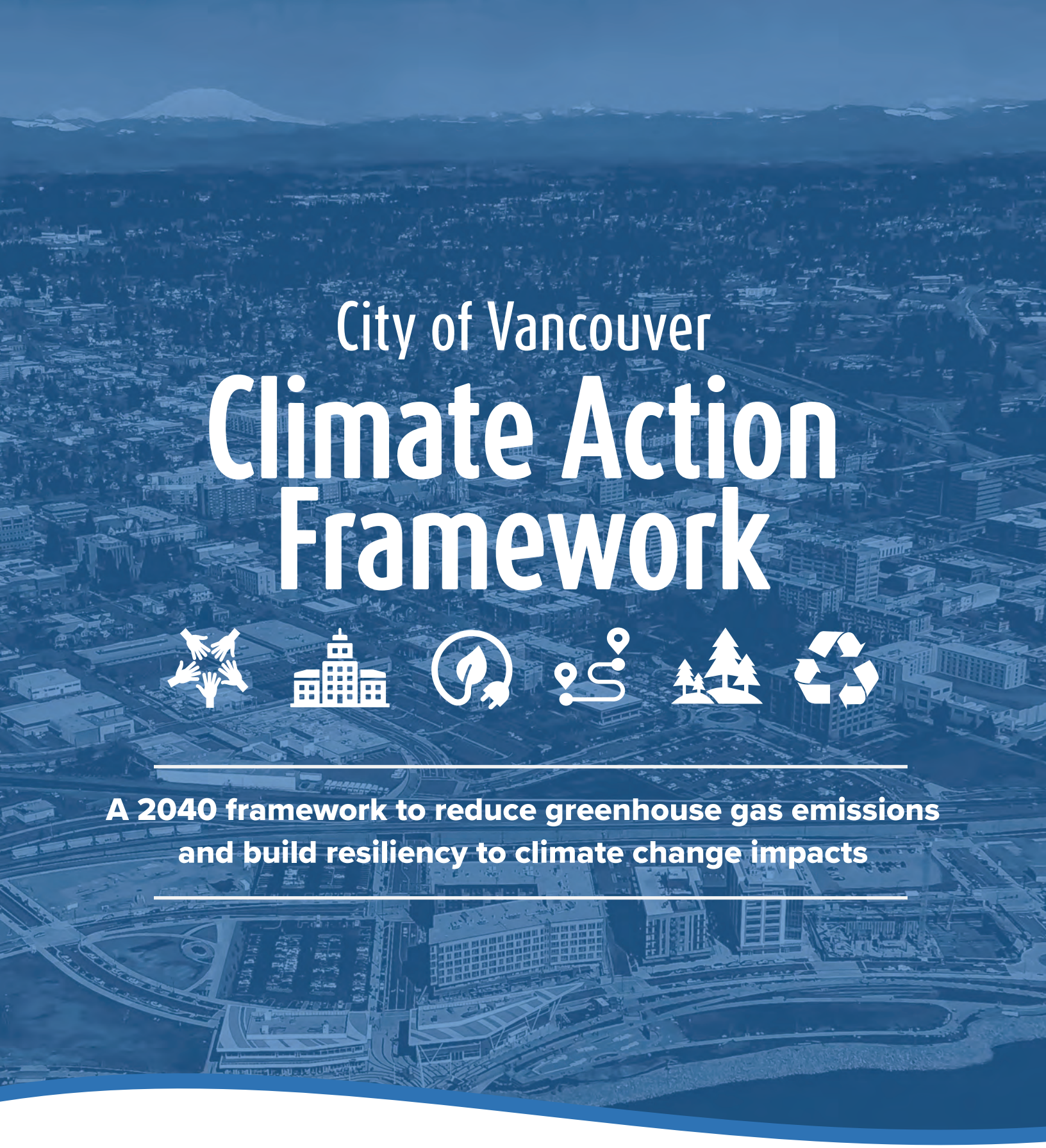

City of Vancouver

Climate Action Framework

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

CITY OF Vancouver WASHINGTON

December 2022

Welcome

Residents, neighbors, business owners, vistors, 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 ecosytems 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, equitable 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 Framework can already get us 80% 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 McEnerny-Ogle
Mayor Pro Tem Ty Stober
Councilmember Sarah J. Fox
Councilmember Bart Hansen
Councilmember Kim D. Harless
Councilmember Erik Paulsen
Councilmember Diana H. Perez
City Manager Eric Holmes

Our Thanks

The City of Vancouver is grateful to the following individuals and organizations for their contributions to develop the Vancouver Climate Action Framework.

City of Vancouver

Aaron Lande, City Manager's Office
Anthony Ramos, City Manager's Office
Anna Dearman, Community Development
Bryan Snodgrass, Community Development
Cayla Cothron, Community Development
Charles Ray, Public Works
Dan Norfleet, Public Works
Dan Zenger, Public Works
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Frank Dick, Public Works
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Rebecca Small, City Manager's Office
Rich McConaghy, Public Works
Shannon Williams, Community Development
Teresa Brum, Economic Prosperity and Housing
Tim Buck, Public Works
Tyler Clary, Public Works

Stakeholders and Community Groups

Alliance for Community Engagement
Audubon Society
Building Industry Association of Clark County
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
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
New Buildings Institute
PFLAG
Port of Vancouver
Shumway Neighborhood Association
Vancouver's Downtown Association
Waste Connections
Watershed Alliance

City Council

Anne McEnerny-Ogle, Mayor
Linda Glover, Mayor Pro Tem*
Ty Stober, Mayor Pro Tem
Sarah J. Fox, Councilmember
Bart Hansen, Councilmember
Kim D. Harless, Councilmember
Laurie Lebowsky, Councilmember*
Erik Paulsen, Councilmember
Diana H. Perez, Councilmember

*Previous Councilmembers

Consultant Team

P.J. Tillmann, Cascadia Consulting Group
Tristan Smit, Cascadia Consulting Group
Andrea Martin, Cascadia Consulting Group
Megan Lee, Cascadia Consulting Group

