

Community Climate Action Plan: 2022 Implementation Report

Climate and Sustainability Division September 2022



The City of Kamloops is located on Tk'emlúps te Secwépemc territory, situated within the unceded ancestral lands of the Secwépemc Nation. We honour and respect the people, the territory, and the land that houses our community.

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Executive Summary

City Council unanimously adopted the Community Climate Action Plan (CCAP) on June 29, 2021—the hottest day ever recorded in Kamloops (47.3°C). It is with this sense of urgency that the City, supported by community stakeholders, has set to work on implementation. This first annual CCAP Implementation Report includes a status update for each of the CCAP'S 48 short-term actions, an overview of climate resilience measures, a financial summary, and key priorities for the year ahead.

Highlights for each Big Move:



BIG MOVE 1: Zoning Bylaw No. 55 (adopted in 2021) supports a more complete, compact community.



BIG MOVE 2: Construction of the Kamloops North-South Bicycle Corridor is underway with \$4.5 million in grant funding secured in 2021.



BIG MOVE 3: As zoning changes for electric vehicle (EV) charging infrastructure for new residential development nears adoption, the number of ICBC-registered passenger EVs in Kamloops has increased to 386.



BIG MOVE 4: The BC Energy Step Code came into effect January 1, 2022. Since 2020, more than 50 homes have been built to Step Code Level 3 (i.e. 20% more energy efficient than base code).



BIG MOVE 5: City Council authorized community-wide curbside residential organic waste collection, with 452,053 kg of organic waste diverted during the successful pilot program.



BIG MOVE 6: Grants and loans under the federal Greener Homes Initiative make solar photovoltaic systems more affordable.



BIG MOVE 7: City Council authorized the CCAP funding strategy and the Climate Action Levy to provide predictable funding to implement the CCAP.



BIG MOVE 8: 104 FireSmart home assessments have been completed, including landscaping recommendations for interface areas.

Implementation Status Summary



In addition, nearly \$6.9 million in grant funding has been secured for climate mitigation and adaptation initiatives since 2021. Partnerships that emerged during the planning process are ongoing in the implementation phase, and a collaborative, equitable approach is integral to meeting the CCAP's targets. With the CCAP being primarily focused on reducing greenhouse gas (GHG) emissions (mitigation), the report identifies a need for more direction and resources to develop and implement climate adaptation and resilience measures in our community.

Introduction

The Intergovernmental Panel on Climate Change has reinforced the urgent need for GHG emissions reductions, as even temporarily exceeding 1.5°C warming will result in additional severe impacts, including some that will be irreversible.¹ The CCAP, which was adopted on June 29, 2021, provides direction on reducing GHG emissions in Kamloops to align with efforts to limit global temperature rise to 1.5°C. It has targets for reducing community GHG emissions by 30% by 2030 and 80% by 2050 while increasing our resilience to the impacts of the climate crisis. The CCAP's eight strategic focus areas—called Big Moves—address community GHG emissions sources, primarily from transportation fuels (66%), energy use in buildings (29%), and waste (5%).



BIG MOVE 1:

Low-Carbon Development

Promoting compact, mixed-use development supported by sustainable transportation options.



BIG MOVE 2:

Car-Light Community

Facilitating the increased uptake of walking, cycling, carpooling, and transit.



BIG MOVE 3:

Zero-Emissions Transportation

Supporting zero-emission vehicle use.



BIG MOVE 4:

Zero-Carbon Homes & Buildings

Ensuring all buildings maximize energy efficiency and use low-carbon energy sources.



BIG MOVE 5:

Zero-Waste/Circular Economy

Enhancing waste reduction, diversion, upcycling, and reuse.



BIG MOVE 6:

Renewable Energy

Supporting localized renewable energy production and use.



BIG MOVE 7:

Municipal Climate Leadership

Taking the lead in shifting to zero-carbon facilities and fleets and applying a climate lens to planning and decision-making.



BIG MOVE 8:

Healthy Urban Ecosystem

Preserving ecosystems and using green infrastructure to provide carbon sequestration and climate resilience.

The CCAP was developed through comprehensive community and stakeholder engagement and was informed by GHG emissions modeling and best practice research. The CCAP contains 8 Big Moves, 24 strategies, and 66 actions. The Big Moves Implementation

¹ Intergovernmental Panel on Climate Change (IPCC). (2022) "Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the IPCC", online: https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_SummaryForPolicymakers.pdf

Chart (pp. 73–81 of the CCAP) assigns each of the 66 actions with an initiation timeline—48 short (2021–24), 16 medium (2025–29), and 2 long (2030+). The purpose of this report is to summarize progress to date on short term actions, using the following categories:

Status Category	Description
To be initiated	These actions have either not been commenced or have had minimal progress.
On track	Finite action that has been initiated.
Ongoing	Ongoing action that has been initiated.
Complete	Finite action that has been completed.

Staff groups who that been assigned as the implementation lead on actions were consulted to provide a descriptive summary of progress to date. A graph is provided for each Big Move to show the percentage of short-term actions in each status category. Related statistics are included where readily available. A more comprehensive review with key performance indicators is scheduled for every five years, as per the measuring and reporting process outlined in the CCAP (p. 82). A financial summary outlines current and projected revenue and expenses as well as grant funding awarded for climate mitigation and adaptation initiatives.

As the climate crisis affects people differently, with those least responsible for emissions often bearing the brunt of the impacts, an evaluation of opportunities and challenges for equity and climate justice is included for each Big Move. Staff seek to design, implement, and promote climate action measures that target the barriers faced by those most impacted by climate change (e.g. by promoting income-qualifying rebates for home energy retrofits).



The CCAP was developed with a focus on mitigation; however, a brief overview of climate resilience measures being undertaken is outlined, with more detailed information available in the City's 2022 Local Government Climate Action Report.² Climate impacts and risks are already becoming increasingly complex and more difficult to manage, as has been experienced in Kamloops. The Intergovernmental Panel on Climate Change outlines key systems transitions (e.g. in energy; land use, ecosystems; infrastructure; industry and society) needed to achieve the adaptation required for high levels of human, ecosystem, and planetary health as well as economic and social resilience while reducing emissions.³ It is within this challenging global context that local climate solutions are being developed and implemented in Kamloops.

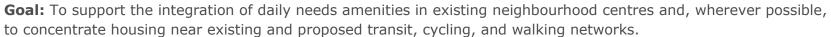
² City of Kamloops. (2022) "Local Government Climate Action Program Report", online: https://www.kamloops.ca/sites/default/files/2022-08/2022%20Local%20Government%20Climate%20Action%20Program%20Report For%20Web.pdf

³ IPCC. (2022) "Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the IPCC", online: https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_SummaryForPolicymakers.pdf

Implementation Progress

BIG MOVE 1: LOW-CARBON DEVELOPMENT

Strategy: 1A Ten-Minute City





ACTION	STATUS	PROGRESS TO DATE
Identify priority areas to support infill projects that further increase housing density, mixed uses, and access to transit and active transportation infrastructure in existing neighbourhood centres.	On track	 Densification in the Core sector is occurring at a more rapid pace than projected by the City's Official Community Plan. Zoning Bylaw No. 55 (adopted in 2021) includes the following changes to support further mixed-use development: Allows multi-family in an expanded range of commercial areas - C5 (Shopping Centre) zoned properties, C7 (Neighbourhood Commercial) zoned properties. Allows 6–10 storey mixed-use development in C5 (Shopping Centre) zones. Introduced zoning allowing mixed-use development into Columbia Street West, Hugh Allan Drive, and Victoria Street East corridors.
Increase incentives to promote infill development (e.g. revitalization tax exemptions and reduced development cost charges [DCCs]).	On track	 The following incentives have been provided: Development Cost Charges Bylaw No. 48-100, adopted in 2017, reduced development cost charges for transportation in core areas to encourage more compact development City Centre Revitalization Tax Exemption Bylaw 22-4-15 and North Shore Revitalization Tax Exemption Bylaw 22-4-16: provides reduced municipal property taxes for 10 years for both commercial and multi-family development in these core areas. Hotel and Motel Redevelopment Revitalization Tax Exemption Bylaw No. 22-4-19 (adopted July 19, 2022): provides reduced municipal property taxes for 10 years when an existing hotel is redeveloped as multi-family

		residential or mixed-use development, which further supports complete compact communities throughout the city.
Increase availability of affordable housing options that also contribute to higher density (e.g. density bonus for rental-only multi-family buildings).	On track	Housing affordability remains a challenge in Kamloops, with major factors including inflation, population increase and inventory. Development applications for social housing projects are expedited where possible. Zoning Bylaw No. 55 includes the following incentives: Introduced density bonus provisions in the medium and high-density multi-family zones and mixed-use commercial zones (added floor area and/or units per hectare density) within 200 m of a mixed-use centre, where additional units are provided as market rental, affordable market
		 rental, below market rental, or social housing units. Introduced lower parking requirements for "affordable market rental" and "below market rental" within 200 m of a mixed-use centre, as defined in the OCP. Further reduced parking rates for all multi-family, affordable market rental, and below market rental in the CBD (Downtown) zone or CNS (North Shore Commercial) zone.

Strategy: 1B Diverse Housing Solutions

Goal: To support additional housing opportunities on residential lots.

