

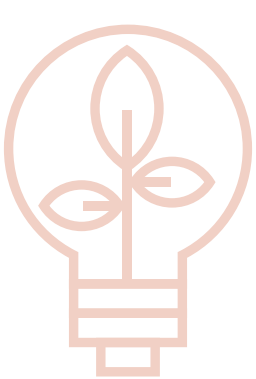
# BURNABY CLIMATE ACTION PLAN

PROGRESS REPORT  
2020-2021



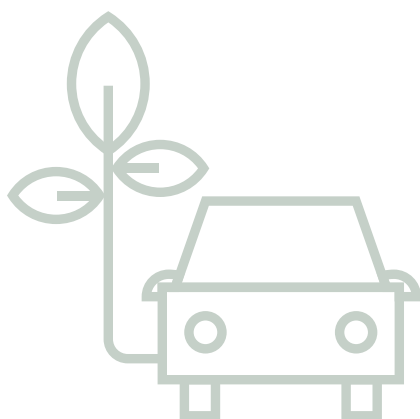
**THIS IS**   
**CLIMATE**  
**ACTION**





# ACKNOWLEDGEMENT

Burnaby is located on the ancestral and unceded homelands of the hə́łqəmiḥə́n and Sḵwxwú7mesh speaking peoples. We are grateful for the opportunity to be on this shared territory.



# OVERVIEW

Climate change is a global problem with significant local impacts. In large urban settings where former forests and farmlands have been replaced by buildings and parking lots, the impacts are more extreme. And although the effects of climate change are felt by everyone, they tend to have an even greater impact on those who are marginalized and less equipped to deal with effects such as extreme weather.

Guided by our commitment to equity, reconciliation and resilience, Burnaby is taking action to confront the challenges of climate change in our community. There are many actions the City can take, and is taking, to lower carbon emissions. You'll find them highlighted throughout this report. But we cannot go it alone—we need to work together and each do our part to move us toward the carbon reduction targets we've set. Every action—big or small—will help us achieve our ultimate goal of a carbon-neutral Burnaby and a cleaner future for everyone.

Burnaby's carbon reduction targets:

- » 45% reduction by 2030
- » 75% reduction by 2040
- » Carbon neutral (no longer contributing to the carbon emissions that accelerate climate change) by 2050

Burnaby's City Energy Strategy, developed to complement and support the Climate Action Framework, commits the City to meeting the carbon neutral target in its own corporate operations by 2040, a full 10 years ahead of the community wide target.

This report summarizes the progress we've made in the year since the City adopted the Climate Action Framework. The Framework lays out seven key areas of transition that we call "Big Moves". Taken together, these Big Moves will guide Burnaby's climate actions over the next decade and beyond. Each Big Move has three or four associated "Quick Start" actions—near-term initiatives such as policies, programs and infrastructure projects that will help the City meet its longer-term targets. Quick Starts are intended to be implemented within three years and will ensure the policies and infrastructure necessary for our energy transition are put in place as soon as possible.





# HOW WE GOT HERE

Recognizing the dangers posed by climate change and the need for collaboration to maximize carbon reduction opportunities, Burnaby City Council declared a Climate Emergency in 2019. This emergency declaration set the carbon reduction targets noted on the previous page, which align with the targets set by the Intergovernmental Panel on Climate Change to limit global temperature increases to a maximum of 1.5 degrees Celsius. These targets are also consistent with targets set at the regional, provincial and national levels.

Prior to this declaration, the City was already taking significant action to reduce corporate and citywide carbon emissions. In fact, our recognition of the need for climate action has been demonstrated and documented for decades. Our 1993 State of the Environment report noted the need to take action, as did the 1998 Official Community Plan (OCP). As a result, we added more parks, improved energy efficiency in facilities, added renewable energy sources for City buildings and reduced fleet emissions. We were the first municipality in Metro Vancouver to convert all streetlights to energy-efficient light-emitting diodes (LED). The conversion of 11,600 streetlights reduced energy consumption by 60 percent, saving the City approximately \$750,000 a year in energy costs and significantly lowering related maintenance costs.

We were also one of the earliest communities to divert green waste from the waste stream and to invest in an eco-centre that allows residents to further divert waste, significantly enhancing opportunities for recycling and the associated carbon reduction benefits.

