

Report to Council



Date: January 16, 2023
To: Council
From: City Manager
Subject: Background and Update – Climate & Environment Framework
Department: Planning & Development Services

Recommendation:

THAT Council receive, for information, the staff update on the Climate & Environment Framework, dated January 16, 2023.

Purpose:

To provide Council with background on the Climate & Environment Framework and to update Council on recent progress and planned climate and environment related initiatives in 2023.

Note: *Council feedback is intended to inform the set of actions to be taken to achieve Council's priority on Environmental Protection and Climate Change.*

Background:

Through [Imagine Kelowna](#), it is clear that climate action and stewardship of the natural environment are core community values, as exemplified through several of the established *Imagine Kelowna* goals:

- Take action in the face of climate change
- Protect land, water & air
- Protect agricultural land
- Preserve Okanagan Lake as a shared resource

To deliver on these goals, we focused on these four desired results:

1. Community and corporate greenhouse gas (GHG) emissions are decreasing.
2. Neighbourhoods and city infrastructure are resilient and adaptable to climate change.
3. Predictive modelling and forecasting are improving.
4. The City's response to extreme weather events minimizes disruption to delivering regular operations.

With Climate and Environment top of mind for the community, these priorities became pillars of the [2040 Official Community Plan](#) (2040 OCP) and were key considerations in other City plans (e.g., [2040 Transportation Master Plan](#)). Although completed prior to the *2019-2022 Council Priorities*, the [2018 Community Climate Action Plan](#) (CCAP) and [2018 Corporate Energy and GHG Emissions Plan](#) supported the GHG emissions reduction priority.

Through regular Reporting, between 2019 and 2022, staff indicated that three of the four Environmental Protection results (numbers 2-4 above) were generally trending in the right direction; however, progress on Result #1: community and corporate GHG emissions are decreasing, was trending in the wrong direction, particularly on the community-side.

While lack of progress on emissions reduction was the most notable gap on the Environmental Protection focus area, it was also recognized that the environmental focus was exclusively on climate change (e.g., reducing GHG emissions and preparing for the impacts of climate change). To have a complete understanding of the state of the natural environment in Kelowna, issues beyond GHG emissions and climate adaptation must be considered (e.g., biodiversity, habitat loss, water resources, and air quality).

Recognizing some of these gaps, a two-year term Champion of the Environment position was hired in 2021 to lead a comprehensive review of the City's climate action and environmental stewardship related work. The key objectives of the review were to:

1. Establish a Climate & Environment Framework (the Framework) for the City that will define and guide climate and environment focal points over the coming years, including priorities/themes and goals.
2. Identify gaps and future opportunities to advance corporate climate and environment performance.
3. Develop a series of practical recommendations/solutions that, if implemented, will result in tangible progress related to the City's climate and environment objectives.

In relation to Objective 1 of the review, the Framework is intended to be the City's roadmap to advancing the climate and environment elements of *Imagine Kelowna*. Informed by key City plans (e.g., *2040 OCP*, *2040 TMP*, *2018 CCAP*), it identifies five pathways forward to ensure City staff, Council, partners, stakeholders, and residents all have a common starting place for collaboration. The five pathways are shown below in Figure 1.



Figure 1: Climate Resilient Framework Five Pathways.

Each pathway has five desired results (i.e., the 'end-states' that must be met to advance each priority), that collectively help mobilize the *Imagine Kelowna* vision. The full Framework is presented in Part 2 of

the [Climate Resilience & Environmental Stewardship Review: Framework and Recommendations Report](#) (the Report), which was presented to and endorsed by Council on August 8, 2022.

Beyond the scope of the Report, the Framework will be used to track progress and guide environmental action in a more systematic and strategic manner at the City.

In relation to Objectives 2 and 3, the Framework was used to structure the recommendations for the Report. Quick Starts to mobilize the recommendations in the short-term were presented to Council at the Budget Program Overview & Deliberations on December 8, 2022.

Status Update:

The Framework was only recently endorsed through the Report, but it can still be used to frame progress on climate and environment related initiatives over the past few years using existing indicators and targets. Other metrics related to climate action and environmental stewardship are tracked through the 2040 OCP as key indicators and will be reported to Council this year. Progress is summarized in Attachment 1, but here are a few key takeaways:

- **Corporate Climate Leadership:** The 2018 [Corporate Energy and GHG Emissions Plan](#) targeted a 12 per cent reduction in GHG emissions relative to 2007 levels by 2022. Preliminary data suggests emissions decreased slightly in recent years, but final analysis will be completed through the *Strategic Energy Management Plan (SEMP)*, which will be finalized in 2023. A 2030 GHG emissions reduction target and a metric related to energy use intensity are also being established through the SEM. Other KPIs related to this pathway will be explored in 2023.