ACTION	STATUS	PROGRESS TO DATE
Encourage developers to build legal residential suites when constructing new homes in areas they are permitted.	Ongoing	Zoning Bylaw No. 55: Expanded the range of areas where legal suites are permitted by changing zoning of former RS-2 (Single Family Residential-2) properties in Dallas, Juniper West, Dufferin, and Aberdeen to RS2S (Single-Family Residential 2 – Suite). Promoted the change via the City's website , including a video and brochures. From July 2021 to August 2022, 26 building permits were approved for secondary suites in new subdivisions.
Promote ground-oriented housing such as townhouses, row houses, multi-plexes and small lot residential infill.	Ongoing	Changes to Zoning Bylaw No. 55 that promote ground-oriented housing include: Row houses now permitted in multi-family zones (RM3: Multi-Family 3 – Medium Density, RM4: Multi-Family 4 – Medium-High Density, RM5: Multi-Family 5 – High Density). New RT1C (Two Family Residential - Compact) provides reduced minimum lot size for single-family dwellings and duplexes in the McDonald Park, part of the West End, and East End neighbourhoods. Reduced minimum lot size for subdivision in Westsyde neighbourhood. Through the City and Thompson Rivers University's (TRU's) collaborative Researcher-in-Residence program, a literature review and an assessment of the more than 500 properties in medium-density zones (RM3–RM5) has been completed to quantify the 10 types of missing middle housing within Kamloops. The results confirm missing middle housing is significantly underrepresented. The next step is survey research to assess if housing modelled after missing middle parameters (access to green space, walkability, parking, etc.) would both serve residents more effectively and contribute to a solution for the housing crisis.

Future Action (Medium Term):

- Review secondary suite policy and consider guidelines for permitting a secondary suite and an accessory dwelling unit (e.g. carriage suite or garden suite) on a single-family lot in designated areas.

Strategy: 1C Green New Neighbourhoods

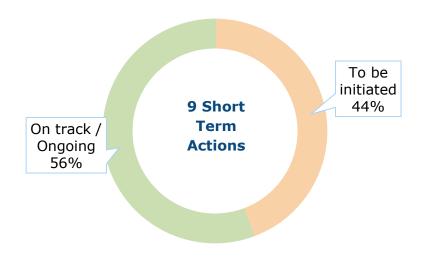
Goal: To require that all new buildings and neighbourhoods in suburban and rural greenfields meet higher sustainable development standards.

ACTION	STATUS	PROGRESS TO DATE
Require developers to meet a higher BC Energy Step Code step than regulated and/or meet a specified GHG intensity.	To be initiated in 2023/2024	The City is monitoring the approaches of other municipalities, the Province's Step Code timeline, and other CleanBC policy initiatives. Engagement with the Canadian Home Builders' Association is ongoing regarding current Step Code implementation and building local capacity for the higher steps of the Step Code.
Require developers to install one charging station (capable of Level 2 charging) for every two stalls of offstreet parking in single-family developments, in addition to any city-wide EV-ready policy.	To be initiated in 2023/2024	A city-wide EV charging infrastructure for residential development bylaw is under development. Once implemented, an assessment will be undertaken of the most appropriate requirements, that would encourage a higher uptake of EVs in new developments that are in peripheral areas.
Evaluate DCCs based upon the location of growth (i.e. core vs peripheral areas) to address the costs of required service upgrades or extensions.	To be initiated in 2023/2024	The City has adopted reduced DCCs for transportation in core areas to encourage more compact development. Additional research is needed to assess options that address the higher municipal servicing costs associated with peripheral developments and to identify areas with limits to servicing.
Explore regulatory options to limit new natural gas servicing in favour of all-electric power and/or on-site renewable energy.	To be initiated in 2023/2024	Some developers have chosen to build electric-only developments. The performance of these will be monitored to assess the feasibility of making this a requirement. Renewable gas availability and pricing will be assessed to determine whether this is a viable backup or alternative low-carbon fuel source.

Big Move 1: Summary of Implementation Progress

10 Actions: 9 short term, 1 medium term



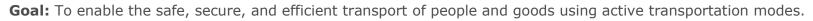




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CHALLENGES	OPPORTUNITIES
 Housing affordability provisions will be necessary to mitigate the impacts of gentrification on lower-income households. The City partners with community stakeholders and government agencies on housing affordability issues. Affordable housing needs to be located near services and amenities. 	 Zoning Bylaw changes have the potential to increase the diversity of housing types in Kamloops. Small-lot residential infill can provide more affordable housing options within existing neighbourhoods. Increasing access to daily needs has the potential to reduce inequities in the community by improving walkability for all. Providing incentives for infill development is more equitable and reflective of service provision and infrastructure costs. Households in higher-density areas spend, on average, 25% less on transportation due to better access to transit and active transportation infrastructure.

BIG MOVE 2: CAR-LIGHT COMMUNITY

Strategy: 2A Active Mobility





ACTION	STATUS	PROGRESS TO DATE
Build-out a connected active transportation network by 2030, starting with completing connections along north-south and east-west corridors, followed by filling in any gaps to ensure key feeder connections to core routes.	On track	The Kamloops North-South Bicycle Corridor is a proposed 16 km continuous active transportation corridor from the Aberdeen neighbourhood in South Kamloops through downtown Kamloops to the Westsyde neighbourhood in north Kamloops. The corridor combines 10 existing and planned active transportation projects while ensuring critical gaps are connected. Three of the projects have been built and three future projects secured \$4.5 million in grant funding in 2021. These future projects are classified as all ages and abilities facilities with design elements supported by the BC Active Transportation Design Guide, such as separation buffers, detectable warning surfaces, pathway lighting, new bus shelters, and innovative pedestrian crossing treatments to accommodate the visually impaired. One of the projects—the 6th Avenue Separated Bike Lane Project—will be Kamloops' first fully separated, on-street, bidirectional bike lane. The Tranquille Road Active Transportation Corridor, designed for all ages and abilities, has been approved for Tranquille Road between Southill Street and Airport Road. In 2015, City Council formally adopted a long-term plan for the Tranquille Road and Airport/Gateway Corridor. In 2022, City Council approved funding for an updated project design that features additional separation between active transportation users and vehicles and a lit, multi-use pathway that is separated by a bioswale on the south side of Tranquille Road and a sidewalk separated by a bioswale on the north side of Tranquille Road. This corridor will connect to an existing multi-use pathway and sidewalk to form an important core east-west active transportation route through North Kamloops. The City applied for a CleanBC Communities Fund grant in spring 2022 to help offset some project costs, and the corridor upgrades are expected to be constructed between 2023 and 2026.

Increase the availability of publicly accessible, secure, end-of-trip bike storage amenities in major neighbourhood centres and other key destinations.	To be initiated in 2023/2024	The City owns and maintains - bike racks in various locations - four bike repair stations - bike lockers at the North Shore and Lansdowne Transit Exchanges and the Tournament Capital Centre Two highly visible bike ports are deployed each year that take up a car parking each space downtown or other high-use commercial areas to raise awareness about the important of safe storage space for bicycles Bike valet services were provided at two major 2022 events—Canada Day and Ribfest—supported by the City and local volunteers from the Kamloops Cycling Coalition. Next steps include identifying the most suitable locations to expand the availability and diversity of bike storage amenities via stakeholder consultation and seeking opportunities to increase access to bike valet services at community events.
Develop and implement an incentive program for E-bike/cargo bike purchases as per the Electric Vehicle (EV) & E-Bike Strategy.	To be initiated in 2023/2024	Background research is being undertaken into programs in other municipalities, including income-qualifying programs.

Strategy: 2B Optimize Transit Service

Goal: To optimize transit service to support low-carbon development and land use goals

Improve infrastructure and amenities (e.g. seating, pads, shelters, real-time bus arrival information) to encourage transit use. On track Kamloops Transit Shelter Improvement Program: the Kamloops Transit System has 544 bus stops across the city, not including transit exchanges. Of these stops, only 5% (29) are covered by shelters, which is lower than the Canadian average of 21%. Working closely with BC Transit and shelter suppliers, the City is moving towards an integrated model of ownership, grant funding, and maintenance, which will result in higher quality shelters that better protect riders from the elements, enhance security through shelter lighting, and improve shelter coverage throughout the City. Starting in 2023, the program is expected to achieve parity with the national shelter coverage average before 2030.	ACTION	STATUS	PROGRESS TO DATE
	amenities (e.g. seating, pads, shelters, real-time bus arrival information) to encourage transit	On track	has 544 bus stops across the city, not including transit exchanges. Of these stops, only 5% (29) are covered by shelters, which is lower than the Canadian average of 21%. Working closely with BC Transit and shelter suppliers, the City is moving towards an integrated model of ownership, grant funding, and maintenance, which will result in higher quality shelters that better protect riders from the elements, enhance security through shelter lighting, and improve shelter coverage throughout the City. Starting in 2023, the program is expected

Future Actions (Medium Term):

- Identify light rail transit (LRT) rights-of-way to be reserved for future iterations of the transit network (i.e. the sequential development of future HOV lanes, to be replaced by bus only lanes and eventual light rail development).
- Develop a Frequent Transit Strategy with BC Transit that explores options such as electric bus rapid transit (eBRT) to connect higher-density areas and key destinations.

Strategy: 2C Shared Streets

Goal: To create street space that is accessible to all ages and abilities, enhances pedestrian safety and comfort, and prioritizes active transportation.

Future Action (Medium Term):

- Pursue opportunities to convert street space (temporarily at first) into areas that prioritize pedestrian-only or pedestrian-friendly areas with public amenities such as trees and gardens, seating, art installations, and bike parking and with vehicle access limited to local residents, businesses, and emergency vehicles.

