

**DATE:** February 10, 2021

**TO:** MAYOR AND COUNCIL

**NAME AND TITLE:** Ian Wells, Acting Deputy City Manager

**SUBJECT:** 2020 Climate Change Adaptation Report

**ATTACHMENT(S):** 2020 Climate Change Adaptation Report

**RECOMMENDATION(S):**

That Council:

1. RECEIVES FOR INFORMATION the report dated February 10, 2021, from the Acting Deputy City Manager, titled “2020 Climate Change Adaptation Report”; and
2. APPROVES sharing the report with the Canadian Centre for Climate Services of Natural Resources Canada.

**PURPOSE:**

The purpose of this report is to present the 2020 Climate Change Adaptation Report (2020 CCAR) to Council for information. The full name of the report is “Climate Change Adaptation Strategies for the Community of Prince George.” The 2020 CCAR is a stakeholder informed document containing climate projections to 2050, the expected impacts associated with a changing climate and suggested recommendations for the City to cope with these changes.

The Canadian Centre for Climate Services (CCCS) of Natural Resources Canada (NRCan) provides Canadians with the climate information and support they need to consider climate change in their decisions and increase resiliency, such as providing case studies. CCCS has asked if the City of Prince George report can be added to their case study library to assist other Canadian municipalities and residents.

**STRATEGIC PRIORITIES:**

The 2020 CCAR will help to realize the *myPG* goal to “reduce carbon emissions and adapt to climate change.” Additionally, this work was a 2020 Council Focus Area to “Incorporate adaptation to climate change in relevant operations” and a Workplan Priority to “recommend climate change ... adaptation plan to Council, along with priority actions that have been informed by public input.”

**BACKGROUND:**

The City of Prince George (City) has a strong history in acknowledging the local impacts of climate change and identifying measures to be put in place to alleviate these impacts. Prince George was one of the first municipalities in Canada to develop a Climate Change Adaptation Strategy, in collaboration with the University of Northern British Columbia, in 2009. The City’s Official Community Plan 2011 also

includes a Section 6.3 which speaks to climate change adaptation and policies and objectives related to improving Prince George's resiliency to a changing climate.

The City was approached by ICLEI Canada in August 2017 to participate in the Adaptation Changermakers Project, in collaboration with 7 other Canadian municipalities. The project's goals were to "help municipalities move from climate change assessment, to planning to action by:

- Identifying and bringing together local stakeholders in a community wide planning effort;
- Using climate change modelling data to identify local vulnerabilities;
- Assessing and prioritizing climate risks; and,
- Developing implementation-ready adaptation plans."

This project was funded through the Federation of Canadian Municipalities (FCM) Municipalities for Climate Innovation Program, under the Climate Adaptation Partner Grants. ICLEI Canada was the holder of the grant and the City of Prince George was a beneficiary of the grant funding.

Council approved the 2020 Climate Change Mitigation Plan in May 2020 which sets short, medium and long-term targets for reducing greenhouse gas emissions associated with transportation, buildings and waste. Mitigation refers to reducing activities that contribute to climate change, primarily fossil fuel use, to slow down or reduce the expected impacts of climate change. Whereas climate change adaptation refers to acknowledging the local impacts of climate change and identifying measures to adapt to these impacts, by improving the resilience of our infrastructure, community and natural environment.

#### **DISCUSSION:**

The climate is changing globally but in Prince George, the climate is changing at an accelerated rate compared to the global average. Since 1942, Prince George has experienced an increase of approximately 2.8°C in the winter months, and a decrease of approximately 10 extreme cold days (days below -25°C) a year. In addition, Prince George has experienced a 40.5% reduction in winter precipitation and a 28.5% reduction in summer precipitation. These climatic changes can be linked to the mountain pine beetle infestation in the early 2000s, due to warmer winters not being able to keep the pest populations at bay, and the extreme wildfire events of 2017 and 2018. The warmer winter weather has also resulted in changes to City snow and ice control operations, increased localized flooding events and impacts to the road infrastructure.

