

### Climate Adaptation Priorities

The Adaptation Strategy and Action Plan was developed to address priorities identified through a community-scale Vulnerability and Risk Assessment (VRA). Edmonton’s community wide VRA approach was a first for Canadian municipalities, and the methods used have since been identified as a best practice in Canada in a Changing Climate federal government report. Projects identified in the table below reflect the priority projects needed for climate adaptation over the 2023-2026 budget cycle. As there is inherent uncertainty in predicting the exact localized impacts of climate changes, climate adaptation implementation needs to be flexible and nimble, and priorities may adjust as climate impacts are realized.

This flexible implementation pathway approach prioritizes actions that: 1) need to be taken now to avoid locking in additional risks (such as planning and infrastructure decisions that have long lifespans, and once developed or built cannot be easily adjusted); and 2) address the priority risks as determined through the climate change vulnerability and risk assessment. This approach delays some actions that can be postponed until uncertainties are reduced, or because it is acceptable to have a responsive approach.

The priority projects identified in the table below are aligned with the appropriate pathway and goal from Climate Resilient Edmonton: Adaptation Strategy and Action Plan, and reflect the priority adaptation actions that were identified through a combination of research, technical assessments, and stakeholder engagement.

Pathway	Goal	2023-2026 Priority Projects and Funding Implications	<b>Additional Context and Background</b> <i>Although these projects may be identified in the 2023-2026 Budget, they are primarily unfunded</i>
Science and Evidence Based Decision Making	#1 The City of Edmonton uses formal climate science and evidence based policy and decision	None identified	No priority projects aligned to this goal have been identified for the 2023-2026 budget cycle, however ongoing required work will continue. This includes incorporating more environmental data and information into decision making processes, and

Pathway	Goal	2023-2026 Priority Projects and Funding Implications	<b>Additional Context and Background</b> <i>Although these projects may be identified in the 2023-2026 Budget, they are primarily unfunded</i>
	making processes		continuing the carbon budget work to further advance evidence based decision making. Specific to this goal for climate adaptation, this includes updating Edmonton’s climate risk and vulnerability assessment and associated adaptation plan, as per the City of Edmonton Charter Regulation, and continuing to advance climate related tools, resources, and information.
	#2: Edmonton is planned, designed, developed and built to be climate resilient today and for future Edmontonians	City of Edmonton climate resilient infrastructure and facilities renewal and upgrade program (Ongoing long term funding requirements >\$20 million). This includes: <ul style="list-style-type: none"> <li>● Assessing and upgrading the highest risk City of Edmonton facilities and infrastructure</li> <li>● Updating and aligning design and construction standards and practices to climate change data</li> </ul> Climate change planning and development framework (Short term funding requirements <\$20 million). This includes:	While there are several actions identified related to this goal, the priority projects for 2023-2026 are focused on preparing the City of Edmonton infrastructure for a changing climate, and to ensure that Edmonton is planned and developed to minimize impacts from a changing climate. <p>Municipalities typically build infrastructure and calculate risk based on historical climate conditions. These historical baselines are no longer relevant in a changing climate. Infrastructure that is already built is at risk of being impacted by changing climate conditions, as it has not necessarily been designed and built to withstand those impacts. Infrastructure has been identified by a Council of Canadian Academies’ expert panel as the sector with the highest consequential climate risk, however, also the sector with the highest climate resilience potential. As healthy functioning</p>

