

City of Vancouver Climate Action Plan

A 2040 plan to reduce greenhouse gas emissions
and build resiliency to climate change impacts

DRAFT August 2022







Welcome

Residents, neighbors, business owners, and friends of Vancouver—

Climate change is no longer a threat looming off in the distance. Its effects are already very much upon us. Here in Vancouver, we’ve felt these changes personally in the form of deadly heat waves, hazardous ice storms, and toxic, smoke-filled air from nearby wildfires. We feel it in other, indirect ways, too, as volatile weather disrupts agriculture across the West Coast and harms the unique ecosystems that make our home here in the Pacific Northwest such a special place to live.

These current and future disruptions pose significant threats to Vancouver’s public health, safety, local economy, natural environments, and overall quality of life. Scientists around the world agree that these effects will continue—and intensify—unless we take immediate action to drastically cut the greenhouse gases that drive climate change. With strong support from the community, Vancouver City Council unanimously voted to do just that and adopted one of the most ambitious climate action goals in the country: achieving carbon neutrality by 2040.

Achieving this audacious goal will be difficult. It will require us to change how we get around, heat and cool our homes, generate power, use resources, and more. But we believe that our children and grandchildren deserve a healthy planet and a liveable future, full of opportunities just as we’ve enjoyed. Securing that future for them demands that we give this effort nothing less than our best.

It is inspiring to know that the strategies provided here in this first iteration of Vancouver’s Climate Action Plan can already get us 90% of the way to our goal. This Plan will be a living document, updated regularly with new ideas, policies, and technological innovations that will help us close this gap in the coming years.

We hope that you will join us in rising to this challenge and building a future for Vancouver that we can all be proud of.

Sincerely,

Mayor Anne McEnerney-Ogle

Councilmember Bart Hansen

Mayor Pro Tem Ty Stober

Councilmember Erik Paulsen

Councilmember Sarah J. Fox

Councilmember Diana H. Perez

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Our Thanks

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Alliance for Community Engagement
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Boys & Girls Club of SW Washington (Teen Turf Club)
City of Vancouver Forestry Commission
City of Vancouver Planning Commission
Clark Public Utility District
Clark College Environmental Action Club
Clark County Master Composter Recyclers Council
Columbia River Economic Development Council
Council for the Homeless
Craft3
C-TRAN
East Vancouver Business Association
EarthGen
Fourth Plain Forward
Greater Vancouver Chamber of Commerce
High-Tech Council
Hispanic Chamber of Commerce
Identity Clark County
League of United Latin American Citizens
Lower Columbia Nature Network
LSW Architects
NW Natural
PFLAG
Port of Vancouver
Shumway Neighborhood Association
Vancouver's Downtown Association
Waste Connections
Watershed Alliance

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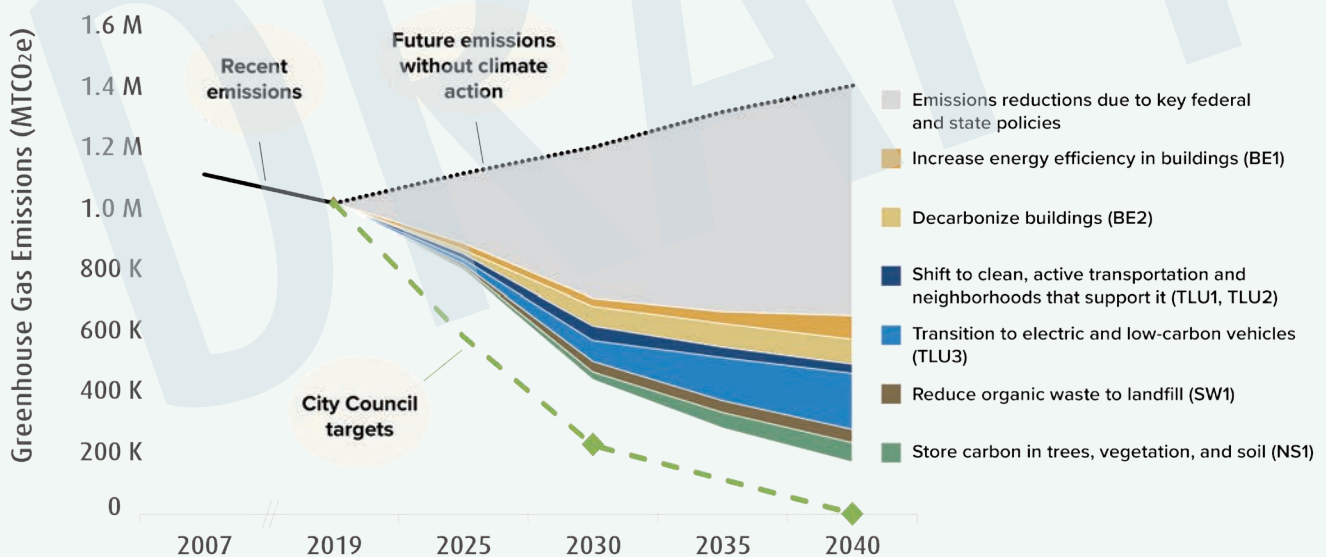
Our Roadmap, at a Glance

Current and expected climate impacts compel us to act now to protect our residents, infrastructure, and economy and to build a resilient, low-emissions city that future generations will enjoy. Guided by the principles of social, economic, and environmental sustainability and our commitment to a just transition, we have set an ambitious target to achieve carbon neutrality by 2040. This means that we will reduce and nearly eliminate carbon pollution from our homes, businesses, vehicles, and City services, all while enriching parks, green spaces, and other natural systems. It also means that no one will be left behind in the transition to a strong, local green economy with affordable homes, thriving businesses, and vibrant, healthy communities.

The Vancouver Climate Action Plan (CAP) reflects the collective effort of residents, community and business stakeholders, and City staff, many of whom expressed strong, consistent support for ambitious climate action. With strong community support in mind, the City also wishes to stay ahead of—and be prepared for—the rapidly changing science and policy of climate action. Our targets rise to the challenge presented by these goals. We know carbon neutrality by 2040 is an audacious, difficult goal—but we are up to the task. We know it will help avoid the worst impacts of climate change and secure a livable future for future generations.

Our pathway to carbon neutrality by 2040

The actions presented in this Climate Action Plan—along with current technologies and existing policy—will enable Vancouver to reach approximately 80% of our 2030 goal and 90% of our 2040 goal. We are optimistic that coming policy changes and technological innovations will help us close the remaining gap.



How the CAP Came Together

Over two years, community and City input, best available science, and technical modeling and analysis determined the CAP vision, goals, strategies, and actions:

575	survey responses	7	roundtables with a stakeholder advisory group	50	meetings with individual stakeholders and community members
5	rounds of City staff input from 6 departments	2	models to estimate emissions reductions and costs of key actions	1	multi-criteria analysis to understand trade-offs of actions

To achieve our goals, we have prioritized the foundational work needed to rapidly scale climate action, the sectors with greatest opportunity for emissions reduction and carbon storage, and the opportunity to leverage state policy to position the City and community for long-term sustainability. We have designed the CAP actions to work together and grow more aggressive over time to reach Vancouver’s targets.

Our Vision: By 2040, Vancouver will have...

 <h3>100% Clean Energy</h3> <p>Vancouver will transition to 100% clean energy by 2045 and significantly reduce per capita energy use.</p>	 <h3>Active, Electrified Transportation and Connected Neighborhoods</h3> <p>Residents will be able to reach their destinations safely, reliably, and efficiently, however they choose to travel. Electric and low-emissions vehicles (EV and LEV) will be affordable, common, and easy to charge. Our neighborhoods will be walkable, mixed-use, and higher density, with secure affordable housing for current residents.</p>	 <h3>Connected, Carbon-Rich Natural Systems</h3> <p>Our parks, trails, and green spaces will store carbon, connect our neighborhoods, and preserve sensitive land and wildlife. We will use water wisely.</p>	 <h3>Less Waste, Used and Disposed Smartly</h3> <p>We will reduce per capita waste by diverting food to those who need it and by reusing, repairing, recycling, and composting more. We will reduce per capita water usage and treat wastewater more efficiently.</p>
 <h3>Equity in Climate Action and a Resilient, Green Economy</h3> <p>Vancouver will be a city that embeds equity in climate action, with regular assessments of community vulnerability, a comprehensive anti-displacement policy, and climate strategies and actions that prioritize an equitable distribution of costs and benefits. Through a just transition, Vancouver will be a city that educates and trains its workers for careers in clean technology, renewable energy, and electric vehicles.</p>	 <h3>A City that Leads</h3> <p>Vancouver will be a city that embeds climate change in everything we do. We will ensure that staff are knowledgeable and empowered to make sustainable decisions and there is adequate permanent funding to make our low-emissions, resilient vision a reality.</p>		

The CAP is an important—but first—step in our pathway to carbon neutrality. Key next steps include:

Ongoing community and stakeholder engagement.
 We'll need to deeply engage with communities and stakeholders to begin implementation. We will engage impacted communities and stakeholders prior to administrative action and City Council deliberation.

Comprehensive community climate risk assessment.
 We need to understand how climate change is already affecting communities and who is most vulnerable both now and going forward. The assessment will enable targeted actions to reduce risk and increase resilience.

Continued focus on highest-priority focus areas.
 While all focus areas are important to achieve carbon neutrality, transportation and buildings must be our focus for emissions reduction. Similarly, land use, natural systems, and an equitable green economy must be our focus for resilience to climate impacts.

City capacity for implementation, monitoring, and evaluation.
 Building and maintaining the governance structure for implementation—and the staff to support it—will be essential to realizing the emissions reduction and resilience benefits of climate action. With a robust monitoring and evaluation approach, we will track progress toward our goals and revisit actions every few years to make sure we stay on the pathway to carbon neutrality and fully leverage the future policies and innovations we will need to be successful.

Together we will realize a vibrant, low-emissions, and resilient Vancouver for current and future generations.

Quick Navigation

Use the links below to navigate quickly to each section of this CAP.

3 Welcome	11 Our Carbon Footprint	14 Buildings & Energy (BE)
4 Our Thanks	13 Our Carbon Solutions	24 Transportation & Land Use (TLU)
9 Why We'll be Carbon Neutral by 2030	63 What We're Doing Next	40 Natural Systems & Water Resources (NS)
		48 Solid Waste & Wastewater (SW)
		51 Equity & Green Economy (EQ)
		60 City Governance (GOV)



Key Terms & Acronyms

Term or Acronym	Definition
BIPOC	Black, Indigenous, and People of Color
CAP	Climate Action Plan
Carbon neutrality	GHGs released to the atmosphere are balanced by removing or storing an equivalent amount of carbon
Clark PUD	Clark Public Utilities District
CMO	City Manager's Office
CRESA	Clark Regional Emergency Services Agency
C-TRAN	Clark County Public Transit Benefit Area Authority
GHG	Greenhouse gases including carbon dioxide, methane, and nitrous oxide. GHGs cause climate change.
HVAC	Heating, Ventilation, and Air Conditioning
LEV	Low-emissions vehicle
MTCO_{2e}	Metric tons of carbon dioxide equivalent (a common unit used to express GHG emissions)
NWN	NW Natural gas company
TDM	Transportation Demand Management
TSP	Transportation System Plan
VMC	Vancouver Municipal Code
ZEV	Zero-emissions vehicle, such as an electric vehicle (EV)

Why We'll Be Carbon Neutral by 2040

The Pacific Northwest region and many communities around the world are increasingly experiencing the impacts of climate change in real and tangible ways. In recent years, the City of Vancouver has faced record-breaking heat waves, diminished air quality from wildfire smoke, and hazardous ice storm events. And yet, **it is not too late to act and make a difference for current and future generations.**¹ Now more than ever, cities like ours must step into a critical and decisive role in addressing climate change. To this end, Vancouver's CAP provides a collaborative and strategic roadmap to:

- Set Vancouver on a bold pathway to reduce local GHG emissions and reach carbon neutrality by 2040.
- **Strengthen and support our community's ability to manage the climate change impacts** that are already here and prepare for those headed our way.
- Take advantage of the many benefits of climate action, such as a **just transition** to a strong, local green economy, healthier and more abundant **green spaces and natural systems**, and improved health and wellbeing for Vancouver's residents.



Our success will rely on how effectively we meet the current and future needs and priorities of Vancouver's residents and employers. Over 18 months, we collaborated with City Council, members of the community, and local stakeholders representing environmental, business, industry, and community perspectives. Their diverse feedback helped shape the overarching vision, goals, and focus areas of the CAP. In developing strategies and actions, we worked closely with stakeholders to embrace, leverage, and in some cases, exceed the regulatory goals and emissions reduction benefits of federal and state policies.²

In 20-30 years, a resilient and sustainable Vancouver looks like...*



Our priorities* to get there are:

- Focus on highest emission sectors (buildings and transportation). Also focus on storing carbon in healthy natural systems.
- Grow our green workforce and support local businesses.
- Promote reuse, recycling, and composting markets.
- Elevate individuals and groups most burdened by climate impacts.

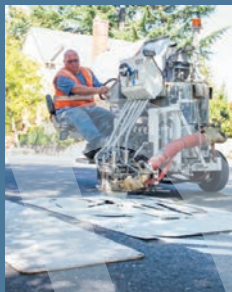
*The vision and priorities are summarized from community survey feedback.

We want to **stay ahead of our state’s rapidly changing environmental laws, be ready to leverage new technology, and invest wisely** in our city and communities. While climate action will require upfront costs to invest in our collective wellbeing, **doing nothing would result in immeasurable financial, social, and environmental costs and irreversible losses**. We have heard the call to action and seized this opportunity to build a resilient Vancouver that not only thrives today but is equipped to sustainably flourish for future generations.

Our CAP builds on and represents our unique community and its collective vision for the future of our city. As a first step to achieving this vision, we have set **aggressive, yet viable targets** and have begun to implement an **Early Action Package** to pave the way for a successful full-scale CAP implementation process. CAP implementation will also build on past sustainability successes and leverage synergies with existing City plans, programs, and activities.

The City’s Role as Leader

The **City intends to lead strongly** through the coming transformations and takes seriously its responsibility to provide a safe, healthy, affordable, and prosperous community for current and future residents. As Washington’s fourth-largest city and a major economic engine, **what we do will affect the entire southwest of our state**. As leaders, we will...



Implement the **systems, processes, staffing, and other resources** needed to institutionalize climate action across City departments, operations, and budgets.



Advance **sustainable technology and infrastructure**, including green retrofits of City buildings, ample EV infrastructure in public spaces, and resilience demonstration projects on City-managed properties and land.



Update City systems, processes, policies, and practices to **redress historic inequities and support a level playing field** for all.



Partner on regional economic development, and educate and train the workforce, to continue to **recruit and retain green business and industry**.



Demonstrate that **population and job growth go hand in hand with environmental sustainability**, as many other cities (e.g., Santa Monica, Portland) are doing already.



Achieve GHG emissions reduction targets at a faster pace by **capitalizing on low-hanging fruit** and implementing our Early Action Package.

The following sections detail the City’s approach to demonstrating leadership and achieving the goals that our community identified. We measured our GHG emissions quantities, sources, and trends (see [Our Carbon Footprint](#)), then used those results and community and stakeholder input to develop targeted strategies and actions across six focus areas (see [Our Carbon Solutions](#)).

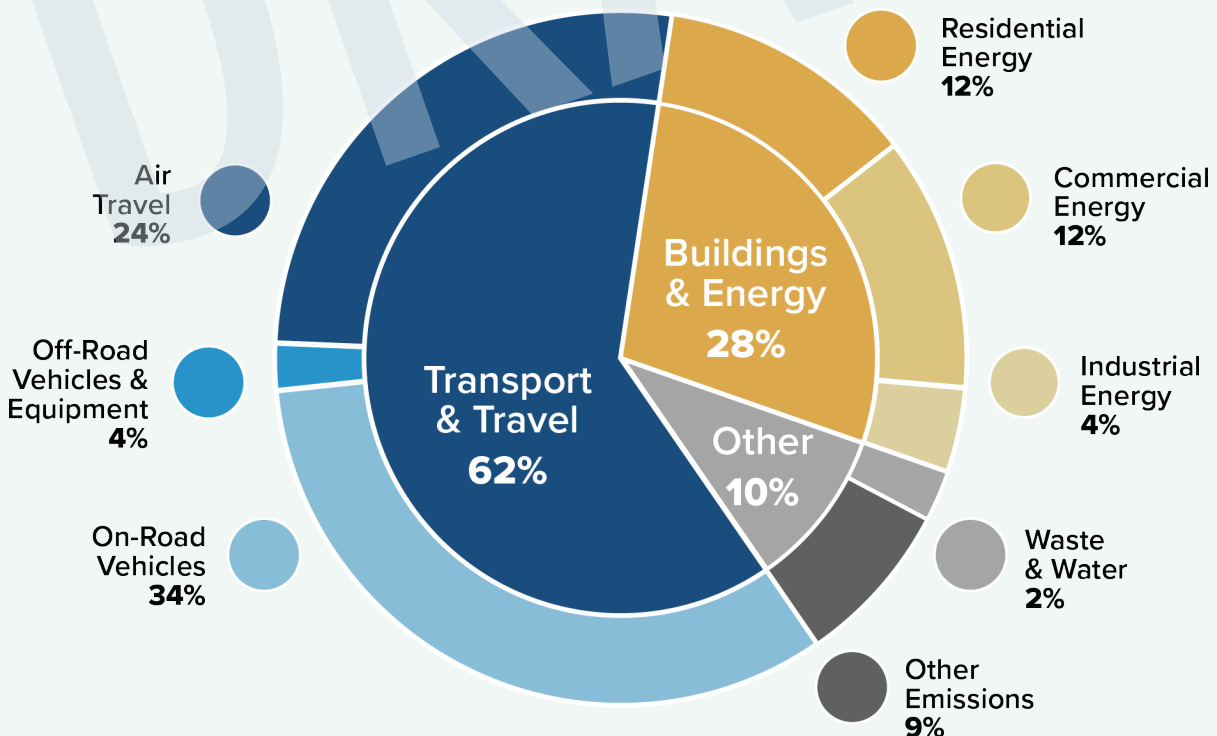
Our Carbon Footprint

To develop high-impact strategies and actions to reduce our environmental impact, we completed an updated greenhouse gas (GHG) emissions inventory measuring the total climate pollution produced by the Vancouver community and City operations in 2019. We compared results to Vancouver's 2007 inventory to track trends in emissions by sector, resident, and by job. We then used the inventory results to develop CAP actions that will reduce emissions throughout the Vancouver community and economy. Because multiple GHG inventories allow us to compare changes in carbon footprint over time, they will continue to serve as a vital tool for continuously evaluating and improving our actions to reduce greenhouse gas emissions.