In 2016, we completed an [Environmental Sustainability Strategy](#) and a [Community Energy and Emissions Plan](#) that further advanced our plans to reduce carbon emissions and secure the benefits of taking action to combat climate change. By 2019, the need to reduce carbon emissions had become more urgent and apparent, leading to the climate emergency declared by Council.

In 2020, staff presented two reports to Council outlining recommendations for strategic carbon emission reduction actions to reach the targets committed to in the Climate Emergency Declaration—the Climate Action Framework and the City Energy Strategy. Both build on regional, provincial and federal carbon-reduction strategies and initiatives and recognize the need for cross-departmental work and interdisciplinary thinking.

The City's Big Moves and Quick Starts are examples of that thinking, arising out of cross-departmental working groups for each Big Move. Actions and progress to date are detailed on the following pages.



# CLIMATE LEADERSHIP

Through the **Climate Leadership Big Move**, Burnaby is strengthening City leadership, administrative capacity and community engagement on climate and energy.



## BIG MOVE 1

### ACTIONS

- » **Developed the City Energy Strategy, which uses our own facilities** and fleet to showcase carbon neutral operations.
- » Established the Climate Action and Energy Department, coordinating and resourcing the delivery of the Climate Action Framework and City Energy Strategy at a corporate and city level, and enhancing capacity to engage on regional climate action.
- » Committed to net-zero-emission new facilities, via the City Energy Strategy.
- » Developed, passed and began implementing an internal Carbon Pricing Policy, integrating carbon emission considerations into budget requests.
- » Completed feasibility studies for waste-to-energy biogas and renewable district energy (community heating and cooling) opportunities.





# BIG MOVE 1

## HIGHLIGHT

### City projects and retrofits

The City of Burnaby has been lowering its energy consumption and reducing related carbon emissions for decades—long before the City declared a climate emergency. Through numerous strategic and low-carbon retrofits at City-owned buildings and facilities, we've been able to shrink our infrastructure-related carbon emissions in spite of a growing physical footprint. These changes have resulted in a decline of nearly 20% in emissions from City-owned buildings and other infrastructure over the last five years.

Examples of these energy saving changes include:

- » changed streetlights to more energy efficient and long-lasting LEDs (starting in 2015)
- » replaced all interior T8 (fluorescent) lighting with LEDs (starting in 2018)
- » designed Burnaby's Tommy Douglas Library with geothermal heating, eliminating the need for fossil fuels to heat the building and making it the City's lowest carbon building

QUICK STARTS	COMPLETION DATE	STATUS
<b>1</b> Develop the City Energy Strategy and create an Energy Transition Team.	<b>2021</b>	<b>COMPLETE</b>
<b>2</b> Show leadership through City projects, policies, plans, and actions.	<b>ONGOING</b>	<b>AHEAD</b>
<b>3</b> Advocate for climate action with partners and senior government.	<b>ONGOING</b>	<b>ON TRACK</b>
<b>4</b> Expand climate engagement and awareness.	<b>ONGOING</b>	<b>IN PROGRESS</b>





## BIG MOVE 2

# RESILIENT NEIGHBOURHOODS

The **Resilient Neighbourhoods Big Move** builds on the City's longstanding commitment to developing sustainable, transit-oriented communities that support people's daily needs.

## ACTIONS

- » **Initiated the review process for the Bainbridge and Lochdale Urban Village Community Plans.**
- » Integrating concepts for resilient neighbourhoods into the City's Housing and Homelessness Strategy, draft Transportation Plan, and draft policy directions for the Bainbridge and Lochdale Urban Village Community Plans.
- » Established a relationship with SFU's School of Resource and Environmental Management to assess and enhance the city's integration of resilience into existing strategies, frameworks and policies including into the Official Community Plan (OCP) update process.







## BIG MOVE 2




### HIGHLIGHT

#### Urban Villages

The City is developing new community plans for the Bainbridge and Lochdale neighbourhoods in northeast Burnaby to become vibrant, complete, mixed-use urban villages. As urban villages, the neighbourhoods will be transformed to offer a range of opportunities including:

- » new public spaces, community services and amenities for residents
- » a mix of market and non-market housing options
- » more local employment opportunities
- » changes and reinvestment as the existing building stock ages
- » a shift to more sustainable forms of transportation (walking, transit, cycling) and creation of a multi-modal transportation hub (Bainbridge)
- » enhancements to the natural environment

Preliminary goals for the community plans are to support housing sustainability and resilience, advance sustainable community design, and strengthen links between local jobs, housing and transit. The ongoing Bainbridge and Lochdale urban village planning processes are exploring ways to advance key features of our Climate Action Framework, as well as other major initiatives such as Burnaby's Transportation Plan and Burnaby's Housing and Homelessness Strategy.

