

Climate Change Adaptation Plan – City of Red Deer

Part One Report
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Climate Change Adaptation Plan Background Report

Introduction

Most of us have insurance policies; they may cover our home, our vehicles, valuables like jewellery, or even personal injury. By no means do we wish to experience an injury or accident or face the aftermath of a fire; but it is a fact that these things happen. We maintain insurance policies not because we anticipate needing them, but because we believe it is responsible and prudent to be prepared in case they are needed. Insurance buys us peace of mind and buoyancy against the impacts or intensity of possible ordeals. It buys us preparedness.

Climate change planning is a bit like an insurance policy, in that we are seeking to be prepared. We really hope that we are not impacted but it makes sense to have a policy in place, just in case.

In addition to having these policies in place in case the worst happens, we must also take steps to prevent or reduce losses. That's what a climate change adaptation plan seeks to do. It helps to prepare us in the event of a worst case scenario but also seeks to reduce losses or damages we might experience should an event occur.

All Alberta municipalities have a responsibility to their citizens to provide services, facilities or infrastructure that is necessary and desirable and to develop and maintain safe, viable communities¹. Protecting a community and its assets from damage and ensuring safety and continuity of municipal operations clearly falls within this mandate.

The City of Red Deer Climate Change Adaptation Plan was initiated primarily with an emphasis on corporate action and preparedness around the impacts of climate change. It is part of the implementation of priority actions from the Environmental Master Plan (EMP). We want to understand the predicted impacts on our corporate operations so that we can continue to serve the citizens of Red Deer. This is our initial attempt at a corporate climate change plan so some aspects may need to be revisited as we learn more and as experience and research adds to our understanding. The plan is the first of its kind for our City. Other documents

¹ Government of Alberta, *Municipal Government Act*, Part 1, Section 3 "*Purposes, Powers and Capacity of Municipalities*". Item/ISBN# 9780779775545. Alberta Queen's Printer. 2013.

have very recently noted climate change as a possible environmental consideration but have not looked at how the city as a corporation can be prepared nor at how climate change is being addressed across the whole city operation/all city departments.

This plan addresses The City's commitment to show leadership, as well as model and practice environmental sustainability principles expressed in the 2009-2011 Strategic Plan. It is part of implementing the Environmental Master Plan, which identified the need to undertake climate change mitigation and adaptation planning for our community². In addition, The Climate Change Adaptation Plan addresses the environmental stewardship and responsive decision making components of The City's Sustainability Vision. It will be a key part of striving to protect and improve our community for current and future generations³.

The plan is intended to identify operational changes we may need to make to adapt to changing conditions. It is fairly high level and conceptual but it identifies specific major actions and categories of recommended actions. Once this report is accepted, the next phase is to develop and present more detailed actions as well as a broad implementation strategy.

Background and Context

Climate Change has been defined by some as the wide-scale change in average weather over a period of time (e.g. 30-70 years). While there appears to be much debate over the causes and severity of changes to our climatic patterns, there is some agreement that our planet is facing more severe weather and that the average conditions are no longer the type of norm we might expect to continue. Over the past century, Alberta's average temperature has warmed by approximately 1.4 degrees Celsius. Projections indicate that by 2050 the warming could be as much as 3°C.⁴

However, climate change planning is not just about our city getting a few degrees warmer. It is about addressing the full range of anticipated effects of changing temperatures, changing precipitation patterns, and the severity of storms as well as what those changes mean to our regular operations and business. In terms of storm severity, it has been reported that six out of seven of the most costly

² The City of Red Deer, Environmental Master Plan, Approved April 2011. Section 3 Air, Priority Actions

³ *Sustainability Vision for The City of Red Deer*.

⁴ C3, The Climate is Changing – Are You Ready? November 26, 2013.

disasters recorded in Canada occurred in Alberta⁵. This plan looks at an anticipated range of impacts such as ecological effects on vegetation in our parks system, how precipitation changes may affect our outdoor recreation venues, snow removal or road repairs, the types of pressures placed on our treatment plants during severe weather or drought, and how to prepare staff and residents for the ways that service delivery may be altered during a severe storm or flooding.

The goal of our plan is that we will engage in **adaptation** to climate change and become more **resilient** to climate change impacts. Conversely, the goal of The City's work on GHG planning, undertaken as part of a separate project is about **mitigation** of climate change.

How are we defining that?