Future Actions (Long Term):

- Identify suitable residential streets to implement reduced road width initiatives that contribute to traffic calming and convert space for community benefit (e.g. active transportation infrastructure, parks, community gardens, daycares, or affordable housing).
- Implement low-traffic neighbourhood projects that extend pedestrian zones to multiple urban blocks (with emergency vehicle access only).

Strategy: 2D Transportation Demand Management

Goal: To decrease trips by single-occupancy vehicles by facilitating the uptake of sustainable transportation options (i.e. transit, carpooling, car sharing, cycling, and walking) and reducing the need to travel.

ACTION	STATUS	PROGRESS TO DATE
Develop and promote TDM measures for employers city-wide, including facilitating the use of sustainable transportation options and reducing the need for travel (i.e. through virtual meetings, flexible work hours, and work-fromhome options).	Ongoing	 The City undertakes several measures to promote sustainable transportation options for employers, including: Promoting spring and fall GoByBike BC campaigns. Exploring piloting School Streets to be coordinated with GoByBike at select schools. Providing a Kamloops Bike Map, which details bike infrastructure community wide. Promoting ProPASS, which is a photo ID bus pass purchased at work at a discounted rate through payroll deductions for a minimum of four months. Sponsoring the Bike Sense online resource to help promote safer, more inclusive, and more accessible cycling in Kamloops. The City has hired a Transportation Engineer (starting October 2022) and is recruiting a Transportation Tech position that will support the development and implementation of further transportation demand management measures for employers. The City will learn from best practices from other municipalities and leading local employers, including TRU, which provide the following for employees: an e-bike purchase discount program, seasonal commuter parking permit to cyclists, secure bike parking and showers, a car share program, and the TRU Rideshare online app to find carpool partners.

Future Action (Medium Term):

- Strategically promote targeted neighbourhood transportation demand management (TDM) programs to residents (e.g. to promote uptake of new active transportation infrastructure or increased transit service levels; to reduce localized congestion areas and avoid road widening).

Future Action (Medium and Long Term):

- Review Parking Management Plan measures to encourage the use of sustainable transportation options as active transportation infrastructure and transit service levels improve.

Strategy: 2E Kamloops Car Share

Goal: To reduce the number of privately-owned vehicles in the city through membership-based car sharing services.

existing car-share company and/or put a call to market to solicit interest in operating in Kamloops;	be	Come be also as a second be a base days into the verience models of any aboving
prioritize opportunities to integrate plug-in hybrid and EVs into car sharing fleets.	tiated in 123	Some background research has been done into the various models of car sharing and the role of municipalities in car sharing in BC. It is noted that other midsized municipalities (Nanaimo and Kelowna) have car sharing services. The rapid growth and densification of Kamloops' urban core has the potential to make car sharing more viable than it may have been in the past. Car sharing may be appropriate to mitigate the impacts of recent developments that have been approved with lower parking requirements.

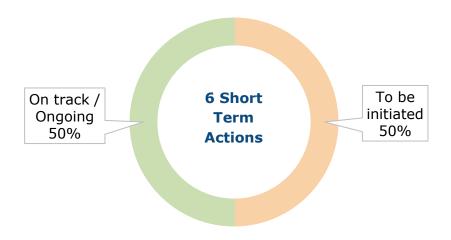
Future Action (Medium Term):

- Encourage the use of established car sharing services in new developments in higher density urban areas to reduce parking space requirements while meeting the mobility needs of residents.

Big Move 2: Summary of Implementation Progress

14 Actions: 6 short term, 6 medium term, 2 long term





Equity and Climate Justice Considerations

CHALLENGES OPPORTUNITIES While significant projects are underway for active Increasing access to active transportation infrastructure transportation infrastructure, it will take time to complete reduces reliance on private motorized vehicles and decreases household transportation costs. the network. Bike security has been cited as a significant concern Lower air pollution and increased physical activity due to through various engagement activities. using active modes of transportation. There is not currently a car sharing company active in - Potential to provide income-qualifying incentives for e-Kamloops. Households could save thousands of dollars bikes. annually in car ownership and maintenance costs if a car Transportation demand management measures offered by sharing membership enables them to not own a car or employers can open up employment options for people decrease the number of vehicles they own. without access to a private vehicle. Cost is a barrier to e-bike ownership.

BIG MOVE 3: ZERO-EMISSIONS TRANSPORTATION

Strategy: 3A Zero-Emissions Light-Duty Vehicles

Goal: To support the transition to zero-emissions transportation choices.



ACTION	STATUS	PROGRESS TO DATE
Implement the City's EV and E-bike Strategy, prioritizing support for home, workplace and public EV charging infrastructure.	On track	EVs are still a fledgling market in Kamloops, with the 386 EVs registered locally (2021), which accounts for only 4% of all local passenger vehicle registrations. However, the number of registered EVs in Kamloops has increased by more than 600% since 2017. Over the same period, gas vehicle ownership has remained largely flat while hybrid vehicle ownership continues to increase, with 1,012 locally registered in 2021 ⁴ . The City supports education and outreach on EVs, including:
		 Hosting Electric Avenue at Hot Nite in the City since 2018—a section of a car show dedicated to showcasing EVs. This attracted thousands of people, and City staff directly engaged with over 328 people in 2022 about the benefits of EVs. With funding from EmotiveBC, the City developed a video promoting the benefits of EV ownership and featuring a real life Kamloops EV owner. The video was promoted through the City's social media channels and website, at the Kamloops Film Festival, and through Cineplex Cinema for a total of 34,557 views between December 24, 2021, and May 19, 2022.
		City Council authorized staff to develop Zoning Bylaw changes to ensure new residential developments can support EV charging at home, including for multifamily residential buildings. Beginning January 1, 2023, one parking stall per dwelling unit must have a specified level of EV readiness at the time of construction (details are being finalized at time of this report writing). By future proofing new homes, a homeowner or property manager can install a Level 2 EV charger of their choice without first having to retrofit or upgrade the electrical system, which can be a barrier due to its cost and complexity. This initiative

⁴ Insurance Corporation of British Columbia. (2022) "Vehicle Population Data", online: https://public.tableau.com/app/profile/icbc/viz/VehiclePopulationIntroPage/VehiclePopulationData

		follows comprehensive research and community engagement efforts over two years.	
Future Action (Medium Term): Encourage private sector investment in new EV charging infrastructure.			

Strategy: 3B Zero-Emissions Medium- and Heavy-Duty Vehicles

Goal: To support institutional, commercial and industrial fleets' transition to zero-emissions vehicles and equipment.

ACTION	STATUS	PROGRESS TO DATE
Promote the use of renewable, low-carbon fuels in municipal or commercial fleets, where electrification options are not available or feasible.	To be initiated in 2024	Next steps include research on supply options for renewable, low-carbon fuels.
Future Action (Medium Term): Implement EV and E-bike Strategy actions that encourage the electrification of commercial fleets.		

Strategy: 3C Low-Carbon Urban Freight Delivery

Goal: To encourage the shift to zero-emissions delivery vehicles within the urban core and neighbourhood town centres as the demand for home deliveries increases.

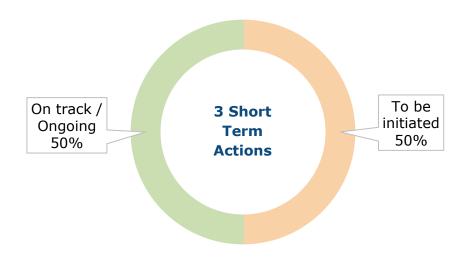
ACTION	STATUS	PROGRESS TO DATE
Identify low-carbon urban freight and last-mile delivery logistics opportunities as part of the proposed Truck Route Study to reduce traffic and encourage the adoption of smaller and cleaner delivery vehicles, including electric cargo vans and cargo bikes.	To be initiated in 2023/2024	The scope and timeline of the Truck Route Study is being determined.

Future Action (Medium Term): Develop zero-emissions delivery zones in select commercial areas of the city and incentivize the use of smaller, cleaner vehicles (e.g. e-cargo bikes, electric delivery vans) for last-mile delivery.

Big Move 3: Summary of Implementation Progress

6 Actions: 3 short term, 3 medium term





Equity and Climate Justice Considerations

CHALLENGES OPPORTUNITIES There will be some incremental costs to installing EV The high cost of gas is increasing people's transportation costs. However, there is a cost premium to purchase an charging infrastructure at the time of development, but it EV over a comparable gas-powered vehicle and limited will be significantly less costly and complex than availability of used EVs. retrofitting for EV charging infrastructure later. Access to EV charging can be a barrier to ownership of More affordable EV options are anticipated, including a growing used EV market, making EV ownership more EVs. attainable to a greater sector of the population over time. Given that operational costs and overall life cycle costs are generally lower for EVs than gasoline- or diesel-powered vehicles, efforts to reduce upfront costs and minimize the cost of retrofitting and/or installing EV charging at home, will benefit residents financially in the longer term.