QUICK STARTS	COMPLETION DATE	STATUS
<b>1</b> Plan for two Urban Villages.	<b>2022</b>	 <b>ON TRACK</b>
<b>2</b> Research and plan for future zero-carbon communities, in advance of the OCP update.	<b>2022</b>	 <b>ON TRACK</b>
<b>3</b> Prepare for renewable energy projects: solar and biogas.	<b>2023, ONGOING</b>	 <b>ON TRACK</b>
<b>4</b> Develop a climate adaptation strategy.	<b>2023</b>	 <b>ON TRACK</b>

# HEALTHY ECOSYSTEMS

Complementing the City of Burnaby's Environmental Sustainability Strategy, the **Healthy Ecosystems Big Move** looks to expand parks, green spaces and urban forest, and to improve the health and resilience of Burnaby's green spaces and urban forest, including streamside areas.

## BIG MOVE 3

### ACTIONS

- » **Enhanced and expanded streamside areas.**
- » Initiated a citywide ravine study.
- » Completed climate change resilience study for Central Park.
- » Put in place new Tree4Free program, planting boulevard trees where requested by residents.
- » Began investigating, at council's direction, options for significantly increasing Burnaby's tree canopy by accelerating the City's own tree planting program, expanding the Tree4Free program, raising the tree replacement ratio and requiring developers to commit to a greater amount of tree planting.







## BIG MOVE 3

### HIGHLIGHT

#### Streamside and green infrastructure enhancement

Burnaby's green spaces include conservation areas, boulevard trees, public and private landscaping, passive and active parks and over 90 streamside areas. In 2020, there was streamside area restoration underway on 4.4 hectares of private land as a condition of development—enhancements valued at nearly \$2.2 million. Similar restoration took place at 22 sites across the City's parks system, resulting in nearly 3,800 square metres of ecosystem enhancements, including the addition of 1,715 plants.

In 2022, we will develop an urban forest strategy, that considers:

- » the health of City-owned trees and forested areas
- » best ecosystem maintenance practices
- » planning for the maintenance of the city's urban forest in the face of climate change with recommended tree species for climate projections

QUICK STARTS	COMPLETION DATE	STATUS
1 Enhance and expand streamside areas.	ONGOING	<div></div> ON TRACK
2 Increase green infrastructure policy and implementation (i.e. boulevard trees and standards).	2023, ONGOING	<div></div> ON TRACK
3 Expand and enhance the urban forest: develop an urban forest strategy.	2023	<div></div> ON TRACK



# ACCELERATED MODE SHIFT

The **Accelerated Mode Shift Big Move** recognizes that, to make deep reductions on citywide carbon emissions, we have to tackle one of the major sources: transportation.

## ACTIONS

- » **Advancement of the draft Burnaby Transportation Plan** including technical assessments and extensive public consultation.
- » Implemented infrastructure projects strategically to make transportation modes accessible to Burnaby residents.
- » Completed a feasibility study and assessment for emerging technologies and modes of transportation.



**BIG  
MOVE  
4**





## BIG MOVE 4

### HIGHLIGHT

#### Burnaby's Transportation Plan

The City is now in the third and final phase of developing Connecting Burnaby – Burnaby's Transportation Plan, which will guide the City's transportation planning and policy decisions for the next 30 years. The draft plan sets the following targets:

- » **Vision Zero** – no deaths or serious injuries will occur on Burnaby's transportation network.
- » **Mode Split** – by 2050, three-quarters of all trips in Burnaby will be made by public transit or active transportation.
- » **Zero Emissions** – by 2050, emissions from transportation will decline to zero.

The Burnaby Transportation Plan promotes health and connectivity, and one way to do that is to make walking easier. A priority of Burnaby Council is to build more sidewalks throughout the city, connecting neighbourhoods and enabling safe walking and rolling. By the end of 2021, we will have constructed 18 kilometres of new sidewalks and multi-use paths (14 kilometres of sidewalks and 4 kilometres of bike paths).