Our Roadmap, at a Glance

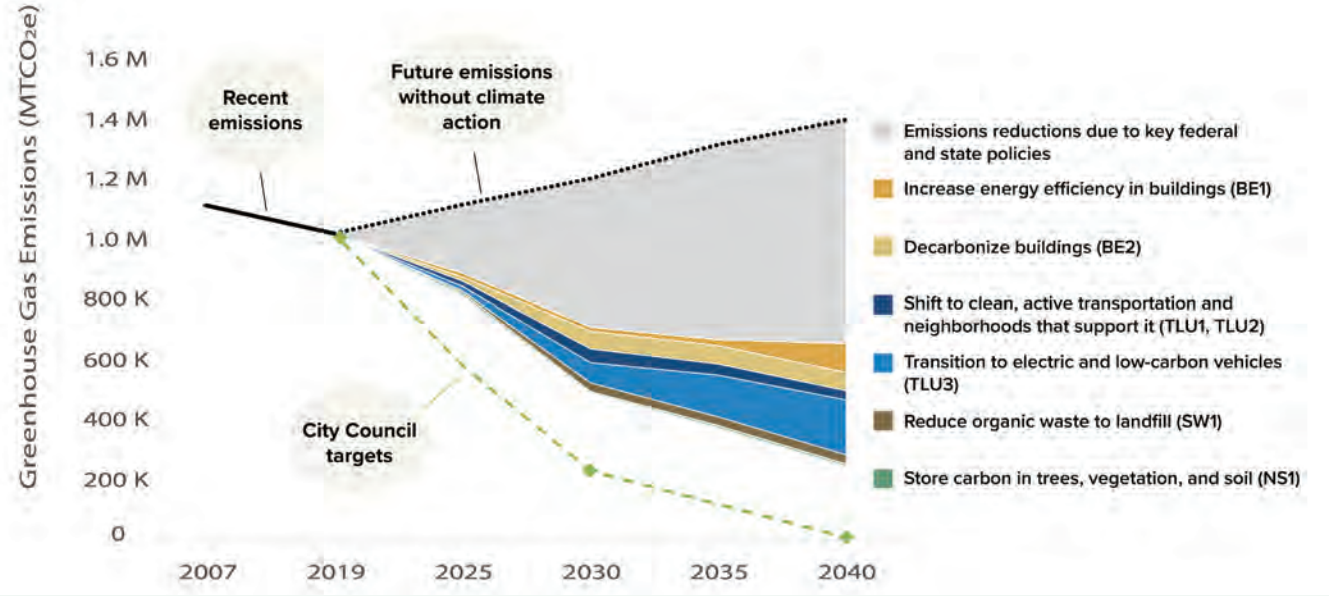
Current and expected climate impacts compel us to act now to protect our residents, infrastructure, and economy and to build a resilient, low-emissions city that future generations will enjoy. Guided by the principles of social, economic, and environmental sustainability and our commitment to a just 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 Framework (CAF) 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 Framework—along with current technologies and existing policy—will enable Vancouver to reach approximately 70% of our 2030 goal and 80% of our 2040 goal. We are optimistic that coming policy changes and technological innovations will help us close the remaining gap.



How the CAF Came Together

Over two years, community and City input, best available science, and technical modeling and analysis determined the CAF 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

Our Vision

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 CAF actions to work together and grow more aggressive over time to reach Vancouver's targets.

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

Equity in Climate Action and a Resilient, 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.

A City that Leads

Grounded in safety, equity, and climate action, Vancouver will be a leader in all we do. We will ensure that staff are knowledgeable and empowered to make sustainable decisions and there is adequate permanent funding to make our carbon-nuetral, resilient vision a reality.

100% Clean Energy

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

Active, Electrified Transportation and Connected Neighborhoods

Residents will be able to reach their destinations safely, reliably, and efficiently, however they choose to travel. Zero-emission vehicles will be affordable, common, and easy to charge or fuel. Our neighborhoods will be walkable, mixed-use, and compact, with secure affordable housing for current residents.

Connected, Carbon-Rich Natural Systems

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

Less Waste, Used and Disposed Smartly

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.

Next Steps

The CAF 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 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 resources 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 adjust actions every few years to make sure we stay on the pathway to carbon neutrality and integrate best practices and innovations we will need to be successful.

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

Key Terms & Acronyms

Term or Acronym	Definition
BIPOC	Black, Indigenous, and People of Color
CAF	Climate Action Framework
Carbon neutrality	GHGs released to the atmosphere are balanced by removing or storing an equivalent amount of carbon
Clark PUD	Clark Public Utilities District
Clean Energy	Energy generated from recyclable sources without emitting greenhouse gases.
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

Quick Navigation

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

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. Too often, the communities hardest hit are those with the fewest resources to cope. 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 and the safety and equity challenges it presents. To this end, Vancouver's CAF 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 safety 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 CAF. 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 2040, a resilient and sustainable Vancouver looks like...*

- **accessible active transportation**
- **affordable**
- **bold climate action**
- **efficient low-carbon homes and businesses**
- **green spaces**
- **healthy**
- **leader**
- **strong green economy**
- **walkable bikable streets**

Our priorities* to get there are:

- Elevate individuals and groups most burdened by climate impacts.
- 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.

*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 CAF 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 CAF implementation process. CAF 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.

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

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..

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.