- **Community GHG Emissions:** The most recent data shows that the community reduced absolute GHG emissions nearly four per between 2007 and 2016; however, emissions rose 3.7 per cent above 2007 levels in 2018 (Table 1). While variations in GHG emissions are noted from year-to-year due to various factors (e.g., weather – cold years will use more natural gas or electricity for heating; pandemic restrictions will reduce vehicle travel and fuel use), it is concerning that absolute emissions are increasing instead of decreasing. While an absolute reduction in GHG emissions is critical to reduce the impacts of climate change, progress is being made on a per capita basis. By 2018, the community achieved nearly 17 per cent reduction in per capita GHG emissions compared to 2007, providing a basis for future GHG reduction success.

Table 1: Kelowna community GHG Emissions for 2007, 2016, and 2018.

	Absolute GHG emissions (tonnes CO ₂ e)	
	Total Emissions	% absolute change since 2007
2007	841,789	-
2016	808,874	↓ 3.9%
2018	874,156	↑ 3.7%

2019 and 2020 community GHG emissions inventories will be completed in 2023. Preliminary 2020 data indicates a decrease in absolute community emissions relative to 2007 levels is expected largely due to less travel during COVID-19 restrictions; however, it is unlikely those reductions will persist as pandemic restrictions ease.

Council endorsed more aggressive community targets (40 per cent GHG emissions reduction by 2030 relative to 2007 levels and net-zero by 2050) at the [June 20, 2022 Council meeting](#) (Item 3.7) and further community engagement is needed before the targets are updated in the 2040 OCP. Initiatives to help meet more aggressive emissions reduction targets will be outlined in the new *Climate Resilient Kelowna Strategy* being completed in 2023.

- **Climate Adaptation:** Adapting to climate hazards (e.g., wildfires, floods, extreme heat) is growing in importance, but to this point, clear indicators/targets have not been established for this pathway. This will be completed in 2023 through the completion of the *Climate Resilient Kelowna Strategy*. Nonetheless, progress has still been made on planning for major climate hazards such as wildfires and flooding. For example, the new [Community Wildfire Resilience Plan](#) was completed in Summer 2022, the FireSmart Community Chipping Pilot Program proved to be a success, and the Mill Creek Flood Protection – Diversion Upgrading Project continued.
- **Protect and Restore Natural Areas:** As Kelowna continues to grow and urbanize, the relationship between development and natural areas is increasingly under the microscope. Tree Canopy Coverage is one key indicator, and through the OCP, the City has tree canopy targets for urban centres (12 per cent), core areas (20 per cent), and the remainder of the city (25 per cent). As part of the *Sustainable Urban Forest Strategy* update, these targets are being reviewed to see if further refinements are needed (e.g., should targets be adopted for each growth strategy district) and how they align to the natural carrying capacity of the region. Current canopy coverage is being calculated through the *Sustainable Urban Forestry Strategy* using data sets that are currently available. Indicators will be reported on approximately every five years as data is available (e.g., as new LiDAR is flown).

Other updated datasets (e.g., Sensitive Ecosystem Inventory, Foreshore Inventory Mapping) are needed to provide a better picture of the state of the natural environment in Kelowna. The City is currently working with the RDCO to update the Sensitive Ecosystem Inventory.

- **Shift to a Circular Economy:** Solid waste management is largely facilitated by the RDCO, so it is important to clarify that the City does not have direct control or accountability over performance in this area. However, as the largest municipality in the RDCO and the operator of the Glenmore Landfill, the RDCO metric on disposal rates provide some insight into Kelowna's performance.

Through the regional [Solid Waste Management Plan](#), the target is to achieve an average municipal solid waste disposal rate of 600 kilograms per capita by 2022. Data from the RDCO indicates the rate was 639 kilograms per capita in the region in 2020 (2021 and 2022 numbers will be calculated later in 2023). The RDCO also has a waste diversion target that aims for a 50 per cent diversion rate by 2022; however, because of difficulty in measurement, the metric not calculated/tracked by the RDCO. The Glenmore Landfill achieved approximately 29.5 per cent recovery in 2022, but this does not include the regional Blue Box Program so is not comparable to the RDCO's waste diversion target.

Other indicators/targets for this pathway will be explored in 2023.

Next Steps:

Going forward, indicators/targets need to be updated or established for each pathway and the intent is to provide regular progress reports to Council.

To make short-term progress on the Framework, staff will begin implementing the Quick Starts that were endorsed through the [Climate Resilience & Environmental Stewardship Review: Framework and Recommendations Report](#) and the 2023 Budget Process, along with other initiatives proposed by various City departments and Council. Some of the key initiatives for 2023 related to each pathway are outlined in Attachment 1.

The recently endorsed Climate Action & Environmental Stewardship Manager position will work with the Senior Leadership Team and other staff to define and develop the governance systems to support these efforts.

Existing Policy:

- Imagine Kelowna goals:
 - Protect land, water & air
 - Protect agricultural land
 - Preserve Okanagan Lake as a shared resource
 - Take action in the face of climate change

- 2040 OCP (Draft) – Pillars:
 - Take action on climate
 - Protect and restore our environment

Future Policy:

- Council Priorities 2022-2026

Submitted by:

C. Ray, Champion of the Environment

Approved for inclusion:



Ryan Smith, Director of Planning & Development Services

Attachments: (1) Progress on Climate Resilience Framework Pathways