Community Emissions: 2019 Snapshot




- 90% of Vancouver's 2019 emissions come from how we get around (transport & travel) and how we heat, cool, and power our homes, businesses, and industrial buildings (building energy).
- Major emissions sources include air travel (24%), on-road (34%) and off-road (4%) vehicles and equipment (like cars, delivery trucks, boats, and lawn mowers), and building electricity (17%) and natural gas (11%) use.



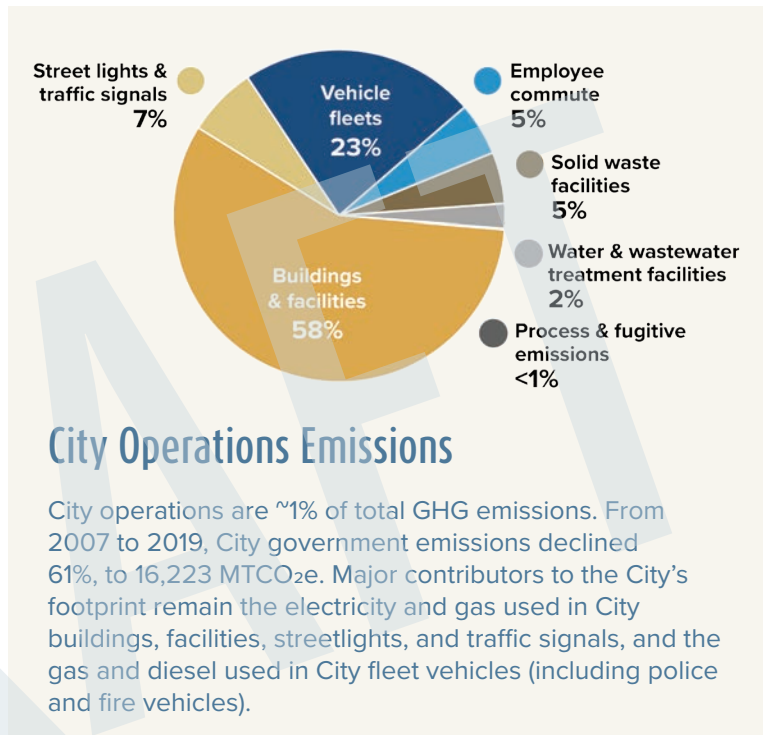
Trends Over Time

Despite a growing population and economy, Vancouver's GHG emissions declined 19% from 2007 to 2019.

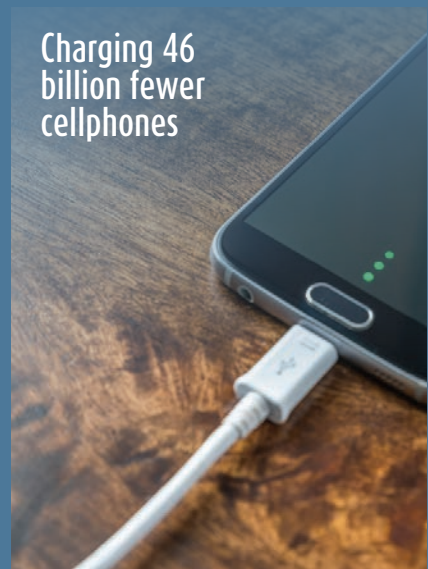
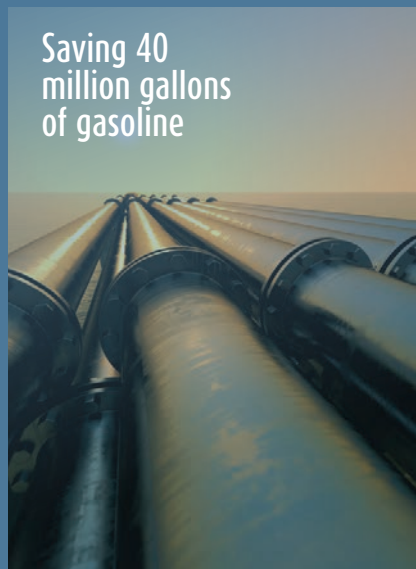
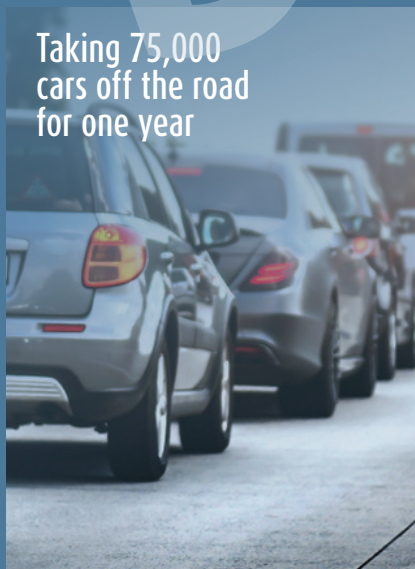
We used less natural gas, drove fewer miles, and sent less waste to the landfill. We've shown that economic progress does not have to come at the expense of our health and natural resources—and we can continue this progress in the years to come.

Sector*	% Change
 Energy	↓ -57%
 Transportation	↑ +12%
 Solid Waste	↓ -42%
Total	↓ -19%
Per Capita	↓ -28%
Per Job	↓ -19%
Per GDP (Clark County)	↓ -42%

*Percent change is reported only for the sectors evaluated in both 2007 and 2019.



Emissions reduced between 2007 and 2019 are equivalent to...



Our Carbon Solutions

Working closely with stakeholders and leveraging both quantitative and qualitative analysis of impacts, costs, and benefits, we developed and iteratively refined the CAP strategies and actions. CAP strategies and actions focus on reducing GHG emissions (i.e., climate mitigation) from City operations and community activities. We also include strategies and actions to build overall community resilience to current and future climate impacts, particularly for those who are overburdened with environmental and other stressors (i.e., climate adaptation).

How to read the Strategies and Actions

Strategies and actions are organized into six focus areas. Each begins with a brief overview, followed by detailed implementation tables for each strategy. See the [Appendix](#) for a summary of estimated emissions reductions and costs of key actions.

Natural Systems & Water Resources

Vancouver's parks, trails, and green spaces will store carbon, connect our neighborhoods, and preserve sensitive land and wildlife. We will use water wisely.

Strategies and Actions

Strategy NS-1. Increase carbon storage in trees, vegetation, and soil
Optimize management of natural lands and tree canopy to increase carbon sequestration, support resilience to extreme events, and ensure an equitable distribution of risk and resilience. During implementation, align with Reside Vancouver, the Parks Comprehensive Plan update, the Urban Forest Management Plan, and anti-displacement best practices.

Actions	Impact	City Costs	Community Costs	Cost of Inaction	Benefits
1 Native & climate-resilient planting in municipal projects	++	\$\$	\$\$		🌳 🌳 🌳 🌳 🌳
2 Native & climate-resilient planting in private projects	+++	\$\$	\$\$		🌳 🌳 🌳 🌳 🌳
3 Street tree maintenance	⚡				🌳 🌳 🌳 🌳 🌳
4 Carbon sequestration on public lands	+				🌳 🌳 🌳 🌳 🌳
5 Carbon sequestration on private lands	+				🌳 🌳 🌳 🌳 🌳

Strategy NS-2. Improve ecosystem resilience
Support implementation of habitat and species conservation, restoration, and protection, with an emphasis on current native species and climate-resilient species.

Actions	Impact	City Costs	Community Costs	Cost of Inaction	Benefits
6 Critical areas code enforcement	⚡				🌳 🌳 🌳 🌳 🌳
7 Habitat restoration for new development	⚡				🌳 🌳 🌳 🌳 🌳
8 Tree canopy recommendations	⚡				🌳 🌳 🌳 🌳 🌳

Key

- ⚡ = Quantified emissions reduction potential (L/M/H)
- ⊕ = Supportive action
- \$ = Quantified costs (L/M/H)
- ⚡ = High cost of inaction
- ⚡ = Highly affordable
- 🌳 = Highly feasible
- 👥 = Strong community support
- ⚖️ = Highly equitable
- 🌱 = Strong co-benefits

*Actions without icons have not been evaluated

Focus Area Overview

Focus Area Title

explains the major topics covered in the chapter.

Focus Area Vision

articulates how the focus area contributes to Vancouver's overall vision for a low-emissions, resilient future.

Strategy Description

briefly explains how, at a high level, the vision and goals will be achieved.

Action Summary

briefly explains what specific programs, policies, and activities will be used to carry out strategies. It also shows at-a-glance how each action contributes to reducing GHG emissions or building resilience (impact), how much it is likely to cost, and other benefits of action.

Key

explains what the icons in the Action Summary mean. The lightning bolt ⚡ and dollar sign \$ are used to indicate quantified estimates.

Implementation Overview

Action Description

provides a more detailed description of each action.

Timeline

indicates whether implementation will happen in the near term, mid term, long term or on an ongoing basis.

Implementation

Strategy NS-1. Increase carbon storage in trees, vegetation, and soil
This strategy will reduce the amount of materials sent to the landfill and encourage circular economy behaviors.

Action Description	Timeline	Lead & Key Partners	Methods	Metrics
1 Native & climate-resilient planting in municipal projects Through the City's Urban Forestry Program and in support of the City's goal to reach 28% canopy cover by 2030, require long-lived large form, drought-tolerant, climate-resilient native plantings in parks and other public properties (including the grounds of municipal buildings, schools, and heritage communities right-of-way) to maximize carbon sequestration. Also prioritize retention of existing canopy.	I	Urban Forestry and Community Development Key Partners: • Community Development • Parks, Recreation and Cultural Services • Public Works Operations • School Districts • Parks and Recreation Advisory Commission • Urban Forestry Commission	New development programs review, code update Parks design review, code update Ecological planning focused on sustainable environmental landscape design principals with closed loop composting	VMC code updated & new development projects meeting climate goals landscape design principles in Parks and School designs Retrofit existing designs and sites
2 Native & climate-resilient planting in private projects Working through the City's Urban Forestry Program and its partners, and in support of the City's goal to reach 28% canopy cover by 2030, incentivize long-lived	I	Public Works (Urban Forestry) and Community Development Key Partners: • Parks, Recreation and Cultural Services • Urban Forestry Commission	New development programs review, Existing plans review, code update, public outreach	VMC code updated & new development projects meeting climate goals

Lead and Key Partners

identifies who will primarily lead and support implementation.

Methods

describes how the action will be moved forward through existing or future plans, funding, etc.

Metrics

lists key metrics for tracking and evaluating progress.



Buildings & Energy

Vancouver will transition to 100% clean energy by 2045 and significantly reduce per capita energy use.

Strategies and Actions

Strategy BE-1. Increase use and storage of renewable energy while reducing consumption

Work with Clark PUD to procure renewable energy ahead of Clean Energy Transformation Act (CETA) mandates and increase community-wide renewable electricity supply to 100%. Exceed state requirements for building efficiency. Work with businesses, property owners, and nongovernmental partners to establish policies that prevent displacement of those with low incomes and renters, and ensure equitable distribution of the costs and benefits of energy efficiency upgrades. Identify additional opportunities for climate-resilient, renewable, affordable, and environmentally just forms of renewable energy systems and electrification.

Actions	Impact	City Costs	Community Costs	Cost of Inaction	Benefits
1 Community energy efficiency incentives	⚡⚡⚡			💰	🌱 ⚙️ 🤝 ⚖️ 🌍
2 Energy efficiency upgrades for existing commercial buildings	⚡⚡⚡			💰	🌱 ⚙️ 🤝 ⚖️ 🌍
3 Clean energy financing	⚡⚡⚡				🌱 ⚙️ 🤝 ⚖️ 🌍
4 Solar incentives	⚡⚡⚡			💰	🌱 ⚙️ 🤝 ⚖️ 🌍
5 100% renewable energy for municipal buildings	⚡⚡⚡				🌱 ⚙️ 🤝 ⚖️ 🌍
6 Natural gas demand management					
7 Green building policy (public sector)				💰	🌱 ⚙️ 🤝 ⚖️ 🌍
8 Green building policy (private sector)					🌱 ⚙️ 🤝 ⚖️ 🌍
9 Resilient energy grid	🎯			💰	🌱 ⚙️ 🤝 ⚖️ 🌍
10 Municipal energy and water savings				💰	🌱 ⚙️ 🤝 ⚖️ 🌍

Key

- ⚡ = Quantified emissions reduction potential (L/M/H)
- 🎯 = Strong supporting action
- 💰 = Quantified costs (L/M/H)
- 💰 = High cost of inaction
- 🌱 = Highly affordable
- ⚙️ = Highly feasible
- 🤝 = Strong community support
- ⚖️ = Highly equitable
- 🌍 = Strong co-benefits

*Actions without any icons have not been evaluated

Strategy BE-2. Decarbonize homes, businesses, and other buildings

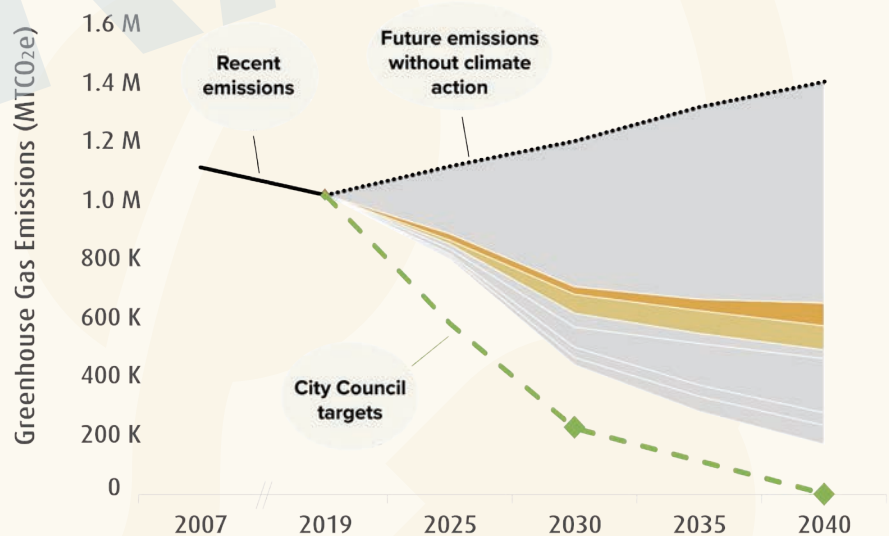
Pursue the lowest-carbon pathway toward a fully decarbonized building sector, with solutions tailored to different building, ownership, and use types.

Actions	Impact	City Costs	Community Costs	Cost of Inaction	Benefits
11 Home electrification incentives	⚡⚡⚡	\$\$\$	\$\$\$		🏠 ⚙️ 🌱 ⚖️ 🌍
12 Commercial building electrification incentives	⚡⚡⚡	\$\$	\$\$\$		🏢 ⚙️ 🌱 ⚖️ 🌍
13 Heat pumps in new commercial and multi-family residential buildings					
14 All-electric incentives for new development	⚡⚡⚡				🏠 ⚙️ 🌱 ⚖️ 🌍
15 All-electric reach code for new development	⚡⚡⚡				🏠 ⚙️ 🌱 ⚖️ 🌍
16 All-electric reach code for existing residential buildings at point of sale	⚡⚡⚡				🏠 ⚙️ 🌱 ⚖️ 🌍
17 Natural gas carbon intensity					
18 Contractor training for electric transition	⚡⚡⚡	\$\$\$	\$\$\$		👷 ⚙️ 🌱 ⚖️ 🌍

How do these actions stack up?

To reach carbon neutrality by 2040, we must zero out most of our emissions. Existing federal and state policies will get us about halfway to our goal. Locally, here's how the building sector will help with the rest.

- 11% of our 2040 goal will be met by using less energy and prioritizing least-carbon energy sources.
- We will also avoid at least \$65 million in costs of inaction.
- Provide jobs and workforce development for clean buildings and energy storage. In 2018-2019, 17% of [fast-growing clean energy jobs](#) were in microgrids, high-efficiency HVAC, renewable heating & cooling, and energy storage.



Implementation

Strategy BE-1. Increase use and storage of renewable energy while reducing consumption

This strategy reduces community and city government reliance on fossil fuels and increases use of renewable energy.