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

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

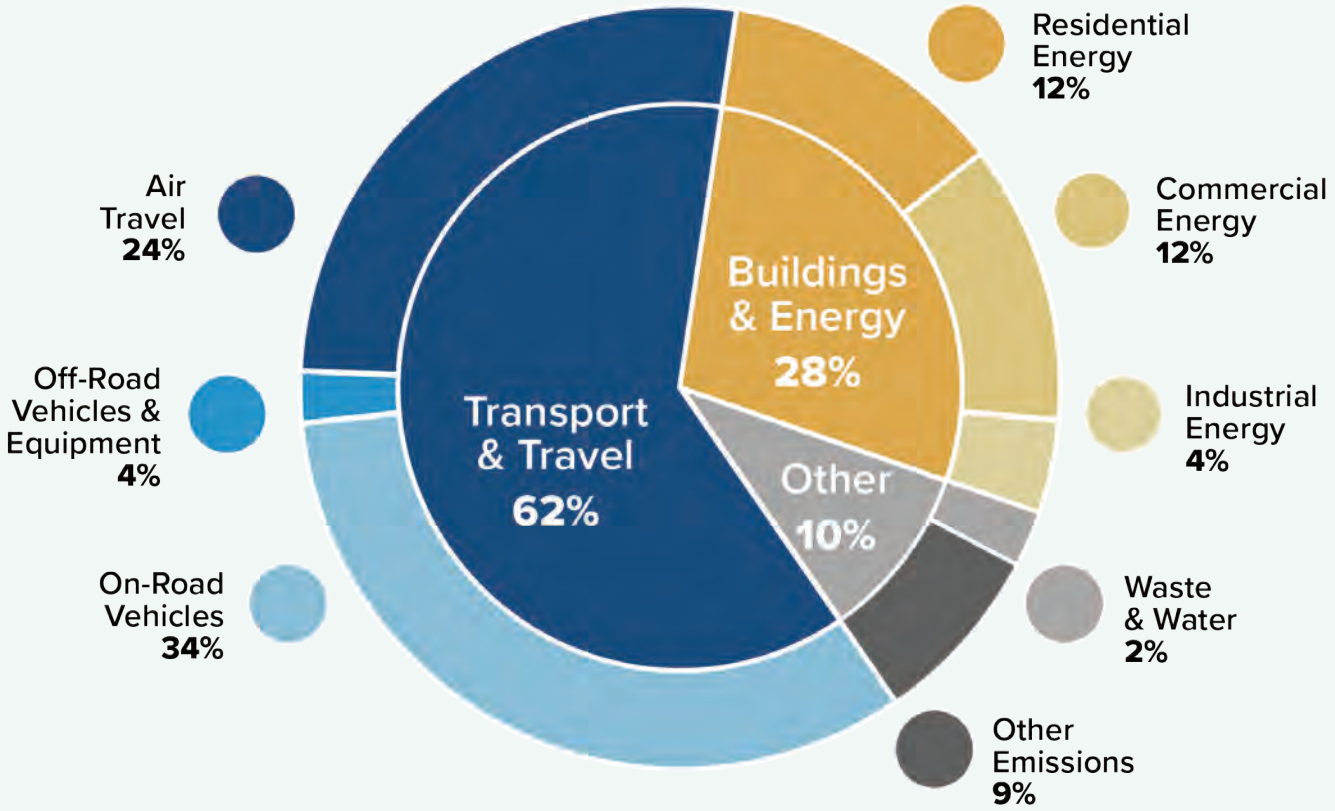
The following sections detail the City's approach to demonstrating leadership and achieving the goals that our community identified. We measured our GHG emissions quantities, sources, and trends (see Our Carbon Footprint), then used those results and community and stakeholder input to develop targeted 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 CAF 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.



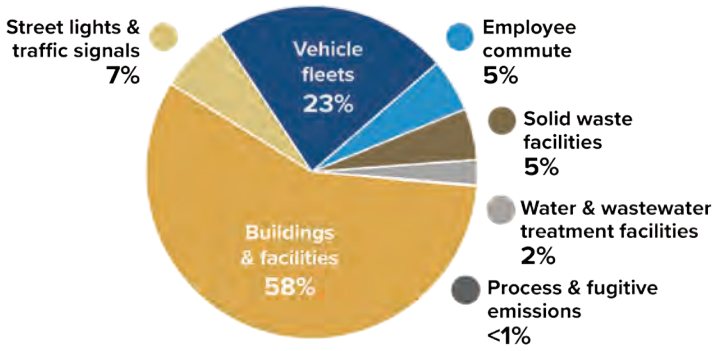
Trends Over Time

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.



City Operations Emissions

City operations are ~1% of total GHG emissions. From 2007 to 2019, City government emissions declined 61%, to 16,223 $MTCO_2e$. Major contributors to the City's footprint remain the electricity and gas used in City buildings, facilities, streetlights, and traffic signals, and the gas and diesel used in City fleet vehicles (including police and fire vehicles).

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

Taking
75,000
cars off the road for one year

Saving
40 million
gallons of gasoline

Charging
46 billion
fewer cellphones

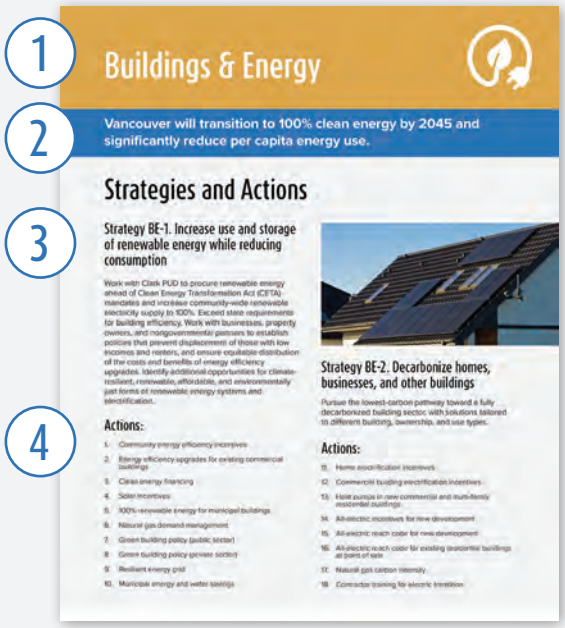
Our Carbon Solutions

Working closely with stakeholders and leveraging both quantitative and qualitative analysis of impacts, costs, and benefits, we developed and iteratively refined the CAF strategies and actions. CAF 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

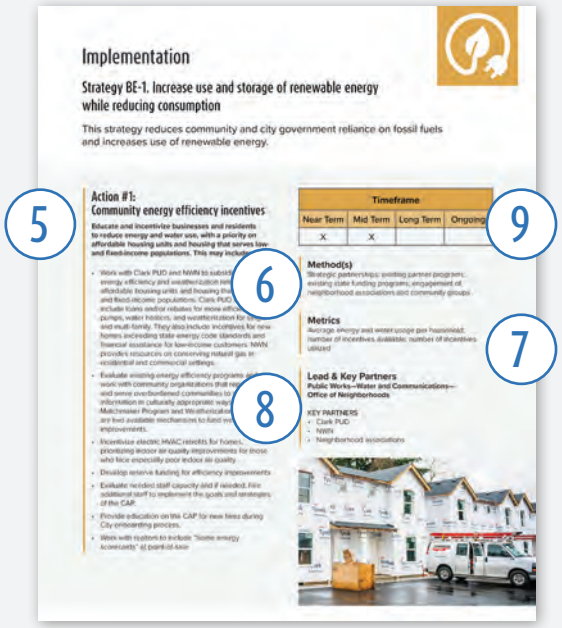
Strategies and actions are organized into six focus areas. Each begins with a brief overview, followed by detailed implementation actions for each strategy. See the Appendix for a summary of estimated emissions reductions and costs of key actions.

Focus Area Overview



1. **Focus Area Title** explains the major topics covered in the chapter.
2. **Focus Area Vision** articulates how the focus area contributes to Vancouver's overall vision for a low-emissions, resilient future.
3. **Strategy Description** briefly explains how, at a high level, the vision and goals will be achieved.
4. **Actions** for each strategy

Implementation Overview



5. **Action Description** provides a more detailed description of each action. Actions labeled **HIGH** have the **highest quantified emissions reduction potential.**
6. **Methods** describes how the action will be moved forward through existing or future plans, funding, etc.
7. **Metrics** lists key metrics for tracking and evaluating progress.
8. **Lead and Key Partners** identifies who will primarily lead and support implementation.
9. **Timeline** indicates whether implementation will happen in the near term, mid term, long term or on an ongoing basis.