BIG MOVE 4: ZERO-CARBON HOMES & BUILDINGS

Strategy 4A: New Buildings - Community Wide

Goal: To support the transition to high-performance, energy-efficient, and zero-carbon homes and buildings



ACTION	STATUS	PROGRESS TO DATE
Develop a strategy to implement the higher steps of the BC Energy Step Code in advance of the provincial schedule while allowing lower steps for developments using a low-carbon energy system and/or meeting a specified GHG intensity. Include provisions for new single-family homes with larger than average floor areas (e.g. ≥ 325 m²) to exceed standard requirements.	To be initiated in 2023/2024	On June 15, 2021, City Council authorized Building Bylaw amendments to enable the implementation of the BC Energy Step Code. Effective January 1, 2022, all new residential developments in Kamloops must meet the energy performance requirements of the Energy Step Code as follows: Step 3 for Part 9 (standard) buildings and Step 2 for Part 3 (complex) buildings. Next steps include developing a strategy to prepare for and/or accelerate adoption of the higher steps of the Energy Step Code, with additional requirements to mitigate the energy impacts of larger than average single-family homes and monitoring and assessing the provincial rollout of GHG-related Step Code metrics.
Develop municipal incentive programs that "top up" existing government and utility-based rebate programs for high-performance buildings and low-carbon energy systems, etc.	On track	To help prepare for the implementation of the Step Code, the City developed and administered the Step Code Incentive Program in consultation with the Canadian Home Builders' Association Central Interior (CHBA-CI). The program resulted in 64 homes being voluntarily built to the Step 3 standard. Through CleanBC, the City has been offering a municipal top-up contribution of \$350 for heat pump rebates since 2018 as well as promoting the Heat Pump Group Purchase Rebate. The 2022 budget commits funding to expanding municipal top-up incentives through CleanBC, including rebates for installing EV chargers at home.
Build local capacity in high- performance construction and low- carbon energy systems in partnership with the building industry and TRU.	On track	With BC Hydro funding support, the City commissioned E3 Eco Group to present to more than 100 builders and tradespeople at three tailgate lunch-and-learn sessions on active construction job sites in fall 2021, with a focus on preparing for the Step Code. With BC Hydro funding support and in partnership with the CHBA-CI, the City will support the delivery of industry capacity building and communications to support the implementation of the EV charging infrastructure requirements for

	residential use developments (effective January 1, 2023 pending Council approval).

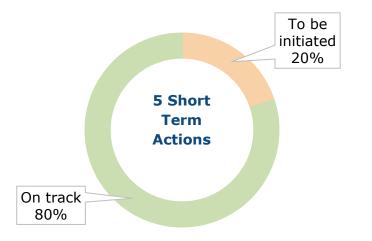
Strategy 4B: Existing Buildings - Community Wide

Goal: To support rapid and large-scale retrofits to existing homes and buildings that result in energy efficiency improvements and switching to low-carbon energy sources

ACTION	STATUS	PROGRESS TO DATE
Develop incentives, financing tools, and marketing campaigns to encourage and promote residential and ICI building retrofits.	On track	The Renovate Smart Kamloops program aims to help residents include energy efficiency improvements into home renovation plans and inform them of available incentives. The program includes free offerings—home energy performance workshops, one-on-one home energy consultations, home energy kits, and online resources highlighting Kamloops-specific rebate incentives.
Partner with education and capacity-building organizations (e.g. TRU and the Canadian Home Builders' Association [CHBA] Central Interior) to provide industry training on low-carbon energy systems, such as heat pump technology and installation, and develop local case studies and demonstration projects.	On track	The City of Kamloops is undertaking research to better understand the local opportunities and challenges of using heat pumps and design supports for both residents and contractors/installers. In early 2022, surveys, interviews, and focus groups with local HVAC industry (i.e. suppliers and contractors/installers) were undertaken to identify capacity-building needs, supported by an internship funded by Career Launcher. Resources were developed, distributed to local industry, and posted on Kamloops.ca/HeatPumps to highlight training courses and free-to-access training guides as well as information on the Home Performance Contractors Network. In summer 2022, a University of British Columbia Sustainability Scholar, funded by BC Hydro, compiled case studies of five local residential heat pump installations to better understand the barriers and benefits of heat pump use. With BC Hydro funding support and in partnership with the CHBA-CI, the City is supporting the delivery of industry capacity-building and training to begin addressing the capacity-building opportunities identified/reaffirmed through the research activities described above.

Big Move 4: Summary of Implementation Progress

5 Actions: 5 short term





Equity and Climate Justice Considerations

CHALLENGES	OPPORTUNITIES
 A key barrier to retrofitting homes and buildings is the long payback periods typical of more substantial energy efficiency improvements. Constraints on tenants to make efficiency improvements. Reducing the GHG emissions intensity of new construction could result in cost premiums of between 2.85% and 3.24%. Large-scale retrofit activity will create local green employment opportunities and generate substantial economic activity; however, efforts must be made to ensure distribution of these benefits (i.e. job training programs). 	 Current and emerging provincial and federal rebates, loans, and income-qualifying programs make home retrofits more financially accessible/feasible. The federal Greener Homes Grant offers up to a \$5,000 rebate for eligible home energy retrofits. The Greener Homes Loan provides 10-year, interest-free loans of \$5,000 to \$40,000. CleanBC's Better Homes BC and Go Electric BC programs offer extensive rebates for low-carbon electrification and efficiency improvements. Home energy kits offer low-/no-cost, small-scale measures for homeowners and renters alike. Energy-efficiency retrofits can decrease energy bills and lead to healthier, more climate-resilient homes with better ventilation and thermal comfort levels.

BIG MOVE 5: ZERO-WASTE / CIRCULAR ECONOMY

Strategy: 5A Local Organics Collection and Processing

Goal: To reduce and capture all kitchen and yard waste for beneficial end use



ACTION	STATUS	PROGRESS TO DATE
Implement a residential organics collection program, establishing a curbside service before expanding to include multi-family buildings.	On track	In August 2022, City Council adopted Solid Waste and Recyclables Amendment Bylaw No. 40-68, which provides the legal framework for implementing community-wide curbside residential organic waste collection. The City of Kamloops began a one-year curbside residential organic waste collection pilot program in September 2021. The pilot program included approximately 2,500 homes on five collection routes. Each home was given a 120 L organics cart, a 7 L kitchen bin, and an information package. During the pilot program, organic waste was collected on a weekly basis, while garbage and recycling is collected on alternating weeks (biweekly). Program monitoring includes participant surveys (baseline, midway, and final), ongoing tracking (weights, participation, and contamination), and two seasonal composition audits (winter and summer). From September 2021 to mid-August 2022, 452,053 kg of organics had been diverted from landfill via the pilot program. Organics collected during the pilot program were sent to a private processing facility, and the City is currently in the process of determining a contractor to oversee organics processing for a community-wide program.
Deliver food waste reduction campaigns and support food recovery programs that redistribute food to people in need.	Ongoing	The City maintains a web page with <u>food waste facts and reduction tips</u> . Through the BYO campaign, residents are encouraged to bring their own containers for leftovers. The City supports food waste diversion from large community events. In 2022, 430 kg of organic waste from the Canada Day event and 7,473 kg of organic waste from Ribfest was diverted for composting. Community organizations continue to show leadership on food recovery and distribution:
		- The Kamloops Food Bank has diverted 18 million pounds of perishable food from the landfill since 2007. Food is delivered to 7,000 clients, 52 community agencies, and local farmers.

	 The Kamloops Food Policy Council runs the Gleaning Abundance Program, which coordinates volunteers to harvest fruit that would otherwise go to waster. In 2020 and 2021, more than 25,800 pounds of fruits and vegetables were harvested and shared between volunteers and 22 community organizations.
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Future Actions (Medium Term):

- Support the Thompson-Nicola Regional District's implementation of an organics disposal ban (e.g. by requiring collection of commercial organics).
- Evaluate landfill gas capture rates and potential uses post implementation of organics collection.

Strategy: 5B Waste Reduction and Diversion

Goal: To reduce waste and prioritize the diversion of methane-generating materials (i.e. cardboard and paper, yard, wood waste) from entering the landfill.

ACTION	STATUS	PROGRESS TO DATE
Develop a City Waste Reduction Strategy with measurable targets for each waste stream (e.g. construction and demolition, yard waste, plastics, paper/cardboard, and metals).	To be initiated in 2023/2024	The City has created a new Solid Waste Reduction Coordinator role to support this. Research is being undertaken on best practice plans from other jurisdictions. The scope and timeline will also be informed by waste composition studies to substantiate priorities and emerging legislation from other levels of government (i.e. federal bans, changes to provincial extended producer responsibility programs, etc.).
Support the Thompson-Nicola Regional District's implementation of a landfill disposal ban on recyclable materials, (e.g. require all cardboard to be recycled).	Ongoing	The TNRD's Mandatory Recyclable Materials Bylaw No. 2743 was introduced in 2021 and is being phased in during 2022 at all solid waste disposal facilities in the TNRD, including Kamloops. As of September 2022, fines may be issued for loads containing more than the 10% of the allowable threshold of recycling cardboard. The City has supported this bylaw's implementation by informing multi-family and commercial solid waste collection customers of the bylaw and providing advice on getting cardboard collection.

Strategy: 5C Circular Economy and Innovation

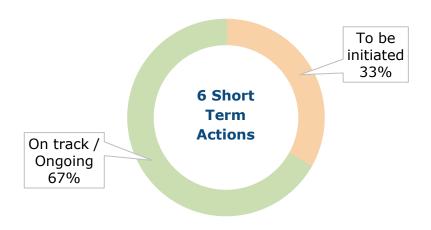
Goal: To reduce the use of non-renewable resources, promote materials reuse, and support regenerative business models.