The Burnaby Transportation Plan is critical to achieving the City's climate action target, as it recognizes the need to tackle transportation-related carbon emissions, which account for 50% of Burnaby's total emissions.

QUICK STARTS	COMPLETION DATE	STATUS
1 Accelerate priority pedestrian improvements.	2030	<div></div> ON TRACK
2 Design and begin construction on the Phase 1 cycling network.	2023	<div></div> ON TRACK
3 Expand transit priority measures.	2023	<div></div> ON TRACK
4 Reduce barriers to multi-modal transportation options.	2023	<div></div> ON TRACK



# ZERO-EMISSION VEHICLES

The **Zero-Emission Vehicles Big Move** complements Burnaby's Transportation Plan which aims to reduce carbon emissions from transportation by supporting the transition of City, commercial and private vehicle travel to zero-emission vehicles (ZEVs).

**BIG  
MOVE  
5**

## ACTIONS

- » Implemented bylaws and policies to support the ZEV transition.
- » Hired Manager of Green Fleet and Equipment to initiate the City's fleet transition process, including strategic right-sizing and renewal of aging fleet vehicles to reduce emissions, and replace gas-powered vehicles with electric vehicles.
- » Initiated the design and installation of 100 charging stations as well as solar panels at City facilities to support the transition to EVs.
- » **Continued installation of public EV charging infrastructure on City properties.**







**BIG  
MOVE  
5**

## HIGHLIGHT

### EV charging stations

In 2020 and 2021, the City of Burnaby installed 28 public electric vehicle (EV) charging stations in park and civic facility parking lots—18 with funding support from the federal government's ZEVIP program. These first public charging stations were situated near parks and rec centres, allowing drivers to recharge their EVs while making use of park and rec centre amenities. The number of unique users of these charging stations increased by 50% in the first six months of 2021. Starting in the fall of 2021, we'll be installing 100 EV charging stations at Burnaby's City Hall complex.

Installing charging stations in public locations complements Burnaby's Electric Vehicle Charging Bylaw which requires all new residential developments to be EV-ready and specifies future non-residential EV requirements.

Burnaby is also adopting EV technology in its own operations as part of the implementation of our City Energy Strategy. The City's fleet transformation will see us right-size and replace aging fleet vehicles with EVs, as well installing EV charging infrastructure at the City works yards and compounds. In May 2021, the City completed the installation of 26 charging ports at the Still Creek Works Yard.

With fleet emissions accounting for approximately 50% of the City's corporate emissions, EV technology will help us achieve carbon neutrality in our corporate operations by 2040, a decade earlier than our target of carbon neutrality for the city as a whole.

QUICK STARTS	COMPLETION DATE	STATUS
1 Expand and monitor the City's public charging network.	ONGOING	<div></div> ON TRACK
2 Adopt non-residential EV charging requirements.	2022	<div></div> ON TRACK
3 Plan and design for EV charging stations at civic facilities.	ONGOING	<div></div> ON TRACK

# ZERO-EMISSION BUILDINGS — NET-ZERO NEW

The **Zero-Emission Buildings – Net-zero New Big Move** lays out a commitment to zero-emission new buildings to prevent the addition of new emission sources during a time when emissions must be decreasing rapidly and to keep community emissions from rising with population growth.



## ACTIONS

- » **Advanced the application of the Green Building Policy**, which lays the foundation for constructing zero-emission buildings in Burnaby.
- » Initiated the development of a construction and demolition policy to increase the percentage of demolition waste diverted from the landfill.





# BIG MOVE 6

## HIGHLIGHT

### Green Building Policy

The City of Burnaby's Green Building Policy sets the foundation for constructing zero-emission buildings in Burnaby. Consistent with this policy, the City is advancing BC Energy Step Code requirements for airtightness with the option of combining airtightness with low-carbon energy systems and carbon emission limits for large (part 3) buildings. The City is also advancing the transition to reach Step 3 in the BC Building Code for small residential (part 9) buildings. This work complements other policies that advance low-carbon communities, such as payment-in-lieu of parking program for commercial development such as Metrotown, Edmonds, Lougheed and Brentwood.

