
Climate Change Adaptation

Recommendation

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

1. That information pertaining to the Corporate Adaptation Strategy be received;
2. That \$32,000 from Capital Project #2183, Energy and Greenhouse Gas Management Plan, in addition to \$125,000 of Federation of Canadian Municipalities grant funding, be designated to a new Adaptation Capital Project to support development of the Corporate Adaptation Strategy.

Topic and Purpose

The purpose of this interim report is to provide an update on the City of Saskatoon's (City's) preparation for, and response to, severe weather events as it relates to key infrastructure assets.

Report Highlights

1. A Climate Change Adaptation Strategy is required as part of the signed commitment to the Global Covenant of Mayors for Climate and Energy.
2. The Corporate Adaptation Strategy will build on the Resiliency model created by the Province of Saskatchewan.
3. Addressing climate change adaptation increases resilience in assets and services.
4. A Corporate Adaptation Strategy complements other corporate initiatives in the City.

Strategic Goals

Climate Change Adaptation supports the four-year priority to consider mitigation strategies for the impact of severe weather events on the City's infrastructure under the Strategic Goal of Environmental Leadership. Asset and Financial Sustainability is supported through creating a strategy to increase resilience of corporate infrastructure.

Background

City Council, at its meeting held on September 28, 2015, considered the Inquiry – Councillor M. Loewen (October 11, 2011) Climate Change Adaptation Strategy report and resolved, in part,

- “2. That the Administration report back as soon as possible with the following information:
 - steps for implementing systems in key departments which would evaluate new infrastructure and projects (and retrofits to existing infrastructure/projects) to ensure adequate performance in a variety of weather conditions including extreme events.

- additional information speaking to the adequacy of current funding approaches to dealing with possible changing weather conditions and their impacts on civic assets and services.”

In November 2015, the City became a signatory to the Compact of Mayors, now known as the Global Covenant of Mayors for Climate and Energy, which commits the City of Saskatoon to address climate change by reducing greenhouse gas emissions and creating a climate change adaptation action plan.

The Standing Policy Committee on Environment, Utilities & Corporate Services, at its meeting held on March 8, 2016, received further information about the City’s preparedness to address climate change impacts to protect key infrastructure.

The Standing Policy Committee on Environment, Utilities & Corporate Services, at its meeting held on June 12, 2017, received communication from Administration that Capital Project #2183 would leverage funding for a Corporate Adaptation Strategy pending approved grant funding to address Climate Change Mitigation and Natural Capital Asset Valuation, both of which have been approved for grant funding through the Federation of Canadian Municipalities (FCM).

The Standing Policy Committee on Environment, Utilities & Corporate Services, at its meeting held on September 11, 2017, received a report outlining how \$80,000 would be used to develop a plan for a corporate-wide Environmental Management System (EMS). Administration has identified an opportunity for efficiencies by aligning the Climate Change Adaptation Strategy with this initiative.

Report

The Saskatchewan Government has created a Resilience Model to respond to climate change in the Province. The model has developed climate change policies for natural systems, physical infrastructure, economic sustainability and community preparedness. The adaptation strategy in the City of Saskatoon will build on the policies developed by the province to address the effects of climate change on our community in a region-specific way.

In 2017, the City engaged in a partnership with the University of Saskatchewan to test a tool for documenting and analyzing the implications of climate change on corporate assets and services as a pilot project. Expansion of the pilot project will:

1. Identify the climate change risks to which our community is most vulnerable.
2. Identify high risk assets.
3. Identify high risk services.
4. Identify civic divisions responsible for the greatest vulnerabilities to climate change.
5. Actions to reduce identified risks.

Attachment 1, Climate Change Adaptation Assessment, summarizes the adaptation assessment process, including a summary of the risk and vulnerability assessment. The Corporate Adaptation Strategy will prepare an action plan to prevent unnecessary stress to assets and services, and provide a response strategy if the effects of climate change are unavoidable. These actions mitigate the need for large reserve balances as assets are less likely to require emergency response funding when the Adaptation Strategy is integrated into the overall asset management framework and asset management plans. The Adaptation Strategy will connect the risk with the appropriate level of financial reserve necessary and recommend an appropriate balance for the reserve to mitigate the financial exposure of climate change to the City. A recommendation report for the reserve will be delivered in 2019.