ACTION	STATUS	PROGRESS TO DATE
Support circular economy initiatives that keep products and materials in use, such as repair hubs, and upcycling and resource recovery social enterprises that generate added value out of salvaged materials.	Ongoing	The City promotes repair and reuse at kamloops.ca/WasteReduction . The forthcoming Waste Reduction Strategy will include an evaluation of potential reuse/resource recovery job opportunities. Currently, the City supports circular economy initiatives in the community, including by promoting Repair Café events, which have been hosted by community volunteers, where residents can bring broken items to be repaired at no cost or by donation.
Facilitate discussions with local industries and stakeholders to determine whether waste or byproducts of one industry can be productively utilized by another industry.	To be initiated in 2023/2024	Larger, woody yard waste takes longer to compost, which ultimately requires a higher energy input. Therefore, large dimensional yard waste (e.g. tree trunks and stumps) received under the City's yard waste diversion program is ground up and sold as hog fuel to Kruger inc. for its pulp mill, providing a revenue source to support the yard waste composting program. Through a five-year agreement, treated effluent is used for forest fire suppression, which reduces the use of potable water. In addition, treated effluent is also used as the non-potable water supply for the City's yard waste composting operations. The City is aware of other large-scale projects utilizing waste products in the Kamloops area. For example: - Arrow Transportation's wood processing division and Rivercity Fibre Ltd. chip and transport forestry slash piles that would be otherwise burned for use in generating biomass electricity at the Kamloops pulp mill (Kruger) Progressive Planet Products Inc. has developed PozGlass™ SCM, a low-carbon cement additive using post-consumer glass. Next steps could include further study and connections between key stakeholders, such as TRU, the Chamber of Commerce, and local industry, to determine which waste materials are being generated locally and potential uses for them.

Big Move 5: Summary of Implementation Progress

8 Actions: 6 short term, 2 medium term





Equity and Climate Justice Considerations

CHALLENGES	OPPORTUNITIES
 Access to curbside residential organic waste collection will occur in phases, starting with single-family residential dwellings before expanding to multi-family buildings. 	 Organics collection rates have been set to minimize financial impacts on residents (\$12/year increase on current utility rates). It is estimated that edible food waste costs the average Canadian household \$1,100 per year. Therefore, education campaigns on meal planning, food processing, and food storage can save residents money. Developing circular economy initiatives, such as local repair, reuse, and upcycling business opportunities, can help support the local economy and create green jobs for people with a variety of skills and abilities.

BIG MOVE 6: RENEWABLE ENERGY

Strategy: 6A Residential and Neighbourhood Scale Energy

Goal: To support the development of low-carbon, renewable energy systems at building and neighbourhood scales.



ACTION	STATUS	PROGRESS TO DATE
Promote opportunities for on-site renewable energy generation at building scale (e.g. solar PV/thermal systems and geoexchange).	To be initiated in 2023/2024	City staff are exploring priority areas for further research to determine where renewable energy could have the largest impact in displacing fossil fuel use (e.g. heating swimming pools typically heated by natural gas) and/or offsetting the cost of increased electricity use (e.g. by those transitioning to EVs and/or heat pumps for space/water heating).
Explore incentives, bulk purchase programs and financing models (e.g. PACE) to support the adoption of renewable energy technologies.	On track	The City promotes incentives for renewable energy (currently the federal Greener Homes Grant and Greener Homes Loan programs) via the Renovate Smart program and Kamloops.ca/RenovateSmart. City staff are monitoring programs and financing mechanisms being used to promote renewable energy in other BC and Canadian municipalities as well the provincial regulatory context (i.e. the Province does not currently permit PACE financing but is actively investigating related opportunities).

Future Actions (Medium Term):

- Support not-for-profit or cooperative renewable energy initiatives (e.g. a community solar garden).
- Explore opportunities for incorporating low-carbon energy distribution at neighbourhood scale (e.g. district energy system).

Strategy: 6B Renewable Energy Innovation

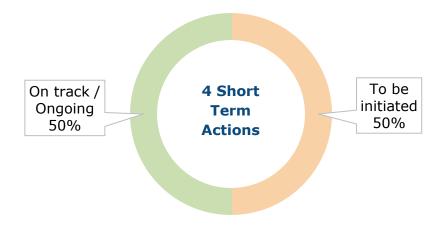
Goal: To position Kamloops as a clean energy research, technology, and manufacturing hub to support BC's low-carbon transition.

ACTION	STATUS	PROGRESS TO DATE
Investigate waste-to-energy opportunities, including the potential for developing biofuels from organic waste or other available feedstock.	Ongoing	A preliminary assessment of potential regional feedstocks for renewable gas was completed in 2021. The City intends to re-evaluate the potential end use options for all organic waste streams in 2024 once the community-wide collection service has been established and the approximate amount of curbside residential organic material being collected is better understood. The City is monitoring changes to the Province's Organic Matter Recycling Regulation of BC (OMRR) for permissible beneficial uses as well as learning from best practices in other local governments.
Support research, start-ups and technology innovation (e.g. flexible smart grid technology and electric vehicle [EV] battery reuse/recycling).	To be initiated in 2024	Next steps include research on existing renewable energy innovation in Kamloops and identifying gaps, opportunities, and potential markets. Key stakeholders could include Kamloops Innovation Centre, Kamloops Chamber of Commerce, and Venture Kamloops.

Big Move 6: Summary of Implementation Progress

6 Actions: 4 short term, 2 medium term





Equity and Climate Justice Considerations

CHALLENGES OPPORTUNITIES The upfront cost of installing a solar system is a barrier, The federal Greener Homes Grant offers up to \$5,000 even if life cycle costs and energy savings are favourable. rebate for solar installations. The Greener Homes Loan Cost of energy from major utilities is a key driver of the provides 10-year, interest-free loans of \$5,000 to economic feasibility of local solar generation. Electricity \$40,000. rates in BC are currently among the lowest in North Incentives, bulk purchasing, and financing programs will America, which makes the economics of solar generation reduce economic barriers to purchasing renewable energy challenging. technologies. Supporting local industry capacity in the clean energy sector will create new green jobs and economic activity and provide potential opportunities for workers transitioning from fossil fuel and extractive industries. Supporting community renewable energy projects, such as solar panels on social housing units, would help to reduce energy bills and generate local employment

BIG MOVE 7: MUNICIPAL CLIMATE LEADERSHIP

To demonstrate municipal climate leadership, Big Move 7 of the CCAP commits the City's operations to more ambitious GHG reduction targets than the community (40% by 2030 and 100% by 2050).



2021 Corporate Greenhouse Gas Emissions Update

In 2021, corporate GHG emissions associated with the directly delivery of municipal services (i.e. fuel used by City fleet vehicles and energy used to heat and cool municipal buildings) were **8,052 tonnes of carbon dioxide equivalent (tCO2e).** While this represents an 11% decrease over 2007 baseline emissions (Graph 1), the BC electricity emissions intensity factor for 2021⁵ was substantially lower than in previous years, which accounts for much of the City's corporate emissions decrease (Table 1).

Graph 1: 2021 Corporate GHG emissions (tCO2e) for 2019-2021 Compared to 2007 Baseline and 2030 and 2050 Targets

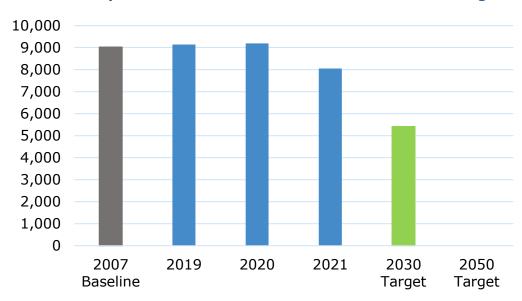


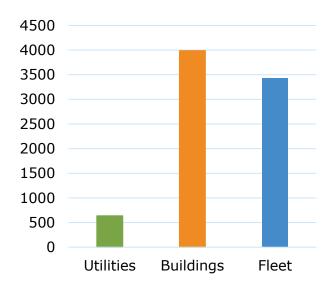
Table 1: Corporate Electricity Consumption and B.C.'s Grid Electricity GHG Emissions Intensity Factors (tCO2e/GWh) for 2019-2021

Year	Municipal Electricity Use (kWh)	Electricity Emissions Factor (tCO2e/GWh)
2019	53,182,003	29.9
2020	49,134,592	40.1
2021	53,237,204	9.7

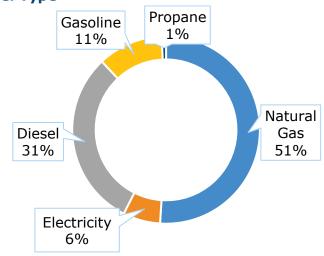
⁵ Government of British Columbia. (2022) "Electricity emission intensity factors for grid-connected entities", online: https://www2.gov.bc.ca/gov/content/environment/climate-change/industry/reporting/quantify/electricity

In terms of corporate GHG emissions by end use (Graph 2), energy use in buildings accounted for 49% of GHG emissions followed by emissions from fleet vehicle fuels (43%). Utilities, primarily energy use for water distribution and pumping, accounted for 8% of corporate GHG emissions.

Graph 2: 2021 Corporate GHG Emissions by End Use (tCO₂e)



Graph 3: 2021 Corporate GHG Emissions by Fuel Type



When looking at the composition of GHG emissions by fuel type (Graph 3), natural gas accounted for 51% of emissions as it is a predominant fuel for space and water heating and has a substantially higher carbon footprint than electricity. Fleet fuels were the next highest proportion as the City operates a variety of fossil fuel powered vehicles to deliver core services.

Strategy: 7A Zero-Carbon Civic Operations

Goal: To decarbonize municipal operations by improving the efficiency of civic facilities, fleet, and infrastructure and transitioning to low-carbon energy sources.