Action Description	Timeframe ¹			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>1 Community energy efficiency incentives Educate and incentivize businesses and residents to reduce energy and water use, with a priority on affordable housing units and housing that serves low- and fixed-income populations. This may include:</p> <ul style="list-style-type: none"> • Work with Clark PUD and NWN to subsidize home energy efficiency and weatherization retrofits for affordable housing units and housing that serves low- and fixed-income populations. Clark PUD incentives include loans and/or rebates for more efficient heat pumps, water heaters, and weatherization for single- and multi-family. They also include incentives for new homes exceeding state energy code standards and financial assistance for low-income customers. NWN provides resources on conserving natural gas in residential and commercial settings. • Evaluate existing energy efficiency programs and work with community organizations that represent and serve overburdened communities to share information in culturally appropriate ways. The state’s Matchmaker Program and Weatherization Plus Health are two available mechanisms to fund weatherization improvements. • Incentivize electric HVAC retrofits for homes, prioritizing indoor air quality improvements for those who face especially poor indoor air quality • Develop reserve funding for efficiency improvements • Evaluate needed staff capacity and if needed, hire additional staff to implement the goals and strategies of the CAP. • Provide education on the CAP for new hires during City onboarding process. • Work with realtors to include “home energy scorecards” at point-of-sale. 	I	II		<p>Public Works —Water and Communications —Office of Neighborhoods Key Partners</p> <ul style="list-style-type: none"> • Clark PUD • NWN • Neighborhood associations 	<p>Strategic partnerships; existing partner programs; existing state funding programs; engagement of neighborhood associations and community groups</p>	<p>Average energy and water usage per household; number of incentives available; number of incentives utilized</p>

¹ Timeframe: I = short-term; II = mid-term; III = long-term; all selected = ongoing

Action Description	Timeframe ¹			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>2 Energy efficiency upgrades for existing commercial buildings</p> <p>Encourage all commercial buildings to exceed WA Clean Buildings Act energy performance standards by at least 10% by 2030 and by at least 15% by 2040. State law already requires newer commercial buildings greater than 50,000 square feet to exceed the standard by 15%, so this action extends a similar goal to all commercial buildings.</p> <p>This includes:</p> <ul style="list-style-type: none"> • Work with Clark PUD to expand programs that reduce energy use, such as the On-site Energy Assessment, Commercial/Industrial Lighting Incentive Program and Commercial Shell Measures Incentives. • Work with other utilities to increase efficiency of provided services. • Pursue funding for efficiency improvements. • Explore options to provide education and technical support to building owners. 	I			<p>Economic Prosperity & Housing, Community Development</p> <p>Key Partners</p> <ul style="list-style-type: none"> • Clark PUD • WA State • Building energy efficiency contractors • Local building owners • Local business associations 	Strategic partnerships; existing partner programs; state and federal grants	Number of commercial buildings exceeding WA Clean Buildings Act performance standards
<p>3 Clean energy financing</p> <p>Explore funding/capital opportunities, such as 0% interest loans and Clark PUD's Solar Energy Program, for organizations representing overburdened communities and individuals to own clean energy assets.</p>		II		<p>City Manager's Office (CMO)</p> <p>Key Partners</p> <ul style="list-style-type: none"> • Clark PUD • Organizations representing BIPOC and low-income communities • Affordable housing providers 	Review of potential opportunities; similar programs in peer cities and existing partner programs	Funding/capital opportunities identified; number of clean energy assets supported by these opportunities
<p>4 Solar incentives</p> <p>Ensure rebates or other funding support (e.g., solar grants for neighborhoods, cooperative buying opportunities, Clark PUD's Solar Energy Program) are available for installation of solar on existing construction. Work with homeowners associations and condos with policies that prevent solar infrastructure to remove those restrictions.</p>		II	III	<p>CMO, Communications (via Neighborhoods Coordinator)</p> <p>Key Partners</p> <ul style="list-style-type: none"> • Clark PUD • Craft3 	Existing partner programs; communications campaign to raise awareness of opportunities	Number of rebates or funding opportunities utilized

Action Description	Timeframe ¹			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>5 100% renewable energy for municipal buildings</p> <p>Work with Clark PUD and other renewable energy providers to transition to 100% renewable energy for electricity use in municipal buildings, starting in 2022. This may include direct production of renewable energy from on-site generation (e.g., wastewater treatment facility), the purchase of renewable energy credits (RECs); or, the purchase/use of renewable natural gas if options to purchase energy from carbon-free energy sources are not available. Priority should be given to options that enable the City to either source its electricity directly from, or replaced in the power grid with, renewable, emissions-free resources.</p>	I			<p>General Services</p> <p>Key Partners</p> <ul style="list-style-type: none"> Clark PUD 	Power purchase agreement; renewable energy installations	Amount and percentage of total City electricity derived from renewable sources
<p>6 Natural gas demand management</p> <p>Work with NWN to reduce demand for natural gas.</p>	I	II	III	<p>CMO</p> <p>Key Partners</p> <ul style="list-style-type: none"> NWN 	Existing partner program	Amount of natural gas consumed per household/building
<p>7 Green building policy (public sector)</p> <p>Develop comprehensive green building policies for City-owned and occupied buildings that are consistent with or exceed state standards. These policies should enable the City to demonstrate leadership in climate action and include provisions to:</p> <ul style="list-style-type: none"> Reduce consumption and adopt energy-saving technologies. Incorporate green infrastructure where applicable and feasible. Develop an expedited process for energy-efficient construction. Support smart lighting strategies, including the use of passive lighting for daytime use, LEDs, and conservative use of lighting when buildings are unoccupied in accordance with Dark Sky and Bird-Safe light pollution reduction principles. Create a framework for making decisions on building energy efficiency projects in cost-constrained environments. Provide Facilities with an on-call energy consultant who can conduct building energy efficiency evaluations, recommend upgrades, perform cost-benefit analyses, and recommend staged approaches for large/expensive projects. When developing new municipal buildings, include evaluation of the potential for renewable energy projects in the scope of work. 	I	II	III	<p>Economic Prosperity & Housing, General Services</p> <p>Key Partners</p> <ul style="list-style-type: none"> City vertical capital project design consultants and technical advisory committee Facility service provider vendors City development review 	Policy research and development; staff engagement with community stakeholders; identify City-specific standards	Stakeholders engaged; adopted policy; policies incorporated into new capital projects design and construction; major maintenance prioritizes policy implementation in projects

Action Description	Timeframe ¹			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>8 Green building policy (private sector) Develop comprehensive green building policies for the private sector that are consistent with or exceed state standards. These policies should include provisions to:</p> <ul style="list-style-type: none"> • Avoid areas vulnerable to climate change (e.g., low-lying areas) and maintain affordability and accessibility to current residents. • Collaborate with large energy users on reducing consumption and adopting energy-saving technologies. • Incentivize the development community to include community gardens in all developments. • Require drought-tolerant planting and efficient irrigation systems on all new development. • Develop an expedited process for energy efficient construction, accepted by City of Vancouver and based on criteria that are already accepted and approved. • Support smart lighting strategies, including use of passive lighting for daytime use, LEDs, and conservative use of lighting when buildings are unoccupied. 	I			<p>Community Development, Economic Prosperity & Housing, General Services <i>(consultation only)</i></p> <p>Key Partners</p> <ul style="list-style-type: none"> • City development review • Local building & development community • Green building specialists • Building energy efficiency contractors • Existing building owners and occupants 	Policy research; staff engagement with community stakeholders; identify City-specific standards	Adopted policy

Action Description	Timeframe ¹			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>9 Resilient energy grid</p> <p>Adapt energy grid/ infrastructure to be prepared for future climate-related changes (e.g., conduits, distribution lines, ducts). This may include:</p> <ul style="list-style-type: none"> • Support efforts to improve infrastructure resilience to climate impacts and determine if new standards need to be adopted to protect or strengthen infrastructure systems. • Ensure adequate backup power for City-controlled critical infrastructure (e.g. fire stations) and encourage regional partners (ie hospitals) to do the same. • Investigate the use of battery storage in place of generators. • Provide dual fuel for extreme cold events. • Explore with Clark PUD and the local community the feasibility of Community Choice Energy (CCE) in Vancouver (before 2030). • Develop incentives and promote the use of lower-carbon fuel sources for backup generation. • Partner with Clark PUD to increase community resilience by installing microgrids, community solar, and renewable energy systems in critical community spaces (i.e., schools, senior care facilities, community centers, etc.) • Work with local utilities on storage systems for excess local production of renewable energy. In addition to increasing local renewable energy ahead of CETA, this action supports a reliable energy supply during severe storms. 		II	III	<p>General Services, Public Works</p> <p>Key Partners</p> <ul style="list-style-type: none"> • Clark PUD • Bonneville Power Administration • Regional partners such as the Port of Vancouver 	<p>Assessment, strategic partnerships; joint funding proposals; capital projects</p>	<p>Critical infrastructure with climate protection and/or power storage/ backup systems provided</p>
<p>10 Municipal energy and water savings</p> <p>The City will increase on-site renewable energy storage and energy and water savings. This includes:</p> <ul style="list-style-type: none"> • Work with local utilities to store excess energy generated from municipal solar arrays • Maintain annual distribution system leakage (DSL) to 6% or less by implementing the current (ca. 2022-2025) and future (2025+) supply-side Water Use Efficiency (WUE) Program measures 	I	II	III	<p>General Services, Public Works</p> <p>Key Partners</p> <ul style="list-style-type: none"> • Clark PUD 	<p>Strategic partnerships; joint funding proposals; capital projects; existing city program</p>	<p>Number of facilities with on-site renewable energy storage; change in water/energy usage</p>

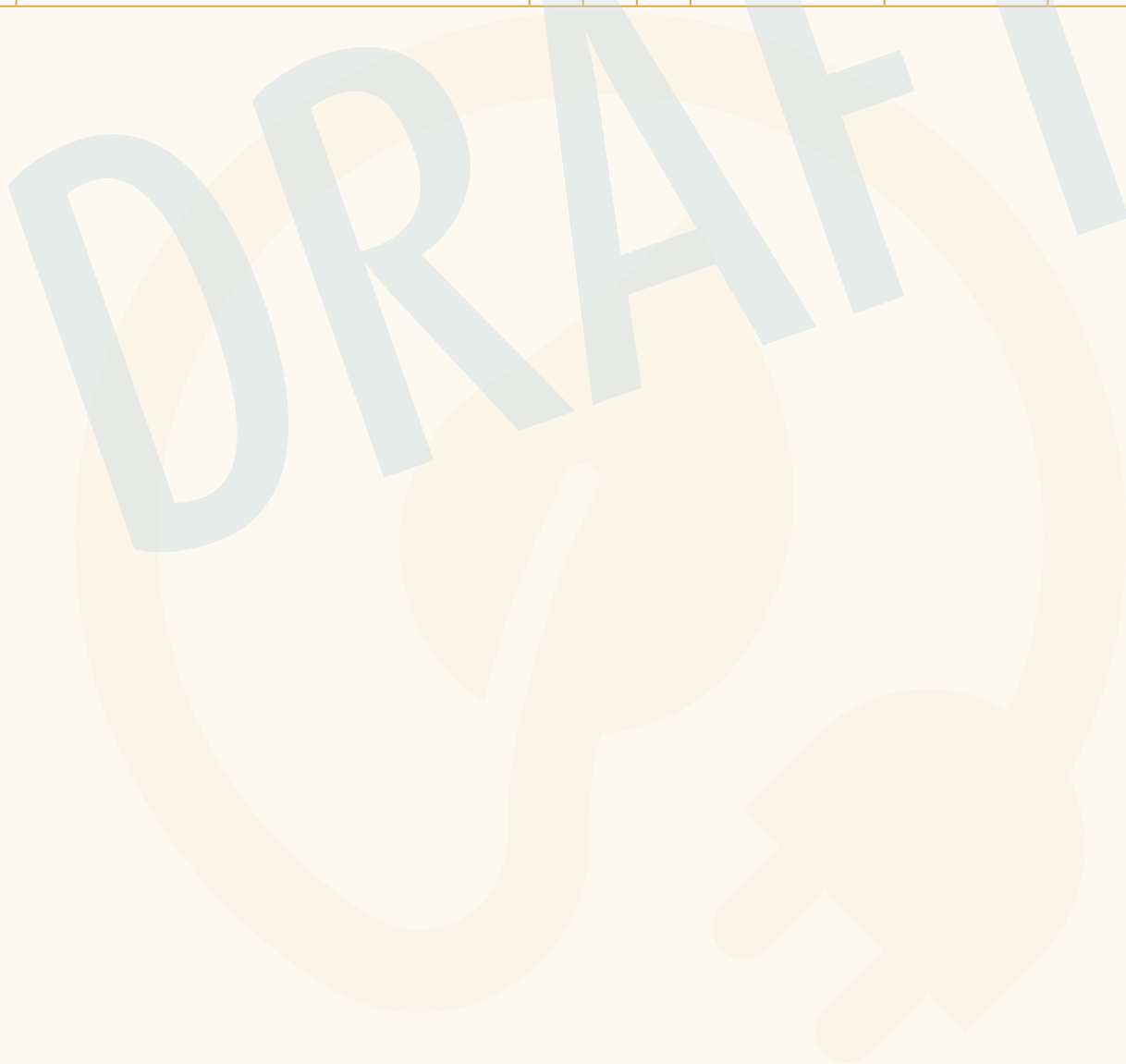
Strategy BE-2. Decarbonize homes, businesses, and other buildings

To pursue the lowest-carbon pathway toward a fully decarbonized building sector, this strategy encourages home and business electrification and over time, phases out natural gas in new and existing construction.

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>11 Home electrification incentives</p> <p>Work with local partners to transition to high-efficiency electric energy for existing homes that are using fossil fuels for energy (e.g., space heating/cooling, water heating, cooking). This includes:</p> <ul style="list-style-type: none"> Identify federal, state, business, and local incentive programs for Vancouver, with particular attention to ensuring low- and middle-income homeowners can afford to electrify. Leveraging the contractor training action, work with contractors to encourage electrification in existing homes. Work with interested realtors to encourage electrification as a condition of sale. This may include providing education and outreach to realtors about electrification, so they can be responsive to buyer and seller interests. Incentivize electric HVAC retrofits and other retrofits for homes. This can occur at any time: some may prefer to explore retrofits at end-of-life, at ownership transitions, or at other points. <p><i>Due to current (2021) state law, Clark PUD's programs cannot be used to incentivize a switch from natural gas to heat.</i></p>	I	II	III	<p>Economic Prosperity & Housing, CMO</p> <p>Key Partners</p> <ul style="list-style-type: none"> Neighborhood associations Local contractors Realtors Clark PUD and NWN 	Strategic partnerships; new incentive programs; new outreach and training programs	Number of homes transitioning to electric energy; number of homes participating in Smart Energy program; number of contractors trained in high-efficiency appliance retrofits
<p>12 Commercial building electrification incentives</p> <p>Work with Clark PUD and NWN to electrify existing commercial buildings and address fossil gas emissions. These incentives will be available to buildings of all sizes. However, when working with those who own buildings larger than 20,000 square feet, the incentives should be focused on assisting with compliance with Washington's new energy performance standard. This includes:</p> <ul style="list-style-type: none"> Work with Clark PUD to expand programs that incentivize commercial building owners to electrify water and space heating in existing buildings, such as the Commercial Heating System Incentives. 	I	II	III	<p>CMO</p> <p>Key Partners</p> <ul style="list-style-type: none"> Clark PUD and NWN Commercial building owners 	Expansion of existing programs	Number of incentives provided; number of businesses/building owners participating in incentive programs

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>13 Heat pumps in new commercial and multi-family residential buildings</p> <p>Support implementation of State Building Code requirements regarding use of heat pumps for space and water heating in new commercial and multi-family residential buildings, beginning in 2023.</p>	I			<p>Community Development</p> <p>Key Partners</p> <ul style="list-style-type: none"> • Development Review (Buildings) • Clark County Building Industry Association • Southwest WA Contractors Association 	Code updates; building inspector education	Updates made to City code; percentage of trained City plans examiners, code and permit inspectors
<p>14 All-electric incentives for new development</p> <p>Incentivize building electrification in new single-family residential developments and remodels. This action reduces barriers to electrification and paves the way for the “all-electric reach code for new development” (Action BE2.15) that will go into effect in 2030. This may include:</p> <ul style="list-style-type: none"> • Encourage ground source heat pumps for new construction. • Explore options to extend city tax credits to new construction developing with all-electric utilities. 	I			<p>Community Development, Economic Prosperity & Housing</p> <p>Key Partners</p> <ul style="list-style-type: none"> • Development Review (Buildings) • Clark County Building Industry Association • Southwest WA Contractors Association 	Outreach and education about state policies; incentive programs	Incentives developed; number of incentives utilized
<p>15 All-electric reach code for new development</p> <p>Adopt an all-electric building reach code for new construction that limits the development of new fossil fuel infrastructure, with exceptions for industrial uses without a suitable alternative. This action will go into effect in 2030 and builds on the “all-electric incentives for new development” (Action BE2.14).</p>	I			<p>Community Development</p> <p>Key Partners</p> <ul style="list-style-type: none"> • Development review • Clark County Building Industry Association • Southwest WA Contractors Association 	Stakeholder engagement; code research, development, and adoption	New code adopted
<p>16 All-electric reach code for existing residential buildings at point of sale</p> <p>Adopt an all-electric building reach code that transitions at least 50% of buildings to all-electric at point of sale in 2030 and 90% of existing buildings transitioned to all-electric at point-of-sale by 2040, with exceptions for industrial uses without a suitable alternative.</p>		II		<p>Community Development</p> <p>Key Partners</p> <ul style="list-style-type: none"> • Development review • Clark County Building Industry Association • Southwest WA Contractors Association 	Stakeholder engagement; code research, development, and adoption	New code adopted

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
17 Natural gas carbon intensity Work with NWN to reduce the carbon intensity of natural gas through renewable natural gas, hydrogen technologies, and offsets. This may include expanding participation in the Smart Energy program (carbon-neutral option) to offset natural gas emissions.	I	II	III	CMO Key Partners <ul style="list-style-type: none"> NW Natural 	Existing partner programs	Carbon intensity of local gas supply over time
18 Contractor training for electric transition Work with local trade organizations and workforce development organizations to develop a contractor training and rebate program for the installation of electric heat pumps, conversion from gas to electric appliances, and integration of environmental technologies. Include a component to identify opportunities at point-of-sale, to support the actions focused on electrification of existing residential and commercial buildings.		II		CMO Key Partners <ul style="list-style-type: none"> Workforce development programs Local trade unions and trade organizations Local contractors 	New program; partnerships with training programs; additional staff capacity	Number of contractors trained



Transportation & Land Use



Vancouver’s residents will be able to reach their destinations safely, reliably, and efficiently, however they choose to travel. Electric and low-emissions vehicles will be affordable, common, and easy to charge. Our neighborhoods will be walkable, mixed-use, and higher density, with secure affordable housing for current residents.