Mitigation, resilience and adaptation are terms that are being used more frequently in climate change discussions and because they may mean different things to different groups, it is probably helpful if Red Deer's work includes a definition of what we mean by them.

Adaptation

Adaptation is the focus of Red Deer's work. Natural Resource Canada states that "climate change adaptation involves making adjustments in our decisions, activities and thinking in response to observed and predicted changes in climate. The goal is limiting harm or reducing costs in the long term while taking advantage of new opportunities and maximizing benefits. Successful adaptation does not mean that impacts will not occur, only that they will be less severe than would be experienced had no adaptation occurred."⁶

Resilience

Resiliency is commonly thought of as the ability to recover quickly and consistently from a difficult situation, sickness, accident, or change. If we were referring to a person having resiliency we might use words like buoyant, hardy or irrepressible. For climate change, ICLEI defines resilience as: "The ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self- organization, and the capacity to adapt to stress and change."⁷

⁵ C3, The Climate is Changing – Are You Ready? November 26, 2013

⁶ Natural Resource Canada (NRCAN), Impacts to Adaptation: Canada in a Changing Climate, 2007

⁷ ICLEI Resilient Cities 2014 Glossary of Key Terms. <http://resilient-cities.iclei.org/resilient-cities-hub-site/resilience-resource-point/glossary-of-key-terms/> March 2014

Mitigation

Many communities are involved in mitigation of climate change. The definition ICLEI uses for mitigation is: “with respect to climate change, mitigation means implementing policies to reduce greenhouse gas emissions and enhance sinks”.⁸ Common mitigation activities that reduce the probability of climate change by reducing atmospheric concentrations of GHG include: the reduction of greenhouse gas emissions through energy conservation, encouraging alternate forms of transportation/reduction of single occupancy vehicles, and the protection of existing forests.⁹

How was the plan developed?

In 2010 The City of Red Deer was approached by ICLEI Canada (International Council for Local Environmental Initiatives) regarding a unique opportunity to partner in an introductory program to develop a climate change adaptation plan for our city. ICLEI Canada was seeking 14 communities to participate in a pilot program. The purpose of the pilot was to help municipalities develop a Climate Change Adaptation Plan and build capacity for local climate change planning, implementation and monitoring within their organization. During the 2011 budget, Council approved a special funding request to implement the priority actions of the EMP and specifically noted engaging in the ICLEI program.

ICLEI set out the steps (milestones) for plan development, provided facilitation, support, advice, as well as data during some stages of plan development. Red Deer’s resulting climate change plan will reflect the ICLEI milestones. Based on a successful first couple years of piloting, this program has been made permanent by ICLEI. It is now called the Building Adaptive and Resilient Communities (BARC) program. It concentrates on communities who want to establish solutions to improve local adaptation and resilience. “It is a holistic process for how local communities can address the array of impacts likely to occur as a result of climate change.”¹⁰ Red Deer is still part of the ICLEI Adaptation (now BARC) program as we wrap up our final milestones completing our plan and setting implementation strategies and future monitoring.

The ICLEI program (BARC) is somewhat parallel to the Partners for Climate Protection (PCP) program offered by the Federation of Canada Municipalities with support/partnership from ICLEI. The PCP program is similar in that it involves local governments from across Canada who advance through a set of milestones to achieve their work - however the work is not about adapting to climate change -

⁸ ICLEI Resilient Cities 2014 Glossary of Key Terms. <http://resilient-cities.iclei.org/resilient-cities-hub-site/resilience-resource-point/glossary-of-key-terms/> March 2014

⁹ International Food Policy Research Institute. Washington, DC. <http://www.ifpri.org/book-775/ourwork/researcharea/climate-change/terms-definitions#mitigation>. March 2014.

¹⁰ ICLEI Canada, Changing Climate, Changing Communities: guide and workbook for Municipal climate Adaptation. 2010, page 5

rather it is about mitigating climate change through reducing green house gas emissions (GHG). GHG is the major contributor/cause of climate change.

“The Partners for Climate Protection (PCP) program is a network of Canadian municipal governments that have committed to reducing greenhouse gas emissions and acting on climate change...The PCP program aims to provide municipal and regional governments with the support they require to identify and address local sources of GHG emissions. Guided by a five milestone framework, participants work to develop local GHG inventories, set GHG reduction targets, develop and carry out local climate change action plans, and monitor results. The program currently engages 230 Canadian municipalities.”¹¹

The PCP program is an important effort to help reduce or mitigate unsustainable practises and practises that cause GHG emissions. Red Deer has not joined to PCP program. But we do have a corporate GHG plan adopted by Council in April 2013. The EMP directs that a community GHG plan also be developed. Special funding was set aside to start this project in 2014. It may make sense for Red Deer to explore joining the PCP consortium once we begin the community GHG plan as there are some matching funding sources linked to the program as well as resources such as networking, research, and professional support. But just to reiterate, GHG plans and reduction strategies for Red Deer are a separate project from climate change adaptation.

