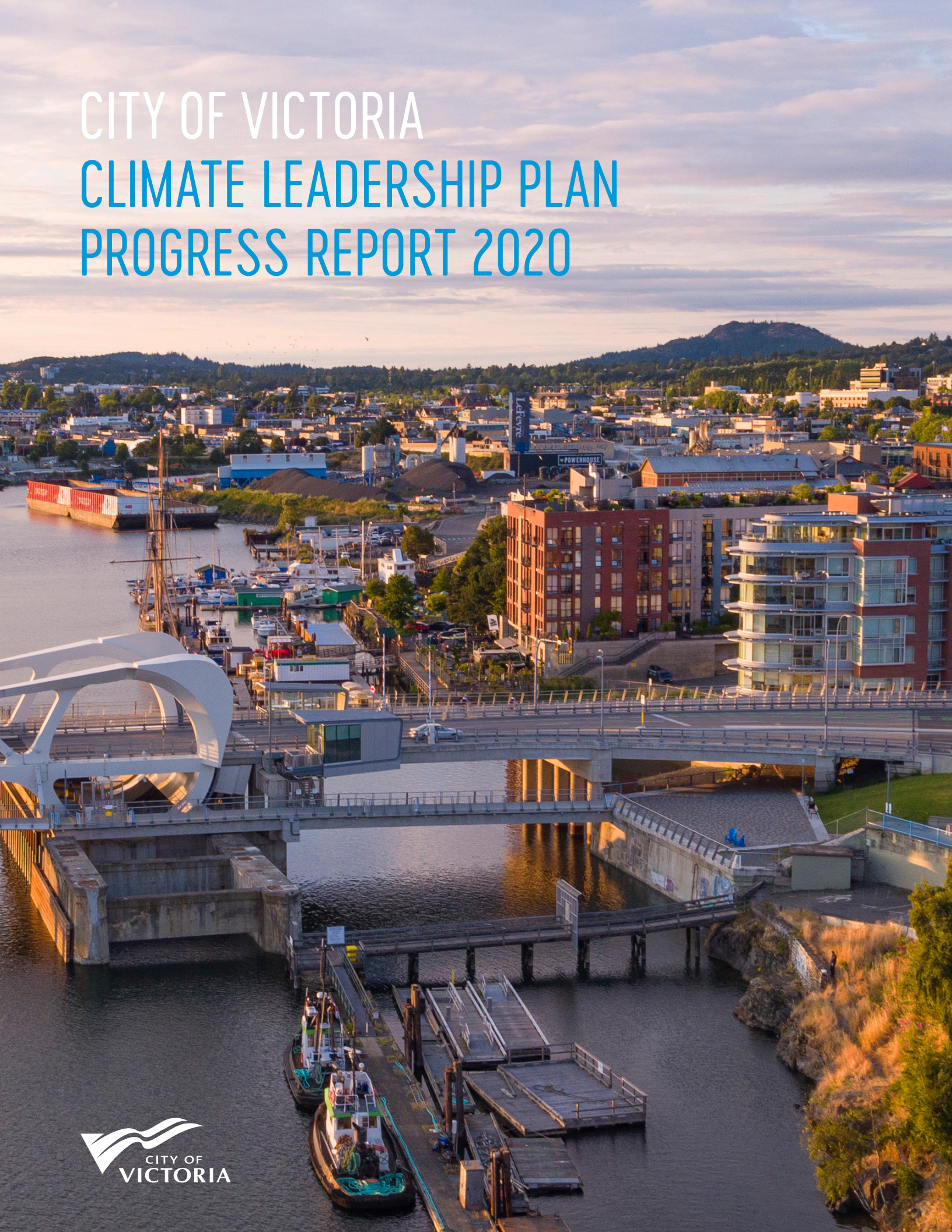
CITY OF VICTORIA
CLIMATE LEADERSHIP PLAN
PROGRESS REPORT 2020



CITY OF VICTORIA

TABLE OF CONTENTS

The City of Victoria is located on the traditional territories of the Songhees and Esquimalt Nations.

INTRODUCTION

In 2018, the City of Victoria released the Climate Leadership Plan, the City's first comprehensive strategy to reduce greenhouse gas (GHG) emissions and adapt to the changing climate. This Progress Report provides an update on City initiatives to implement the Climate Leadership Plan and reach the specified targets. In March 2019, the City of Victoria declared a climate emergency and committed to accelerating action on climate change.

The Climate Leadership Plan calls for a transformation of how we use and manage energy, from heating and powering our homes and buildings, to how we move throughout the city, and dispose of our waste. The Climate Leadership Plan aims to inspire public and business support for investments and actions to reduce GHG emissions and energy use. Rapid action is required to avoid significant social, financial, and environmental impacts to the community. In order to provide transparency and update City Council and the residents of Victoria, this Progress Report describes the steps taken to implement and reach the goals, targets, and actions defined in the Climate Leadership Plan. The goals, targets, and actions are organized by sector: Low Carbon High-Performance Buildings, Low Carbon Mobility, Low Carbon Waste Management, Municipal Operations, and Adapting Early. This Progress Report is divided into two sections, the first section provides an update on GHG emissions trends and the second gives a status update on the Climate Leadership Plan targets and actions for each of the five sectors.

Victoria Harbour at Ship's Point

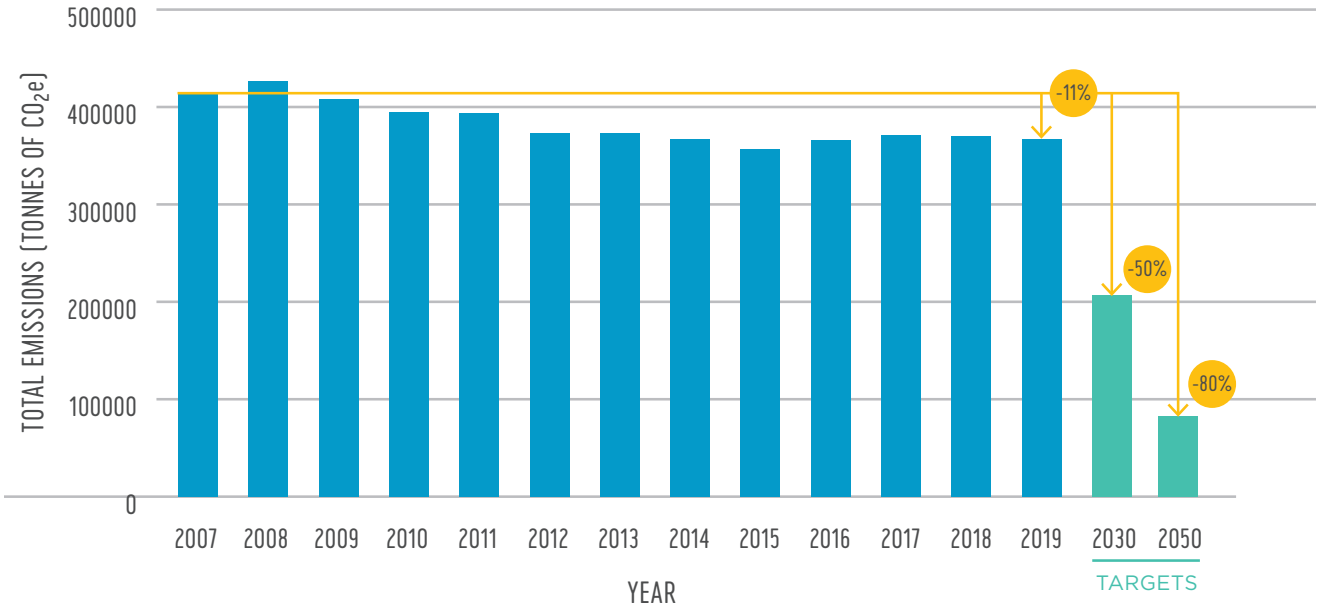
COMMUNITY EMISSIONS & TARGETS

Cities occupy only two percent of the world's landmass but consume over two-thirds of the world's energy and account for more than 70 percent of global CO_2e[1] emissions. Therefore, cities are integral to reducing global emissions and are well-positioned to play a leadership role in driving action to address climate change impacts. The Climate Leadership Plan committed to an 80 percent reduction in community GHG emissions and a shift to 100 percent renewable energy by 2050. In 2019, the total community wide GHG emissions were approximately 367,000 tCO_2e.