Strategies and Actions

Strategy TLU-1. Create neighborhoods that support clean modes of transportation

Use land use, zoning, and anti-displacement policies to develop denser, vibrant, mixed-use communities with streets that safely support all modes of travel. Prioritize under-developed areas, overburdened communities, transit-dependent communities, and those who were formerly incarcerated. Update annexation policies to align with CAP strategies, requiring all new annexed areas to comply or immediately begin investments to align with City sustainability initiatives and policies.

Actions	Impact	City Costs	Community Costs	Cost of Inaction	Benefits
1 Mixed-use development	⚡⚡⚡			💰	🏠 ⚙️ 🤝 ⚖️ 🌱
2 Sustainable neighborhood-scale development	⚡⚡⚡			💰	🏠 ⚙️ 🤝 ⚖️ 🌱
3 Diversified housing options	🎯			💰	🏠 ⚙️ 🤝 ⚖️ 🌱
4 Concentrated development along retail and commercial corridors	🎯				🏠 ⚙️ 🤝 ⚖️ 🌱
5 Parking management plan					🚗 ⚙️ 🤝 ⚖️ 🌱
6 Annexation policy updates				💰	🏠 ⚙️ 🤝 ⚖️ 🌱
7 Annexation incentives				💰	🏠 ⚙️ 🤝 ⚖️ 🌱

Key

- ⚡ = Quantified emissions reduction potential (L/M/H)
- 🎯 = Strong supporting action
- 💰 = Quantified costs (L/M/H)
- 💰 = High cost of inaction
- 🏠 = Highly affordable
- ⚙️ = Highly feasible
- 🤝 = Strong community support
- ⚖️ = Highly equitable
- 🌱 = Strong co-benefits

*Actions without any icons have not been evaluated

Strategy TLU-2. Shift driving trips to clean, active modes of transportation

Help shift driving trips to cleaner ways of getting around and create a more connected, walkable, and bikeable city. To do so, support pedestrian- and bike-friendly infrastructure, permanent sources of transportation funding, and anti-displacement best practices.

Actions	Impact	City Costs	Community Costs	Cost of Inaction	Benefits
8 Improved pedestrian infrastructure	⚡⚡			👛	👤 ⚙️ 🤝 ⚖️ 🌱
9 Transit ridership improvements	⚡⚡⚡	\$\$\$	\$\$\$	👛	👤 ⚙️ 🤝 ⚖️ 🌱
10 Driving trip reduction for local schools	⚡	\$\$\$	\$\$\$	👛	👤 ⚙️ 🤝 ⚖️ 🌱
11 Transportation demand management requirements	⚡⚡⚡			👛	👤 ⚙️ 🤝 ⚖️ 🌱
12 Medium- and heavy-duty truck VMT reduction				👛	👤 ⚙️ 🤝 ⚖️ 🌱
13 Improved bicycling infrastructure	🎯			👛	👤 ⚙️ 🤝 ⚖️ 🌱
14 Modal hierarchy	🎯				👤 ⚙️ 🤝 ⚖️ 🌱
15 Shared mobility and micro-mobility options					👤 ⚙️ 🤝 ⚖️ 🌱
16 City plan alignment				👛	👤 ⚙️ 🤝 ⚖️ 🌱
17 Retrofits for vulnerable infrastructure	🎯			👛	👤 ⚙️ 🤝 ⚖️ 🌱
18 Fareless transit system					👤 ⚙️ 🤝 ⚖️ 🌱
19 Curb management program					👤 ⚙️ 🤝 ⚖️ 🌱

Strategy TLU-3. Decarbonize and electrify vehicles

Expand and ensure necessary electric vehicle infrastructure is available and accessible at residences, workplaces, and key public areas. Increase the adoption of electric vehicles by promoting and implementing incentives, education programs, and policy with a focus on reducing financial barriers to EV ownership. Invest in infrastructure and adoption of alternative fuel and fuel reduction technologies to power municipal and commercial fleets as well as medium- and heavy-duty vehicles, prioritizing vehicles where electric fuel is unfeasible. Identify and secure adequate permanent funding for sustainable transportation.

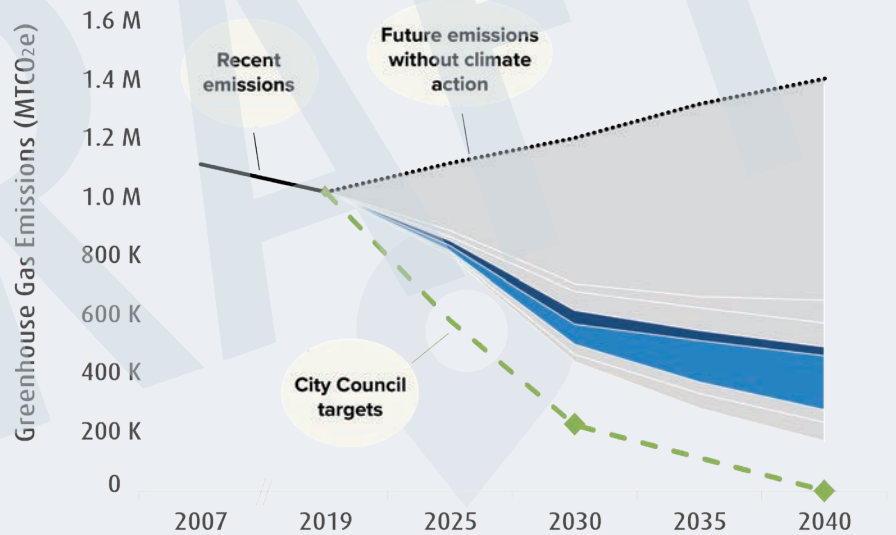
Actions	Impact	City Costs	Community Costs	Cost of Inaction	Benefits
20 EV infrastructure plan	⚡⚡⚡	\$\$\$	\$\$\$	👛	👤 ⚙️ 🤝 ⚖️ 🌱
21 EV charging requirements	⚡⚡			👛	👤 ⚙️ 🤝 ⚖️ 🌱
22 Electric vehicle advocacy & education	⚡⚡⚡	\$\$\$	\$\$\$	👛	👤 ⚙️ 🤝 ⚖️ 🌱
23 Medium- and heavy-duty truck decarbonization	⚡⚡⚡	\$\$\$	\$\$\$	👛	👤 ⚙️ 🤝 ⚖️ 🌱
24 Transit & waste collection fleet electrification	⚡			👛	👤 ⚙️ 🤝 ⚖️ 🌱
25 EV-ready code	🎯			👛	👤 ⚙️ 🤝 ⚖️ 🌱

Actions	Impact	City Costs	Community Costs	Cost of Inaction	Benefits
26	Alternative fueling & charging options at gas stations			📉	🗣️ ⚙️ 🤝 ⚖️ 🌱
27	Alternative fuels education & advocacy			📉	🗣️ ⚙️ 🤝 ⚖️ 🌱
28	Truck decarbonization infrastructure			📉	🗣️ ⚙️ 🤝 ⚖️ 🌱
29	Battery replacement incentives				🗣️ ⚙️ 🤝 ⚖️ 🌱
30	Municipal fleet vehicle transition to ZEVs			📉	🗣️ ⚙️ 🤝 ⚖️ 🌱

How do these actions stack up?

To reach carbon neutrality by 2040, we must zero out most of our emissions. Existing federal and state policies will get us about halfway to our goal. Locally, here's how the transportation sector will help with the rest.

- 2% of our 2040 goal will be met with a shift to clean, active transportation and connected neighborhoods.
- 13% of our 2040 goal will be met with the transition to ZEVs/LEVs.
- We will also avoid at least \$145 million in costs of inaction.
- Provide jobs and workforce development for clean fuels and clean vehicles. In 2018-2019, 11% of [fast-growing clean energy jobs](#) were in clean vehicles.



Implementation

Strategy TLU-1. Create neighborhoods that support clean modes of transportation

This strategy diversifies housing and land uses and increases access to clean, alternative transportation modes.

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>1 Mixed-use development Promote mixed-use development that is dense, transit-oriented, and supportive of active transportation mode choices (e.g., biking, walking, scooter). This includes:</p> <ul style="list-style-type: none"> • Allow for and encourage small retail and commercial services in residential neighborhoods. • Incentivize housing developments based on affordability and proximity to alternative transportation corridors. • Require secure bike parking, e-bike parking/charging, bike share and cargo bike share, scooter share, and other strategies in mixed-use development and zones. 	I	II	III	<p>Community Development, Economic Prosperity & Housing Key Partners</p> <ul style="list-style-type: none"> • Local and regional business organizations • Local development community • Housing providers and advocacy organizations • Advocacy organizations representing communities at risk of displacement • Residents 	Update existing Comprehensive Plan; amend Title 20 Land Use Code as necessary to implement policy direction	Adopted Comprehensive Plan updates; incentives created; number of incentives utilized; square footage of new retail / total housing units added annually within ½ mile of frequent transit
<p>2 Sustainable neighborhood-scale development Use tax and zoning incentives to promote development approaches and rating schemes for neighborhood-scale sustainable development (e.g., EcoDistricts, LEED Neighborhood Development). New development should be located away from low-lying areas at increased risk of flooding and include provisions to maintain affordability and accessibility. Consistent with Interim Green Building Policy, this includes certification at the LEED for Neighborhood Development Gold standard or equivalent from alternative rating system for all projects over 50 acres that enter into a development agreement except those that the Planning Commission has already issued a recommendation on.</p>		II		<p>Community Development, Economic Prosperity & Housing Key Partners</p> <ul style="list-style-type: none"> • Development community • Neighborhood associations 	Identify potential incentives; coordination with City Green Building Policy; future subarea planning activities	Adopted subarea plans that incorporate sustainable development strategies and place-specific metrics; average residential density / floor area ratio of new developments approved annually; average annual ratio of infill to greenfield development for new projects; annual square footage of new development within Comprehensive Plan priority growth nodes

Timeframe: I = short-term; II = mid-term; III = long-term; all selected = ongoing

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>3 Diversified housing options</p> <p>Update Municipal Code and zoning as needed to provide abundant housing choices at a variety of affordability levels throughout the city. Allow diverse housing types, including small and middle housing types, and actively encourage development. This includes:</p> <ul style="list-style-type: none"> • Allow internal home divisions and accessory dwelling unit construction to provide more options for homeowners. • Provide density bonuses for affordable housing. • Prioritize middle housing in existing single-family residential neighborhoods that are well served by transit/ services or are planned as 20-minute neighborhoods in the future. • Provide education and incentives for homeowners to support ADU development/internal home division construction projects, such as homeowner development courses, information on financing options, and SDC waivers. • Partner with building industry partners to provide education for local developers. • Support the greatest variety of housing opportunities near commercial corridors and neighborhood hubs that have abundant transit and public services. • Conduct an assessment of policy barriers to increasing residential density city-wide and evaluate incentive opportunities to encourage transit-supportive densities along key multimodal corridors. • Provide more opportunities for people to live near existing and future employment and education nodes, or in close proximity to reliable, frequent high-capacity transit that serves these areas. 	I	II	III	<p>Community Development</p> <p>Key Partners</p> <ul style="list-style-type: none"> • Development community • Finance industry • AARP • Build Small Coalition (Oregon Metro) • Peer cities 	<p>Updates to Municipal Code and zoning; identification of incentives and financing strategies; homeowner education; education for development community; assessment of policy barriers to increasing residential density</p>	<p>Number of new small and middle housing units created; incentives created to promote small/middle housing; number of residences created within walking distance of frequent transit; percentage of single-family zoning districts that allow middle housing by right</p>

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>4 Concentrated development along retail and commercial corridors</p> <p>Update Municipal Code, Title 20 Land Use Code, Title 19 Parking Code, and the Comprehensive Plan to support concentrating development along corridors and neighborhood hubs, consistent with the “sustainable neighborhood-scale development” (Action TLU1.2), “mixed-use development” (Action TLU1.1), Strategy TLU-2, the TSP, and related City plans, policies, and activities. Priorities include:</p> <ul style="list-style-type: none"> • Allow for greater development intensity along commercial corridors. • Upzone and develop strategies to promote mixed-use development. • Increase density near major transit stops and stations. • Connect corridors and hubs with a high level of transit service. • Prioritize outstanding facilities for walking and cycling in these areas. • Ensure walking and biking connections between corridors and centers are safe, comfortable, and complete. 	I	II	III	<p>Community Development, Economic Prosperity & Housing</p> <p>Key Partners</p> <ul style="list-style-type: none"> • Community groups and neighborhood associations • Local business associations • C-TRAN • Local schools • Development community 	Update VMC Title 20 Development Code to increase building heights/densities; align multi-family tax exemption program (MFTE) to support higher density development in identified growth nodes	Updated code; updated MFTE program; number of enhanced transit corridors with transit priority improvements; number of complete streets projects addressing key gaps in mobility networks between growth nodes
<p>5 Parking management plan</p> <p>Develop a city-wide parking management plan that includes right-sizing parking requirements and establishing parking densities and rates by district to support denser, walkable environments.</p>	I			<p>Economic Prosperity & Housing</p>	Plan research and development	Completed parking management plan
<p>6 Annexation policy updates</p> <p>Consider existing land use patterns and their potential for transition to sustainable urbanized areas when evaluating potential annexations. Through the Comprehensive Plan Update, further explore a coordinated and strategic annexation strategy that targets key growth and job areas within the Vancouver Urban Growth Area (UGA), develop strategies to increase housing and jobs density, and divert both work and non-work trips to non-vehicular modes in these areas.</p>	I			<p>Community Development</p> <p>Key Partners</p> <ul style="list-style-type: none"> • Clark County • Infrastructure providers like utility districts 	Update to existing plan; update to existing evaluations	Adopted updates to the Comprehensive Plan; areas annexed; acres of newly annexed land; average density of newly annexed lands
<p>7 Annexation incentives</p> <p>Beginning at least five years before the expected annexation date, work with Clark County and local leadership of annexation areas to identify high-priority and/or high-feasibility sustainability initiatives to align with City of Vancouver policies. Develop and implement incentives and other voluntary efforts (e.g., education, outreach) to support the transition.</p>	I	II	III	<p>Community Development</p> <p>Key Partners</p> <ul style="list-style-type: none"> • Clark County • Infrastructure providers like utility districts 	Strategic partnerships, incentive programs	Updated Intergovernmental Agreements (IGAs) for annexation process

Strategy TLU-2. Shift driving trips to clean, active modes of transportation

This strategy creates a more connected, walkable and bikeable City by supporting pedestrian- and bike-friendly infrastructure. It will:

- Implement relevant City plans and initiatives to strengthen multi-modal (e.g. bicycle and pedestrian) connections, improve accessibility, and connect residents to workplaces, major development centers, and key services, with a focus on overburdened and transit-dependent communities.
- Work with C-TRAN and other regional partners to connect Vancouver’s neighborhoods to major development centers, focusing on under-developed, transit-dependent, and overburdened communities, with travel times that are competitive with single-occupancy travel and support the transport of commercial goods.
- Ensure that new transit developments have features for safety, accessibility, and comfort. Identify and secure adequate permanent funding for sustainable transportation.
- Encourage active transportation and multi-modal uses across the city’s parks, trails, and open spaces that explicitly serve and connect under-developed areas, overburdened communities, and transit-dependent communities, consistent with Reside Vancouver and anti-displacement best practices.