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 zero-emission vehicles.

Strategies and Actions

Strategy EQ-1. Enhance resilience of overburdened communities

Enhance the 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 ensure that the City's investments in green infrastructure and climate-related projects do not contribute to the displacement of pre-existing and vulnerable residents.

Actions:

1. Climate Community Advisors
2. Comprehensive climate risk assessment and adaptation plan
3. Hazard mitigation plan
4. Prevent climate investments from leading to displacement
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

Equity & Green Economy

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 gardens and markets, and securing surplus food to food-insecure

Actions:

10. Community gardens and local markets
11. Small business restructuring
12. Local repair and reuse
13. Support for repair industries
14. Surplus food recovery

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

Support 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.

Actions:

15. Green workforce development
16. Green commercial hubs
17. 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 #1: Climate Community Advisors

Establish a Climate Community Advisors panel to provide ongoing guidance from frontline communities, particularly young people and people of color, on the equitable implementation of the CAF.

When establishing and operating the panel, prioritize:

- Build trusting, working relationships and provide meaningful opportunities for community members to participate.
- Encourage participation from younger residents.
- Creating stipends or funding for participants or community-based organizations (CBOs) to support organizational capacity.

Method(s)

Public outreach, research, and development of panel structure, bylaws, and mission; additional staff capacity to manage and oversee

Metrics

Established panel with framework/bylaws, roster, and schedule; number of active members; diversity of communities represented

Lead & Key Partners

CMO

KEY PARTNERS

- 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)

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Action #2: Comprehensive climate risk assessment and adaptation plan

Building from the lessons learned in the 2022 Vancouver Climate Adaptation Strategy,* conduct a comprehensive climate vulnerability assessment to identify the city's climate-vulnerable populations and high-priority areas for the implementation of resiliency measures. This assessment includes a review of:

- Building code standards.
- Environmental contamination areas and industrial sites.
- Transit system (e.g., vulnerability to infrastructure, operators/ employees, and riders).
- Areas of the city susceptible to flooding and urban heat island effects.

** This community-led adpatation strategy was developed by Hatch Planning, a graduate student team from Portland State University.*

Method(s)
Code standards assessment, revision, and expansion of the Natural Hazard Mitigation Plan; assessment of key transit locations, stops, and destinations

Metrics
Completed/updated plan; assessment of climate vulnerable populations

Lead & Key Partners
General Services—Emergency Management

KEY PARTNERS
- Community Development
- C-TRAN
- Clark County
- CRESA

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X		

Action #3: Hazard mitigation plan

Review the City's Natural Hazard Mitigation Plan to ensure that risks from climate-related hazards are adequately addressed.

Method(s)
Update of Natural Hazard Mitigation Plan

Metrics
Completed plan

Lead & Key Partners
General Services—Emergency Management

KEY PARTNERS
- Clark County
- CRESA

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X		

Action #4: Prevent climate investments from leading to displacement

Take proactive measures to ensure that investments in sustainable infrastructure and climate resiliency do not displace lower-income residents. This includes:

- 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 areas safe from climate impacts (such as flooding).

Method(s)

Implementation of plan; continued community engagement; strategic partnerships on workforce development; affordable housing development

Metrics

Comparative rental rate increases; number of homes affordable to low- and moderateindividuals; number of workforce development programs

Lead & Key Partners

Community Development

KEY PARTNERS

- Central Vancouver neighborhoods
- Fourth Plain Forward
- Housing providers
- Workforce development agencies
- Advocacy organizations representing BIPOC and low-income residents
- Educational institutions

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Action #5: Community safety hubs

Identify and sustain community safety hubs that can provide refuge during extreme weather events. This includes:

- Identify City-owned buildings that can serve as community safety hubs.
- Develop agreements with libraries, religious institutions, public schools, and other trusted institutions to serve as community safety hubs.
- Work with partners to put resilience measures in place for the hubs (e.g., self-generated power, earthquake resistance, materials storage).
- Ensure access to hubs for unhoused residents.
  • Develop a communications strategy to reach vulnerable populations before and during emergency situations.
- Create maps and directions to community safety hubs by various travel modes and work with community partners to distribute them to vulnerable populations.

Method(s)

Public outreach, developing strategic partnerships, agreements

Metrics

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

Lead & Key Partners

General Services—Emergency Management

KEY PARTNERS

- Communications
- Neighborhood Liaisons
- Community Development
- Parks
- Clark County
- CRESA
- C-TRAN
- Vancouver Public Schools
- Regional public partners
- Faith-based organizations

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Action #6: Reserve funding for extreme weather events

Develop reserve funding for extreme weather events in the City of Vancouver that includes health and emergency services for vulnerable populations such as people who are low-income, elderly, or unhoused.

Method(s)
Reserve funding

Metrics
Fund established

Lead & Key Partners
General Services—Emergency Management

KEY PARTNERS
- CRESA
- Clark PUD

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X	X	

Action #7: Fossil fuel storage ban

Ban new fossil fuel storage consistent with the provisions of the City of Vancouver's Fossil Fuel Facility Code Changes approved by City Council in October 2022.

Method(s)
Work with development community, fuel service providers, and City staff to incorporate new code requirements into projects.

Metrics
Education about code requirements for community and City permitting staff.

Lead & Key Partners
Community Development

KEY PARTNERS
- Development industry
- Fuel service providers

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X		

Action #8:
Comprehensive outreach and education

Develop educational materials and outreach programs for key climate initiatives. This may include:

- Transportation demand management initiatives aimed at reducing emissions.
- Partner with youth education programs to produce and deliver hands-on climate education curricula.
- Share the importance of using local, native, and drought-tolerant species, smart soil management techniques, and low-carbon maintenance practices in landscaping.
- Continue to provide water conservation education through the City's Water Resources Education Center.

Method(s)

New content for existing programs; strategic partnerships; grant funding/ direct support/ contracted services with partner organizations

Metrics

Number of programs developed or updated; number of Vancouver residents reached through educational programs

Lead & Key Partners

Resources Education Center

KEY PARTNERS

- 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

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Action #9:
Air conditioning & filtration retrofits

Support home retrofit programs to equip low-income residents with air conditioning, air filtration systems, energy back-up systems, and other resilience-building features.