Pathway	Goal	2023-2026 Priority Projects and Funding Implications	<b>Additional Context and Background</b> <i>Although these projects may be identified in the 2023-2026 Budget, they are primarily unfunded</i>
		<ul style="list-style-type: none"> <li>Developing climate resilient planning and development guidelines and standards</li> <li>Developing new planning tools, processes and resources for climate resilient planning and development</li> </ul>	<p>of urban areas and citizens requires reliable and safe infrastructure, adapting our infrastructure decisions to include climate resilience is critical.</p> <p>The City of Edmonton owns and manages a diverse portfolio of buildings and infrastructure, spread across a large geographical area. This means that City of Edmonton assets can be exposed to localized and site-specific climate risks. Detailed risk assessments are required to understand the specific climate resilience needs of different infrastructure.</p> <p>Planning, development and infrastructure decisions made today will have lifespans for decades into the future, therefore need to be able to respond to and withstand the climate changes that will occur over their lifespans. Integrating climate actions into these decisions that will have long-term implications is important for minimizing climate disruption to Edmontonians.</p>
	<p>#3 Edmonton’s communities, businesses and institutions are aware, connected and prepared for climate change</p>	<p>Community climate social resilience program (Short term funding requirements &lt;\$20 million). This includes:</p> <ul style="list-style-type: none"> <li>Supporting communities to develop local climate</li> </ul>	<p>The priority actions identified for this goal for the 2023-2026 budget cycle are focused on building capacity in the community to respond to climate change impacts and understanding the needs of communities for climate change readiness amenities (i.e., Resilience Hubs).</p>

### Attachment 3

Pathway	Goal	2023-2026 Priority Projects and Funding Implications	<b>Additional Context and Background</b> <i>Although these projects may be identified in the 2023-2026 Budget, they are primarily unfunded</i>
		<p>resilience plans and implement actions</p> <ul style="list-style-type: none"> <li>• Preparing resources and supports for diverse communities, including in different languages</li> </ul> <p>Climate Change Resilience Hubs action plan and program (short to medium term funding requirements &gt;\$20 million). This includes:</p> <ul style="list-style-type: none"> <li>• Resilient hub planning, such as identifying if, and which, City of Edmonton facilities can be retrofitted to act as cooling and clean air centers.</li> <li>• Resilient hub needs assessment, including identifying opportunities for community partnerships in resilience hub implementation.</li> </ul>	
Preparing for Changing Temperature	#4 Edmonton's communities and urban	None identified	While no specific priority projects for this goal have been identified for the 2023-2026 budget cycle,

### Attachment 3

Pathway	Goal	2023-2026 Priority Projects and Funding Implications	<b>Additional Context and Background</b> <i>Although these projects may be identified in the 2023-2026 Budget, they are primarily unfunded</i>
s	environment are resilient to changing temperatures		work will continue to prepare Edmonton for increasing temperatures, extreme heat, and wildfire conditions. This work will be part of several of the priority projects, including the climate resilient planning and development framework, the community climate social resilience program and the climate change resilience hubs action plan. Furthermore, work that is underway under the Energy Transition Strategy related to emissions neutral buildings will also contribute to this goal, as more efficient homes will be more resilient to temperature extremes.
	#5 Edmonton is proactive in drought management to minimize social, economic and environmental impacts	None identified	While no specific priority projects for this goal have been identified for the 2023-2026 budget cycle, work will continue to prepare Edmonton for drought conditions. This work will be part of several of the priority projects, including the climate resilient planning and development framework and the City of Edmonton climate resilient infrastructure and facilities renewal and upgrade program.
Preparing for Changing Precipitation	#6 Edmonton's water supply is secure and safe for current and future	Climate change water security assessment (Short term funding requirements <\$20 million). This includes:	Edmonton's only source of drinking water comes from the North Saskatchewan River, which is fed primarily by snowmelt and glaciers in the Rocky Mountains. The flow in the North Saskatchewan

