, the adaptation initiatives will help reduce the risks associated with extreme weather events that are already occurring in Lethbridge.
 - There may be individuals that are not in complete support of climate adaptation, and this can slow down or halt the planned implementation.
 - Extreme weather can highlight vulnerabilities within infrastructure. This may mean that we need to retrofit and/or redesign to withstand future conditions or reoccurring extreme weather.
 - Potential that alignment with local, provincial, and/or federal regulations and frameworks may be required for individual projects or processes, adding complexity for implementation.
 - Climate adaptation risks are often interconnected, addressing one issue may inadvertently create a different issue.

- There may be differing impacts on the vulnerable populations or marginalized groups but planning specifically for this will minimize or at least decrease the impact.
- Some climate adaptation measures may require ongoing maintenance, monitoring and updating to stay relevant and remain effective. A long-term support ideology (building it in, instead of bolting it on) built into processes and procedures will support the long-term viability of the initiatives or actions.
- *Implementation and Communication Plan*
 - If approved, the Climate Adaptation Strategy and Action Plan will be posted to the Get Involved Lethbridge page.
 - Notification of project completion with a link to the approved Plan will be provided to project stakeholders.
 - A dedicated resource will provide insight and support to moving this plan and strategy forward.
 - Implementation progress will be monitored and reported in the Waste & Environment Annual Report.
 - Individual projects and programs identified within the Climate Adaptation Strategy and Action Plan may need further communication and engagement. Specific communication and engagement plans will be developed for actions, as required.
 - New or updated City policies and/or bylaws and design standards should support Climate Adaptation.
 - Community Outreach and other programs will be created and delivered to support the move to climate adaptation.

2. The Climate Adaptation Strategy and Action Plan is not adopted by City Council.

- *Community/Citizen*
 - Social: Status quo remains. No checklist for adaptation actions is released.
 - Economic: a cost of inaction analysis was completed as part of this project to outline the potential economic impacts of neglecting climate adaptation in future planning. The analysis projects an annual total cost of climate change in Lethbridge to be \$252M by 2055 and \$703M by 2085 if no adaptation occurs.
 - Environmental: Status quo remains.
- *Risk*
 - Not having an approved Climate Adaptation Strategy and Action Plan may impact access to grants and limit funding opportunities from external sources.
 - Priority climate adaptation actions for the City of Lethbridge will be unclear.
 - A lack of support for climate adaptation action could impact the City's reputation by not adhering to the "Environmentally Responsible City" focus area of the Gateway to Opportunity City Council Action Plan and the Municipal Development Plan.
 - Costs of inaction analysis illustrates projected economic impacts of maintaining the climate action status quo.
 - Without adaptation measures the City remains vulnerable to extreme weather that could lead to property damage, infrastructure failures and disruptions to essential services.

- Potential for heat related illnesses, respiratory issues and vector-borne diseases to rise.
- Unmitigated impacts may result in significant losses to Municipalities, including damage to infrastructure, but also disruptions to business, tourism, and other sectors as part of the local economy.
- As risks escalate, the insurance costs for both residents and the municipality are impacted. Repeated damage from extreme weather has the potential to increase insurance costs, raise premiums, and potentially limit coverage in high-risk areas.
- Potential strain on infrastructure leading to issues with water supply, sewage treatment, transportation networks and energy distribution. While this can disrupt services, there may also be a safety component.
- Climate impacts can degrade natural resources such as wetlands, and freshwater sources. This not only affects biodiversity but also diminishes ecosystem services like water purification, and carbon sequestration.
- Lack of planning can create chaos during extreme events. This may displace people and provide social service challenges.
- Emergency related response and recovery to climate related disasters are more expensive than proactively planning and reducing risks.
- There may be missed opportunities for innovation, economic diversification, optimization and sustainable development if the plan is not implemented.
- *Implementation and Communication Plan*
 - Project stakeholders will be notified that the Climate Adaptation Strategy and Action Plan was not accepted by City Council.

Attachment(s)

1. Climate Adaptation Strategy and Action Plan Key Messages
2. Climate Adaptation Strategy and Action Plan Report
3. Climate Adaptation Strategy and Action Plan Presentation

Link(s)

1. Get Involved Lethbridge Climate Adaptation Plan
<https://getinvolvedlethbridge.ca/climate-adaptation>
2. Bylaw 6265 – Municipal Development Plan
https://ecom.lethbridge.ca/mycity/planningDocuments/MDP_Final.pdf
3. Adopted Strategic Direction
<https://agendas.lethbridge.ca/AgendaOnline/Meetings/ViewMeeting?id=3935&doctype=2>

Approvals

Department Director: Joel Sanchez

City Manager: Lloyd Brierley