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>8 Improved pedestrian infrastructure In alignment with the TSP, Complete Streets program, and other relevant City plans, increase the abundance, safety and connectivity of walking and rolling infrastructure. Include the following activities:</p> <ul style="list-style-type: none"> • Factor climate impacts into the design, materials & full life-cycle costs of projects (e.g., facilities, amenities). • Continue implementation of the Sidewalk Management Plan (2017), prioritizing areas of infill by equity concern. • Complete and connected networks of high-quality walking and rolling facilities that provide safe and comfortable routes. • Emphasize accessible, equitable design consistent with 8-80 design principles and American Disabilities Act (ADA) compliance. • Identify areas of the city (e.g., downtown, East Vancouver) that could be prioritized for pedestrians. • Expand lighting and other safety features on pedestrian pathways. • Plan for and implement multi-modal and “first-last mile” infrastructure. 	I	II	III	<p>Community Development Key Partners</p> <ul style="list-style-type: none"> • Community groups and neighborhood associations • Local business associations • C-TRAN • Local schools • Safe Routes to School programs 	Expansion of existing plans; capital projects	Miles of missing sidewalks; ADA updates needed; pedestrian directness; walkscore

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>9 Transit ridership improvements Partner with C-TRAN and other transit agencies to address barriers to using transit, improve access, and maintain safety across the city. This can include:</p> <p><i>Policy and planning</i></p> <ul style="list-style-type: none"> • Prioritize access for overburdened communities. • Support code updates that increase density, infrastructure, and amenities near current and planned transit routes, in alignment with the TSP. • Factor climate impacts into the design, materials & full life-cycle costs of projects (e.g., roads, EV charging network); similarly, include climate adaptation and mitigation criteria in entitlement reviews. <p><i>Service changes</i></p> <ul style="list-style-type: none"> • Provide convenient connections to destinations throughout the city. • Provide transit circulators in activity nodes and centers. • Ensure sufficient transit connections to higher density areas with currently low or limited access. <p><i>Infrastructure and amenities</i></p> <ul style="list-style-type: none"> • Enhance secure bicycle parking at transit stations and major bus stops. • Provide connections between transit facilities and bicycle/trails networks. • Provide weather shelters in public transit. • Improve sidewalks, curb ramps, and street crossings near transit stops and stations. • Ensure transit vehicles are equipped with air filtration and air conditioning. <p><i>Education and outreach</i></p> <ul style="list-style-type: none"> • Provide education and outreach to increase comfort and familiarity with the transit system (i.e., “travel training”), with a focus on youth and “choice” riders. • Promote awareness of C-TRAN’s Youth Opportunity Pass and Education Opportunity Pass programs. 	I	II	III	<p>Community Development <i>Key Partners</i></p> <ul style="list-style-type: none"> • C-TRAN • Local schools • SR2S programs • Clark County Commute Trip Reduction Program 	<p>Strategic partnerships; joint funding proposals; coordination on significant planned developments and zoning changes; co-plan and develop infrastructure improvements in and to transit stop vicinities</p>	<p>Number of high-frequency transit routes; percent of residents within walking distance of transit stops; ridership; number of students actively using Youth Opportunity passes</p>

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>10 Driving trip reduction for local schools</p> <p>Support initiatives to reduce driving trips related to school activities. This can include:</p> <ul style="list-style-type: none"> • Promote school bus ridership and exploring options for increasing services. • Encourage active transportation through participation in a Safe Routes to School program. • Dedicate increased local funding to a local Safe Routes to School program. • Encourage carpooling to schools and after school activities. • Support Bike Clark County to expand and fully integrate bicycle skills and safety curricula in all school districts (i.e., into all school curricula). • Adjust traffic signals to prioritize pedestrians and bicycles around schools. • Education for middle school and high school students in how to use public transit and how to use C-TRAN's Youth Opportunity Pass program. 		II		<p>Community Development, Public Works</p> <p>Key Partners</p> <ul style="list-style-type: none"> • C-TRAN • Bike Clark County • Local schools • Safe Routes to School programs 	Strategic partnerships; public outreach; support for school education programs	Mode split for trips related to school activities; number of students graduating from SR2S and Bike Clark County bicycle education programs
<p>11 Transportation demand management requirements</p> <p>Identify and implement code-based transportation demand management (TDM) plan requirements city-wide to reduce traffic and shift trips to non-driving modes. This includes:</p> <ul style="list-style-type: none"> • Track mode share and shift for biking, walking, and transit use over time, for both commute and non-commuting trips. • Understand "choice" riders and their mode choices. 	I	II		<p>Community Development</p> <p>Key Partners</p> <ul style="list-style-type: none"> • Communications • Neighborhood associations • Local schools and businesses • Transportation advocacy groups (Bike Clark County, AAA) • Clark County Commute Trip Reduction Program 	TDM best practices; develop tailored marketing and communications plan; mode share survey or monitoring program	Mode share over time for both commute and non-commute trips; percent of employees affected by Commute Trip Reduction that use non-drive-alone modes
<p>12 Medium- and heavy-duty truck VMT reduction</p> <p>Work with delivery and other companies to improve routing and reduce vehicles miles traveled (VMT) from medium and heavy-duty vehicles.</p>	I	II		<p>Community Development</p> <p>Key Partners</p> <ul style="list-style-type: none"> • Delivery companies (FedEx, UPS, USPS, Amazon) • Trucking companies • Columbia-Willamette Clean Cities Coalition 	Stakeholder outreach	VMT from medium- and heavy-duty trucks

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>13 Improved bicycling infrastructure</p> <p>In alignment with the TSP, Complete Streets program, and other relevant City plans, increase the abundance, safety and connectivity of bicycling infrastructure. Include the following activities:</p> <ul style="list-style-type: none"> Factor climate impacts into the design, materials & full life-cycle costs of projects (e.g. roads, amenities). Complete and connected networks of high-quality bicycling facilities that provide safe and comfortable routes consistent with 8-80 design principles. Expand lighting and other safety features on bicycle pathways. Update code to require safe, separated bicycle facilities in street construction. Consider and accommodate multi-modal and “first-last mile” needs. Expand bike parking throughout the city to ensure safe and abundant spaces for cyclists. Expand amenities (e.g., showers, changing rooms, lockers) in public and private buildings to reduce barriers to habitual biking. Promote widespread adoption of e-bikes. 	I	II	III	<p>Community Development</p> <p>Key Partners</p> <ul style="list-style-type: none"> Bike Clark County Safe Routes to School Local schools Business associations 	Expansion of existing plans; capital projects	Miles of protected bike lanes; bike network connectivity; cyclist level of service
<p>14 Modal hierarchy</p> <p>Establish a modal hierarchy for transportation investments that prioritizes investments in active transportation modes such as walking, biking, and transit-supportive roadway design and operations. The hierarchy will include evaluation metrics that emphasize people throughput, movement of people, and quality of experience over vehicle throughput and Vehicle Level of Service.</p>	I			<p>Community Development</p> <p>Key Partners</p> <ul style="list-style-type: none"> Local advocacy groups (Bike Clark County, AARP, etc.) 	Update to existing plans; code update	Adopted update to Comprehensive Plan
<p>15 Shared mobility and micro-mobility options</p> <ul style="list-style-type: none"> Plan, sponsor, and advertise for additional micro-mobility options within key growth nodes in the city. Put code in place to support shared mobility docking and charging stations, and reserved spaces for car sharing vehicles. Work with third-party programs and businesses to increase the availability, accessibility, and convenience of shared mobility options (e.g., bike share, scooter share, car share). 		II		<p>Community Development</p> <p>Key Partners</p> <ul style="list-style-type: none"> Transportation advocacy groups Business associations Neighborhoods Micromobility companies Development community Ryd 	Adopt code; strategic partnerships; vendor contracts	Adopted code; shared mobility programs initiated

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>16 City plan alignment Align the TSP with the Comprehensive Plan, economic development plans, COVID-19 recovery plan, and the multi-modal initiatives, guidelines, and priorities identified in the TSP update (e.g., increased walkability and bikeability, multi-modal priority).</p>	I	II		<p>Community Development Key Partners</p> <ul style="list-style-type: none"> • Transportation agency partners (Regional Transportation Council, WSDOT, C-TRAN, Clark County, Port of Vancouver, City of Camas) 	Review of existing plans for consistency	Adopted plan updates
<p>17 Retrofits for vulnerable infrastructure Prioritize retrofits of climate-vulnerable infrastructure, with a focus on routes used for public transportation.</p>		II	III	<p>Public Works—Emergency Management Key Partners</p> <ul style="list-style-type: none"> • Clark Regional Emergency Services Agency (CRESA) • C-TRAN 	Assessment; capital projects	Priority routes identified; percent of needed retrofits completed
<p>18 Fareless transit system Work with C-TRAN to expand existing fareless programs and foster a safe public transit system to increase transit accessibility. Include plans for transit corridors that provide safe, reliable, and climate-resilient transit services and for high-capacity transit, consistent with the Enhanced Transit Corridor analysis developed as part of TSP update and “transit ridership improvements” (Action TLU2.9).</p>	I	II		<p>CMO Key Partners</p> <ul style="list-style-type: none"> • C-TRAN • Communications 	Expansion of existing plans; strategic partnerships	Number of residents with access to fareless transit service
<p>19 Curb management program Research and develop a curb management program that supports shared mobility options and safe, multimodal streets. Align with the TSP, “shared mobility and micromobility options” (Action TLU2.15), and “parking management plan” (Action TLU1.5). Elements of the program could include:</p> <ul style="list-style-type: none"> • Establish designated rideshare and third-party carpooling parking, and loading/unloading delivery zones. • Integrate bicycle and motorcycle parking. • Facilitate partnerships to explore methods to reduce delivery trips and prioritize smaller vehicles. • Integrate scooter and bicycle share docks and autonomous vehicle loading zones if the technology is adopted in Vancouver. 		II		<p>Community Development Key Partners</p> <ul style="list-style-type: none"> • Economic Prosperity & Housing • Local business and neighborhood groups • Rideshare/micromobility companies • Clark PUD • Delivery companies (UPS, Amazon, etc.) 	New program; staff capacity or budget appropriation	Approved curb management program

Strategy TLU-3. Decarbonize and electrify vehicles

This strategy encourages ZEV/LEV usage and decreases reliance on single-occupancy vehicles.

Action Description	Timeframe [†]			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>20 EV infrastructure plan</p> <p>Develop and implement an EV infrastructure plan to promote and expand the installation of public and private charging infrastructure and electric-powered mobility for new and existing construction. This includes:</p> <ul style="list-style-type: none"> • Leverage programs and funding opportunities from Clark PUD, federal agencies, and other partners. • Focus on areas that would support longer distance/interstate and commercial travel, including park and rides. • Explore options for incentivizing or requiring installation/retrofitting for EV charging infrastructure in existing building stock, such as at point of renovation, point of sale, or changes in management. • In implementing this action, factor climate impacts into the design, materials, and full life-cycle costs of projects (e.g. roads, EV charging network). Also consider energy storage and demand needs and increase distributed energy production (e.g., solar panels) to reduce demands on electrical grid, as needed. 	I	II		<p>Community Development, Public Works</p> <p>Key Partners</p> <ul style="list-style-type: none"> • Clark PUD • Columbia-Willamette Clean Cities Coalition 	<p>New plans; staff capacity; strategic partnerships; capital projects; joint funding proposals</p>	<p>Approved EV infrastructure plan</p>
<p>21 EV charging requirements</p> <p>Require all new development (and/or parking lots) to have adequate charging stations. This action builds on “EV-ready code” and “EV infrastructure plan” (Actions TLU3.25 and TLU3.20, respectively), as well as state law requiring EV charging capability at all new commercial and multi-family development with on-site parking (HB 1257) and new single-family construction (HB 1287). To support this transition, building owners can leverage available programs, such as Clark PUD’s commercial charger rebate program.</p>	I			<p>Community Development</p> <p>Key Partners</p> <ul style="list-style-type: none"> • Clark PUD • Columbia-Willamette Clean Cities Coalition • Development community 	<p>Code update; education to developers and existing building owners on available incentives</p>	<p>Adopted code updates; number of EV charging locations</p>

[†] Timeframe: I = short-term; II = mid-term; III = long-term; all selected = ongoing

Action Description	Timeframe ^a			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>22 Electric vehicle advocacy & education</p> <p>Advocate for the expansion of existing incentives and introduce new local incentives to accelerate the adoption of electric passenger and work vehicles, with specific attention to reducing financial and other barriers to adoption. Educate the residential and commercial communities on the costs and benefits of electric vehicles and available programs and funding options. This includes:</p> <ul style="list-style-type: none"> • Work with Clark PUD to expand participation in their used EV program for low-income / income-qualifying customers. • Work with the Columbia-Willamette Clean Cities Coalition to leverage state and federal incentive programs. • Explore developing local incentives through partnerships with local lenders and car dealerships. • Implement non-financial incentives offered by the City to encourage EV adoption and expand EV infrastructure, including resident-selected EV charging locations and streamlined permitting for developers. • Advocate for state policy to limit sale of new fossil fuel-powered passenger cars and trucks by 2025. 		II		<p>CMO</p> <p>Key Partners</p> <ul style="list-style-type: none"> • Clark PUD • Columbia-Willamette Clean Cities Coalition 	Strategic partnerships; incentive programs; public outreach	Available incentives; number of incentives utilized; rate of EV adoption; number of EV vehicles purchased locally
<p>23 Medium-and heavy-duty truck decarbonization</p> <p>Take local action to decarbonize medium- and heavy-duty trucks, including the following:</p> <ul style="list-style-type: none"> • Require that construction projects and other entities (e.g., delivery trucks) that rely on medium and heavy-duty trucks replace vehicles with new Zero Emission Vehicles (ZEVs) in accordance with the targets outlined in the Advanced Clean Trucks (ACT) rule, adopted by the Department of Ecology in November 2021. • Encourage participation in NWN's ZEV CNG and H2 programs. • Advocate for state policy to limit sale of new fossil fuel-powered medium- and heavy-duty trucks by 2030. • By 2030, replace 40% of all new medium- and heavy-duty trucks with ZEV alternatives. • This action is directly supported by "truck decarbonization infrastructure" (Action TLU3.28). 	I	II		<p>Public Works, CMO</p> <p>Key Partners</p> <ul style="list-style-type: none"> • Existing station owners • Alternative fuel providers • AAA • Trucking agencies • Columbia-Willamette Clean Cities Coalition 	Stakeholder outreach; code update; contract updates	% of new heavy/medium-duty vehicles that are ZEVs; participation levels in ZEV programs; local compliance with Advanced Clean Trucks rule

Action Description	Timeframe ^a			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>24 Transit & waste collection fleet electrification</p> <p>Require that all buses that serve Vancouver are electric by 2040 and increase the proportion of waste collection vehicles that are ZEVs. This includes:</p> <ul style="list-style-type: none"> Partner with Clark PUD, C-TRAN, and the City's contracted waste hauler to expand electric buses and electric contracted waste collection vehicles, prioritizing implementation in communities overburdened by local air pollution and with higher rates of asthma and other respiratory ailments. This may include a cost-share approach with C-TRAN. Ability to charge buses in distant locations. While internal combustion engine vehicles are still in use and a ZEV alternative is not feasible, transition to alternative, lower-carbon intensity fuels where feasible and applicable. 	I	II		<p>Public Works</p> <p>Key Partners</p> <ul style="list-style-type: none"> Clark PUD C-TRAN Waste hauler 	Strategic partnerships; code update; capital projects	Number and percentage of transit and waste collection vehicles that are ZEVs
<p>25 EV-Ready code</p> <p>Starting in 2023, require 25% EV-ready parking spaces in new commercial and multifamily developments, exceeding WA HB 1257 requirements (i.e., >10% of spaces). EV-ready spaces are installed and operable. To support this transition, building owners can leverage available programs such as Clark PUD's commercial charger rebate program.</p> <p><i>Note that state law requires new single-family construction be EV-ready starting in 2024 (HB 1287).</i></p>	I	II		<p>Community Development, Public Works</p> <p>Key Partners</p> <ul style="list-style-type: none"> Clark PUD Columbia-Willamette Clean Cities Coalition Development community 	Code update; education to developers and existing building owners on available incentives	Adopted code updates; number of EV charging locations
<p>26 Alternative fueling & charging options at gas stations</p> <p>Update the Municipal Code to require new gas stations or expansions of existing facilities to include EV charging and alternative fuel options. This may include:</p> <ul style="list-style-type: none"> Encourage existing gas stations to supply alternative fuels (compressed natural gas, propane, etc.) as well as EV charging. Update code to be supportive of alternative fuel infrastructure. Explore feasibility of prohibiting new gas stations. 		II	III	Community Development	Code update	Number and percentage of total fueling stations offering alternative fuels

Action Description	Timeframe ⁷			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>27 Alternative fuels education & advocacy Provide education and advocacy to increase awareness and use of low-carbon and alternative fuels (e.g., electricity, biodiesel, compressed natural gas, liquified natural gas, hydrogen).</p>	I	II		<p>CMO Key Partners</p> <ul style="list-style-type: none"> • Public Works—Fleet • Communications • Existing station owners • Alternative fuel providers • AAA • Trucking agencies • Columbia-Willamette Clean Cities Coalition 	Existing and new outreach programs	Number and percentage of residents using low-carbon and alternative fuels
<p>28 Truck decarbonization infrastructure Work with the Port of Vancouver and other partners to expand infrastructure for decarbonization of medium- and heavy-duty trucks. This action will help the City achieve the requirements in the WA ACT rule and directly supports “medium- and heavy-duty truck decarbonization” (Action TLU3.23). It includes:</p> <ul style="list-style-type: none"> • Encourage widespread adoption of fueling stations providing alternative fuels. • Coordinate with Port of Vancouver to develop infrastructure supporting this conversion while maintaining competitiveness. 	I	II	III	<p>CMO</p>	Strategic partnerships; joint funding proposals	Number of fueling stations offering alternative fuels; facilities generating clean fuels
<p>29 Battery replacement incentives Expand incentives, rebates, or similar methods to reduce the costs of battery replacement for vehicles with batteries nearing the end of their useful life.</p>		II		<p>CMO Key Partners</p> <ul style="list-style-type: none"> • Auto service stations • Electric vehicle manufacturers • Columbia-Willamette Clean Cities Coalition 	Expansion and promotion of existing programs	Available incentives; participation rates

Action Description	Timeframe ^a			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>30 Municipal fleet vehicle transition to ZEVs Introduce a policy to replace City fleet (i.e., vehicles, machinery, and equipment) with zero-emissions alternatives at the time of replacement where feasible and applicable. Clark PUD and NWN have programs to assist (e.g., Clark PUD EV rebates, NWN Natural Gas Vehicles).</p> <ul style="list-style-type: none"> • For vehicles that do not have ZEV substitutes, explore options for hybrids or alternative fuel-ready vehicles when purchasing new. • For existing fleet vehicles, equipment, and machinery with traditional internal combustion engines, substitute lower-carbon fuels such as compressed natural gas, propane, lower-emission diesel fuels, hydrogen, etc. where feasible and applicable, and where no viable ZEV alternatives are available. • For all fleet, consider the feasibility of short-term leases or similar options, so the City can adopt zero-emissions alternatives more quickly as they become feasible to acquire. 	I	II		<p>Public Works—Fleet Key Partners</p> <ul style="list-style-type: none"> • Clark PUD • NWN • Columbia-Willamette Clean Cities Coalition • Alternative fuel providers 	Develop policy and incorporate into City Environmental Purchasing Policy	% of vehicles that are ZEVs or using lower-carbon fuels; fleet GHG emissions

Natural Systems & Water Resources



Vancouver’s parks, trails, and green spaces will store carbon, connect our neighborhoods, and preserve sensitive land and wildlife. We will use water wisely.

Strategies and Actions

Strategy NS-1. Increase carbon storage in trees, vegetation, and soil

Optimize management of natural lands and tree canopy to increase carbon sequestration, support resilience to extreme events, and ensure an equitable distribution of risk and resilience. During implementation, align with Reside Vancouver, the Parks Comprehensive Plan update, the Urban Forest Management Plan, and anti-displacement best practices.

Actions	Impact	City Costs	Community Costs	Cost of Inaction	Benefits
1 Native & climate-resilient planting in municipal projects	⚡⚡	\$\$\$	\$\$\$	👛	🌱 ⚙️ 🤝 ⚖️ 🌍
2 Native & climate-resilient planting in private projects	⚡⚡⚡	\$\$\$	\$\$\$	👛	🌱 ⚙️ 🤝 ⚖️ 🌍
3 Street tree maintenance				👛	🌱 ⚙️ 🤝 ⚖️ 🌍
4 Carbon sequestration on public lands	⚡			👛	🌱 ⚙️ 🤝 ⚖️ 🌍
5 Carbon sequestration on private lands	⚡			👛	🌱 ⚙️ 🤝 ⚖️ 🌍

Strategy NS-2. Improve ecosystem resilience

Support implementation of habitat and species conservation, restoration, and protection, with an emphasis on current native species and climate-resilient species.