To address the need for up to date community GHG emissions information, GHG inventories are produced annually. The inventories report on emissions from activities such as transportation, buildings, and waste are used as a baseline when establishing emissions reduction targets. The City hires a third-party consultant to complete GHG inventories following two standards: the Community Energy and Emissions Inventory (CEEI) and the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC Basic+). The data used in this report is from the 2019 CEEI-based inventory; the CEEI inventory is the baseline reporting standard for most municipalities in British Columbia, including Victoria.

[1]Carbon dioxide equivalent (CO_2e) is a measure used to compare the emissions from various GHGs based on their global warming potential. In order to express the impact of multiple GHGs as a single number, the impact of each different GHG is expressed in terms of the amount of carbon dioxide (CO_2) that would create the same amount of global warming potential.

COMMUNITY GHG EMISSIONS[2]



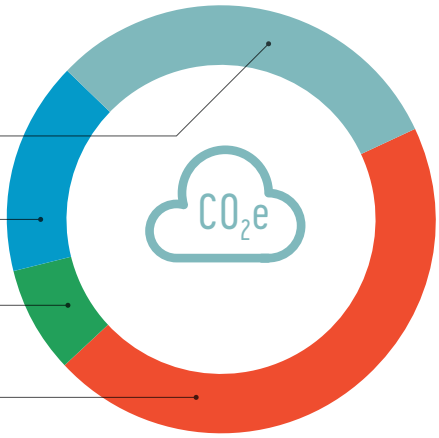
This figure illustrates Victoria's progress in reducing community GHG emissions since 2007. Despite an increase in Victoria's population since 2007, GHG emissions have declined over the same period. However, the rate of decline is not enough to meet the committed climate targets set by the Climate Leadership Plan. The long-term trend shows that community emissions have dropped by approximately 11 percent since 2007. This rate needs to more than double to put Victoria on track to meet the Climate Leadership Plan GHG emissions reduction targets. The short-term data suggests that Victoria's emissions reductions are slowing, however, the seasonal variability of annual emissions combined with uncertainties due to data limitations, makes it challenging to identify short-term trends in community GHG emissions.

The following figures show the breakdown of 2019 community GHG emissions in Victoria by sector and fuel type and show the distribution of renewable and non-renewable energy sources.

Ariel view of James Bay

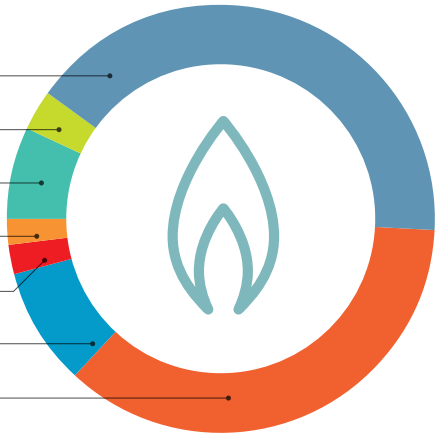
[2] All of the yearly emissions figures have changed slightly from those in the Climate Leadership Plan due to updates of the baseline year (2007). This type of update is a common practise to ensure that figures remain comparable year to year and as accurate as possible. In this case, we see a minor increase in most of the previous years' emissions due to a discontinued source of transportation information and switching to a more consistent source of buildings energy consumption data.

2019 EMISSIONS BY SECTOR (367,228 tCO_2e)



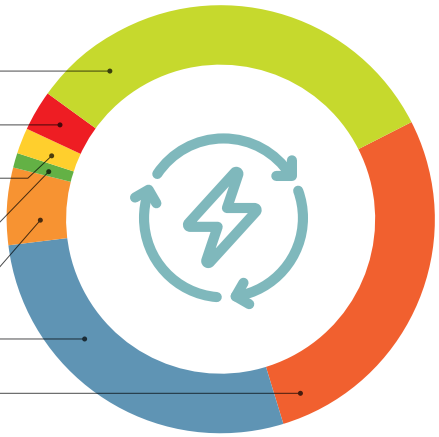
- 31% COMMERCIAL, INSTITUTIONAL, INDUSTRIAL, AND MULTI-UNIT RESIDENTIAL
- 16% SINGLE FAMILY HOMES
- 8% SOLID AND LIQUID WASTE
- 45% ON-ROAD TRANSPORTATION

2019 GHG EMISSIONS BY FUEL TYPE



- 41% GASOLINE
- 3% ELECTRICITY
- 7% DIESEL
- 2% WOOD
- 2% PROPANE
- 9% HEATING OIL
- 36% NATURAL GAS

2019 RENEWABLE AND NON-RENEWABLE ENERGY MIX



- 33% RENEWABLE ELECTRICITY
- 3% WOOD
- 2% BIODIESEL AND ETHANOL
- <1% RENEWABLE NATURAL GAS
- 6% HEATING OIL AND PROPANE
- 28% GASOLINE AND DIESEL
- 28% NATURAL GAS

Transportation and buildings are the largest sources of GHG emissions in Victoria. In the buildings sector, the use of heating oil continues to decline with households switching to either natural gas, which burns with less emissions than oil, or to electric heat pumps, with significantly fewer operating emissions than both oil and gas. In the transportation sector, emissions have increased due to population growth and a trend towards the purchase of larger vehicles and other factors, however, this is moderated by increases in new vehicle fuel efficiency and the use of renewable fuels.

As Victoria's population continues to grow, the housing stock is increasing and more vehicles are on the roads. Conversely, fuel switching is increasing and energy conservation measures are improving. Due largely to a renewable electricity supply, approximately 38 percent of all energy consumed in Victoria is from renewable sources. However, due to the relatively inexpensive cost of fossil fuels, the switch to renewable energy will continue to be challenging. Reaching the target of 100 percent renewable energy by 2050 will require significant steps to reduce dependence on oil and gas and accelerate collective action on GHG mitigation efforts.

The City has put measures in place to achieve significant GHG emissions reductions over the long-term, such as the electric vehicle readiness requirements in zoning bylaws, the adoption of the BC Step Code, and increasing active mobility and public transit options however, the benefits of such measures will not be fully realized for some time. The City is also progressing actions that bring immediate reductions in GHG emissions through fuel switching, moving to renewable energy sources, and decreasing emissions from each sector, but the rate is currently slower than required in order to meet the targets. Continued and enhanced action to reduce GHG emissions will be necessary; this Progress Report identifies priority actions for each sector that will help the City advance the goals and targets laid out in the Climate Leadership Plan and reduce community GHG emissions.

In 2020, the Capital Regional District (CRD) produced a GHG Inventory Study for 2018 using the GPC Basic+ inventory to better understand the sources and trends of GHG emissions within the Capital Region. The CRD study shows that the Capital Region emitted approximately 1.7 million $tC0_2e$ in 2018, a level largely unchanged from the 2007 baseline emissions. The CRD's 2018 Regional Growth Strategy targets the decrease of community GHG emissions by 33 percent from 2007 levels by 2020 and 61 percent by 2038. The Capital Region is not currently on track to meet these emissions reduction targets based on the information provided in this inventory; significantly greater emissions reductions are required to achieve these targets. In 2018, Victoria contributed to approximately 27% of the CRD's emissions, which is in line with the percentage of CRD residents living in Victoria. Over and above the contribution of its residents and businesses to regional GHG emissions, the City recognises that its role as the downtown core of the Capital Region comes with a broader responsibility to support emission reductions beyond municipal boundaries.