Method(s)

Grant funding, small grant programs; direct support to partners working with low-income residents

Metrics

Number of households provided with retrofits

Lead & Key Partners

Economic Prosperity & Housing

KEY PARTNERS

- Clark PUD
- Southwest WA Clean Air Agency
- Affordable housing providers

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X	X		

Implementation

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 #10: Community gardens and local markets

Expand access to community gardens and support the expansion of food co-ops, farmers markets, and other community-owned markets to support local food sovereignty and reduce transportation emissions. This may include:

- Support interested neighborhoods in creating community garden spaces and incentivize developers to include community garden space in new developments.
- Support schools and youth education programs that teach students how to grow and prepare fresh produce.
- Partner with organizations that serve food-insecure populations to provide access to fresh, healthy food via community garden space and local produce markets.
- Establish food hubs to distribute locally produced food.

Method(s)

Strategic partnerships, small grants; identify new locations for community garden opportunities; support for existing gardens

Metrics

Number of new community markets; number of community gardens; % of residents within walking distance of a farmers market

Lead & Key Partners

Economic Prosperity & Housing

KEY PARTNERS

- Communications—Neighborhood Involvement
- Parks
- Neighborhood associations
- Vancouver Farmers Market

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X		

Action #11: Small business restructuring

Support small business restructuring for the green economy. This may include:

- Encourage private businesses to identify and address climate vulnerabilities in their business.
- 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).

Method(s)

Work through existing economic development programs; strategic partnerships with local economic development organizations to identify business needs

Metrics

Number of businesses contacted about climate adaptation/ restructuring needs; presentations or meetings with local economic development organizations about business climate adaptation needs

Lead & Key Partners

Economic Prosperity & Housing

KEY PARTNERS

- Local economic development organizations and business associations
- Workforce development agencies

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X	X		

Action #12: Local repair and reuse

Encourage and support resource sharing across the community. This may include:

- Promote resource-sharing options like tool-lending libraries, car share programs, online Buy Nothing groups, and swap events.
- Implement mini-grant programs to support resource-sharing community projects like tool libraries and repair cafes.
- Locate tool lending, repair workshops, and similar activities in public spaces.

Method(s)

Mini-grants program where interested neighborhoods and community groups could apply for support; support partner organizations who do work in this area

Metrics

Number of annual repair workshops; number of tool lending libraries

Lead & Key Partners

Economic Prosperity & Housing

KEY PARTNERS

- Communications—Office of Neighborhoods
- Repair Clark County (Columbia Springs)
- Neighborhood and local business associations

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X	X	

Action #13: Support for repair industries

Expand economic development strategies and tools to retain repair industry businesses. This may include:

- Partner with local organizations to support job training for the repair of common tools and equipment.
- Expand grants and incentives that could be provided for repair-based businesses and promote awareness of such financial opportunities among local business owners.

Method(s)

Expansion of existing programs; small grants programs

Metrics

Inventory of industrial and repair-oriented businesses in Vancouver

Lead & Key Partners

Economic Prosperity & Housing

KEY PARTNERS

- Repair Clark County (Columbia Springs)
- Local economic development organizations and business associations
- Workforce development agencies

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Action #14: Surplus food recovery

Support food recovery programs to recover surplus or imperfect food from grocery stores and restaurants. This may include:

- Work with established food rescue organizations and commercial kitchens using guidance from the Department of Ecology's Use Food Well Plan.
- Support expansion of businesses that connect customers to restaurants and stores that have surplus unsold food.
- Coordinate efforts with local food pantries to recover surplus food for the purpose of reducing food insecurity.

Method(s)

Existing guidance; strategic partnerships

Metrics

Established food recovery program

Lead & Key Partners

CMO

KEY PARTNERS

- Vancouver School District

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X		

Implementation

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

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

Action #15: Green workforce development

Implement workforce development and education programs that will position Vancouver as a leader in providing green goods and services throughout the region. This may include:

- Develop meaningful and equitable workforce programs within new re-use markets (e.g., provide training for repair clinics, food donation/transportation programs).
- Work with local and regional partners to develop and promote internship and apprenticeship programs in green economic areas.
- Promote visibility of green services offered by local companies and establish local hiring preferences.

Method(s)

Strategic partnerships; support existing workforce development programs; raise awareness of trade careers among young people; review environmental purchasing policy for hiring preferences

Metrics

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

Lead & Key Partners

Economic Prosperity & Housing

KEY PARTNERS

- Local economic development organizations and business associations
- Workforce development agencies
- Local high schools, community colleges, and apprenticeship programs
- Building and trade union associations

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X	X	

Action #16: Green commercial hubs

In alignment with City and regional economic development efforts, explore the potential of green commercial hubs of sustainable local business in neighborhoods that will promote the local green economy and compact, walkable communities.

Method(s)
Stakeholder outreach; strategic partnerships

Metrics
Number of hubs and affiliated businesses

Lead & Key Partners
Economic Prosperity & Housing

KEY PARTNERS
- Communications
- Local business and neighborhood associations

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X		

Action #17: Community-led green economy prioritization

In alignment with City and regional economic development efforts, work with community partners to identify promising opportunities for new and existing green industries and determine priority industries to pursue. This may include:

- A study to inventory and evaluate green economy opportunity areas and determine which are aligned with local vision, goals, and capacity.
- Roundtables focused on green economic development strategies.
- Support for businesses interested in transitioning to greener practices.
- A "green economy guide" and other education campaigns focused on building a circular, local economy.
- Develop a recognition program for green economy innovation.
- Create strategies to encourage sustainable tourism.
- Work with regional partners to raise awareness of and attract participation in green economic opportunities.

Method(s)
Communitybased assessment; strategic partnerships; regional economic study

Metrics
Completed study

Lead & Key Partners
Economic Prosperity & Housing

KEY PARTNERS
- Regional and local economic development organizations
- Local business and building associations
- Port of Vancouver

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X	X	

Buildings & Energy

Vancouver will transition to 100% clean energy 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:

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

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:

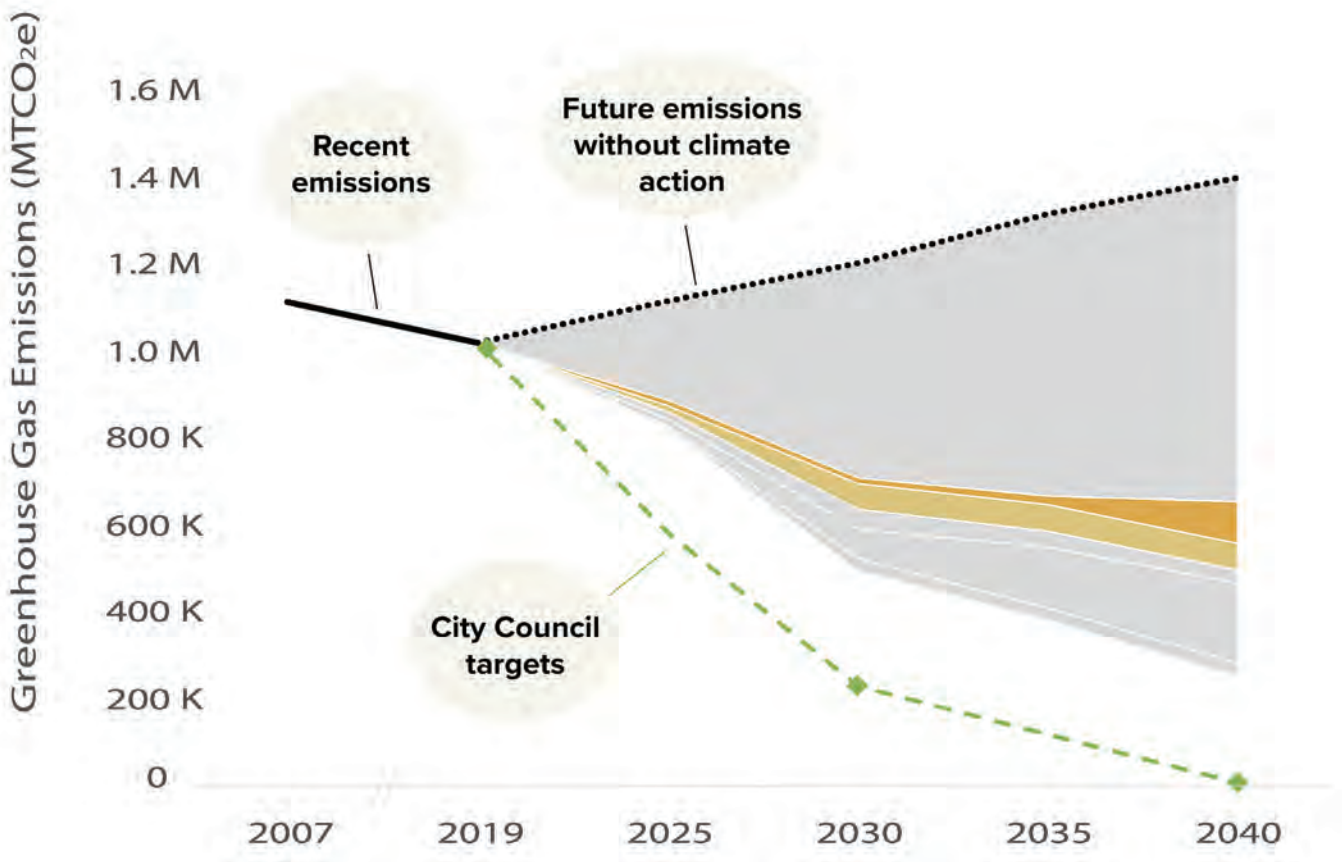
11. Home electrification incentives
12. Commercial building electrification incentives
13. Heat pumps in new commercial, multi-family, and single-family residential buildings
14. All-electric incentives for new residential development
15. Natural gas carbon intensity
16. Contractor training for electric transition

Buildings & Energy

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 #1: Community energy efficiency incentives

Educate and incentivize residents to reduce energy and water use, with a priority on supporting residents from overburdened communities, low-income residents, and residents in affordable housing. This may include:

- Work with Clark PUD and NWN to support and promote home energy audits, energy efficiency improvements, and weatherization projects.
- Create lists of existing energy efficiency programs and work with community organizations to share information about programs in culturally appropriate ways.
- Incentivize electric HVAC retrofits for homes, prioritizing air conditioning and air filtration for neighborhoods that face extreme heat or particularly poor air quality.
- Develop funding resources for efficiency improvements
- Work with realtors to include “home energy scorecards” at point-of-sale.

Method(s)

Strategic partnerships; existing partner programs; existing state funding programs; engagement of neighborhood associations and community groups

Metrics

Average energy and water usage per household; number of incentives available; number of incentives utilized

Lead & Key Partners

Public Works—Water and Communications—Office of Neighborhoods

KEY PARTNERS
- Clark PUD
- NWN
- Neighborhood associations

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X	X		

Action #2:
Energy efficiency upgrades for existing commercial buildings

Encourage all municipal and 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 buildings greater than 50,000 square feet to exceed the standard by 15%, so this action extends a similar goal to all commercial buildings.)

This includes:

- Provide education and technical support to building owners.
- Pursue federal and state funding for efficiency improvements.
- Work with Clark PUD to connect building owners with programs that reduce commercial 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 the efficiency of provided services.

Method(s)
Strategic partnerships; existing partner programs; state and federal grants

Metrics
Number of commercial buildings exceeding WA Clean Buildings Act performance standards

Lead & Key Partners
Economic Prosperity & Housing, Community Development

KEY PARTNERS
- Clark PUD
- WA State
- Building energy efficiency contractors
- Local building owners
- Local business associations

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X			

Action #3:
Clean energy financing

Explore funding and capital opportunities for organizations representing overburdened communities and individuals to own clean energy assets. Examples may include 0% interest loans, grants, and utility-specific programs.

Method(s)
Review of potential opportunities; similar programs in peer cities and existing partner programs

Metrics
Funding/capital opportunities identified; number of clean energy assets supported by these opportunities

Lead & Key Partners
City Manager's Office (CMO)

KEY PARTNERS
- Clark PUD
- Organizations representing BIPOC and low-income communities
- Affordable housing providers

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X		

Action #4: Solar incentives

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.

Method(s)

Existing partner programs; communications campaign to raise awareness of opportunities

Metrics

Number of rebates or funding opportunities utilized

Lead & Key Partners

CMO, Communications (via Neighborhoods Coordinator)

KEY PARTNERS
- Clark PUD
- Craft3

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X	X	

Action #5: 100% renewable energy for municipal buildings

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 the direct production of renewable energy from on-site generation; the purchase of renewable energy generated from off-site generation; or the purchase of renewable energy credits (RECs). Priority shall be given to emissions-free resources.

Method(s)

Power purchase agreement; renewable energy installations

Metrics

Amount and percentage of total City electricity derived from renewable sources

Lead & Key Partners

General Services

KEY PARTNER
- Clark PUD

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X			

Action #6:
Natural gas demand management

Work with Energy Trust of Oregon and NWN to reduce demand for natural gas.