ACTION	STATUS	PROGRESS TO DATE
Develop and implement corporate energy and emissions policies and strategies to increase energy efficiency and phase out fossil fuel use in new and existing civic buildings and infrastructure.	On track	An assessment of decarbonization measures for civic buildings is being undertaken. The City's highest emitting buildings have been identified and energy studies, continuous optimization projects, and low-carbon electrification opportunities are being assessed and prioritized for these sites, with funding support from BC Hydro. Preliminary engineering assessments have been undertaken at 14 sites, with more in-depth audits for 8 sites planned for fall 2022. In 2022, an energy management assessment was completed and a strategic energy management plan was submitted to BC Hydro outlining priority projects for the following three years. The City is also participating in the Building Benchmarking BC project to publicly
		disclose the energy use intensity of multiple civic facilities online.
Develop and implement a Green Fleet Strategy that reduces overall vehicle use, prioritizes the use of zero-emissions fleet vehicles and/or renewable transportation fuels, and includes provisions for reducing emissions from tools and equipment.	To be initiated in 2023	Staff are reviewing green fleet plans from other municipalities and refining the scope, which may include measures such as updating the vehicle replacement policy (i.e. EVs, hybrids) and adopting an "electric-first" procurement policy. The City has been prioritizing the purchase of hybrid and electric vehicles and currently has: - 14 electric and 11 plug-in-hybrid light-duty vehicles - 5 medium-duty EVS (i.e. ice resurfacer, lawn mower, utility task vehicle) - 2 hydraulic hybrid garbage trucks

Develop programs and end-of-trip amenities to encourage employees to use transit, low-carbon, and	Ongoing	The City offers the following programs to encourage sustainable commuting and work-related travel:
active transportation modes for commuting and work-related travel.		 Work from Home and Modified Scheduling programs reduce the need for commuting by decreasing the number of days employees with these agreements are traveling to the workplace. Microsoft Teams software is on all City computers, enabling easy use of video calling and virtual meetings, which have continued beyond the period of pandemic restrictions. Electric and hybrid fleet vehicles for work-related travel. Promote spring and fall GoByBike BC campaigns. Promote ProPASS, which is a photo ID bus pass purchased at work at a discounted rate through payroll deductions for a minimum of four months.
		A staff transportation survey was completed in 2021 to identify barriers and benefits to cycling among staff. Recommendations to increase the uptake of cycling by staff included providing an employee bicycle purchase program, secure bike parking, end of trip facilities, and other incentives.

Strategy: 7B Climate Governance

Goal: To incorporate climate action decision-making tools and policies to ensure all City department work plans and capital and operating budgets are aligned with the corporate emissions reductions targets.

ACTION	STATUS	PROGRESS TO DATE
Embed climate action considerations into the supplemental budget request process, and where possible identify related metrics (i.e. key performance indicators).	On track	A section on environmental stewardship was added to the supplemental budget template in 2021. City Council established a Climate Action Levy of 0.35% to civic taxation beginning in 2022, which will generate \$24 million in its first 10 years and grow to an annual investment of \$4.44 million thereafter. The funds will be used to implement the municipal- and community-based climate action initiatives prioritized in the CCAP.
Establish a carbon budget framework, internal carbon price, and/or other tools that apply a climate lens to budget planning and decision making and support accountability for meeting corporate emissions reduction targets.	On track	The City of Kamloops is developing climate governance policies to ensure accountability for meeting GHG reduction targets. Research undertaken in collaboration with TRU in 2021 has identified options, including internal carbon pricing policies that include the cost of carbon in life cycle cost analyses. Buildings energy and climate guidelines are being developed to provide guidance for evaluating and implementing energy-efficient and lower-carbon options in new buildings and retrofit projects. Via the BC Hydro Commercial Energy Managers Network, City staff are learning from other BC municipalities and developing pilot templates and resources and planning stakeholder engagement with key internal staff who would use them in decision-making processes.
Review and update the Sustainable Procurement Policy.	On track	An industry scan has been undertaken to identify best practice policies. The policy update will be completed in 2023.

Strategy: 7C Communicating Climate Action

Goal: To engage residents on the actions they can take to address climate change and reduce emissions at home, at school and in the workplace.

ACTION	STATUS	PROGRESS TO DATE
Develop and deliver campaigns that educate about climate change and how residents and businesses can reduce GHG emissions, including partnerships with the arts community (e.g. theatre, film and art exhibits on climate action).	Ongoing	The City undertook several campaigns and outreach activities, including: - the Sustainability Newsletter, which was emailed out quarterly to over 1,600 subscribers - the spring 2022 Home Show April 9–10, where 315 people were engaged directly on home energy efficiency measures - the ECOSmart team, which educated 2,136 people at community events during the summer 2022 - Renovate Smart Workshops, which had 70 people registered between July 2021 and August 2022 to learn about home energy efficiency - initiatives to promote electric vehicles (see Big Move 3) - CCAP presentations to dozens of community organizations The City has also supported community initiatives, including the Sustainability Stories Audio Tour, developed by the Community Alliance for a Resilient Kamloops.
Partner with education providers to deliver campaigns on climate action that foster a culture of sustainability amongst youth (e.g. supporting curriculum development with School District 73).	Ongoing	 The following outreach has been undertaken with school-aged children and youth: Youth artwork from the 2021 Big Moves Art Project was featured in the CCAP. Following this, in 2022, the City's Sustainability Educator presented on the CCAP's 8 Big Moves in classrooms to enrich students' understanding of the CCAP, and 89 students were tasked with portraying their perspective on the plan's goals via art and personal reflections. The City's Sustainability Educator developed a climate change presentation that has been delivered to 436 students in School District 73 elementary and secondary schools. The ECOSmart team engaged 835 students via presentations at schools in June 2022 and partnered with summer camps to engage 471 youth and 66 camp leaders over the summer 2022.

The following partnerships have been developed with TRU:
 a Research for Climate Solutions online symposium with over 90 attendees to promote the CCAP Big Moves and connect City staff with TRU faculty, students, and sustainability and research office staff CCAP presentations to TRU classes and groups supported TRU as host of the 2021 BC MBA Games, which featured a sustainability focused theme supported TRU Sustainability to promote the Big Moves by highlighting related actions being undertaken on campus

Big Move 7: Summary of Implementation Progress

8 Actions: 8 short term





Equity and Climate Justice Considerations

On track / Ongoing 88%

CHALLENGES	OPPORTUNITIES
 It has been challenging to offer accessible communications during the pandemic when many events were hosted online. Educational initiatives from the City aim to reduce economic barriers to participation (e.g. hosting free, family-friendly events in locations accessible by transit and presenting directly to community organizations and businesses upon request whenever feasible). 	 Integrating carbon reduction considerations into budgeting and purchasing processes will help to account for the wider societal costs of carbon pollution. Reducing municipal carbon emissions mitigates future costs incurred from increasing provincial and federal carbon taxes. Consideration of climate resilience measures in new construction and retrofits will reduce the impacts of climate change on community facilities. The City can continue and expand upon initiatives that make community events more accessible, such as free transit days, bike parking valet services, etc.

BIG MOVE 8: HEALTHY URBAN ECOSYSTEM

Strategy: 8A Urban Ecosystems for Climate Resilience

Goal: To enhance our urban ecosystem's carbon storage capacity while supporting biodiversity and resilience to climate change.



ACTION	STATUS	PROGRESS TO DATE	
Provide public education to encourage landscaping and gardening using native species, plants that attract pollinators, intergrated pest management, and Firesmart landscaping practices in wildland/urban interface areas.	Ongoing	The City undertakes several initiatives to promote beneficial use of yard spaces, including: - demonstration pollinator, xeriscape, and FireSmart gardens - healthy lawn maintenance and lawn alternatives promotion (e.g. clover that attracts pollinators) - integrated pest management guidelines - various online and printed resources - Tree Coupon program Recent campaigns or projects include: - An Urban Tree Tour map to highlight significant trees in Kamloops and their benefits Free FireSmart assessments for homeowners, including advice on FireSmart landscaping in interface areas. Between July 2021 and August 2022, 104 FireSmart assessments were completed, with each homeowner receiving tailored recommendations. Community organizations and businesses are also taking the lead. Examples include: - The Kamloops Naturalists Club is developing a "Grow Wild" app and mapping tool to encourage biodiversity in Kamloops' yards and have also created demonstration gardens. - The Kamloops Food Policy Council demonstrate ecological gardening practices at the Butler Urban Farm, which is open to the public Some local landscaping supply companies highlight FireSmart plants.	
Future Actions (Medium Term):			

- Set a new target of 30% by 2050 while continue current progress to increasing the city's tree canopy cover to 20% by 2036.
- Integrate broader local ecosystems (e.g. grasslands) and climate change adaptation considerations into an update of the Urban Forest Management Strategy, which currently focuses on trees.

Strategy: 8B Protect and Heal Nature

Goal: To protect, enhance, and restore ecosystem health.

ACTION	STATUS	PROGRESS TO DATE
Undertake ecosystem restoration projects on City-owned land (e.g. wetland restoration and creation of wildlife habitat using native plants).	Ongoing	Recent projects include restoration of the Dufferin wetlands and a native plant garden around the pond at West Highlands Park. Planned projects include upgrading ponds to re-establish native plants at McArthur Island Park to improve the habitat for western painted turtles.
Encourage investments in local biodiversity conservation projects that also support carbon sequestration (i.e. grasslands conservation and native tree plantings).	Ongoing	The City is supporting the Aberdeen Neighbourhood Association, which plans to raise funds to purchase and plant native trees alongside the creek at West Highlands Park. The City is on the Thompson Okanagan Priority Area Mapping Project Advisory Committee for the Okanagan Collaborative Conservation Program and the Thompson-Nicola Conservation Collaborative's project, which will link conservation planning and Indigenous knowledge with climate change modelling to support sustainable land use decision making. Research and mapping tools will be used to identify soil carbon storage, ecological connectivity, culturally important species, bioclimatic zones, and more. By interweaving cultural knowledge with western science, this project will identify the wetlands and grasslands most likely to exist in 2030 and 2080 and will work with land managers from Indigenous communities and local and provincial governments to develop new policies, development guidelines, and sustainable land use practices to increase carbon sequestration, conservation, and protection for the identified wetlands and grasslands.