The City is now ten years away from the interim 2030 target to reduce community GHG emissions by 50 percent compared to 2007 levels. To meet this target, emissions reductions must be sustained at an average of over four percent per year over the next ten years. There are many barriers to reaching the targets set by the Climate Leadership Plan, such as high costs, other competing priorities for community resources, and the status quo bias which is an emotional preference for the current state of affairs. Achieving the 2030 and 2050 community GHG emissions targets will require bold action to overcome barriers and unlock opportunities for emissions reductions. Acting on climate change will also deliver co-benefits such as enhanced air quality, decreased noise pollution, reduced traffic congestion, increased building comfort, healthier and more active lifestyles, new jobs, and more independent and affordable energy choices.

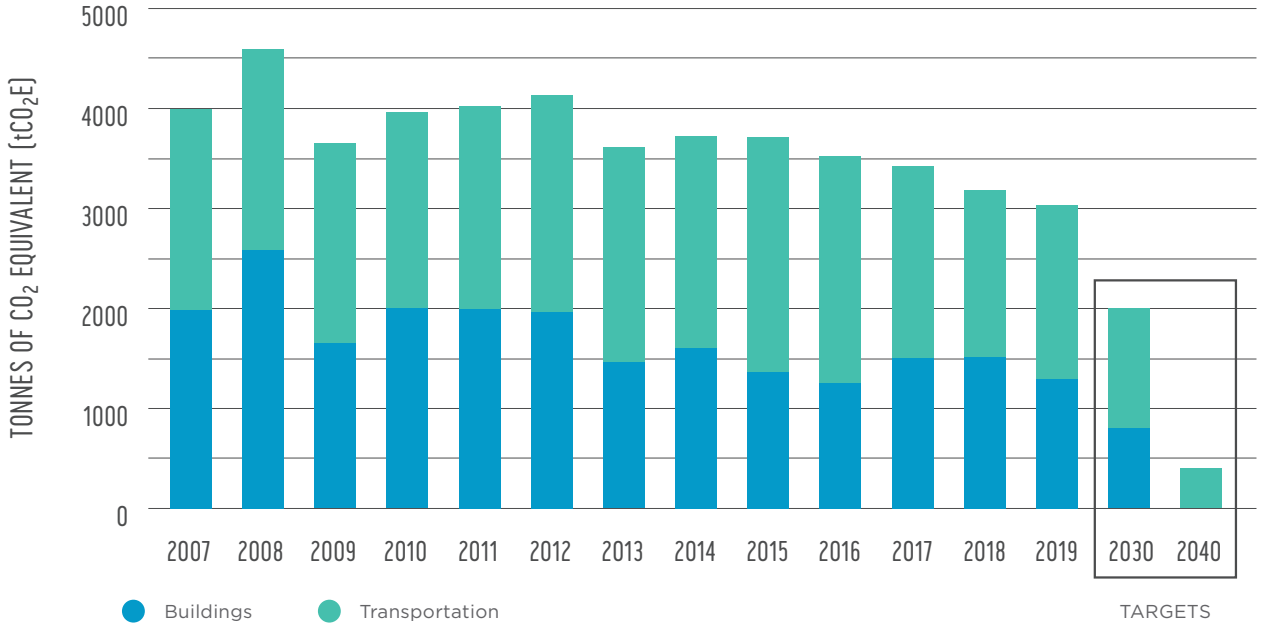
CORPORATE EMISSIONS & TARGETS

The City of Victoria is implementing innovative measures to reduce GHG emissions from municipal operations. Municipal operations include the management of facilities, infrastructure, equipment, and fleet for the delivery of services such as garbage collection, looking after parks, maintaining roads, police and fire services, water and wastewater management, as well as local government administration.

The corporate emissions targets set in the Climate Leadership Plan are that by 2030, the City's emissions will be reduced by 60 percent and by 2040, emissions will be reduced by more than 80 percent. Additionally, by 2040, all City facilities will be renewably powered and 80 percent of the City fleet will be renewably powered. Efforts to reduce corporate emissions have been successful, with an over 20 percent reduction in GHG emissions since 2007 as shown in the graph below. This reduction in emissions demonstrates that with effort, significant emissions reductions are possible. Although municipal operations only account for approximately one percent of total community GHG emissions, the Climate Leadership Plan's core planning principle is to lead and inspire action and the City has an important role to play in encouraging community participation in broader mitigation efforts.

The figure below illustrates the trend in GHG emissions from municipal operations for the delivery of traditional services . Annual variations can be

GHGs FROM CITY OPERATIONS

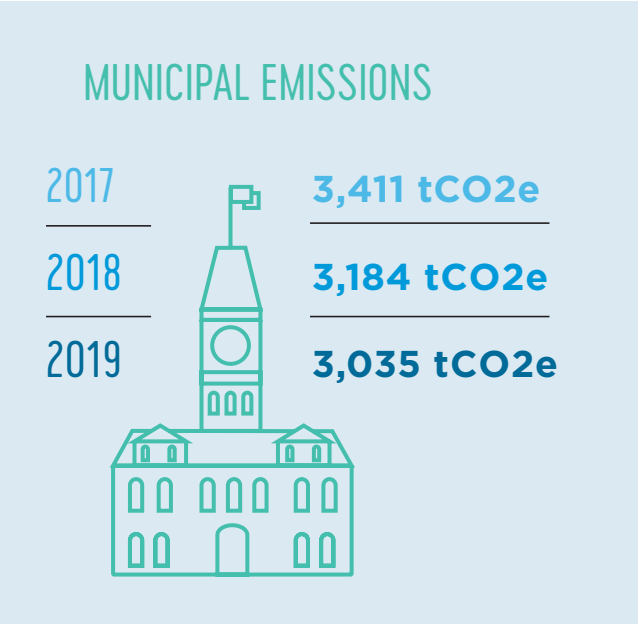


attributed to seasonal differences such as colder winters increasing heating demand. As such, it is important to interpret the annual figures over an extended time period to identify long-term trends.

In order to achieve the climate targets for corporate emissions, the City is completing work on a Corporate Energy and Emissions Management Plan (CEEMP). The CEEMP is a corporate-wide, 10-year management plan that focuses exclusively on energy and GHG emissions resulting from the City's service delivery to Victoria residents. The CEEMP will identify measures and emissions reduction targets at the department level to guide corporate actions and enable the City to prioritize and integrate energy and GHG emissions reduction programs with other relevant City programs, standards, practices, and regulations.

Examples of the progress that the City has made to reduce GHG emissions and improve energy efficiency include:

- Reducing annual corporate GHG emissions by 28 tCO_2e by upgrading 95 percent of city streetlights to LEDs, saving approximately $250,000 in utility bills annually.
- All City-owned parkades have been upgraded to LED lighting, reducing annual corporate emissions by 2.5 tCO_2e and saving approximately $22,000 in utility bills annually.
- Identified and initiated energy improvement projects for City-owned facilities that are estimated to reduce corporate emissions by 58 tCO_2e and save approximately $69,000 in utility bills annually.
- Planning is underway to reduce GHG emissions from City Hall by upgrading to low carbon heat-pump technology for space heating and cooling by 2022 and switching to renewable natural gas, avoiding over 100 tCO_2e.
- Establishing new fleet procurement practices allowing electric vehicles to be purchased by the City with the first medium duty electric vehicle acquisition planned for 2021.
- Investigating the replacement of the Crystal Pool facility which will be designed with renewable energy sources. The existing facility accounts for approximately 15 percent of the City's corporate emissions.
- Victoria City Council directed staff to develop a Climate Lens Framework which will consider climate change impacts in all relevant City decisions. This planning requirement will ensure that all policies, programs, and projects are assessed for their expected GHG emissions and resilience to the impacts of climate change.



Additional information on the actions that the City is taking to reduce corporate GHG emissions can be found in the Municipal Operations section of this report.