Actions	Impact	City Costs	Community Costs	Cost of Inaction	Benefits
6 Critical areas code enforcement				👛	🌱 ⚙️ 🤝 ⚖️ 🌍
7 Habitat restoration for new development				👛	🌱 ⚙️ 🤝 ⚖️ 🌍
8 Tree canopy recommendations				👛	🌱 ⚙️ 🤝 ⚖️ 🌍

Key

- ⚡ = Quantified emissions reduction potential (L/M/H)
- ⊙ = Strong supporting action
- \$ = Quantified costs (L/M/H)
- 👛 = High cost of inaction
- 🌱 = Highly affordable
- ⚙️ = Highly feasible
- 🤝 = Strong community support
- ⚖️ = Highly equitable
- 🌍 = Strong co-benefits

*Actions without any icons have not been evaluated

Strategy NS-3. Conserve water resources

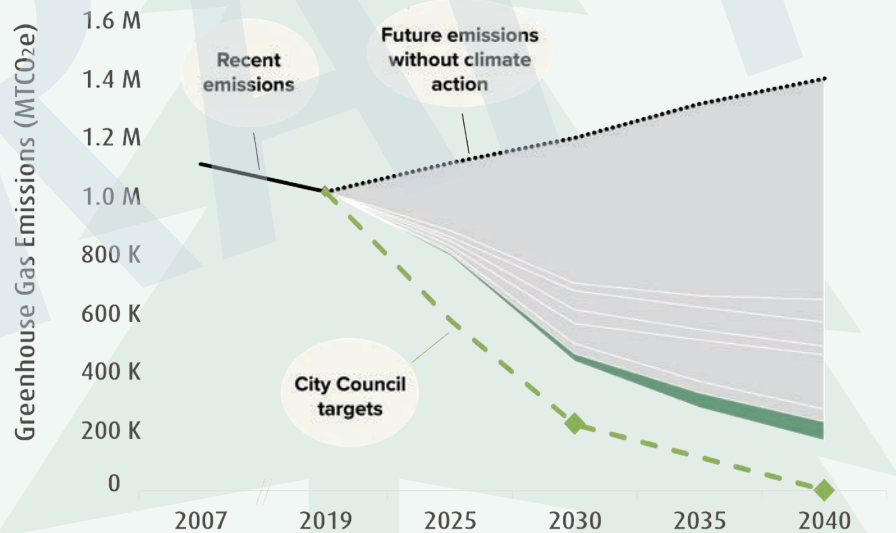
Conserve community water resources and increase water efficiency savings through education, outreach, retrofits, and rebates that ensure overburdened communities see the benefits of water conservation.

Actions	Impact	City Costs	Community Costs	Cost of Inaction	Benefits
9 Community water conservation				🏠	🧠 ⚙️ 🤝 ⚖️ 🌱
10 Rainwater capture incentives				🏠	🏠 ⚙️ 🤝 ⚖️ 🌱
11 Lawn removal and drought tolerant landscaping incentives				🏠	🏠 ⚙️ 🤝 ⚖️ 🌱

How do these actions stack up?

To reach carbon neutrality by 2040, we must zero out most of our emissions. Existing federal and state policies will get us about halfway to our goal. Locally, here's how our natural systems will help with the rest.

- 5% of our 2040 goal will be met by storing carbon in native, climate-resilient plants, trees, and soil on both public and private lands.
- We will also avoid at least \$45 million in costs of inaction.
- Through 2030, jobs in environmental science, landscaping, grounds maintenance, and tree trimming are expected to grow faster than average in southwest Washington (using the long-term alternative occupational employment projections provided in July 2022).



Implementation

Strategy NS-1. Increase carbon storage in trees, vegetation, and soil

This strategy will increase carbon storage throughout the city.

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>1 Native & climate-resilient planting in municipal projects</p> <p>Through the City’s Urban Forestry Program and in support of the City’s goal to reach 28% canopy cover by 2030, require long-lived large form, drought-tolerant, climate-resilient native plantings in parks and other public properties (including the grounds of municipal buildings, schools, and frontline communities right-of-way) to maximize carbon sequestration. Also prioritize retention of existing canopy.</p>	I	II	III	<p>Urban Forestry and Community Development</p> <p><i>Key Partners</i></p> <ul style="list-style-type: none"> • Community Development • Parks, Recreation and Cultural Services • Public Works Operations • School Districts • Parks and Recreation Advisory Commission • Urban Forestry Commission 	<p>New development plan review; existing plans review; code update; Parks design focused on sustainable environmental landscape design principles with closed loop composting</p>	<p>VMC code updated & new development projects meeting climate goals; sustainable landscape design principles in parks and school designs; retrofit existing designs and sites</p>
<p>2 Native & climate-resilient planting in private projects</p> <p>Working through the City’s Urban Forestry Program and its partners, and in support of the City’s goal to reach 28% canopy cover by 2030, incentivize long-lived large form, drought-tolerant, climate-resilient native plantings and retention of the mature canopy in existing and new developments. This includes:</p> <ul style="list-style-type: none"> • Prioritize communities (or census tracts) that score 8 or above on the WA Health Disparities Map. • Prioritize under-resourced neighborhoods with significant exposure to urban heat islands. • Prioritize habitat in the Burnt Bridge Creek watershed and other high-priority areas. • Encourage planting of native, climate-resistant species. Partner with local organizations like Friends of Trees to promote use of these kinds of species in their outreach and education. 	I	II	III	<p>Public Works—Urban Forestry and Community Development</p> <p><i>Key Partners</i></p> <ul style="list-style-type: none"> • Development community and professionals (engineers, landscape architects, arborists, landscapers) • Private property owners • Nonprofit partners (Friends of Trees, Watershed Alliance, others) 	<p>New development review; existing plans review; code update; public outreach; community revegetation projects</p>	<p>VMC code updated and new development projects meeting climate goals; retro fit existing designs and sites; number of trees planted; number of community enhancement projects in priority areas</p>

Timeframe: I = short-term; II = mid-term; III = long-term; all selected = ongoing

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>3 Street tree maintenance</p> <p>Maintain existing street trees through proper care and maintenance cycle, prioritizing overburdened communities. The City will prune and remove street trees to establish strong branching structure and reduce risk. The City will also replant with climate adaptive trees to ensure equitable distribution of the benefits of trees.</p> <p>The City Urban Forestry Program will optimize management of the City’s street (right of way) trees to increase carbon sequestration and resilience to extreme weather events, support overburdened communities consistent with anti-displacement best practices, and ensure equitable distribution of benefits, risk-reduction and climate resilience. This action closes the tree canopy deficit within overburdened communities in the City and increases resilience to priority climate-related extreme events, such as storm events, extreme urban heat effects, and adverse human health impacts.</p>	I	II	III	<p>Public Works— Urban Forestry</p> <p><i>Key Partners</i></p> <ul style="list-style-type: none"> • Transportation • Public Works Operations • Property owners • Friends of Trees • Tree care providers/arborists 	Existing plans; City budget appropriation; task force to develop street tree maintenance program	Develop and implement a 7-year street trees pruning cycle; completed street tree inventory; reduced storm damage; more participation in street tree planting in overburdened communities
<p>4 Carbon sequestration on public lands</p> <p>Increase carbon sequestration potential of soil throughout the City to offset emissions and increase drought and flood-resistance of soil. As part of this effort, all City-owned lands would:</p> <ul style="list-style-type: none"> • Implement carbon sequestration projects on City property where feasible (e.g., soil at City parks, golf courses, and open spaces). • Reduce the use of synthetic nitrogen fertilizer with soil amendments such as manure or other organic by-products (e.g., compost and mulch) on new landscape installations. • Partner with other public agencies to expand sequestration potential on public lands within the city’s boundaries. For example, the City can acquire parcels for public use as part of the Open Space District to be used as carbon sinks to address community access to nature, climate, human health, and equity. • Work with Operations and Maintenance staff to reduce fertilizer use. • Work with Parks to reduce high-maintenance turf in designs, which will reduce fertilizer use and need for gas-powered mowers. 	I	II	III	<p>Public Works— Urban Forestry</p> <p><i>Key Partners</i></p> <ul style="list-style-type: none"> • Parks • Public Works Operations • Correction Crews • School Districts Maintenance • Tree care providers/arborists • Landscapers • Volunteer coordinator • Urban Forestry • Greenway Sensitive Lands Team • DePave • Solid Waste 	Expansion of existing plans; budget appropriation or grant funds; strategic partnerships; creating new landscape beds with native plants; enlarging existing landscape beds and tree rings and applying arborist chips and/or compost 3-4 inches in depth; closed loop composting; (“leave the leaves”); remove impervious surfaces; replant	Soil analysis pre and post; acres amended (arborist chips or compost spread over landscape beds and tree rings); yards of arborist chips or compost applied; amount of turf converted; number/area of nature-scaped sites; acres of open space acquired for this purpose; acres of impervious surface removed/ replanted

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>5 Carbon sequestration on private lands Increase carbon sequestration potential throughout the city to offset emissions and increase drought- and flood-resistance of soil. As part of this effort, the City would support soil management on private lands, for example:</p> <ul style="list-style-type: none"> • Subsidize the cost of compost for private development. • Encourage the use of compost in new landscape projects and undeveloped lands. • Encourage naturescaping by replanting groupings of native trees and shrubs. • Increase awareness of soil management best practices through education campaigns. • Partner with nurseries, garden stores, businesses, and youth. 	I	II	III	<p>Community Development, Water Resource Education Center <i>Key Partners</i></p> <ul style="list-style-type: none"> • Landscapers • Tree care providers • Volunteer coordinator • Urban Forestry • Solid Waste • Friends of Trees • Watershed Alliance • Greenway • Sensitive Lands Team • DePave 	Expansion of existing plans; budget appropriation or grant funds; strategic partnerships; creating new landscape beds with native plants; enlarging existing landscape beds and tree rings and applying arborist chips and/or compost 3-4 inches in depth; closed loop composting; 'leave the leaves'; remove impervious surfaces; replant	Soil analysis pre and post; acres amended (arborist chips or compost spread over landscape beds and tree rings); yards of arborist chips or compost applied; amount of turf converted; number/area of nature-scaped sites; acres of impervious surface removed/replanted

Strategy NS-2. Improve ecosystem resilience

This strategy will protect and support natural areas within the City.

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>6 Critical areas code enforcement Strengthen, revise, and enforce codes for critical areas, including fish and wildlife habitat conservation areas, frequently flooded areas, geologically hazardous areas, unstable slopes, and associated areas and ecosystems. Consider habitats that support culturally significant species (such as salmon) for additional protections.</p>		II		<p>Community Development and Public Works <i>Key Partners</i></p> <ul style="list-style-type: none"> • Urban Forestry • Stakeholders such as ecology and engineering firms, development community • Tree care providers/arborists • Landscapers 	Increased staff capacity; code updates; stakeholder outreach; public outreach to parcels with critical areas	VMC code updated; outreach in critical area parcels; outreach to arborists and landscapers

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>7 Habitat restoration for new development Require private development to address habitat restoration issues onsite before development and explore options for enhanced requirements. This could include requiring new development to be visually compatible with the character of surrounding areas, and, where feasible, restoring and enhancing degraded areas adjacent to the property to create tree and wildlife corridors in new development. Evaluate tree and landscape codes to determine how to prioritize tree preservation and create landscape areas for native and climate-resilient large form trees.</p>		II	III	<p>Community Development <i>Key Partners</i></p> <ul style="list-style-type: none"> • Urban Forestry • Stakeholders such as ecology, engineering and landscape architect firms and development community. 	Code evaluation and update; require TreeCAP participation; stakeholder outreach	VMC code updated; Outreach; increase in tree canopy over time
<p>8 Tree canopy recommendations Consistent with Reside Vancouver and best practices to avoid green gentrification, implement the recommendations in the City’s Tree Canopy Assessment (2021). Key recommendations include but are not limited to:</p> <ul style="list-style-type: none"> • Leverage results of the assessment to promote the urban forest, including timely education, outreach, and decision support to budget for, fund, and implement urban forest monitoring, maintenance, and management. Consider establishing new short- and long-term canopy cover goals. • Use the urban tree canopy change data to identify areas to prioritize canopy expansion and street tree maintenance and equitably distribute healthy trees on public and private land, especially near impervious surfaces. • Develop new and continue existing outreach programs toward private landowners, focusing on low-canopy, underserved, and overburdened neighborhoods. This includes expanding the partnership with Friends of Trees and continuing to develop partnerships with community based organizations. • Use TreePlotter to identify areas in need of tree canopy and prioritize planting efforts based on key data (e.g., Tree Equity Score, the WA Health Disparities Map) and weighted scenarios to focus outreach, tree planting, and tree maintenance efforts in priority areas (e.g., low urban tree canopy, high possible planting area, and significant ability to improve air quality or reduce the urban heat island effect). <p>(continued on next page)</p>	I	II	III	<p>Public Works— Urban Forestry <i>Key Partners</i></p> <ul style="list-style-type: none"> • Reside Vancouver, • Fourth Plain Forward • Friends of Trees, • Private property owners, • Urban Forestry Commission, • City departments (Parks, Recreation and Cultural Services, Public Works, Community Development) 	Existing plan; public outreach; community revegetation projects	Number of plantings in overburdened communities; number of community enhancement projects in priority areas; TreeCAP participation; increase in tree canopy over time; volunteer engagement

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>8 (continued from previous page)</p> <ul style="list-style-type: none"> Require Silver Leaf achievement in the City’s TreeCAP program, which sets a goal of 15% tree canopy cover for commercial development and 33% tree canopy cover for single-family residential development. Also require long-lived, drought-tolerant, climate-resilient native plantings and support retention of mature canopy where it already exists, using the code evaluation in the “habitat restoration for new development” and recommendations from the City’s Tree Canopy Assessment (2021) to help prioritize the location of new plantings. Explore the feasibility and impact of incentivizing Gold Leaf achievement in the City’s TreeCAP program, which sets a goal of at least 17% tree canopy cover for commercial development and at least 35% tree canopy cover for single-family residential development. Incentives may include fee discounts or discounted trees to plant. 						

Strategy NS-3. Conserve Water Resources

This strategy will ensure sufficient water supply and access to all Vancouver community members.

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>9 Community water conservation Implement the current (ca. 2022-2025) and future (2025+) demand-side Water Use Efficiency (WUE) Program measures. These measures are expected to reduce the average equivalent residential unit (ERU) annual water consumption by 1% per six years to achieve 200 gallons per day/ERU by 2025, then reduce peak-season residential per capita daily use by 2% in 2025 and beyond.</p>	I	II		<p>Public Works—Water Key Partners</p> <ul style="list-style-type: none"> Urban Forestry Stakeholders such as ecology and engineering firms, development community Tree care providers/arborists Landscapers 	Implementation of existing plan	ERU annual water consumption

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>10 Rainwater capture incentives Work with building owners to incentivize rainwater capture for reuse and construction or retrofits of stormwater flow control / infiltration facilities for residential and commercial buildings.</p>		II		<p>Community Development <i>Key Partners</i></p> <ul style="list-style-type: none"> • Environmental advocacy and educational groups (Watershed Alliance, Columbia Springs, Lower Columbia Nature Network) • Water Resources Education Center • Residential and commercial building owners 	Stakeholder outreach; incentive program	Incentives created; incentives utilized
<p>11 Lawn removal and drought tolerant landscaping incentives Establish incentives/rebates for drought-tolerant residential landscaping, removal of grass lawns with replacement by native and climate-resilient plantings, and efficient irrigation. Support community partners and nonprofits that do this work.</p>		II		<p>Community Development <i>Key Partners</i></p> <ul style="list-style-type: none"> • Environmental advocacy and educational groups (Watershed Alliance, Columbia Springs, Lower Columbia Nature Network) • Water Resources Education Center • Residential and commercial building owners 	New program, expand TreeFund program; Nature Patch; Backyard Habitat Program	Number of participants; amount of turf converted; number of plants

Solid Waste & Wastewater



We will reduce per capita waste by diverting food to those who need it, and by reusing, repairing, recycling, and composting more. We will reduce per capita water usage and operate our wastewater treatment more efficiently.

Strategies and Actions

Strategy SW-1. Require recycling and organic material management

Require city-wide recycling and/or organics collection in a manner that will not economically or otherwise burden overburdened communities.

Actions	Impact	City Costs	Community Costs	Cost of Inaction	Benefits
1 Citywide composting & organics management	⚡⚡⚡			👛	💰 ⚙️ 🤝 ⚖️ ♻️
2 Municipal recycling & composting				👛	💰 ⚙️ 🤝 ⚖️ ♻️
3 Recycled materials markets				👛	💰 ⚙️ 🤝 ⚖️ ♻️
4 Waste diversion community participation				👛	💰 ⚙️ 🤝 ⚖️ ♻️
5 Construction & demolition incentives				👛	💰 ⚙️ 🤝 ⚖️ ♻️

Strategy SW-2. Zero out wastewater emissions

Zero out emissions from wastewater treatment by incorporating enhanced energy efficiency, methane capture, and renewable fuels into new and existing systems.

Actions	Impact	City Costs	Community Costs	Cost of Inaction	Benefits
6 Solids management and resource recovery plan				👛	💰 ⚙️ 🤝 ⚖️ ♻️

Key

- ⚡ = Quantified emissions reduction potential (L/M/H)
- ⊙ = Strong supporting action
- 💰 = Quantified costs (L/M/H)
- 👛 = High cost of inaction
- 💰 = Highly affordable
- ⚙️ = Highly feasible
- 🤝 = Strong community support
- ⚖️ = Highly equitable
- ♻️ = Strong co-benefits

*Actions without any icons have not been evaluated

Implementation

Strategy SW-1. Require recycling and organic material management

This strategy will reduce the amount of materials sent to the landfill and encourage circular economy behaviors.