Support regenerative agricultural	To be	The Kamloops Food Policy Council undertook a Farm Hub Feasibility Study in
practices that increase soil carbon	initiated in	collaboration with the City, which explored how a farm at the Tournament Capital
storage (e.g. through education and	2023	Ranch could support sustainable and regenerative land use practices to increase
partnering on pilot projects on City-		our region's food system resilience. The study included a two-step engagement
owned land).		process of the community, an in-depth business plan review, an
		education/extension and social programming model, and recommendations for
		future steps and plans.

Strategy: 8C Green Infrastructure

Goal: To utilize green infrastructure techniques to enhance green space; stormwater management; and air, soil, and water quality.

ACTION	STATUS	PROGRESS TO DATE
Undertake new green infrastructure pilot projects to trial emerging techniques (e.g. more cost-effective ways of ensuring adequate soil volumes for optimal plant growth), and integrate successful measures into infrastructure and development projects on public lands.	On track	The Tranquille Road Active Transportation Corridor (see Big Move 2) will use bioswales to separate the multi-use pathway from the sidewalk and include tree planting. These measures will help to absorb water and reduce the urban heat island effect. Construction of the Summit Drive multi-use path from Notre Dame Drive to Whiteshield Crescent South is almost complete. The trees that were planted as part of this project used approved engineered structural soil to promote tree growth under a hard surface. The effectiveness of the soil will be assessed after one or two growing seasons. Structural soil is a mixture of angular crushed stone, soil, and soil stabilizer. Supported by the Pacific Institute for Climate Solutions Internship program, an assessment of green infrastructure will be undertaken in fall 2022. This research will include a review of best practices for green infrastructure and natural climate solutions on public and private lands in other jurisdictions, including those in similar climate zones. Interviews will be conducted with City staff in diverse areas, ranging from parks to drainage engineering, to review current practices, develop case studies, examine capacity building or training needs, and determine potential pilot projects for integrating green infrastructure.
Update street standards to incorporate requirements for street trees, native vegetation, sufficient soil volumes, and other green infrastructure to promote long-term plant health, urban cooling, and rain water retention.	To be initiated in 2023/2024	The Design Criteria Manual is being reviewed. This has various components, with the focus currently on water. Once this phase is complete, other components related to this action i.e. the roads section, will be reviewed.
Update City's Landscape Guidelines to ensure that landscaping developed on private property and City right of ways (e.g. boulevards) use green infrastructure	To be initiated in 2023/2024	The scope of the Landscape Guidelines review and update process is being determined.

technologies, support the City's tree canopy goals, and use sufficient soil volumes and native vegetation where appropriate.

Big Move 8: Summary of Implementation Progress

9 Actions: 7 short term, 2 medium term





Equity and Climate Justice Considerations

CHALLENGES	OPPORTUNITIES
 The distribution of trees in Kamloops in relation to socio- economic factors requires further study. Trees, green roofs, and vegetation can help reduce urban heat island effects by shading building surfaces, deflecting radiation from the sun, and releasing moisture into the atmosphere; therefore, it is important to assess whether these benefits are being equitably distributed. 	 Enhancing resilience to climate change can reduce the potential financial and health impacts of extreme weather events. Green infrastructure can decrease the cost of damage to property and infrastructure from climate change impacts (i.e. when its use decreases potential flood damage from extreme precipitation events).

ADVOCACY

The following were identified in the CCAP as emissions reductions actions that the City has limited jurisdiction over. Therefore, the City will need to advocate to the Province and other levels of government, utility companies, and key stakeholders, where appropriate. Climate action sharing meetings have been established with Tk'emlúps te Secwépemc, staff are involved in regional climate action networks to exchange best and emerging practices, the City participates in consultation processes with the provincial and federal governments, and members of City Council participate in local government climate action networks.

Related work by City staff CCAP Advocacy Actions per Emissions Sector TRANSPORTATION Participation in the Local Government EV Peer Network, where best practices, regulations and incentives are regularly Strengthen zero-emission vehicle discussed. mandates for light-, medium-, and heavy-Continued relationship with BC Transit and School District No. duty vehicles and to maintain targeted 73 and regular meetings with cycling advocacy groups, electric vehicle incentive programs. including the recently established Kamloops Cycling Coalition. Support BC Transit's Low-Carbon Fleet Monitoring the active transportation electric kick scooter pilot Program and the Ministry of Education's transition to project underway in several BC municipalities. electric school buses. Requested data from the Province that would support the Create regulations regarding the use of microcreation of complete, compact communities (as part of the mobility devices (e.g. E-scooters and electric Local Government Climate Action Program survey). hoverboards). **BUILDINGS** Participation in several networks where best practices are shared between local governments, including the Local Strengthen low-carbon building Government Step Code, Retrofit, and Embodied Emissions Peer regulations for new buildings (e.g. Networks. Staff are monitoring other municipal and provincial introducing greenhouse gas intensity limits. regulations regarding embodied carbon, as well as industry embodied carbon emissions limits, and product regulations. mandatory energy labelling/benchmarking). Requested improved access to Technical Safety BC data Enhance access to building energy use data to inform regarding installations of space and water heating equipment, community retrofit program design, incentives, and including collecting data on heat pump and EV charger marketing. installations. Strengthen retrofit policies, programs, and Requested information from BC Assessment regarding the incentives, including longer-term commitments to prevalence of swimming pools (in order to determine potential sustain consumer awareness and demand. impact of heating requirements). Promote and incentivize local renewable energy generation.



WASTE

- Implement measures to reduce singleuse items and plastics use, including federal and provincial legislation banning certain items.
- Advance circular economy research and innovation.
- Participation in engagement processes for federal and provincial waste management policies, such as webinars, Q&A sessions, and submissions on proposed legislation for single-use plastics, single-use items, and expansion of extended producer responsibility programs (provincial).
- A City staff person is on the Recycling Council of BC Board of Directors, which provides further opportunities to engage on policy.

Climate Adaptation and Resilience

Kamloops is facing a multitude of climate change impacts. Recent extreme weather events experienced in BC have been made more likely by the effects of human-induced climate change.^{6,7,8} In June 2021, a record-setting heat wave (47.3°C) that caused multiple fatalities in Kamloops⁹ was followed by a devastating wildfire season that saw some neighbourhoods evacuated and/or on evacuation alert. In 2017 and 2018, Kamloops was also enveloped in wildfire smoke for much of the summer. In winter 2021, atmospheric rivers disrupted transportation and supply chains and saw Kamloops accommodate flood evacuees from nearby Merritt while extreme cold temperatures were also experienced. These impacts are taking a physical and mental health toll on our community while local agricultural production and ecosystems are under stress (e.g. pine beetle outbreak, salmon population decline), which is affecting local livelihoods and food security.

2021 Emergency Support Services Virtual Reception Centre Activations

Event	Dates	Number of evacuees accessing supports
Wildfire Season	June 29-October 2	~3,677
Flooding of the Coldwater River in the City of Merritt	November 15-December 15	~3,800

The CCAP is primarily focused on GHG mitigation with some actions that also contribute to resilience, such as through increasing tree canopy cover, utilizing green infrastructure, encouraging regenerative agriculture, supporting renewable energy projects, and

⁶ World Weather Attribution. (July 7, 2021) "Western North American extreme heat virtually impossible without human-caused climate change", online: https://www.worldweatherattribution.org/western-north-american-extreme-heat-virtually-impossible-without-human-caused-climate-change/

⁷ Kirchmeier-Young, M.C., Gillett, N.P., Zwiers, F.W., Cannon, A.J., & Anslow, F.S. (2019). "Attribution of the influence of human-induced climate change on an extreme fire season". *Earth's Future*, 7, 2–10, online: https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2018EF001050

⁸ Gillett, N.P., Cannon, A.J., Malinina, E., Schnorbus, M., Anslow, F., Sun, Q., Kirchmeier-Young, M., Zwiers, F., Seiler, C., Zhang, X., Flato, G., Wan, H., Li, G., Castellan, A. (2022) "Human influence on the 2021 British Columbia floods". *Weather and Climate Extremes*, 36, online: https://www.sciencedirect.com/science/article/pii/S2212094722000287

⁹ CFJC. (June 7, 2022) "Seventeen of B.C. heat dome deaths in Kamloops; committee formed to address heat issues for seniors", online: https://cfictoday.com/2022/06/07/seventeen-of-b-c-heat-dome-deaths-in-kamloops-committee-formed-to-address-heat-issues-for-seniors/

promoting better-insulated homes with heat pumps that offer both heating and cooling. More dedicated research, programs, tools, and resources are needed to identify needs and gaps in order to build adaptation and resilience among our community.

As indicated in the 2022 Local Government Climate Action Program report, the City intends to undertake a climate risk and vulnerability assessment in the next two years. Current adaptation work includes flood mitigation measures, FireSmart programming and fuel reduction activities, encouraging residents to use the Voyent Alert! emergency app, and heat response measures.

Staff have identified the following needs to increase capacity to adapt to climate impacts and build community resilience, including increased funding, more partnerships and collaboration across levels of government, and political support and direction.