CLIMATE EMERGENCY

In March 2019, the City of Victoria declared a climate emergency and committed to achieving carbon neutrality by 2030. Currently, over 1,400 jurisdictions in 30 countries have declared a climate emergency. When declaring a climate emergency, a government or jurisdiction acknowledges that climate change is occurring, poses a serious threat to their community, and that the measures taken up to this point have been insufficient to limit the impacts and risks of climate change.

The City's declaration of the climate emergency reemphasised the severity of climate risks and the need for bold and sustained action to avoid the most severe impacts of climate change. This includes increased efforts to limit global temperature rise below 1.5 degrees Celsius as outlined in the Intergovernmental Panel on Climate Change's *Special Report on Global Warming of 1.5 °C*. In response, the City identified six High Impact Initiatives (HIIs) for accelerated action:

Accelerated oil to heat pump incentives

Increased active transportation infrastructure network

The development of a regional home energy and efficiency retrofit program

Accelerated active mobility initiatives

The acceleration of low carbon step code requirements for commercial and residential buildings

Development of a bus rapid transit system

The HIIs are marked as priority items in the following sector sections of this report.

SECTOR GOALS, TARGETS & ACTIONS

The goals, targets, and actions outlined in the Climate Leadership Plan are organized by sector: Low Carbon High-Performance Buildings, Low Carbon Mobility, Low Carbon Waste Management, Municipal Operations, and Adapting Early. In each section, high-level goals describe broad climate action objectives and are supported by more detailed targets and actions to reduce energy consumption and GHG emissions, transition to renewable energy, and prepare Victoria for climate impacts. This Progress Report identifies the City's progress to date on the goals, targets, and actions of the Climate Leadership Plan since its release. The statuses of the targets and actions are outlined below:

TARGETS

ON TRACK: work is progressing and the target is anticipated to be met in the designated time frame

EARLY STAGES: work has progressed, but the pace of effort will need to increase before it can be considered on track to meet the target in the designated time frame

FALLING BEHIND: the work is not progressing fast enough to meet the target

MISSED: the target was not met in the planned time frame

ACTIONS

FUTURE ACTION: the action has not yet been started and is slated for development in the future

EARLY STAGES: the action has been initiated, early work has begun, but requires additional work and resources to develop and implement

UNDERWAY: the action has been developed beyond early stages and work is actively underway

COMPLETE: the action has been implemented

Additionally, priority actions have been identified where the City will concentrate efforts over the next two years based on:

- The potential of the action to result in a significant GHG reductions
- The potential of the action to contribute to the achievement of a sector target
- The current feasibility of the action

Each identified priority action is further explained at the end of each sector section. To identify Priority Actions, look for the symbol, in the sector tables below.

LOW CARBON HIGH-PERFORMANCE BUILDINGS

Buildings make up close to 50 percent of community GHG emissions. The main strategies to move towards low carbon, high performance buildings are to regulate construction of new buildings and support fuel switching and energy efficiency retrofits for existing buildings. The Provincial Government has implemented multiple initiatives which will help the City reduce GHG emissions in this sector such as the BC Energy Step Code, CleanBC incentives, and the BC Carbon Tax. Successful transformation of the buildings sector will be achieved through collaborative effort by resident and business stakeholders, utility providers, and all orders of government.

Home renovation project in Vic West

GOAL
All buildings are highly efficient.

TARGETS	PROGRESS
By 2030, all new buildings are 'net-zero energy ready'.	**ON TRACK:** The City has been working on several projects to help meet this target. The most important of these is the adoption and acceleration of the BC Energy Step Code for new buildings. Additional efforts include applying a voluntary low carbon compliance pathway for the BC Energy Step Code and advocacy efforts to the Province to include carbon intensity in the BC Energy Step Code requirements.
By 2050, all existing buildings meet new high efficiency standards.	**EARLY STAGES:** The City has been working on a range of initiatives to improve energy efficiency in existing buildings including, developing and piloting retrofit programs, supporting voluntary benchmarking programs, advocacy efforts, and engaging with the Province on the development of a new retrofit code for existing buildings. In order to meet this target, existing buildings in the city will need to undergo deep energy retrofits at a rate of at least two percent per year.

GOAL
All buildings are powered by renewable energy.

TARGETS	PROGRESS
By 2030, heating oil is phased out.	**ON TRACK:** On April 1, 2020, the City launched the Oil to Heat Pump Program. The Program provides enhanced financial incentives for Victoria residents to accelerate conversions from fossil fuel heating systems to electric air source heat pumps with a marketing campaign targeted directly to oil heated homes.
By 2050, all buildings exclusively use renewable energy.	**EARLY STAGES:** In adopting the BC Energy Step Code, the City has taken a substantial step towards ensuring that new buildings are net-zero in the future. Further, work is underway to transform existing buildings to renewable energy, including the development of a regional retrofit service, supporting Provincial and Federal retrofit codes, and providing incentives for Victoria residents to opt for low GHG emissions home heating such as the Oil to Heat Pump rebate.

ACTIONS	PROGRESS
Adopt the BC Energy Step Code, creating a roadmap towards net-zero energy ready buildings by 2030.	UNDERWAY
Renew the City's Sustainability Checklist to include Step Code requirements for new buildings, as well as other sustainable building design elements that align with City goals.	EARLY STAGES
Support the development of a 'Building Centre of Excellence' to showcase leading-edge design and construction practices and to foster a high-performance culture within Victoria's building industry.	EARLY STAGES
Develop a strategy for reporting and tracking embodied energy and emissions — those associated with materials extraction, production, and delivery — in new construction projects.	EARLY STAGES
Design and deliver an innovative program for bundled and easy-to-achieve home energy retrofits.	UNDERWAY
Collaborate with heritage organizations to identify and promote energy retrofitting opportunities for homeowners.	EARLY STAGES
Advocate for the development of a compulsory Canada/ BC-wide home energy labelling program and, in the interim, implement a voluntary energy disclosure program.	UNDERWAY
Advocate for utilities and other levels of government to develop consistent energy-efficiency incentives and funding mechanisms. Explore opportunities for innovative financing mechanisms.	UNDERWAY
Design and deliver customized deep energy retrofit programs for rental apartment buildings.	EARLY STAGES

	ACTIONS	PROGRESS
	Design and deliver customized deep energy retrofit programs for commercial buildings.	EARLY STAGES
	Design and deliver customized deep energy retrofit programs for strata residential buildings (e.g. condominiums).	FUTURE ACTION
	Support the development of a Victoria 2030 District or a comparable voluntary energy benchmarking program for commercial buildings.	UNDERWAY
	Advocate for a compulsory provincial energy benchmarking program for large and complex buildings.	UNDERWAY
	Implement a transition plan to phase out heating oil systems in residential, commercial, and institutional properties by 2030.	UNDERWAY
	Remove regulatory barriers to promote the installation of renewable energy systems, supported by planning guidance and education tools.	EARLY STAGES
	Assess opportunities to accelerate renewable natural gas uptake in residential, commercial, and institutional buildings.	EARLY STAGES
	Assess and report on opportunities for implementing district energy systems in the city.	EARLY STAGES

Low Carbon High-Performance Buildings Priority Actions

Adopt the BC Energy Step Code (HII).

As of January 2020, all new residential buildings in Victoria are required to be built to Step 3 of the BC Energy Step Code and commercial buildings are being built to Step 2. Pending analysis and builder consultation, the City plans to move to Step 4 for residential buildings and Step 3 for commercial buildings in 2022 and Step 5 and 4, the top steps for each category, by 2025. As the Provincially mandated target is to be net-zero energy ready by 2032, progressing to these steps would put the City seven years ahead of schedule.

Design and deliver an innovative home energy retrofit program (HII).

The City is currently working with the CRD and other municipal partners to design and implement a regional home energy retrofit program. Investments to develop the program have been made by the Federal Government through its Transition 2050 Program. The initial work is underway with the goal of launching a regional retrofit program in 2022.