Method(s)
Existing partner program

Metrics
Amount of natural gas consumed per household/ building

Lead & Key Partners
CMO

KEY PARTNERS
- NWN and Energy Trust of Oregon

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Action #7:
Green building policy (public sector)

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:

- Reduce consumption and adopt energy-saving technologies.
- Incorporate drought-tolerant green infrastructure.
- Develop an expedited process for energy-efficient construction.
- Support smart lighting strategies 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.

Method(s)
Policy research and development; staff engagement with community stakeholders; identify City-specific standards

Metrics
Stakeholders engaged; adopted policy; policies incorporated into new capital projects design and construction; major maintenance prioritizes policy implementation in projects

Lead & Key Partners
Economic Prosperity & Housing, General Services

KEY PARTNERS
- City vertical capital project design consultants and technical advisory committee
- Facility service provider vendors
- City development review

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Action #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:

- 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 drought-tolerant green infrastructure and community gardens.
- Develop an expedited process for energy-efficient construction.
- Support smart lighting strategies in accordance with Dark Sky and Bird- Safe light pollution reduction principles.

Method(s)

Policy research; staff engagement with community stakeholders; identify City-specific standards

Metrics

Adopted policy

Lead & Key Partners

Community Development, Economic Prosperity & Housing, General Services

KEY PARTNERS

- Development review
- Local building & development community (e.g. Clark County Building Industry Association)
- Green building specialists
- Building energy efficiency contractors
- Existing building owners and occupants

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X			

Action #9: Resilient energy grid

Adapt energy grid infrastructure to be prepared for future climate-related changes. This may include:

- 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 backup power or dual fuel for City- controlled critical infrastructure (e.g., fire stations) and encourage regional partners to do the same.
- Investigate the use of energy storage in place of generators and promote the use of lower-carbon fuels where generators are necessary.
- Explore with Clark PUD and the local community the feasibility of Community Choice Energy (CCE) in Vancouver (before 2030).
- Encourage installation of onsite energy generation in critical community spaces (i.e., schools, senior care facilities, community centers, etc.)
- Work with local utilities to store excess energy produced by on-site generation.

Method(s)

Assessment, strategic partnerships; joint funding proposals; capital projects

Metrics

Critical infrastructure with climate protection and/or power storage/backup systems provided

Lead & Key Partners

General Services, Public Works

KEY PARTNERS

- City vertical capital project design consultants and technical advisory committee
- Facility service provider vendors
- City development review

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X	X	

Action #10: Municipal energy and water savings

Increase on-site renewable energy storage and energy and water savings. This includes:

- Work with local utilities to store excess energy produced by on-site generation.
- Maintain annual water 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

Method(s)

Strategic partnerships; joint funding proposals; capital projects; existing city program

Metrics

Number of facilities with on-site renewable energy storage; change in water/energy usage

Lead & Key Partners

General Services, Public Works

KEY PARTNER

- Clark PUD

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Implementation

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.

HIGH

Action #11: Home electrification incentives (existing homes)

Work with local partners to transition existing homes from fossil fuels to high- efficiency electric energy for space heating/cooling, water heating, and cooking). This includes:

- Identify all available electrification incentive programs, particularly those that are applicable to low- and middle-income homeowners.
- Prioritize providing electric heat pumps for households that suffer from poor air quality or extreme heat-related safety concerns.
- Encourage transitions to electric appliances and HVAC equipment at the time of equipment replacement for cost-effectiveness.
- Work with contractors to offer electrification as an option in existing homes.
- Work with realtors to encourage electrification at the point of sale.
- Advocate for statewide legislation that would expand or create additional incentives for fuel switching.

Due to current (2021) state law, Clark PUD's programs cannot be used to incentivize a switch from natural gas to heat.

Method(s)
Strategic partnerships; new incentive programs; new outreach and training programs

Metrics
Number of homes transitioning to electric energy; number of vulnerable residents connected with support; number of contractors trained in high-efficiency appliance retrofits

Lead & Key Partners
Economic Prosperity & Housing, CMO

KEY PARTNERS
- Neighborhood associations
- Local contractors and builders
- Realtors
- Clark PUD

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

HIGH

Action #12: Commercial building electrification incentives

Work with Clark PUD and NWN to electrify existing commercial buildings and address fossil gas emissions.

This includes:

- 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.
- When working with those who own buildings larger than 20,000 square feet, incentives should be focused on compliance with WA Clean Buildings Performance Standards.

Method(s)

Expansion of existing programs

Metrics

Number of incentives provided; number of businesses/ building owners participating in incentive programs

Lead & Key Partners

CMO

KEY PARTNERS

- Clark PUD
- Commercial building owners

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Action #13: Heat pumps in new commercial, multi-family, and single-family residential buildings

Support implementation of State Building Code requirements regarding use of heat pumps for space and water heating in new commercial, multi-family, and single-family residential buildings, beginning in 2023.

Method(s)

Code updates; building inspector education

Metrics

Updates made to City code; percentage of trained City plans examiners, code and permit inspectors

Lead & Key Partners

Community Development

KEY PARTNERS

- Development Review (Buildings)
- Building Industry Association of Clark County
- Southwest WA Contractors Association

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X			

Action #14: All-electric incentives for new development

Incentivize all-electric development for new single-family residential developments and remodels. This may include:

- City advocacy in support of State-level electrification requirements for new residential construction.
- Provide education and encouragement for use of heat pumps for space and water heating.
- Explore options to extend city tax credits or expedited permitting to new construction developing with all-electric utilities.

Method(s)
Outreach and education about state policies; incentive programs

Metrics
Incentives developed; number of incentives utilized

Lead & Key Partners
Community Development, Economic Prosperity & Housing

KEY PARTNERS
- Development Review (Buildings)
- Building Industry Association of Clark County
- Southwest WA Contractors Association

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X			

Action #15: Natural gas carbon intensity

HIGH

Work with Energy Trust of Oregon and NWN to reduce the carbon intensity of natural gas.

Method(s)
Existing partner programs

Metrics
Carbon intensity of local gas supply over time

Lead & Key Partners
CMO

KEY PARTNERS
- NWN
- Energy Trust of Oregon

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

HIGH

Action #16: Contractor training for electric transition

Work with local trade organizations and workforce development organizations to develop contractor training for the installation of electric heat pumps, conversion from gas to electric appliances, and integration of other electric technologies.