QUICK STARTS	COMPLETION DATE	STATUS
1 Accelerate the roadmap to net-zero emissions from buildings.	2025	<div><div></div>ON TRACK</div>
2 Advance regulations that promote net-zero buildings: thick walls.	2020, ONGOING	<div><div>COMPLETE</div></div>
3 Remove barriers to low-carbon construction methods.	2023	<div><div></div>ON TRACK</div>
4 Advance the City's construction and demolition policy.	2023	<div><div></div>ON TRACK</div>



# ZERO-EMISSION BUILDINGS – RETROFITS



## BIG MOVE 7

The **Zero-Emission Buildings – Retrofits Big Move** goes hand-in-hand with the Zero-Emission Buildings – Net-zero New Big Move. Many buildings in Burnaby were built before the Net-zero New approach, and to address emissions from these buildings, the City requires a strategic transition to low-carbon energy sources for space heating and hot water.

### ACTIONS

- » Became one of the first municipalities to join the pilot Benchmark BC program.
- » Partnered with SFU and Vancity to begin a Building Retrofit Taskforce to inform the development of a Citywide Zero-Emission Building Retrofit Strategy.





**BIG  
MOVE  
7**

**HIGHLIGHT**

**Benchmark BC**

Retrofitting to achieve zero-emission civic buildings represents a significant opportunity and challenge for Burnaby as buildings account for nearly 50% of citywide emissions. To gain a better understanding of the challenge, Burnaby was one of the first municipalities to join Benchmark BC, a pilot program that collects, monitors and publishes building energy consumption and carbon emissions over time. Benchmarking for carbon intensity and energy efficiency means comparing performance of similar properties, particularly energy-intensive building types like civic facilities, and can help guide climate-smart investments in older buildings. So far, 30 of Burnaby’s civic buildings have been shared in the Benchmark BC annual report and database. Also in the first year of the pilot, 19 private building owners joined the initiative.

QUICK STARTS		STATUS
1	Transition to heating and cooling permits.	<div></div> ON TRACK
2	Advance low-carbon programs for existing buildings.	<div></div> ON TRACK
3	Develop a citywide zero-emission building retrofit strategy.	<div></div> ON TRACK

# TAKING ACTION TOGETHER

The City of Burnaby, through our Climate Action Framework and City Energy Strategy, has set the stage for lowering carbon emissions in our community. We're doing our part, but we cannot go it alone. We need you to also do your part if we're going to reach our goals.

Climate change is a global problem. And you may feel like you, on your own, can't do anything about it. But you can. Small, individual actions can add up to big changes. The City is reducing emissions in its own operations and building new infrastructure to help you reduce yours. Here are few things you can do to join our journey and help fight climate change.

- » Be a community climate leader! We learn from the people closest to us—tell your friends and families when you take energy-conscious and low-carbon actions. Every retrofit is a step forward to a lower carbon community.
- » Get involved and give us your ideas. Stay tuned for opportunities to share your views on the draft Transportation Plan.
- » Check out the [Bainbridge](#) and [Lochdale](#) Urban Village concepts and plans and the [Burnaby Transportation Plan](#).
- » Take a walk around your local green spaces. You'll find your closest parks, or parks with the amenities you're looking for, using the City's [Accessible Park Locator](#). Parks can be a great place to visit during hot temperatures because of the shade and cooling provided by the trees and vegetation.





- » Help us avoid the spread of invasive species that can crowd out native plants and kill trees, and threaten the health of ecosystems and urban forest. You can do this by learning about native species, letting the Parks office know if you find invasive species and keeping residential green waste and plants that often spread invasive species out of our parks. Dispose of residential green waste through our City's great green waste program instead!
- » Connected neighbourhoods are great places to walk, bike and live. Notice any new sidewalks, cycle paths or multi-use paths in your neighbourhood? Check them out—and plan to walk, roll or cycle the next time you need groceries and want to visit friends.
- » Time for a new vehicle? Think about getting an Electric Vehicle! In the last two years the City has set up Electric Vehicle (EV) charging infrastructure in 14 different locations. Check out these low-cost charging stations on our [EV charging stations map](#). Also, there are thousands of dollars in [federal](#) and [provincial](#) government incentives available for eligible purchases of EVs.
- » Thinking about building or purchasing a new home or commercial space? Check out [energystepcode.ca](#) to learn about green buildings.
- » If you're doing home renos or retrofits, be sure to incorporate energy-saving ideas. Check out [CleanBC](#) for help in choosing low-carbon improvements and finding rebates.

Thank you for doing your part. Let's continue to work together for a cleaner future!