Implement a transition plan to phase out heating oil systems (HII).

In April 2020, the City launched the Oil to Heat Pump Program to provide enhanced financial incentives for Victoria residents to accelerate conversions from fossil-fuel heating systems to electric air source heat pumps. A portion of the 2020 Program budget was deferred due to COVID-19 in anticipation of lower rebate uptake due to challenges relating to the pandemic. The City opted for a soft launch of the Program in 2020 and has been preparing for renewed uptake in 2021 through a marketing campaign targeted directly to oil heated homeowners.

Ariel view of downtown Victoria

LOW CARBON MOBILITY

On-road transportation makes up over 40 percent of community GHG emissions. The main strategies for reducing emissions in the transportation sector include investing in active transportation, public transit, and renewably fuelled vehicles. The BC Carbon Tax, the Low Carbon Clean Fuel Standard, and the Zero-Emissions Vehicle Act 2019 are essential for the City to meet its Climate Leadership Plan low carbon mobility targets. The City's Sustainable Mobility Strategy, Go Victoria, was adopted in 2019 and defines the vision of clean, seamless mobility for people, goods, and services. Successful transformation of the transportation sector will require the broader community to increase the uptake of active mobility options and make the switch to low or zero-emission vehicles.

Bike lane along Pandora Avenue

GOAL

All Victorians have access to low carbon, high-performance and affordable multi-modal transportation.

TARGETS	PROGRESS
By 2030, 25 percent of all trips by Victoria residents are taken by public transportation.	**EARLY STAGES:** The City continues to advocate for public transit as the highest priority for regional infrastructure investments. The City continues to require transit-oriented designs for new development, provide dedicated curb space for transit and handi-dart service, make investments in signal priority technologies, and expand/upgrade bus shelters. Victoria is one of the only municipalities offering a Youth Transit Pass program.
By 2030, 100 percent of BC Transit buses in Victoria are renewably powered.	**EARLY STAGES:** BC Transit is continuing to expand the use of hybrid and electric buses in the Capital Region through its Low Carbon Fleet Program and is targeting the launch of ten all electric buses in the next few years.
By 2030, Victoria residents choose walking and cycling for 55 percent of all trips.	**EARLY STAGES:** In 2017, approximately 26 percent of trips taken to, from, and within Victoria were by walking and cycling. The City is continuing to invest in infrastructure such as pathways, sidewalks, and bike lanes, as well as delivering encouragement and evaluation programs to support people riding, walking, and rolling more often.

Electric vehicle charging in a City parkade

GOAL

Vehicles in Victoria are powered by renewable energy.

TARGETS

By 2030, renewable energy powers 30 percent of passenger vehicles registered in Victoria, and 100 percent of passenger vehicles are renewably powered by 2050.

By 2030, 30 percent of commercial vehicles operating in Victoria are renewably powered.

PROGRESS

ON TRACK: Growth in electric vehicle sales regionally indicate that Victoria is on track to meet this target; to be successful, the current growth rate must be sustained. The City is investing in electric vehicle infrastructure and work on an electric vehicle infrastructure and policy strategy is underway to guide investment. This target is in line with the Province's *Zero-Emission Vehicle Act 2019* that requires all new light-duty vehicles sold in British Columbia to be zero-emission by 2040.

EARLY STAGES: Initiatives are underway in the tourism sector to adopt electric vehicles and pilot alternative-fueled buses that will progress the City towards this target. The City's role in providing electric vehicle charging infrastructure will support commercial operators in the switch to electric vehicles.

GOAL

Smart land use minimizes transportation emissions.

TARGETS

By 2030, 100 percent of Victoria's neighbourhoods are 'complete' by design with substantial transportation system diversity.

PROGRESS

ON TRACK: In the Urban Core, where there are more transportation options and mixed building uses, most neighbourhoods are considered to be 'complete' by design. Distribution of new housing between Growth Target Areas generally follows the Official Community Plan (OCP) targets, but with less development in and around Town Centres and Urban Villages than envisioned in 2012. The City is continuing to invest in new infrastructure and programs to support shared-mobility and active transportation, along with increased public transit service to all neighbourhoods.

	ACTIONS	PROGRESS
◎	Complete the City's Sustainable Mobility Strategy (Go Victoria), which will allow the City to develop the management systems, programs, and other tools to optimize and transform the movement of people, goods, and services.	COMPLETE/ ONGOING
	Work with municipal partners to implement 'smart city' technologies that improve safety, affordability, and convenience for public transit, walking, cycling, car-sharing, and ride-sharing.	EARLY STAGES
◎	Invest annually in design and construction of new walking and cycling infrastructure, including secure bike parking in the downtown core and in village centres.	UNDERWAY
◎	Expand electric vehicle charging stations in City parkades, recreation centres, community centres, and public spaces.	UNDERWAY
	Invest in 'transit-signal priority' measures to reduce transit wait times in the downtown core.	UNDERWAY
	Design and implement an electric vehicle ecosystem strategy, including design guidelines for new development projects, to promote and support the adoption of electrified personal, public, and commercial vehicles.	UNDERWAY
	Expand the Active & Safe Routes to School program to all Victoria elementary schools.	UNDERWAY
	Introduce an electric bicycle incentive program in partnership with CRD and the Province.	EARLY STAGES
◎	Promote and incentivize comprehensive transportation demand-management (TDM) strategies for new development projects.	EARLY STAGES
	Assist commercial operators in their transition to a renewably powered fleet.	FUTURE ACTION
	Pilot a sustainable urban freight improvement program for downtown using compact electric logistics vehicles and cargo-bicycles.	FUTURE ACTION

ACTIONS	PROGRESS
Sponsor community-led events, educational programs, and celebrations that encourage use of low carbon transportation.	UNDERWAY
Invest in education and promotional programs for Victoria households, informed by behavioral insights, to increase use of public transit and active transportation.	FUTURE ACTION
Develop a transportation GHG information strategy in partnership with CRD and ICBC, supported by technology to facilitate transportation GHG planning and action.	FUTURE ACTION
Advocate for energy performance requirements in Provincial ride-sharing regulations.	COMPLETE/ ONGOING
Expand car share services in the downtown core and village centres.	UNDERWAY
Advocate for significantly improved commercial vehicle performance, higher fuel efficiency, and tighter air quality standards and monitoring and reporting.	UNDERWAY
Work with port authorities to supply on-site renewable energy for marine vessels.	FUTURE ACTION
Advocate to the Provincial Government to require ICBC to offer distance-based or pay-as-you-drive automobile insurance.	COMPLETE/ ONGOING
Partner with the CRD to undertake a regional pricing analysis on effective, fair, and long-term mobility options such as decongestion charges.	FUTURE ACTION
Invest in programs that support transportation demand management for businesses and public institutions operating in Victoria.	FUTURE ACTION
Implement rapid transit on major corridors and micro transit services within neighbourhoods.	UNDERWAY
Support the expansion of electric buses, including BC Transit and other commercial fleets, through infrastructure and permit programs.	UNDERWAY

Low Carbon Mobility Priority Actions

Implement *Go Victoria*, the City's Sustainable Mobility Strategy (HII).

Go Victoria was adopted in 2019 and confirms the City's vision of clean, seamless mobility for everyone. Go Victoria identifies policy directions and key initiatives that support the City's Official Community Plan and the Climate Leadership Plan. Implementation of *Go Victoria* has been identified as a climate emergency high impact initiative. *Go Victoria* is the primary means for implementing capital investments to support mode shift and electrification in the transportation sector, as well as provide policy direction that will reduce transportation demand through the management of land use and new developments.

Invest annually in design and construction of new walking and cycling infrastructure (HII).