So, going back to our climate change adaption plan, it was assigned a plan champion (Paul Goranson) as well as a project lead (Nancy Hackett). The plan was developed using an inter-departmental approach looking at broad impacts of climate change. The core steering committee group included representatives from departments that were seen to have their operations or business most affected by possible climate change impacts. This group included Environmental Services, Engineering, Planning, Parks, and Emergency Management. The core steering group met numerous times throughout plan development. A support or resource group of representatives from secondarily impacted departments was also established and engaged at key points throughout plan development. This group was comprised of staff from; Communications, Land and Economic Development, Asset Management, Electric, Light and Power, Public Works, and Risk Management. Both groups helped to develop the project charter and signed off on the charter. Both groups also reviewed information and provided input on development of this document. In fact, throughout, both groups are instrumental in developing a well-balanced, broad plan for Red Deer.

¹¹ ICLEI Canada website: www.icleicanada.org , March 2014

Council Resolution

At the initial stages of the project, Council passed the following resolution which reflects The City's commitment to ICLEI's program and has directed/guided the project steering committee and staff involved in the project. From the October 17, 2011 Council meeting:

Resolved that Council of The City of Red Deer having considered the report from the Environmental Services Department, dated October 3, 2011, re: Climate Change Mitigation and Adaptation Plan, hereby agrees as follows:

Whereas The City of Red Deer Environmental Master Plan establishes key goals for the future of Red Deer's environment and establishes priority actions to achieve these goals, and

Whereas the Plan's priority actions pertaining to air quality and emissions direct the development of a Climate Change Adaptation and Mitigation Plan,

NOW THEREFORE, BE IT RESOLVED, that The City of Red Deer, has joined ICLEI (International Council for Local Environmental Initiatives) Canada's Adaptation Initiative and will undertake the five milestones presented in ICLEI's "Changing Climate, Changing Communities" document to prepare for the impacts of climate change, specifically:

- 1) Initiate an Adaptation Effort;
- 2) Research Climate Change Impacts;
- 3) Create an Adaptation Plan;
- 4) Develop an Implementation Strategy for the Plan; and
- 5) Commit to Monitor and Review the Plan.

Impacts & Issues

As part of our work with ICLEI, we were provided with a report detailing climate change scenarios for our local region. ICLEI based the report on "models developed by a series of international climate modeling centers. Each of them provided their projections of future global climate to the Intergovernmental Panel on Climate Change (IPCC). Environment Canada scientists, working as members of the Canadian Climate Change Scenarios Network, combined data from these models to compute new projections for the regions across Canada."¹² The data was then reviewed and compiled into a report for our use by ICLEI. This report, entitled "Milestone Two and the Science of Climate Change: Climate Data for Red Deer", is available under separate cover. The information detailed in the

¹² ICLEI Canada, Milestone Two and the Science of Climate Change: Climate Data for Red Deer, Alberta. June 2011.

report indicates that climate change is affecting all of Canada and it provides the specific impacts forecast for Red Deer.

In reviewing the climate change data and projections available to Red Deer from ICLEI, the primary impacts fall into three main areas:

- Warmer, drier summers (leading to impacts such as seasonal drought.)
- Increased risk and frequency of severe weather events (wind events, tornado risk, hail, winter storms, and severe rain events)
- Increased risk of flooding (due to increases in annual precipitation for the winter and spring seasons).

Staff note that Red Deer has already begun to experience many of these impacts such as flooding and continued/ongoing seasonal drought.

Vision Statement

The project team initiating this climate change work created a vision statement which was endorsed by City Council in 2011. Essentially, the vision states that The City of Red Deer has expressed commitment to proactively anticipate change and arrive at informed strategies to manage decisions. In living up to these commitments, Red Deer sees sustainability as an opportunity to lead and lay the foundation for our future.

Based on our desire to show leadership as a sustainable community as expressed in the 2009-2011 City Strategic Plan, we are interested in using the Adaptation Strategy in three ways.