Financial Summary

Achieving the CCAP's targets requires partnerships, innovations, and investments. In fact, some priority actions in the CCAP will require considerable funding to implement. The City has adopted a CCAP funding strategy, which consists of two primary revenue sources and reserves—the Climate Action Fund Reserve and the Climate Action Levy Reserve.

Climate Action Fund Reserve

The City's Climate Action Fund Reserve consists of revenue generated through the Province's Local Government Climate Action Program (and formerly the Climate Action Revenue Incentive Program), which provides funding for climate action initiatives. See Tables 2 and 3 below for 2021 Climate Action Fund Reserve actual expenses and revenue, and projected amounts for 2022.

Table 2: Expense and Revenue Actuals for the Climate Action Fund Reserve (2021 fiscal year)

Opening Balance: January 1, 2021		\$734,330	
Expense	Recurring	Amount (\$)	Details
Energy Management			To monitor, analyze, and report corporate energy consumption and GHG
Information System	Υ	(32,600)	emissions
			City's matching-funds contribution to incentivize residents to replace
Wood Stove Exchange			eligible wood stoves and fireplaces with cleaner burning and/or lower
Program (2021)	Υ	(23,080)	carbon alternatives
			Municipal rebate for constructing Step Code compliant homes prior to the
Energy Step Code			Energy Step Code becoming a mandatory requirement effective Jan. 1,
Incentive Program	N	(102,000)	2022
Home Energy Retrofit			Municipal upgrade offers for residents participating in CleanBC's Better
Program	Υ	(1,500)	Homes Rebate Program
E-Bikes for Community			To provide Community Service Officers an active transportation option to
Services Fleet	N	(19,040)	offset conventional fleet use
Community Energy			
Specialist salary	Υ	(12,600)	City's 20% contribution to FortisBC's 80% funding
Expense Subtotal		(190,820)	
Revenue		Amount (\$)	Details
2021 Climate Action Reven	ue Incentive		
Program Contribution		247,276	For reporting on 2020 corporate GHG emissions and climate actions

Revenue Subtotal	247,276
Balance: December 31, 2021	790,786

Table 3: Commitments and Projected Revenue for the Climate Action Fund Reserve (2022 fiscal year)

Opening Balance: January 1, 2022		\$790,786	
Commitment	Recurring	Amount (\$)	Details
Energy Management			To monitor, analyze, and report corporate energy consumption and GHG
Information System	Υ	(32,600)	emissions
			City's matching funds contribution to incentivize residents to replace
Wood Stove Exchange			eligible wood stoves and fireplaces with cleaner burning and/or lower
Program (2022)	Υ	(25,000)	carbon alternatives
Home Energy Retrofit			Municipal upgrade offers for residents participating in CleanBC's Better
Rebate Program	Υ	(27,500)	Homes Rebate program
EV Charger Rebate			Municipal upgrade offers for residents participating in CleanBC's Go Electric
Program	Υ	(37,500)	EV Charger Rebate program
Industry Capacity Building			City's cash contribution to a BC Hydro co-funded project for outreach
for Low Carbon			activities in support implementing the EV-Ready Homes policy and
Electrification	N	(15,550)	developing local capacity for low-carbon building energy systems
			Pending City matching funds contribution for Natural Resources Canada's
Public Electric Vehicle			Zero Emission Vehicle Infrastructure Program grant to install 20 public
Charging Stations	N	(253,000)	access Level 2 EV chargers
			To increase the availability of publicly accessible, secure, end-of-trip bike
Community Bike Storage			storage amenities in major neighbourhood centres and other key
Amenities	Υ	(75,000)	destinations
Community Climate			Funding for community projects and initiatives that address priorities
Action Grant (pilot)	TBD	(20,000)	identified in the Community Climate Action Plan
Projected Expenses Sub	total	(486,150)	
Projected Revenue		Amount (\$)	Details
2022 Local Government Climate Action			For reporting on 2021 corporate GHG emissions and current climate
Program Contribution		325,082	actions.
Projected Revenue Subtotal		325,082	
Projected Balance: December 31,			
2022		<u>629,718</u>	

The City received Climate Action Revenue Incentive Program funding annually from 2009 until the program ended in 2021. In 2022, the Province committed three years of funding for the Local Government Climate Action Program. To date, this revenue combined has totaled \$2,158,000. The Climate Action Fund Reserve has been used to support numerous City initiatives that align with the goals and objectives of the Sustainable Kamloops Plan and the CCAP, which demonstrate the potential to reduce community or corporate GHG emissions.

Climate Action Levy Reserve

City Council has established a Climate Action Levy, which increases the municipal taxation rate by 0.35% per year starting in 2022 and extending for a 10-year period. Over this time, the Climate Action Levy is expected to generate \$24 million and then, starting in 2031, it will generate \$4.44 million/year. These funds are being set aside in the Climate Action Levy Reserve, for which criteria is being developed to guide how the funds are to be used to support the CCAP's implementation over the medium to long term.

The Climate Action Levy Reserve is expected to have a balance of \$444,000 at the end of the 2022 fiscal period.

Grant Funding

While there are many long-standing programs that support GHG mitigation and adaptation, with increased attention on climate action from the provincial and federal governments, new funding streams also becoming available. The City has a dedicated Grants and Awards Specialist who identifies and tracks grant funding opportunities.

Table 4: Grant Funding Received for Climate Mitigation and Adaptation Projects (2021/2022)

Project	Grant Name	Funder	Project Detail	Funding Received (\$)
Infrastructure Funding	Covid Resilience	Ministry of Municipal Affairs and Housing	Multi-use path - Summit Drive to Lansdowne Street	4,000,000
Westmount Multi- Use Path	BC Active Transportation Infrastructure Grant	Ministry of Municipal Affairs and Housing	Westmount multi-use path - north- south bicycle corridor	451,458
Flood Mitigation	Community Emergency Preparedness	Union of British Columbia Municipalities (UBCM)	Flood mitigation planning re: dike rehabilitation	150,000
Fire Mitigation	Community Resilience Investment Program	UBCM	Interface fire mitigation	139,830

Residential Organics Pilot Program	Green Municipal Fund - Pilot	Federation of Canadian Municipalities	Curbside organics pilot	268,000
Energy Step Code Tail Gate Training	Sustainable Communities	BC Hydro	Industry training to prepare for Step Code implementation	11,182
Tree Planting Program	From the Ground Up	Tree Canada	Tree planting in various areas	25,000
Woodstove Exchange Program	Community Wood Smoke Reduction Program	Provincial government	Matching funds to support exchange program	28,250
Residential	CleanBC Organic	Provincial	Curbside organics program	1,788,233
Organics program	Infrastructure	government	implementation	
EV Promotional Video	Emotive BC Outreach Incentive Program	Provincial government	Produced video featuring local EV owner	8,000
Fire Halls Energy Conservation	EnergyWise Program	BC Hydro	KFR Employee Energy Survey and energy saving devices at Fire Station No. 1	1,193
BC Hydro	Low Carbon Electrification Commercial Audit Offer	BC Hydro	ASHRAE Level 1 audits of eight civic facilities	24,000
			TOTAL	\$6,895,146

Research Internships

External funding was secured to support three temporary research positions over 2022. This enabled primary research to be undertaken that will inform the implementation of CCAP actions, taking into account best practices as well as locally specific challenges and opportunities.

Table 5: Internship Funding for Local Climate Action Research (2022)

Intern Title	Funder	Project Detail	Funding Value (\$)
Climate Action Analyst	Career Launcher	13 weeks full-time for research on heat pump capacity building	10,000
UBC Sustainability Scholar	BC Hydro	250 hours to develop local heat pump case studies	6,900
Natural Climate Solutions Analyst	Pacific Institute for Climate Solutions	13 weeks full-time for research on green infrastructure	12,000
		TOTAL	\$28,900

Conclusion

With nearly two-thirds (63%) of short-term actions already initiated in the first year of implementation, the City is on track to meet the first target of the CCAP: to initiate all short-term actions by 2024. This target is crucial for setting the foundation for the transitions (i.e. shifts in the consumption of energy, using different technologies and sources) needed to meet the GHG emissions reductions target of 30% by 2030. Background research and scoping is being undertaken for most of the remaining short-term actions.

Notably, since the CCAP's adoption, reliable funding sources have been identified and put into place, including the Climate Action Levy, which secures revenue from taxation to ensure the prioritization of CCAP actions. Furthermore, the Government of BC introduced a new Local Government Climate Action Program, which provides additional funding of \$325,082 for 2022.

In the year ahead, key priorities include:

- performing targeted follow-ups with key stakeholders on actions not yet initiated
- continuing strategic planning around municipal fleet and buildings decarbonization as well as development of climate governance measures that increase accountability for GHG reductions
- positioning the City to leverage the many financing and funding programs being offered
- establishing criteria for use of the Climate Action Fund Reserve and the Climate Action Levy Reserve
- providing training for staff on equitable approaches to climate mitigation and adaptation
- continuing to foster partnerships and collaborate on initiatives with external stakeholders
- facilitating capacity building for community stakeholders (e.g. heat pump industry, developers regarding Step Code)
- piloting a Community Climate Action Grant to support local community initiatives that advance implementation of the Big Moves

City staff, supported by community stakeholders and all levels of government, have made a strong start on implementing the CCAP during a time when the impacts of the climate crisis are being acutely felt globally, regionally, and locally. While more dedicated work is needed to address climate change adaptation and resilience, the CCAP provides a clear pathway for reducing GHG emissions from municipal operations and the community more broadly. This report provides a snapshot of progress to date and will be updated on an annual basis.