The City continues to invest in sidewalks, pathways, crosswalks, transit amenities, and cycling infrastructure. Since the release of the Climate Leadership Plan, more than six kilometers of new All Ages and Abilities bike lanes, four kilometers of new sidewalks, and 38 new crosswalks have been constructed. Funding for secure bike parking solutions in the downtown core and village centres was deferred as part of the COVID-19 response but is being considered for 2021. Sustained investment in the City's walking and cycling infrastructure will be necessary to meet the targets and actions for reducing mobility related emissions.

Expand the City's electric vehicle public charging network.

In addition to private facilities, there are currently 13 public electric vehicle charging stations in the five City-owned parkades. The City is completing the installation of six new on-street Level 2 electric vehicle chargers and BC Hydro will be installing the City's first Direct Current (DC) fast charging station early in 2021. Investing annually in electric vehicle infrastructure expansion is important to help the region transition to zero-emission vehicles. A plan for electric vehicle infrastructure expansion will be identified in the City's Electric Vehicle Strategy, which is scheduled for launch in 2021.

Promote and incentivize transportation demand management (TDM) strategies

Transportation demand-management (TDM) is a set of strategies that are used to support increased participation in sustainable and high occupancy transportation. TDM is used to manage traffic and parking demands and support residents and businesses using sustainable and shared transportation by providing incentives (convenient, affordable alternative options) and disincentives (limited parking supply and associated fees) to shift behaviour away from the use of single occupancy vehicles. A new position within the City's Sustainable Planning and Community Development Department, being considered in 2021, will support the introduction of new regulations and TDM policies for all types of housing and development in the city in conjunction with an update to parking requirements for new developments.

LOW CARBON WASTE MANAGEMENT

Waste management makes up close to 10 percent of community emissions. The City acts as a waste collector for single family dwellings in Victoria and the CRD operates the Hartland Landfill waste facility for the Capital Region. Low carbon solutions for waste management must consequently be a collaborative effort between Victoria, the CRD, and the other municipalities and electoral areas in the Capital Region. Over the next two years, the City of Victoria plans to roll out the new Zero Waste Strategy which will help to address the Low Carbon Waste Management targets and actions. The Zero Waste Strategy is currently under development and expected to be finalized by the end of 2020.

Garbage and compost bins ready for pickup

GOAL

Organic materials are managed to avoid GHG emissions.

TARGETS	PROGRESS
Eliminate 100 percent of food and yard waste sent to the landfill by 2030.	**EARLY STAGES:** In advance of a regional landfill ban on kitchen scraps on January 1, 2015, the City of Victoria introduced source-separated kitchen scraps collection that helps divert approximately 2,100 tonnes per year of organic material. Victoria launched the program in 2013/2014. Strategies to eliminate food and yard waste sent to the landfill will be included in the City of Victoria's Zero Waste Strategy, which is currently in development and expected to be finalized by the end of 2020.
Eliminate 100 percent of other organic materials sent to the landfill by 2030.	**EARLY STAGES:** The City is working with regional partners to eliminate organic materials that are sent to the landfill. Kitchen scraps account for over 21 percent of the regional waste stream and an additional 32 percent is comprised of other organic materials such as wood, paper, and cardboard. More than 50 percent of the total regional waste stream is comprised of organic materials that could be diverted through existing recycling and composting programs that would ultimately have a substantial impact on GHG emissions.
Capture methane from collected organic waste to provide renewable energy by 2025.	**ON TRACK:** On Earth Day, April 22, 2020, the CRD announced an approval in principle of an agreement where FortisBC will purchase Renewable Natural Gas (RNG) generated from the Hartland Landfill for beneficial use in its natural gas distribution system. The project is expected to reduce the region's GHG emissions by approximately 264,000 $tC0_2e$ over the 25-year project life. City staff are engaging with the CRD to better understand the implications of anaerobic digestion technology that would support the additional production of RNG from collected organic material.

Taking out the recycling in Fernwood

ACTIONS	PROGRESS
Continually improve the residential kitchen and yard waste collection and diversion programs, including for multi-family residences.	UNDERWAY
Foster behaviour change to reduce food waste through the 'Love Food Hate Waste' educational campaign.	UNDERWAY
Partner with CRD to deliver a regional, industrial treatment facility for organic waste by 2025.	UNDERWAY
Work with local stakeholders to reduce food waste from restaurants and to divert it from the landfill.	FUTURE ACTION
Reduce additional sources of food waste in the city, such as from the commercial sector and tourism industry.	UNDERWAY
Partner with CRD and neighbouring municipalities to get more value from organic waste through pilot programs that stimulate new demand and keep nutrients in the region.	FUTURE ACTION
Work with stakeholders to reduce and divert other materials that produce methane when landfilled (e.g. wood, paper, textiles).	UNDERWAY

Low Carbon Waste Management Priority Actions

Improve the residential kitchen and yard waste collection and diversion programs.

The City of Victoria currently provides community solid waste management services including residential garbage and kitchen scraps collection, residential yard and garden waste drop off, and seasonal pickup programs. Multi-family residences and commercial properties are responsible for generating a major share of organics in the landfill and are the biggest contributors to methane generation. Improved residential kitchen and yard waste collection and diversion programs will provide additional GHG emissions reductions from otherwise landfilled material.

Partner with the CRD on a regional, industrial treatment facility for organic waste.

The Climate Leadership Plan recognizes the need for increased RNG production and distribution as a critical measure to achieving the City's GHG reduction targets. Staff at the CRD and City of Victoria are working closely to align shared objectives for organics treatment. As the CRD is currently exploring partnership opportunities in this area, now is the time to capitalize on this opportunity to increase the generation of RNG in the region.

Reduce and divert other materials that produce methane when landfilled.

This action has been identified as a priority specifically as it relates to wood and other construction waste. According to the 2016 CRD Waste Composition Study, construction and demolition products make up more than 20 percent of solid waste at the Hartland Landfill. Wood, paper, and cardboard are also significant sources of landfill methane, specifically wood from construction waste. The City is exploring opportunities to divert wood from building demolitions and the continuation of this work has been identified as a priority for the next two years.

MUNICIPAL OPERATIONS

The City's corporate emissions account for approximately one percent of total community emissions. In 2019, emissions from corporate sources were approximately 3000 tCO_2e. Since the release of the Climate Leadership Plan, the City has reduced its corporate emissions by more than 20 percent. The City has been developing the Corporate Energy and Emissions Management Plan which will guide the City in further reducing GHG emissions and energy consumption resulting from the City's service delivery to Victoria residents. The City has an important role to play in acting as a leader for the community and demonstrating that significant emissions reductions can be achieved.

Victoria City Hall on Blanchard Street

GOAL

The City is a recognized leader in climate mitigation and adaptation action.

TARGETS	PROGRESS
By 2040, all City facilities are powered 100 percent by renewable energy.	**ON TRACK:** Currently, 70 percent of facilities that are owned and managed by the City are powered by renewable energy. The City is working to transition all remaining facilities to renewable energy as their fossil fuel systems reach life expectancy. The City's Corporate Energy and Emissions Management Plan (CEEMP), which is currently under development, identifies a strategy to achieve this target by 2040.
All new City facilities are renewably powered.	**ON TRACK:** Newly constructed and municipally owned facilities will be designed to run on renewable energy. The City's Facilities Master Plan, which is currently under development, will align with this target. An example of this is the Crystal Pool facility, if replaced, it will be designed to run on renewable power.
By 2025, all City power tools and small engine-driven equipment are renewably powered.	**ON TRACK:** The City is replacing gasoline and diesel-powered equipment with battery powered alternatives as soon as they are available and can meet the City's operational requirements. The City has invested over $13,000 in electric leaf blowers, hedge and line trimmers, chainsaws, and lawn mowers. More than 20 percent of the City's small equipment is now electrified and, later this year, the City will obtain its first ride-on electric mower.
By 2040, 80 percent of the City fleet is electrified or renewably powered.	**EARLY STAGES:** The City has begun transitioning its fleet to electric vehicles; 11 fleet vehicles are now electric vehicles, two of which were purchased in 2019. Further work is planned in late 2020 and 2021 that will introduce additional initiatives to reduce the City fleet's requirement for fossil fuels. E-bikes have also been introduced to the City's fleet and are in use across City departments. There are barriers to making this transition and work will be progressing in 2021, including the creation of a Fleet Master Plan and procurement strategy.