First, we want to better understand what climate change may mean for our community, how it could affect us, and the ways in which we need to prepare/plan. Building awareness across our organization on wide-reaching impacts and required actions is crucial (i.e. climate change planning is not simply housed in one department but impacts all departments and projects).

Second, we see the Adaptation Strategy as an opportunity to implement significant portions of our Environmental Master Plan. It will help us advance our Environmental Master Plan, and signal where gaps may exist in that plan, as well as assist in prioritizing actions.

Third, we wish to engage and educate citizens in:

- what to expect from climate change,
- in environmental programs and actions aimed at reducing impact, and
- in how to improve sustainability and adapt to climate change.

Therefore, as a corporation we need to have a firm understanding of what climate change means for our city and we need to get our operations and policies in order to be able to best serve our community in the coming years.

At project completion we expect to deliver a plan that will address climate change risks, vulnerabilities, adaptation and response, tailored to Red Deer as a corporation. This plan will need to supplement and tie-in with other environmental plans and action, chiefly the Environmental Master Plan.

While climate change planning is new for our municipality, there is determination and dedication to improve sustainability and a firm policy framework in place to support embarking on this initiative. Much work is already underway that can and does link to climate change resiliency or adaptation. This framework includes The City's 2009-2011 Strategic Plan, The Municipal Development Plan, and the Environmental Master Plan; all of which identify the importance of focused, continued action.

Red Deer is ready to better understand and plan for climate change adaptation and develop practical, relevant measures that can be implemented in a coordinated way with our existing plans. With ICLEI's support and by networking with other Canadian communities who are also at the forefront of climate change planning, we can learn from best practices and build ongoing knowledge to develop an adaptation plan to sustain our community now and in the future.

Goals and Objectives

The objectives of undertaking a climate change plan for Red Deer are:

- Improved understanding across City Departments of the predicted impacts of climate change on The City of Red Deer and how operations and services could be affected.
- Make a connection between the numerous environmental actions The City is already pursuing and their link to climate change adaptation.
- Incorporate climate change awareness and preparedness into future City planning and policy. This action is intended to maintain safety, well-being, and quality of life as the City grows over the next 30 – 50 years
- Identify operational changes City departments may need to make to adapt to changing conditions. These actions and changes will be developed into a plan for mitigating and adapting to climate change and its impacts within the City of Red Deer. The plan will be high level and conceptual.
- Assist in implementing priority actions of the Environmental Master Plan¹³

¹³ The City of Red Deer, Environmental Master Plan, 2011. "Air Priority Actions: Community: Develop a Climate Change Adaptation and Mitigation Plan."

- Demonstrate leadership as a sustainable community both within the city and region
- Achieve the sustainable community vision of the City's Strategic Plan and Environmental Pillar as well as the Municipal Development Plan, enhance the City's environmental reputation, and practice continuous improvement in our delivery of services and programs.
- Position The City to respond to emerging issues and opportunities around climate change

Targets will be set in the future.

Themes for Adaptation

In considering the possible impacts stemming from anticipated climate changes, vulnerability, risk assessment and options were reviewed.

In working with ICLEI and other communities who have been developing climate change plans, it is clear that there are a range of adaptation options. These options may involve modifying plans, practises or processes used by the municipality to ensure it can respond to climate change; building or upgrading infrastructure to be ready for anticipated impacts, examples from other municipalities include stormwater collection system improvements or seawall reinforcement; expanding awareness and education, and providing protection through diversification such as economic diversification in an agricultural region which may be facing future drought.

For Red Deer the major adaptation approaches that are forming the basis of our interest for the plan involve four key focus elements.

1. Ability to provide service and continue operations
2. Protecting and adapting built and transportation infrastructure
3. Protecting and improving resiliency of our green infrastructure (man-made and natural ecological)
4. Serving our residents, stakeholders, and community

Major Action Areas

In order to respond to the major predicted actions, we worked across the entire corporation and considered, in detail, the types of impacts that might be seen to affect our organization. We came up with over 100 specific actions ranging from the need for comprehensive studies or broad plans, right up to specific

retrofits and direct operational considerations. Because there are so many actions, they need to be prioritized and reviewed. In order to do this we established five major categories of actions in which our climate change adaptation will fall:

1. Business continuity planning
2. Development and planning standards
3. Storm water design standards
4. Parks adaptation of operations to meet eco-system pressures resulting from climate change
5. Adaptation of operating practises and service levels

Many of these actions are already underway in one form or another and integrating the climate change research, awareness and linkages will be important. Further by grouping the major categories of actions we can see that there is an impact across the corporation and rather than each area working independently we can collaborate/learn from each area's response.