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
1 City-wide composting and organics management Require city-wide organics collection in compliance with WA HB 1799. Along with other organics management actions, reduce organic waste to landfill by 100% by 2030.	I			Public Works—Solid Waste Key Partners <ul style="list-style-type: none"> Contracted hauler Clark County Solid Waste 	Adopt code	Number and percentage of eligible City customers; achieve metrics set by HB1799
2 Municipal recycling & composting Require food waste composting and glass and co-mingled recycling at City buildings.	I			Public Works—Solid Waste Key Partners <ul style="list-style-type: none"> Contracted hauler Leadership/points of contact at City facilities 	Adopt code	Number of city facilities participating; number of employees; various service levels
3 Recycled materials markets Pursue regional partnerships to bolster the market for recycled materials to accommodate increased flows from implementation of waste diversion actions. This action may include eco-industrial development, in which a waste stream from one firm becomes the raw material for another, thus minimizing the use of raw materials.		II	III	Economic Prosperity & Housing Key Partners <ul style="list-style-type: none"> Greater Vancouver Chamber of Commerce Columbia River Economic Development Council Port of Portland Clark County Solid Waste 	Conversations and partnerships with organizations representing local and regional businesses	Number of potential opportunities identified and pursued; examples of successful market opportunity developments

Timeframe: I = short-term; II = mid-term; III = long-term; all selected = ongoing

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>4 Waste diversion community participation Work with haulers, material recovery facility and transfer stations to increase and improve community participation in recycling and organics. Create incentives and disincentives for reducing contamination in recycling and organics loads in compliance with state mandates to improve quality materials.</p>		II		<p>Community Development Key Partners</p> <ul style="list-style-type: none"> Contracted and/or licensed haulers Contracted yard debris vendors Clark County Solid Waste 	Existing programs from City and waste hauler	Percent of waste diverted; percent of contamination; implementation of City's Contamination Reduction Outreach Plan (CROP; required by Ecology); data on regional contamination efforts; percent tons delivered / diverted from spring and fall coupon programs and neighborhood cleanup events
<p>5 Construction & demolition incentives Promote waste reduction from construction & demolition. This may include:</p> <ul style="list-style-type: none"> Promote deconstruction and recycling through City ordinance and/or incentives. Lead by example: deconstruct municipal facilities that would normally be demolished and document as a case study to show how the environmental benefit contributes to sustainability goals and CAP 2.0. Lead by example: construct new municipal facilities using Designs for Disassembly, which is a suite of principles that allow building components to be extracted from buildings in a reusable form. 		II		Community Development	Green Building Policy development	Inclusion in green building policy

Strategy SW-2. Zero out wastewater emissions

This strategy will reduce emissions from wastewater treatment.

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>6 Solids management and resource recovery plan Develop a solids management and resource recovery plan for wastewater facilities to generate renewable energy and beneficial materials. Explore the possibility of incorporating diverted food and organic waste into wastewater facility solids processing.</p>	I	II		<p>Public Works—Wastewater Key Partners</p> <ul style="list-style-type: none"> Solid Waste Local businesses affected by HB 1799 	Incorporate into plans for scheduled facility upgrades/expansions	Facility design; completed plan

Equity & Green Economy



Vancouver will be a city that embeds equity in climate action, with regular assessments of community vulnerability, a comprehensive anti-displacement policy, and climate strategies and actions that prioritize an equitable distribution of costs and benefits. Through a just transition, Vancouver will be a city that educates and trains its workers for careers in clean technology, renewable energy, and electric vehicles.

Strategies and Actions

Strategy EQ-1. Enhance resilience of overburdened communities

Enhance resilience of populations disproportionately impacted by climate change and structural racism while proactively planning for and mitigating potential externalities of increased resilience. Implement the Capturing Momentum and Aspirational Packages of recommendations from Reside Vancouver, the City's comprehensive anti-displacement policy, to help those with low incomes stay in their homes and help those vulnerable to or experiencing homelessness to secure reliable affordable housing in locations that are not at risk of climate impacts such as increased flooding.

Actions	Impact	City Costs	Community Costs	Cost of Inaction	Benefits
1 Climate Community Advisors					
2 Comprehensive climate risk assessment and adaptation plan					
3 Hazard mitigation plan					
4 Reside Vancouver implementation					
5 Community safety hubs					
6 Reserve funding for extreme weather events					
7 Fossil fuel storage ban					
8 Comprehensive outreach and education					
9 Air conditioning and filtration retrofits					

Key

- ⚡ = Quantified emissions reduction potential (L/M/H)
- ⚙️ = Highly feasible
- 🎯 = Strong supporting action
- 🤝 = Strong community support
- 💰 = Quantified costs (L/M/H)
- ⚖️ = Highly equitable
- 🏠 = High cost of inaction
- 🌱 = Strong co-benefits
- 🏠 = Highly affordable

*Actions without any icons have not been evaluated

Strategy EQ-2. Build a more community-driven, circular economy

Reduce the carbon footprint of goods and services by building a community-driven economy to promote the reduction, reuse, and repair of goods and materials and expand downstream markets for waste products. Work with City economic development partners to support small- and mid-sized businesses in the transition to a local, green economy that ensures equitable distribution of benefits and impacts. Conduct outreach and provide resources to residents, business, schools, and community partners to improve our food system by limiting waste, promoting low-carbon diets, expanding community owned markets, and securing surplus food to food-insecure residents.

Actions		Impact	City Costs	Community Costs	Cost of Inaction	Benefits
10	Community-owned markets					
11	Small business restructuring					
12	Local repair and reuse					
13	Support for repair industry					
14	Food recovery and reuse					

Strategy EQ-3. Support growth of the green technology workforce

Support more strategic implementation of the Comprehensive Economic Development Plan and Greater Portland Economic Development District Comprehensive Economic Development Strategy, specifically clean technology, solar energy and battery production, and manufacturing of EV parts/components. Implement workforce development and education programs that prioritize Vancouver’s current and future green job opportunities, with a focus on overburdened communities, transit-dependent communities, those who were formerly incarcerated, and workers employed in energy-intensive trade-exposed industries. Workforce SW WA and the school district will be key partners.

Actions		Impact	City Costs	Community Costs	Cost of Inaction	Benefits
15	Green workforce development					
16	Green commercial hubs					
17	Green economy assessment					
18	Community-led green economy prioritization					

Implementation

Strategy EQ-1. Enhance resilience of overburdened communities

This strategy will ensure everyone in Vancouver, particularly overburdened communities, have the ability to adapt to climate impacts.

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>1 Climate Community Advisors Establish a Climate Community Advisors panel to provide ongoing guidance from marginalized, underrepresented, and frontline communities (i.e., overburdened communities) on the equitable implementation of the CAP. When establishing and operating the panel, prioritize:</p> <ul style="list-style-type: none"> • Building trusting, working relationships and provide meaningful opportunities for community members to participate. • Encouraging participation from younger residents. • Creating stipends or funding for participants or community-based organizations (CBOs) to support organization capacity. 	I	II	III	<p>CMO <i>Key Partners</i></p> <ul style="list-style-type: none"> • Environmental education organizations and programs (such as Water Resources Education Center, EarthGen, Watershed Alliance, Camp Hope, Clark County Green Schools, Outdoor Afro, etc.) • Local high schools and colleges • Groups representing BIPOC communities (such as NAYA, NAACP, Boys and Girls Club of SW WA, LULAC, Latino Community Resource Group) 	Public outreach, research, and development of panel structure, bylaws, and mission; additional staff capacity to manage and oversee	Established panel with framework/ bylaws, roster, and schedule; number of active members; diversity of communities represented
<p>2 Comprehensive climate risk assessment and adaptation plan Conduct a comprehensive climate vulnerability assessment to identify the city’s climate-vulnerable populations and high-priority areas for implementation of CAP actions. Include in the assessment the climate vulnerability of:</p> <ul style="list-style-type: none"> • Building code standards. • Hazardous waste and industrial sites. • Transit system (e.g. vulnerability to infrastructure, operators/ employees, and riders). • Areas of the city that flood more (impacts to business and emergency services). 		II		<p>General Services— Emergency Management <i>Key Partners</i></p> <ul style="list-style-type: none"> • Community Development • C-TRAN • Clark County • CRESA 	Code standards assessment, revision, and expansion of the Natural Hazard Mitigation Plan; assessment of key transit locations, stops, and destinations	Completed/ updated plan; assessment of climate-vulnerable populations
<p>3 Hazard mitigation plan Review the City’s Natural Hazard Mitigation Plan to ensure that risks from climate-related hazards are adequately addressed.</p>		II		<p>General Services— Emergency Management <i>Key Partners</i></p> <ul style="list-style-type: none"> • Clark County • CRESA 	Update of Natural Hazard Mitigation Plan	Completed plan

Timeframe: I = short-term; II = mid-term; III = long-term; all selected = ongoing

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>4 Reside Vancouver implementation Implement the Capturing Momentum and Aspirational Packages of recommendations from Reside Vancouver, the City's comprehensive anti-displacement policy, to help those with low incomes stay in their homes and those vulnerable to or experiencing homelessness to secure reliable affordable housing in locations that are not vulnerable to climate impacts such as increased flooding.</p>	I	II	III	<p>Community Development <i>Key Partners</i></p> <ul style="list-style-type: none"> • Central Vancouver neighborhoods • Fourth Plain Forward • Housing providers • Workforce development agencies • Advocacy organizations representing BIPOC and low-income residents • Educational institutions 	Implementation of plan; continued community engagement; strategic partnerships on workforce development; affordable housing development	Comparative rental rate increases; number of homes affordable to low- and moderate-income individuals; number of workforce development programs
<p>5 Community safety hubs Identify & sustain community safety hubs for use during extreme weather events (e.g., schools, religious institutions). This includes:</p> <ul style="list-style-type: none"> • Develop agreements with city community centers, public partners, and public schools to serve as community centers (e.g. self-generated power, earthquake resistance, resource storage, resilience hubs). • Provide access to pre-determined emergency shelter locations to unhoused residents during heat waves, periods of unhealthy air quality, and extreme weather events • Provide maps and other directions for how to get to disaster shelters via public transit. • Conduct a community needs assessment for how to reach vulnerable populations during extreme climate events. 	I	II	III	<p>General Services— Emergency Management <i>Key Partners</i></p> <ul style="list-style-type: none"> • Communications • Neighborhood Liaisons • Community Development • Parks • Clark County • CRESA • C-TRAN • Vancouver Public Schools • Regional public partners • Faith-based organizations • Clark County shelter and housing organizations 	Public outreach, developing strategic partnerships, agreements	List and map of designated community safety hubs; agreement with hub locations to provide specified services; maps and directions for each location (for public distribution); contact information for each hub; completed community needs assessment for reaching vulnerable populations
<p>6 Reserve funding for extreme weather events Develop reserve funding for extreme weather events in the City of Vancouver that includes health & emergency services for climate-vulnerable populations (e.g. low-income, unhoused).</p>		II	III	<p>General Services— Emergency Management <i>Key Partners</i></p> <ul style="list-style-type: none"> • CRESA • Clark PUD 	Reserve funding	Fund established
<p>7 Fossil fuel storage ban Ban new fossil fuel storage in areas vulnerable to climate impacts and in areas defined as overburdened by the Washington Environmental Health Disparities Map and/or Environmental Justice Taskforce.</p>		II		<p>Community Development <i>Key Partners</i></p> <ul style="list-style-type: none"> • Development industry • Construction industry 	Policy language development; stakeholder engagement; incorporation of policy into City's Green Building Policy	Successful inclusion of policy language into City's Green Building Policy

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>8 Comprehensive outreach and education</p> <p>Develop education and outreach programs and materials for key initiatives. These include:</p> <ul style="list-style-type: none"> • Transportation initiatives related to reducing emissions and community mobility. • In partnership with Clark County Green Schools and EarthGen (formerly Washington Green Schools), develop curriculum that brings students into the process of making their school and grounds climate resilient. • Educate community on importance of local, native, and drought-tolerant habitats and planting and proper landscape maintenance techniques. • Continue to provide education and outreach around water conservation through the City's Water Resources Education Center. 	I	II	III	<p>Resources Education Center</p> <p><i>Key Partners</i></p> <ul style="list-style-type: none"> • City departments: Solid Waste, Communications, City Manager's Office, Community Development • Environmental education organizations (EarthGen, Clark County Green Schools, Columbia Springs) • Local schools and colleges • Public libraries 	<p>New content for existing programs; strategic partnerships; grant funding/ direct support/ contracted services with partner organizations</p>	<p>Number of programs developed or updated; number of Vancouver residents reached through educational programs</p>
<p>9 Air conditioning & filtration retrofits</p> <p>Support home retrofit programs to equip low-income residents with air conditioning, air filtration systems, energy back-up systems, and other resilience-building features. Work with partners such as Clark PUD.</p>	I	II		<p>Economic Prosperity & Housing</p> <p><i>Key Partners</i></p> <ul style="list-style-type: none"> • Clark PUD • Southwest WA Clean Air Agency • Affordable housing providers 	<p>Grant funding, small grant programs; direct support to partners working with low-income residents</p>	<p>Number of households provided with retrofits</p>

Strategy EQ-2. Build a more community-driven, circular economy

This strategy will uplift local businesses and community partners to transition to a green economy.

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>10 Community-owned markets Expand community-owned markets and spaces (e.g., food co-ops, farmers markets) and urban agriculture to support local food sovereignty. This action may also reduce transportation emissions from non-local food. As part of the expansion:</p> <ul style="list-style-type: none"> Account for vulnerabilities in the regional/national food production system. Partner with nonprofits, low-income communities, and overburdened communities to prioritize fresh, healthy food for those who are food-insecure. Establish food hubs to distribute locally produced food. Incentivize restaurants to recycle food waste. 		II		<p>Economic Prosperity & Housing <i>Key Partners</i></p> <ul style="list-style-type: none"> Communications—Neighborhood Involvement Parks Neighborhood associations Vancouver Farmers Market 	Strategic partnerships, small grants; identify new locations for community garden opportunities; support for existing gardens	Number of new community markets; number of community gardens; % of residents within walking distance of a farmers market
<p>11 Small business restructuring Support small business restructuring for the green economy, with a focus on service and hospitality to recover from COVID-19. This may include:</p> <ul style="list-style-type: none"> Encourage private businesses to identify and address climate vulnerabilities to their business, including personnel (long and short term). Partner with existing businesses to develop materials and incentives to reduce their carbon footprints (e.g., transit subsidies, environmentally preferable purchasing program toolkits, and climate action grant programs). 	I	II		<p>Economic Prosperity & Housing <i>Key Partners</i></p> <ul style="list-style-type: none"> Local economic development organizations and business associations Workforce development agencies 	Work through existing economic development programs; strategic partnerships with local economic development organizations to identify business needs	Number of businesses contacted about climate adaptation/restructuring needs; presentations or meetings with local economic development organizations about business climate adaptation needs

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>12 Local repair and reuse Encourage and support collaborative consumption across the community. This may include:</p> <ul style="list-style-type: none"> • Implement mini-grant programs to support “collaborative consumption” community projects like tool libraries and repair cafes. • Locate tool-lending, repair workshops, and similar activities in public spaces. • Work with local and regional partners to conduct a public education and outreach campaign around local options for collaborative consumption options (e.g., tool-lending libraries, car share, and swap events). • Explore the potential for onsite community partnership programming to teach repair skills. 		II	III	<p>Economic Prosperity & Housing Key Partners</p> <ul style="list-style-type: none"> • Communications—Office of Neighborhoods • Repair Clark County (Columbia Springs) • Neighborhood and local business associations 	Mini-grants program where interested neighborhoods and community groups could apply for support; support partner organizations who do work in this area	Number of annual repair workshops; number of tool lending libraries
<p>13 Support for repair industry Expand economic development strategies and tools, such as grants and incentives, to retain industrial and repair industry businesses. This may include partnering with local organizations to support job training for repair of common tools and equipment.</p>	I	II	III	<p>Economic Prosperity & Housing Key Partners</p> <ul style="list-style-type: none"> • Repair Clark County (Columbia Springs) • Local economic development organizations and business associations • Workforce development agencies 	Expansion of existing programs; small grants programs	Inventory of industrial and repair-oriented businesses in Vancouver
<p>14 Food recovery and reuse Support a food donation program for grocery stores to rescue surplus food. Establish a robust food recovery program to support community members and protect against disruptions, including working with food rescue organizations and commercial kitchens and using guidance from the Department of Ecology’s Use Food Well Plan.</p>		II		<p>CMO Key Partners</p> <ul style="list-style-type: none"> • Vancouver School District 	Existing guidance; strategic partnerships	Established food recovery program

Strategy EQ-3. Support growth of the green technology workforce

This strategy will encourage green jobs and reduce employee commute emissions.