GOAL

The City takes integrated and informed climate action.

TARGETS

By 2020, capital and operating plans are informed by climate data, carbon pricing, and the City's GHG reduction targets.

By 2022, the City has developed a 'triple bottom line' accounting system that guides City business planning by assessing and balancing environmental and social risks and financial costs and opportunities.

PROGRESS

MISSED: The Corporate Climate Change Adaptation Plan and the CEEMP will be completed by the end of 2020 and used to inform 2022 capital and operating plans. City Council has also approved the development and application of a Climate Lens Framework which will integrate climate considerations into City decision making. The development of the Climate Lens Framework is expected in 2021 with implementation over the next three to five years.

FALLING BEHIND: The Corporate Climate Change Adaptation Plan and the CEEMP will be completed by the end of 2020 which will address some of the components of the triple bottom line system. Future phases of this work will address the integration of social and economic accounting into a triple bottom line system. The Climate Lens Framework and the Equity Lens Framework, which are both currently in development, will also be important in achieving a triple bottom line system.

GOAL

The City will provide timely and accurate data supporting strong climate mitigation and adaptation actions.

TARGETS

By 2022, partner with other local governments and the region to develop a community-accessible Energy and GHG information management system (EGIMS) to define, communicate, and track community energy and GHG reduction across all sectors.

PROGRESS

FALLING BEHIND: The CRD, with support from municipal partners including Victoria, produced a regional GHG inventory for 2018. Work has also begun on a three-year project with the University of Victoria on a GHG modelling platform that will include an online tool component. As these projects advance and the information gathered is distributed, the EGIMS scope will be evaluated and refined.

ACTIONS	PROGRESS
Develop a corporate energy and emissions management plan — including a 'triple bottom line' accounting system — to assess and balance environmental, social, and financial risks and opportunities. The plan will also support deep energy retrofits for existing facilities.	UNDERWAY
Incorporate climate action performance measures into the City's annual budgeting process.	UNDERWAY
Develop a Climate Action Economic Assessment Tool for both GHG mitigation and adaptation actions to identify the high-priority community programs that will deliver the most affordable GHG reductions for buildings, transportation, and waste management.	EARLY STAGES
Expand procurement policies to include sustainability performance criteria, including GHG production and avoidance of all types of waste.	FUTURE ACTION
Establish a two-year staff corporate energy and climate action position using matching funds from an external partner. Join BC Hydro's Corporate Energy Manager Program.	COMPLETE/ ONGOING
Update the corporate building policy for new construction to reference BC Energy Step Code requirements and provide staff training to support its adoption.	EARLY STAGES
Formalize fleet electrification through the City's fleet master planning process.	EARLY STAGES
Plan for City vehicle electrification systems and networks.	UNDERWAY
Where electric vehicles are not available, switch to low carbon fuels.	EARLY STAGES
Implement fleet telematics to identify vehicle and operational energy use patterns to inform decision making.	UNDERWAY

ACTIONS	PROGRESS
Reduce per-vehicle GHG emissions through fleet operation and maintenance as well as vehicle right-sizing.	EARLY STAGES
Partner with other municipalities and orders of government to support development of the full suite of electric vehicles required by municipal fleets.	EARLY STAGES
Develop the City's web based GHG/energy education, awareness, and information exchange portal to promote information sharing and empower the public to achieve measurable and trackable GHG reductions.	EARLY STAGES
Build an education program to improve staff's capacity for energy and GHG management in their day-to-day decision making.	FUTURE ACTION
Pilot new technologies in City-owned assets to assess suitability for broad community application.	UNDERWAY

New heat recovery system to improve energy efficiency at Fire Hall 3

Municipal Operations Priority Actions

Develop and implement the Corporate Energy and Emissions Management Plan (CEEMP).

The CEEMP is a 10-year management plan that focuses on reducing GHG emissions and energy consumption resulting from the City's service delivery to Victoria residents. The CEEMP is the primary tool that will support the City meeting its Climate Leadership Plan corporate GHG reduction targets. The implementation of the CEEMP will ensure that the City's capital and operating plans are informed by climate data, carbon pricing, and the City's GHG reduction targets. The CEEMP is in the final stages of development.

Incorporate climate action performance measures into the City's annual budgeting process.

One of the most pressing initiatives in the CEEMP will enhance corporate GHG and energy reporting. This initiative will provide a framework to manage and report on departmental carbon budgets annually. Implementation of this initiative within the next year will ensure that capital and operating plans are informed by climate data, carbon pricing, and the City's GHG reduction targets. The City has missed the target associated with this action which was scheduled for completion in 2020; it is anticipated that this action will be complete by 2022.

Formalize fleet electrification through the City's fleet master planning process.

The City continues to electrify light duty fleet vehicles and currently has 11 battery-powered electric fleet vehicles and 17 hybrid vehicles. A Fleet Master Plan is required to formalize this process and identify future levels of investment necessary to meet the fleet renewable energy target. The Fleet Master Plan will aim to right-size and renewably power the fleet and will identify a pathway to reduce the City's fleet related emissions. This action has been identified as a priority as over half of corporate emissions can be attributed to the City's fleet of approximately 400 vehicles. Due to the long service life and pre-emptive infrastructure investment requirements, the electrification of the fleet will need to be well underway by 2025 if the targets are to be met.

ADAPTING EARLY

Climate risks to Victoria include heavy rainstorms leading to overland flooding, more frequent and intense storm events, and hotter summers temperatures. To address these and other climate risks, the Climate Leadership Plan identified targets and actions to help the city adapt to the changing climate. The City is in the process of completing the Corporate Climate Change Adaptation Plan and is beginning on the second phase of adaptation planning which is focused on community resilience. Acting early to anticipate and respond to climate change impacts throughout the community will reduce disruptive challenges and costly action in the future. Adaptation planning is an essential part of the City's strategy to take action on climate change.

Ariel view of Victoria from Mount Tolmie

GOAL

All climate-related risks to City infrastructure are minimized through early and wise planning and action.

TARGETS	PROGRESS
Climate resilience is embedded into all City business.	**ON TRACK:** The City has engaged with each department to develop the Corporate Climate Change Adaptation Plan (CCCAP), which will integrate climate resilience into all City business. The City is also developing a Climate Lens Framework which will seek to include climate change considerations in all City decision-making.
The City's infrastructure and services are ready to protect and respond to the risks associated with a changing climate.	**EARLY STAGES:** The City has been developing the CCCAP which outlines a series of actions to assess climate-related risks to critical infrastructure and services. The CCCAP considers adaptation measures for vulnerable assets and infrastructure. The City is also updating Business Continuity Plans and Emergency Response and Recovery Plans to ensure that the City's services are ready to respond to the risks associated with a changing climate.

GOAL

Victoria's natural environment flourishes in a changing climate.

TARGETS	PROGRESS
Natural habitats support healthy fish, wildlife, and plant populations and healthy ecosystem function.	**EARLY STAGES:** The City is prioritizing action in key areas that will support healthy ecosystem function in response to the changing climate through the update and implementation of the Urban Forest Master Plan. Example actions being taken include supporting initiatives and investments to acquire, expand, and protect green spaces across the city, enhance and protect Victoria's biodiversity from climate change impacts through managing invasive species, protect rare and endangered species and sensitive ecosystems, and increase native plantings on City-owned and managed land.

GOAL

All Victorians are empowered and prepared for climate-related impacts and emergencies.