1. Business continuity planning

Essentially business continuity planning describes how to resume operations after a major disruption. A disruption in the context of a city could take many forms – some natural and some manmade - such as an uncontrolled wild fire, major natural disaster, pipeline rupture or a train derailment causing a chemical spill. Extreme examples of each of these threats have occurred all too recently across our country. The impacts stemming from or linked to climate change are comparable. While we cannot anticipate all threats, we can recognize that in climate change planning an increase in severe weather and risk of flooding may lead to the need to deal with recovery and business continuity. Municipalities such as Red Deer, deliver many services such as water, waste water, waste collection, recreation, emergency response, transit, electrical distribution, roads, traffic signals and street lights. Business continuity planning is really about how to continue or resume service delivery as quickly as possible. Clean up of downed trees, opening access roads, restoring power all have to be considered. Red Deer is already working on a business continuity plan process so the climate change plan will provide input into this process by identifying possible disruptions linked to climate change forecasts.

2. Development and planning standards

One of the key areas of our municipal authority is the issuing of building and construction approvals. We also act as a local developer. Because the anticipated impacts of climate change can lead to higher risks to some buildings,

we need to ensure that our standards and approvals address these threats. In addition, we can impact adaptation by improving the sustainability of our community design by looking at how our development and planning standards seek to improve energy efficiency, make our neighbourhoods more walkable, improve access to alternate transportation modes, and protect or enhance ecological amenities. Documents such as the Neighbourhood Design Standards have begun to incorporate policies which consider the future response to climate change and climate change adaptation. Moving forward it will be important to continue in this vein by bringing adaptation actions as a central consideration in our development and planning standards and potentially, our development practices.

3. Storm water design standards

As already identified by Engineering Services, the frequency of flooding and storm water runoff necessitates that storm water design standards be reviewed. The climate change adaptation plan recommends that consideration be given to the impacts expected, and that as these standards are reviewed and revised the protection of city infrastructure, facilities, and properties be considered alongside the protection of all properties in the city.

4. Parks adaptation of operations to meet eco-system pressures resulting from climate change

When thinking of municipal corporate assets sometimes we tend to picture buildings, streets, sidewalks, and major facilities such as a wastewater treatment plants. However, we also need to think of protecting our ecosystem assets. We specifically want to retain a robust and resilient eco-system and as stewards of the local eco-system we need to be addressing its protection in our climate change work. Ecosystem assets often increase in value to us as they become more mature – think of a 25 year old tree compared to a newly planted tree. As a result ecosystem pressures need to be addressed distinctly within our plan to account for the length of time it takes these assets to mature and for their unique values and vulnerabilities.

City of Red Deer Parks staff noted several issues attributed to climate change, issues that are impacting their operations. For example, they note seasonal drought is impacting tree and turf loss rates, amplified spring precipitation has brought about increased mosquitos, more severe storms including wind cause additional tree limb failures which staff must respond to, increased snow impacts operations, and temperature increases are altering plant hardiness zones and changing forest insect adaptability and introducing different weeds. Staff are

working to address these changes but it requires adaptation of operational approaches. The Climate Change Adaptation Plan is seen as important in continuing to address and improve our response as a corporation.

5. Adaptation Of Operating Practises and Service Levels

Climate change planning will involve preparing for service level disruptions or changes and general operating practises as well. With altered weather patterns we need to consider whether changes to our service delivery levels are needed and we need to be conscious of realistic expectations for staff and service providers. Looking at our operations from yard waste collection, to road clearing, to outdoor recreation; service effectiveness is a key part of our climate change plan. Some communities for instance have realized that changes in the freeze-thaw frequency during their winter season makes past standards and expectations for flooding and maintenance of outdoor skating rinks ineffective and inappropriate to continue. Other communities are keeping outdoor pools or splash pads open longer into the autumn due to changes in heat patterns. Red Deer's expectations and practises need to be conscious of our climate predictions and experiences. Also within this major theme, we need to address the length of time required to clean up after an average storm compared to what length of time is needed after a more severe storm or weather event and what that means for our day to day operations as clean up occurs.

By tackling these five major action areas and looking at specific actions under each category The City of Red Deer will be in an increasingly more resilient position to adapt to and address climate change pressures and impacts in our corporation as we serve our local community.