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>15 Green workforce development Implement workforce development and education programs that advance Vancouver's current and future green job opportunities. This may include:</p> <ul style="list-style-type: none"> • Develop meaningful and equitable workforce programs within new re-use markets (e.g., provide training for repair clinics, food donation/transportation programs, etc.). • Explore ways to establish a local hiring preference for green jobs and jobs that reduce climate risks in Vancouver. • Work with local and regional partners to develop and promote internship and apprenticeship programs in the green economy. 		II	III	<p>Economic Prosperity & Housing <i>Key Partners</i></p> <ul style="list-style-type: none"> • Local economic development organizations and business associations • Workforce development agencies • Local high schools, community colleges, and apprenticeship programs • Trade union associations 	Strategic partnerships; support existing workforce development programs; raise awareness of trade careers among young people; review environmental purchasing policy for hiring preferences	Stakeholder meetings convened; number of local graduating students interested in pursuing green trades; number of apprenticeship programs that include training in specialized skills with climate benefits
<p>16 Green commercial hubs In alignment with City and regional economic development efforts, explore the potential of small green commercial hubs—which are clusters of sustainable local business—in neighborhoods that will promote the local green economy and compact, walkable communities.</p>		II		<p>Economic Prosperity & Housing <i>Key Partners</i></p> <ul style="list-style-type: none"> • Communications • Local business and neighborhood associations 	Stakeholder outreach; strategic partnerships	Number of hubs and affiliated businesses
<p>17 Green economy assessment In alignment with City and regional economic development efforts, work with partners in higher education and elsewhere to inventory and evaluate green economy innovations to determine which are aligned with the city's vision, goals, and capacity. These may include research centers for clean energy, water, manufacturing, and technology, as well as other endeavors.</p>		II	III	<p>Economic Prosperity & Housing <i>Key Partners</i></p> <ul style="list-style-type: none"> • Local colleges/universities • Regional and local economic development organizations • Local business associations 	Assessment; strategic partnerships	Completed assessment

Action Description	Timeframe			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
<p>18 Community-led green economy prioritization</p> <p>In alignment with City and regional economic development efforts, with community stakeholders and partners, conduct a study and host a community conversation to identify threats to current industries, opportunities for new green businesses and industries, and areas that need support. Then, work with regional partners to support business and non-governmental organizational efforts to participate in the green economy. This may include:</p> <ul style="list-style-type: none"> • Roundtables focused on green economy strategies • Business continuity planning and exercises, especially transitions to greener practices and industries • A “green economy guide” and other education campaigns focused on the opportunities a circular economy provides • Recognition program for green economy innovation • Create strategies to encourage sustainable tourism 		II	III	<p>Economic Prosperity & Housing</p> <p>Key Partners</p> <ul style="list-style-type: none"> • Regional and local economic development organizations • Local business associations • Port of Vancouver 	Community-based assessment; strategic partnerships; regional economic study	Completed study

City Governance



Vancouver will be a city that embeds climate change in everything we do. We will ensure that staff are knowledgeable and empowered to make sustainable decisions and there is adequate permanent funding to make our low-emissions, resilient vision a reality.

Strategies and Actions

Strategy GOV-1. Mainstream sustainability at the City, including staff capacity

Prioritize and institutionalize equitable social, economic, and environmental sustainability across City activities, annual budgeting processes, decision making, and CAP implementation. This will empower staff. Improve City staff knowledge of and capacity for their role in climate action. Identify and secure adequate permanent funding for successful and equitable CAP implementation.

Actions	Impact	City Costs	Community Costs	Cost of Inaction	Benefits
1 Critical staff capacity				🔪	👤 ⚙️ 🤝 ⚖️ ♻️
2 Climate priority declaration					👤 ⚙️ 🤝 ⚖️ ♻️
3 Regular updates of GHG inventory and CAP strategies				🔪	👤 ⚙️ 🤝 ⚖️ ♻️
4 Environmentally Preferable Purchasing (EPP) policy				🔪	👤 ⚙️ 🤝 ⚖️ ♻️
5 Expedited permitting for sustainability projects				🔪	👤 ⚙️ 🤝 ⚖️ ♻️
6 Reduce vehicle trips by municipal employees				🔪	👤 ⚙️ 🤝 ⚖️ ♻️
7 City Green Teams					
8 Municipal energy fund					

Key

- ⚡ = Quantified emissions reduction potential (L/M/H)
- ⚙️ = Highly feasible
- 👤 = Strong supporting action
- 🤝 = Strong community support
- 💰 = Quantified costs (L/M/H)
- ⚖️ = Highly equitable
- 🔪 = High cost of inaction
- ♻️ = Strong co-benefits
- 👤 = Highly affordable

*Actions without any icons have not been evaluated

Implementation

Strategy GOV-1. Mainstream sustainability at the City, including staff capacity

This strategy will empower staff and institutionalize sustainable City government operations.

Action Description	Timeframe ¹			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
1 Critical staff capacity Build critical staff capacity to support CAP development and implementation. This includes: <ul style="list-style-type: none"> Evaluate needed staff capacity and if needed, hire additional staff to implement the goals and strategies of the CAP. Provide education on City's CAP for new hires during onboarding process. 	I			CMO Key Partners <ul style="list-style-type: none"> Human Resources 	Budget request; developing training modules for new employees; incorporating training modules into onboarding process	Number of FTE added to CAP work; number of internships and fellowships; % of new employees completing CAP training modules
2 Climate priority declaration Release a climate priority declaration.	I			CMO Key Partners <ul style="list-style-type: none"> City Council Legal 	City resolution	Adopted resolution
3 Regular updates of GHG inventory and CAP strategies Conduct a GHG Emissions Inventory update every 4 years. The updated GHG emissions inventory will be used to: <ul style="list-style-type: none"> Evaluate progress towards goals and adjust CAP strategies accordingly. Provide an opportunity to modify CAP based on changing conditions and new technology. 	I	II	III	CMO Key Partners <ul style="list-style-type: none"> Community stakeholders Climate Community Advisory panel (if formed) 	Conduct updates of GHG inventories; community engagement, assessment of existing plan's effectiveness	GHG and CAP updates completed on schedule
4 Environmentally Preferable Purchasing program Develop and enforce a City of Vancouver environmentally preferable purchasing policy (EPP). This may include: <ul style="list-style-type: none"> Considering life-cycle costing as part of cost comparisons. Promote local purchasing to support local businesses and reduce GHG emissions from transportation and distribution. Require energy and water efficiency as a primary consideration for all future purchasing decisions. Develop template language that staff can use when writing purchase requests and Requests for Proposals (RFPs). 	I			Finance—Procurement Key Partners <ul style="list-style-type: none"> Public Works General Services Parks Recreation Cultural Services Police Fire 	Best practices review; engagement with City departments; development of policy; education on new policy implementation	Completed policy document; completed trainings on policy implementation for City staff
5 Expedited permitting for sustainability projects Expedite permitting for sustainable projects across all sectors, with a priority on the high-emissions transportation and building sectors (e.g., implementation of energy storage infrastructure).		II		Community Development—Development Review	Code update	Updated code

¹ Timeframe: I = short-term; II = mid-term; III = long-term; all selected = ongoing

Action Description	Timeframe ¹			Lead & Key Partners	Method(s)	Metrics
	I	II	III			
6 Reduce vehicle trips by municipal employees Promote, accommodate, and incentivize carpooling, vanpooling, and telecommuting amongst City employees to reduce driving commute trips, especially drive-alone. Expand telecommute and flexible schedules for City employees.	I	II	III	Human Resources	TDM best practices; staff engagement	Percent of City staff using alternate transportation; percent of staff reducing driving through telecommuting or flexible schedules; number of employees taking advantage of commuter benefits
7 City green teams Create a “Green Teams” program to support City staff in leading sustainability initiatives in their departments or building.	I			CMO Key Partners • City departments: Buildings, Facilities	Establish goals and structure for new program; identify and convene interested participants from each department	Established Green Teams program; number of participating departments and buildings
8 Municipal energy fund Establish a municipal energy fund to create a self-sustaining source of funds for investing in energy-efficient municipal operations.		II		General Facilities	Evaluation of potential funding sources; budget allocation	Established municipal energy fund; number of projects funded per year via the fund

What We're Doing Next

This CAP will serve as a cohesive guide to help Vancouver meet its goals to reach carbon neutrality and to strengthen the overall resilience of our communities. To be successful, we will:

- **Make equity a guiding principle of implementation.** We will only be as successful as the most vulnerable in our community, and it will be essential that equity and a just transition guide everything we do.
- **Ensure alignment across City initiatives.** To bolster synergies with and maximize impacts of ongoing City planning programs efforts, CAP actions must align with, and in some cases be incorporated into, the Comprehensive Plan, Transportation System Plan, and other City efforts. This will help ensure a coordinated, efficient approach to climate action.
- **Maintain effective CAP governance.** As we formalize climate action across the city, we will establish and maintain clear roles and responsibilities for departmental executives, departmental CAP leads and support staff, and the City Manager's Office. We will also define policies, procedures, and guidance for CAP implementation and oversight. To ensure we are making tangible progress towards achieving carbon neutrality, this must include an integrated and efficient measuring, tracking, and reporting process.
- **Support an informed and decisive City Council.** The pace and scale of climate change and available climate solutions continue to accelerate. It is essential that our elected leaders have the information they need to make informed decisions about CAP implementation.



With these guiding principles and best practices in mind, our immediate next steps are to:

- **Continue to implement the Early Action Package.** CAP actions are designed to build from a successful Early Action Package.
- **Gather implementation guidance from stakeholders and communities and solidify a long-term community engagement strategy.** Continued collaboration and engagement with the City Council and staff, community and business leaders and partners, and the public will be key to effective implementation. We will engage impacted communities and stakeholders prior to administrative action and City Council deliberation. We will also prioritize engagement with overburdened communities, consistent with just transition principles such as self-determination. By focusing on a just transition, we will also ensure that equity guides strategic, meaningful implementation of CAP actions.
- **Assess climate risks.** The CAP process did not include a formal assessment of climate vulnerability and risk. The assessment will equip the City with an understanding of who and what are most vulnerable to the specific climate impacts in the Vancouver area, so we can ensure resilience actions are focused on the most vulnerable communities and sectors. While resilience actions in the CAP are based on community input, best available science, and City staff knowledge, they will need revisiting following completion of the climate risk assessment.
- **Build personnel and funding capacity.** Development of the CAP has shown that the personnel and funding capacity recommended in the Early Action Package are likely insufficient to reach Vancouver's carbon neutrality goals. Given the opportunities presented by the federal infrastructure bill, near-term action to expand staff capacity and bring in CAP funding is a priority.



Endnotes

- [1] The Intergovernmental Panel on Climate Change’s [6th Assessment Report](#) is clear that immediate, significant global action can stem the worst impacts of climate change. In particular, we need to reach carbon neutrality—where the GHG emissions released to the atmosphere are balanced by removing or storing the same amount of carbon—by mid-century.
- [2] Key state and federal standards include federal fuel efficiency standards and several state policies: the Clean Energy Transformation Act (CETA), which requires Washington’s electric utilities to be 100% carbon-free by 2045; the Clean Buildings Performance Standard, which requires large commercial and multi-family buildings to reduce their energy use intensity 15% and provide EV charging capability on-site at new buildings; the state building code which requires a 70% reduction in annual net energy consumption for new construction; the Clean Fuel Standard, which requires a 20% reduction in the carbon intensity of fuels by 2038; HB 1287 requiring EV charging capability for new single-family construction by 2024; and the Climate Commitment Act, which places an economy-wide cap on carbon, requires a 45% reduction in emissions by 2030, and requires a 95% reduction in emissions and net-zero by 2050 (consistent with best available science).

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Appendix

Summary of Estimated Emissions Reductions and Costs of Key Actions

Estimated Emissions Reductions

We modeled estimated emissions reductions for key actions in the buildings & energy, transportation & land use, and natural systems focus areas. We selected these actions for modeling because they were likely to be impactful, were of interest to members of the stakeholder advisory group, and were able to reliably be modeled with available data.

Summary of Estimated Emissions Reductions from Key Actions through 2040

Strategy Name	Action Number	Action Name	H/M/L	Estimated Emissions Reduction by 2040 (MT CO _{2e})	Rank	% of Total Estimated Emissions Reductions
Decarbonize and electrify vehicles	TLU3.23	Medium- and heavy-duty truck decarbonization	H	567,412	1	12%
Require recycling and organic material management	MC1.1	Reduce organic waste to landfill	H	528,880	2	11%
Decarbonize and electrify vehicles	TLU3.20	EV infrastructure plan	H	527,560	3	11%
Decarbonize homes, businesses, and other buildings	BE2.17	Natural gas carbon intensity	H	442,579	4	9%
Increase carbon storage in trees, vegetation, and soil	NS1.1	Native & climate-resilient planting in municipal projects	H	356,789	5	7%
Decarbonize homes, businesses, and other buildings	BE2.12	Commercial building electrification incentives	H	339,825	6	7%
Decarbonize homes, businesses, and other buildings	BE2.11	Home electrification incentives	H	276,994	7	6%
Decarbonize and electrify vehicles	TLU3.22	Electric vehicle advocacy & education	H	263,780	8	5%
Shift driving trips to clean, active modes of transportation	TLU2.11	Transportation demand management requirements	H	227,556	9	5%
Decarbonize and electrify vehicles	TLU3.21	EV charging requirements	H	211,024	10	4%
Increase carbon storage in trees, vegetation, and soil	NS1.2	Native & climate-resilient planting in private projects	H	203,880	11	4%
Shift driving trips to clean, active modes of transportation	TLU2.9	Transit ridership improvements	H	183,557	12	4%
Decarbonize homes, businesses, and other buildings	BE2.18	Contractor training for electric transition	H	166,107	13	3%

Strategy Name	Action Number	Action Name	H/M/L	Estimated Emissions Reduction by 2040 (MT CO _{2e})	Rank	% of Total Estimated Emissions Reductions
Shift driving trips to clean, active modes of transportation	TLU2.8	Improved pedestrian infrastructure	M	100,665	14	2%
Decarbonize homes, businesses, and other buildings	BE2.15	All-electric reach code for new development	M	85,719	15	2%
Increase use and storage of renewable energy while reducing consumption	BE1.2	Energy upgrades for existing commercial buildings	M	82,019	16	2%
Increase use and storage of renewable energy while reducing consumption	BE1.1	Community energy efficiency incentives	M	51,626	17	1%
Decarbonize homes, businesses, and other buildings	BE2.16	All-electric reach code for existing buildings at point-of-sale	M	50,526	18	1%
Decarbonize homes, businesses, and other buildings	BE2.14	All-electric incentives for new development	L	35,312	19	1%
Increase use and storage of renewable energy while reducing consumption	BE1.5	100% renewable energy for municipal buildings	L	34,232	20	1%
Create neighborhoods that support clean modes of transportation	TLU1.2	Sustainable Neighborhood-Scale Development	L	31,138	21	1%
Create neighborhoods that support clean modes of transportation	TLU1.1	Mixed use development	L	30,730	22	1%
Decarbonize and electrify vehicles	TLU3.24	Transit & waste collection fleet electrification	L	14,502	23	0%
Increase carbon storage in trees, vegetation, and soil	NS1.4	Carbon sequestration on public lands	L	12,120	24	0%
Shift driving trips to clean, active modes of transportation	TLU2.10	Driving trip reduction for local schools	L	11,428	25	0%
Increase carbon storage in trees, vegetation, and soil	NS1.5	Carbon sequestration on private lands	L	10,507	26	0%
Increase use and storage of renewable energy while reducing consumption	BE1.3	Clean energy financing	L	6,607	27	0%
Increase use and storage of renewable energy while reducing consumption	BE1.4	Solar incentives	L	6,607	28	0%
Increase use and storage of renewable energy while reducing consumption	BE1.6	Natural gas demand management	L	89	29	0%

Cumulative CAP reductions by 2040

4,859,773

100%

Estimated Costs

We modeled the costs to the City, costs to the community, and the cost of inaction of the top 10 most impactful actions reported at the December 2021 stakeholder advisory meeting.

Definitions

Action Number:	Refers to the strategy number and action number within each focus area.
NPV:	Net present value using a 3% discount rate. Negative numbers are cost savings, shown in green font.
Costs to City:	Refers to estimated costs incurred by the City of Vancouver.
Costs to Community:	Refers to estimated costs incurred by city partners and stakeholders such as C-TRAN, Clark PUD, NW Natural, and others.
Cost of inaction:	Based on the Washington Utilities & Transportation Commission (UTC) social cost of carbon of \$84 for the year 2025 (in 2020 dollars), which is midway between 2020 and the interim target of 2030.
Rating:	Costs are rated high, medium, or low. The table is organized from the highest to lowest per capita NPV community costs.

Summary of Estimated Costs of Key Actions through 2040

Strategy Name	Action Number	Action Name	NPV Costs to City	Per Capita NPV Community Costs	Cost of Inaction
Shift driving trips to clean, active modes of transportation	TLU2.9	Transit ridership improvements	\$133,529	\$2,940	\$11,527,597
Decarbonize homes, businesses, and other buildings	BE2.11	Home electrification incentives	\$32,309,531	\$690	\$18,054,428
Decarbonize homes, businesses, and other buildings	BE2.18	Contractor training for electric transition	\$25,670,687	\$368	\$10,815,122
Decarbonize homes, businesses, and other buildings	BE2.12	Commercial building electrification incentives	\$7,784,366	\$360	\$22,156,751
Decarbonize homes, businesses, and other buildings	BE2.17	Natural gas carbon intensity	\$32,098	\$37*	\$28,728,445
Decarbonize and electrify vehicles	TLU3.20	EV infrastructure plan	\$34,691,084	\$30	\$33,951,036
Increase carbon storage in trees, vegetation, and soil	NS1.2	Native & climate-resilient planting in private projects	\$716,190	\$9	\$13,063,602
Require recycling & organic material management	SW1.1	City-wide composting and organics management	\$15,630,814	\$0	\$34,482,703
Increase carbon storage in trees, vegetation, and soil	NS1.1	Native & climate-resilient planting in municipal projects	\$5,972,847	\$0	\$22,861,304
Decarbonize and electrify vehicles	TLU3.23	Medium- and heavy-duty truck decarbonization	\$267,059	(\$226)	\$35,439,484
Decarbonize and electrify vehicles	TLU3.22	Electric vehicle advocacy & education	\$25,735,126	(\$546)	\$16,975,518
Shift driving trips to clean, active modes of transportation	TLU2.11	Transportation demand management requirements	\$407,665	(\$671)	\$15,175,803
Decarbonize and electrify vehicles	TLU3.21	EV charging requirements	\$73,260	(\$1,780)	\$13,580,415
Total			\$149,424,255	\$1,211	\$277,514,238
Average per year			\$7,864,434	\$64	\$15,417,458
Average FTE requirement			2.66		

*Pending cost estimates from NW Natural