The Climate Change Adaptation project is expected to collaborate closely with other on-going civic initiatives:

1. Corporate Asset Management Framework – The Corporate Asset Management Framework outlines a strategy to manage assets in a way that minimizes risk and optimizes the investment to those assets. This initiative also received funding support from FCM through the new Municipal Asset Management Program, which requires the City to produce an asset management framework that specifically identifies climate change response and preparedness as part of a sound asset management strategy. Climate change planning provides attention to resiliency by evaluating risk and vulnerability based on a region specific analysis.

The risk and vulnerability assessments completed through the Climate Change Adaptation project will feed into the condition and life cycle assessments required to appropriately manage, plan, and invest in corporate infrastructure. For example, if weather events are predicted to become more frequent or severe, the effect on assets must be recorded, with maintenance, renewal and replacement timelines adjusted to minimize the negative impact.

2. Green Infrastructure Strategy – Green (or natural asset-based) infrastructure, in many cases, is more resilient to climate change than built infrastructure. Additionally, green infrastructure provides a buffer for built infrastructure to make it more resilient. The Adaptation project will provide the foundation to identify cases where green infrastructure can be used to replace and/or make built infrastructure more resilient in a strategic way.
3. Climate Change Mitigation and Environmental Management System (EMS) – the risk and vulnerability assessments completed through the Climate Change Adaptation project will provide important inputs into identifying greenhouse gas reduction (mitigation) options, environmental protection initiatives, and create priority areas for divisions to adopt and monitor within an environmental management system. Efficiencies achieved by integrating the Adaptation and EMS projects is anticipated to produce results in 18-24 months.

Options to the Recommendation

City Council could choose to postpone work on the Climate Adaptation Strategy. Administration does not recommend this, as climate change risks and response are not currently well understood, creating the potential for significant impacts to civic assets, services and budgets.

Public and/or Stakeholder Involvement

The Climate Change Adaptation strategy requires a collaborative process due to the wide variety of assets within the city, and the unique impact climate change has on the assets. The Adaptation project will, therefore, include and link engagement with the Asset Management Framework, Green Infrastructure Strategy and EMS development initiatives. The project also includes consultation with external groups to determine vulnerability and risk on City owned assets. These groups include climate change modeling groups as well as insurance companies, which will determine future cost of insurance, based on expected liability. Additionally, comprehensive engagement and consultation with various civic work groups will discuss the preventative and reactive measures that the City must employ to make civic assets more resilient to climate change into the future, based on climate change modelling.

Communication Plan

A communications plan will be developed to support engagement, most of which is focussed on civic operations. Further communications are also expected to be developed as part of on-going operations when the Corporate Climate Change Adaptation Action Plan is complete.

Policy Implications

In addition to a review of policies, a review, scope, and analysis will be required to determine if reserves are appropriate to respond to the risk created by climate change. Further discussion on the Major Natural Event Reserve is included in the Financial Implications section.

Financial Implications

The Climate Adaptation project is eligible for up to \$125,000 of funding through FCM. Capital Project #2183 – Energy and Greenhouse Gas Management Plan has currently allocated \$32,000, as a requirement to receive FCM funds, and an additional \$50,000 will be required to complete the adaptation action plan in 2019 and will be part of the 2019 Business Plan and Budget deliberations.

Environmental Implications

Adaptation will positively affect the risk of climate change events and scenarios on corporate assets and services. The action plan will identify environmentally responsible methods to creating resiliency in the Saskatoon community in an operationally feasible way.

Other Considerations/Implications

There are no privacy or CPTED considerations at this time.

Due Date for Follow-up and/or Project Completion

The Corporate Adaptation Strategy is expected to be completed in 2019 and the action plan brought to the Standing Policy Committee on Environment, Utilities and Corporate Service for review by September, 2019.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Climate Change Adaptation Assessment

Report Approval

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Approved by: Dan Willems, A/General Manager, Corporate Performance Dept.

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