TARGETS	PROGRESS
The community is knowledgeable and prepared to address the impacts from a changing climate.	**ON TRACK:** The City has hired a Climate Action Outreach Coordinator to provide engagement, outreach, and education on climate change to the community, including how the community can take action to address and prepare for impacts. In addition, the City's draft CCCAP outlines steps for additional public communication about climate change and extreme weather events through effective risk communication. The City is also initiating work on the community chapter of the CCCAP in 2020-2021 which will include additional engagement and educational opportunities for the public.
The City incorporates best practices in risk communication covering all climate hazards.	**ON TRACK:** The City's Emergency Management Department, VictoriaReady, delivers training programs for community members on emergency preparedness and climate risks and has established systems for delivering information to the public through the City's Engagement Department. Additionally, the City will be engaging residents and businesses on the community chapter of the CCCAP which will highlight climate impacts identified in the Climate Risk Assessments.
Climate resilience enhances quality of life for all Victorians, especially the most vulnerable.	**EARLY STAGES:** Identifying community hazards and the impacts to Victorians is the first step to prioritizing efforts to build climate resilience. The City is initiating work on the community chapter of the CCCAP in 2020-2021 that will further enhance resilience to climate impacts throughout Victoria and will engage with vulnerable groups.

ACTIONS	PROGRESS
Develop the 'business case for adaptation' to demonstrate benefits of taking early action. (Combined with action: Study how the direct and indirect impacts of climate change will affect the local economy.)	EARLY STAGES
Conduct a community-wide climate vulnerability and risk assessment.	EARLY STAGES
Assess how existing City plans incorporate climate risk and identify opportunities to align with ongoing and future City business.	COMPLETE/ ONGOING
Seek funding, investment, and partnership opportunities to enhance the speed and quality of adaptation initiatives.	UNDERWAY
Minimize flood risks through natural and engineered stormwater infrastructure.	UNDERWAY
Analyze the economic, social, and environmental implications of adopting a Flood Construction Level.	UNDERWAY
Study how the direct and indirect impacts of climate change will affect the local economy.	UNDERWAY
Engage community members in refreshing the 'Climate Adaptation Plan' and include actions for sectors beyond the municipal corporation (e.g. residents).	UNDERWAY
Create a community-wide monitoring and evaluation framework to assess resilience and demonstrate progress.	EARLY STAGES
Consider future climate impacts when designing and retrofitting City buildings.	UNDERWAY
Study the interdependencies between infrastructure systems to minimize cascading effects.	FUTURE ACTION
Continue to integrate climate change impacts in environmental management decisions.	UNDERWAY

ACTIONS	PROGRESS
Increase native plantings on City-owned and managed land to enhance biodiversity and support ecosystem migration.	COMPLETE/ ONGOING
Support CRD initiatives and investments to acquire, expand, and protect green spaces across the region.	UNDERWAY
Explore the creation of Environmental Development Permit Areas or other mechanisms to protect and enhance shoreline and marine habitats.	FUTURE ACTION
Work with partners to engage, educate, and influence the general public to manage privately owned urban forest to be resilient to climate change.	UNDERWAY
Develop or amend landscaping guidelines to encourage private developments to use native tree stock that is adapted/resilient to future climate change.	COMPLETE
Integrate climate adaptation with work being done on local and regional food security, where appropriate.	UNDERWAY
Continue to improve public communication methods in advance of extreme weather events.	UNDERWAY
Continue to integrate climate risks into emergency preparedness and recovery planning.	UNDERWAY
Support projects and programs that increase resilience in populations vulnerable to climate change.	EARLY STAGES
Collaborate with community partners to expand public knowledge of the impacts of climate change and the preparation required for all Victorians.	EARLY STAGES
Compile a resource that communicates private sector responsibilities for climate adaptation and connects them to resources and programs that will help them mitigate risks.	FUTURE ACTION

Adapting Early Priority Actions

Develop the 'business case for adaptation' to demonstrate benefits of taking early action.

Determining how current and future climate-related risks will affect local businesses, services, and productivity and identifying the sectors that will be most severely impacted will help inform the City and the community on the cost of climate change. Initial steps are currently underway to develop the 'business case for adaptation' with support from the City's in-house ICLEI Canada consultants who are evaluating best practices from other municipalities and exploring case studies that highlight the benefits of taking early action.

Develop the community chapter of the Corporate Climate Change Adaptation Plan.

In 2018, the City completed a corporate-wide Climate Risk Assessment. The next step will be to engage the community and expand the Assessment to include community-wide risks. The community chapter of the CCCAP will also involve collaborating with local partners to develop adaptation strategies, actions, and measures to reduce the impacts of climate risks on the community. This initiative has been identified as a priority as many of the Climate Leadership Plan adaptation targets are community focused and will not be achieved without a community chapter of the CCCAP.

Implement the City's Corporate Climate Change Adaptation Plan.

The CCCAP is a ten-year plan that focuses on embedding climate resilience into all City business; it will support a balance of corporate, social, environmental, and economic imperatives. The CCCAP will enable the City to prioritize and manage climate change adaptation programs and incorporate climate risks into relevant City programs, services, and operations. The implementation of the CCCAP is a priority for the City and is currently in the final stages of development.

Analyze the implications of adopting a Flood Construction Level.

The CRD recently completed the Coastal Flood Inundation Mapping Project, which evaluates coastal flooding from sea level rise and tsunamis and provides the Capital Region with updated flood construction mapping. Flood inundation mapping is being integrated into the City's emergency plans to address and update planning, preparedness, and response actions for the City's all-hazards approach to risk management. To ensure that the impacts of sea level rise are managed as the City grows, establishment of a Flood Construction Level is being evaluated. Implementation of a Flood Construction Level will be explored by the City's Sustainable Planning and Community Development Department.

.

LOOKING AHEAD

Over the past two years, the City has been working to implement the actions outlined in the Climate Leadership Plan to ensure that the climate targets are met. Actions with well-defined strategies were launched, and in some cases, the City sought a deeper understanding of related barriers to and opportunities for progressing select actions. Several plans and strategies have been developed which outline clear pathways for achieving specific targets. The City is still in the early stages of this 30-year Plan and it is difficult to predict the City's success in achieving these long-term targets. However, by continuing to track progress on GHG emissions reductions, the City continues to measure the impact of the Climate Leadership Plan on community emissions and adjust the course, strategies, and actions necessary to stay on track. The production of future Progress Reports every two years will allow time for actions and plans to be implemented and take effect, provide the opportunity for feedback, and if required, make course adjustments.

The Climate Leadership Plan is a living document designed to evolve with the scientific understanding of GHG mitigation and improved climate response strategies. Following this first comprehensive 2020 Climate Progress Report, the next steps are to update the Climate Leadership Plan to adjust the targets and actions reflective of changing conditions and learnings. These adjustments

could include adding new targets and metrics to help achieve the specified goals as well as updating existing actions in order to incorporate emerging best practices and streamline reporting.

As highlighted throughout this report, reaching the targets of the Climate Leadership Plan will require a coordinated effort to reduce GHG emissions by both the City and the community. With the development of the Corporate Energy and Emissions Management Plan, the City will further reduce its GHG emissions in its service delivery function to residents. The City will also work to lead and inspire the community to take action on climate change by developing sound climate planning policies, providing incentives to reduce emissions, and by enacting and amending bylaws which support the transition to renewable energy and reduced GHG emissions.

In response to the impacts of climate change in Victoria, the City will develop the community chapter of the Corporate Climate Change Adaptation Plan informed by the experiences of both residents and experts. Taking action on climate change by making adaptation-focused decisions now will help Victoria prepare for climate change impacts in the future. As the impacts of climate change become more apparent, both the City and the community have a role to play in enhancing the resilience of Victoria in order for neighbourhoods, businesses, institutions, and residents to thrive.

Shoreline infrastructure to prevent coastal erosion at Ross Bay Beach

CITY OF VICTORIA
CLIMATE PROGRESS REPORT 2020

victoria.ca/climateaction

CITY OF VICTORIA