### Attachment 3

Pathway	Goal	2023-2026 Priority Projects and Funding Implications	<b>Additional Context and Background</b> <i>Although these projects may be identified in the 2023-2026 Budget, they are primarily unfunded</i>
	Edmontonians	<ul style="list-style-type: none"> <li>Undertaking a water security assessment that incorporates a changing climate</li> </ul>	River has historically been variable, with decades of low flow interspersed with decades of high flow. As Edmonton currently relies on this sole source of water, a better understanding of how climate change may impact that water source is needed so that appropriate adaptations can be taken, if necessary. This priority project for 2023-2026 is the first step in ensuring Edmonton’s long-term water security.
	#7 Edmonton is a flood resilient community	River and ravine flooding resilience program (Short term funding requirements >\$20 million). This includes: <ul style="list-style-type: none"> <li>Updating river and ravine flood mapping to incorporate a changing climate</li> <li>Planning, design and initial delivery of river and ravine flood risk mitigation measures</li> </ul>	The risk of a river flooding event may double as early as the 2040s. A river flood event could be catastrophic in terms of costs and economic losses. The 2013 southern Alberta floods led to \$1.9 billion in insured losses and an estimated \$5 billion in economic losses. Edmonton currently has three neighborhoods (Rossdale, Riverdale and Cloverdale) in known river flood risk zones, as well as a variety of infrastructure and assets.
Preparing for Changing Weather Extremes	#8 Edmontonians with regional partners are informed, prepared for, can respond to	None identified	While no specific priority projects for this goal have been identified for the 2023-2026 budget cycle, this work will be part of some of the priority projects identified aligned to other goals, such as the

Pathway	Goal	2023-2026 Priority Projects and Funding Implications	<b>Additional Context and Background</b> <i>Although these projects may be identified in the 2023-2026 Budget, they are primarily unfunded</i>
	and recover from increasing frequency and severity of extreme weather events		Climate change resilience hubs action plan and the Community climate social resilience program.
	#9 Edmonton has resilient energy systems	None identified	No specific priority projects have been identified for this goal for the 2023-2026 budget cycle, however this work will be actioned as part of the implementation of Edmonton’s Community Energy Transition Strategy.
Preparing for Changing Ecosystems	#10 Edmonton’s natural ecosystems continue to provide essential ecosystem goods and services such as clean air, clean water, and biodiversity	Ecosystem conservation, protection and restoration program (Ongoing long term funding requirements >\$20 million). This includes: <ul style="list-style-type: none"> <li>● Acquiring, conserving and managing natural areas.</li> <li>● Protecting and restoring ecosystems.</li> <li>● Advancing urban greening interventions such as low impact development and accelerated tree planting.</li> <li>● Developing appropriate tools for ecological decision</li> </ul>	At the same time the climate crisis is unfolding, so too is an associated biodiversity crisis. The 2022 Intergovernmental Panel on Climate Change (IPCC) report indicates that global warming would cause unavoidable increases in multiple climate hazards and present multiple risks to ecosystems as well as humans.  This same report indicates that biodiversity loss, degradation, damage, and transformation of ecosystems are already key risks for every region due to past global warming, and will continue to escalate with continued warming. Research from the Alberta Biodiversity Monitoring Institute predicts that, as early as the 2040s, Edmonton’s

### Attachment 3

Pathway	Goal	2023-2026 Priority Projects and Funding Implications	<b>Additional Context and Background</b> <i>Although these projects may be identified in the 2023-2026 Budget, they are primarily unfunded</i>
		making, including monitoring and measurement needs.	ecosystems could be unrecognizable from what they are today, having a climate more conducive to supporting grassland ecosystems (similar to what is currently present in southern Alberta). Investing in conserving, protecting, and restoring Edmonton's ecosystems not only contributes to climate resilience, but multiple other city building goals, including providing a healthy city with access to nature for all Edmontonians.
	#11 Edmonton's food systems are resilient, reliable and secure	None identified	No priority projects aligned to this goal have been identified for the 2023-2026 budget cycle.
N/A	N/A	One of the priority actions for 2023-2026, although not aligned to a specific climate change adaptation goal, includes developing an advocacy and partnership strategy to support activating collaborations with key implementers and to support strategic advocacy to the provincial and federal governments. Similar to the Energy Transition Strategy, Edmonton will need to advocate for new collaborative approaches such as a national climate strategy for Big Cities, and for a Big City Chief Administrative Officer (CAO) Climate Action table that includes a focus on both energy transition and adaptation.	