Looking to the future, Prince George will continue to see rising annual mean temperatures, with the most significant rises occurring in the winter months, plus changes in precipitation patterns resulting in drier summers and increased rainfall compared to snowfall in the winter, and more frequent and extreme weather events.

The Climate Change Adaptation Report, titled "Climate Change Adaptation Strategies for the Community of Prince George," identifies 18 priority climate risks Prince George may expect in a changing climate, and actions that can be taken to reduce the City and community's vulnerability to these risks. The impacts of climate change are wide-reaching and will impact physical infrastructure, health and well-being, economic resilience and the natural environment in Prince George.

This report was developed through the collaboration of several community stakeholders including the Northern Health Authority, the Regional District of Fraser-Fort George (RDFFG), Lheidli T'enneh First Nations, the University of Northern British Columbia (UNBC), the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (MFLNRORD), Tourism Prince George, the Chamber of Commerce and Industrial partners.

The actions of the 2020 CCAR fall under four primary objectives and 12 focus areas in the chart below:

Strengthen Infrastructure Resilience and Reduce Risks to Buildings and Property	Protect Health and Improve Economic Resiliency	Enhance Resilience of Ecosystems and Protect Natural Areas	Integrate Climate Change Thinking and Response
Transportation	Emergency Response	Slope Stability	Governance and Education
Buildings and Infrastructure	Health and Well-Being	Stormwater	
	Economic Resilience	River Flooding	
		Water supply	
		Forests and Wildfire	
		Ecosystems	

The priority focus areas that require the most pertinent action for the City of Prince George are Transportation and Stormwater.

#### SHARING OUR FINDINGS:

The Canadian Centre for Climate Services (CCCS) of Natural Resources Canada (NRCan) provides Canadians with the climate information and support they need to consider climate change in their decisions and increase resiliency. Access to case studies has been identified as a priority for decision makers; therefore, the CCCS is currently developing a database of Canadian climate change case studies that are easily accessible online via an interactive map.

As a recipient of ICLEI Canada's FCM grant funding, the City of Prince George has been able to become more prepared for the impacts of a changing climate. Other municipalities across Canada can learn from Prince George's experience by providing the 2020 CCAR report to be included in the database.

#### FINANCIAL CONSIDERATIONS:

The economic burden of climate change impacts is expected to increase over time, with the National Round Table on Environment and Energy estimating that climate change costs for Canadians could escalate from \$5 billion in recovery costs in 2020 to between \$21 to 43 billion per year by the 2050s. Public Safety Canada estimates that for every dollar invested in climate change adaptation \$3 to \$5 is saved in recovery costs. The City of Prince George is already feeling the impacts of climate change on financial budgets, as increased freeze-thaw cycles have required more ice control operations, catch-basin steaming and pothole rehabilitation.

The development of the 2020 Climate Change Adaptation Report was funded by ICLEI Canada's grant funding from FCM, while the City provided in-kind staff time as a contribution.

#### SUMMARY AND CONCLUSION:

The 2020 CCAR is presented to Council for their information. Prince George is experiencing an accelerated rate of climate change compared to the global average, which has resulted in warming trends in the winter leading to impacts to snow and ice control operations, localized flooding and increased summer pest infestations. The 2020 CCAR was developed through collaboration with several community stakeholders and includes several recommendations to assist Prince George in adapting to a changing climate and improving resilience of infrastructure, health and well-being and the natural environment.

The CCCS of NRCan has requested permission to add Prince George's report to their case study library to assist other Canadian municipalities prepare for climate change.

**RESPECTFULLY SUBMITTED:**

Ian Wells, Acting Deputy City Manager

**PREPARED BY:** Andrea Byrne, Environmental Coordinator, Development Services

**APPROVED:**

Walter Babicz, Acting City Manager

Meeting Date: 2021/03/08