Wheels are in Motion Already

Climate change can seem a large topic but we're fortunate that our wheels are already in motion. As alluded to above, The City of Red Deer is already taking steps in the direction of sustainability and resiliency. The following list identifies the types of initiatives and work already being done that links to these major actions.

Project / Initiative	Lead Department	Date of Council Approval	Brief Description (as relates to corporate climate change action)	Which of the Five Major Theme area is being addressed
<i>River Valley and Tributary Study</i>	Recreation, Parks and Culture	July 2010	Identifies lands best suited for potential trails and parks within the city's future Growth Area	Parks adaptation of operations to meet eco-system pressures resulting from climate change
<i>Engineering Design Standards</i>	Engineering Services	Updated 2013 <i>(elements approved separately, e.g storm water policy, arterial road standards)</i>	Establishes standards for the design of infrastructure such as storm drainage systems.	Storm Water Design Standards
<i>Water Quality River and Tributary Study</i>	Environmental Services	<i>Study In Progress</i>	Evaluates the impact of city storm drainage and treatment effluent on the Red Deer River and its tributaries	Storm Water Design Standards
<i>Mobility Plan</i>	Development Services	May 2013	Strengthening transportation options which can have a positive impact on air quality/GHG	Development and Planning Standards
<i>Environmental Master Plan</i>	Environmental Services / various across corporation	April 2011	Sets environmental priority actions and targets; including GHG reduction	Adaptation of operating practises and Service Levels

<i>Corporate GHG reduction plan</i>	Environmental Services / various across corporation	April 2013	Recommendations to reduce corporate GHG emissions	Adaptation of operating practises and Service Levels
<i>Neighbourhood Design Standards</i>	Planning	October 2013 (Approval by Directors)	Establishes standards for development	Development and planning standards
<i>Asset Management Planning</i>	Asset Management	<i>Study In Progress</i>	Will consider service levels including how will be impacted by climate change	Adaptation of operating practises and Service Levels
<i>Emergency Management Plan</i>	Emergency Management	Bylaw No. 3468/2011	Prepares The City for emergencies such as natural disasters or floods	Business Continuity Planning
<i>Waste Management Master Plan</i>	Environmental Services	May 2013	Responds to waste generation also looks at waste reduction and diversion to reduce GHG emissions	Adaptation of operating practises and Service Levels & Business Continuity Planning
<i>Additional Corporate Actions:</i> - <i>Enterprise Risk Management</i>	Corporate Services	In Progress	systems and processes for identify and managing actual or potential financial, strategic, operational, hazard and other risks to an organization	Adaptation of operating practises and Service Levels & Business Continuity Planning

Next Steps

This report is just the first phase of our climate change work. Should Council accept the vision, themes, goals, and major actions which are outlined here, the next work would be to finalize and prioritize the specific steps/actions/strategies

under each of the five major action areas. This step would form the actual adaptation actions for our corporation; the “what” and “how” to become more adaptive and resilient to predicted climate change impacts. At this time, specific steps/actions/strategies are in a preliminary chart form based on what has been captured in discussion with departments, the work of the steering committee, and coordination with ICLEI. There is refinement work to do and we need to develop some implementation details around the specific actions and strategies such as cost, timing, and lead role. This step is achievable once we have endorsement of the broad components contained in this report.

Once the steering committee and resource committee have finalized the specific steps/actions/strategies (phase 2 of our work), we would present to the City’s corporate leadership and operational leadership teams and subsequently to the Environmental Advisory Committee and Council for endorsement.

Finally, once accepted by Council, we would tackle the final phase which is to implement (phase 3) the developed communication strategy for the public and our staff to share information and launch our adaptation work.

Conclusion

In closing, The City of Red Deer has made climate change adaptation a priority action in its efforts to improve our environmental sustainability. While no one can say for certain what the future will bring we can be prepared to effectively and efficiently tackle expected challenges and conditions. This report presents our major action areas and our focus as we address climate change adaptation. Once accepted by the Environmental Advisory Committee and City Council it will be followed by more detailed information and specific, prioritized action steps.

Local governments play a key role in preparing their communities to build resilience and establish the right conditions for adaptation. Governments must take climate change into account when managing their assets and programs, services and economic development. Increased investment in a community's ability to overcome natural disasters will safeguard existing economic progress, and increase the economy's climate-related resilience.

Federation of Canadian Municipalities