Method(s)
New program; partnerships with training programs; additional staff capacity

Metrics
Number of contractors trained

Lead & Key Partners
CMO

KEY PARTNERS
- Workforce dvelopment programs
- Local trade unions and trade organizations
- Building Industry Association of Clark County
- Local contractors

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Transportation & Land Use

Vancouver's residents will be able to reach their destinations safely, reliably, and efficiently, however they choose to travel. Zero-emission vehicles will be affordable, common, and easy to charge or fuel. 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 vibrant, mixed-use communities with abundant housing options and streets that safely support all modes of travel. Uphold the City's equitable development commitment to prioritize transit investments in areas that increase access to essential places and pair this with other investments that keep people in place. Update annexation policies to align with CAF strategies, requiring all newly annexed areas to comply or immediately begin investments to align with City sustainability initiatives

1. Mixed-use, transit-oriented 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

Transportation & Land Use

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:

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 options
16. City plan alignment
17. Retrofits for vulnerable infrastructure
18. Curb management program

Strategy TLU-3. Decarbonize and electrify vehicles

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 in situations where EVs are unfeasible. Identify and secure adequate permanent funding for sustainable transportation.

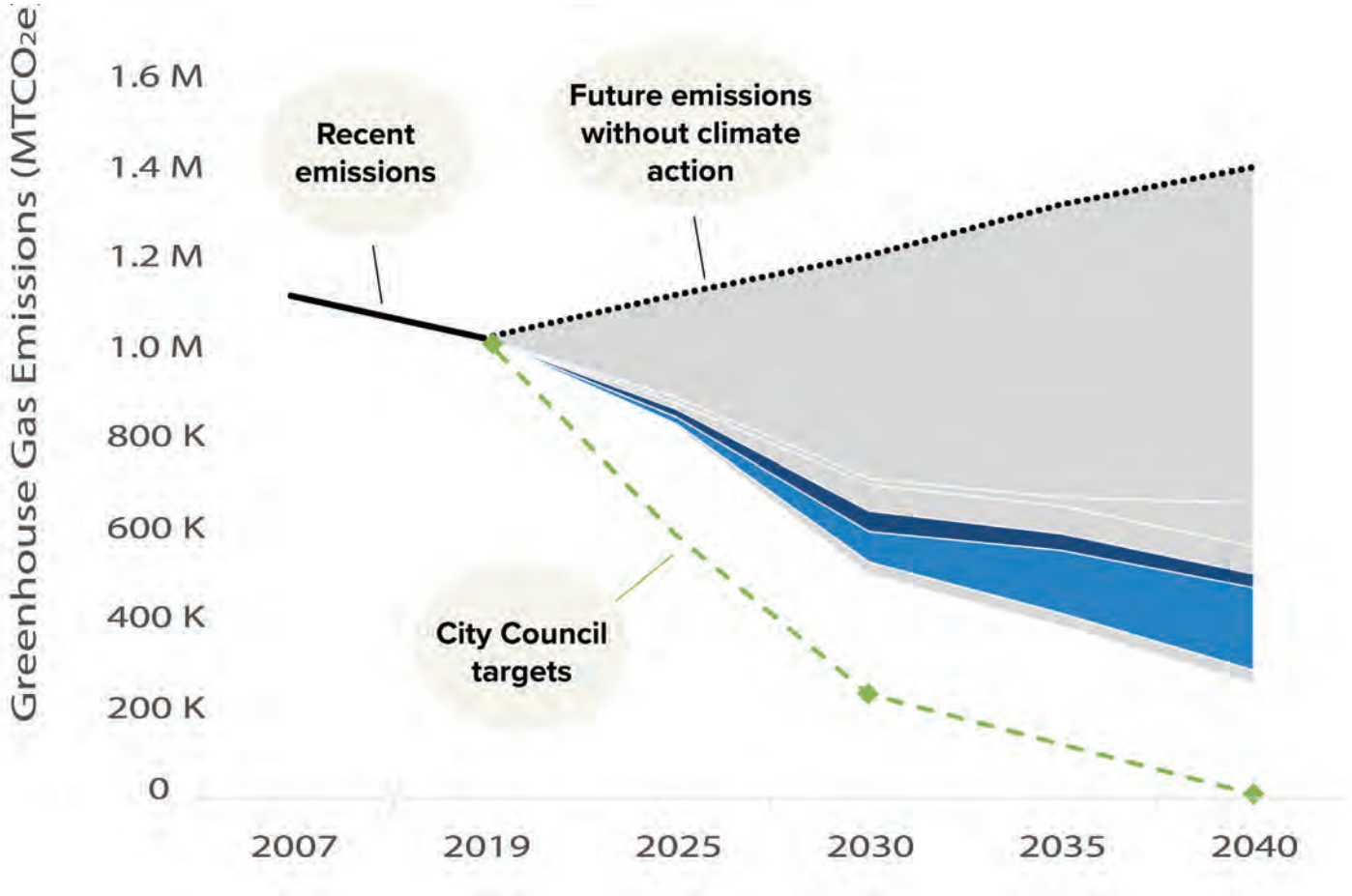
19. EV infrastructure planning and implementation
20. Electric vehicle advocacy & education
21. Medium-and heavy-duty truck decarbonization
22. Transit & waste collection fleet electrification
23. Alternative fueling & charging options at gas stations
24. Alternative fuels education & advocacy
25. Medium-and heavy-duty truck decarbonization infrastructure
26. Battery replacement incentives

Transportation & Land Use

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 #1: Mixed-use, transit-oriented development

Promote mixed-use development that is transit-oriented and supportive of walking, biking, using transit, and other active modes. This includes:

- Allow for and encourage small retail and commercial services in residential neighborhoods.
- Incentivize housing developments based on affordability and proximity to active transportation corridors.
- Include infrastructure to support bike parking, charging for electric bikes and scooters, and shared mobility programs (such as bike share).

Method(s)

Update existing Comprehensive Plan; amend Title 20 Land Use Code as necessary to implement policy direction

Metrics

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

Lead & Key Partners

Community Development, Economic Prosperity & Housing

KEY PARTNERS

- Local and regional business organizations
- Local development community (BIA)
- Housing providers and advocacy organizations
- Advocacy organizations representing communities at risk of displacement
- Residents

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Action #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 for 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.
- Pursue certification at the LEED for Neighborhood Development Gold standard or equivalent from an alternative rating system for all projects over 50 acres that enter into a development agreement except those for which the Planning Commission has already issued a recommendation.

Method(s)

Identify potential incentives; coordination with City Green Building Policy; future subarea planning activities

Metrics

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

Lead & Key Partners

Community Development, Economic Prosperity & Housing

KEY PARTNERS
- Development community
- Neighborhood associations

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X		

Action #3: Diversified housing options

Update Municipal Code and zoning as needed to provide abundant housing choices at a variety of affordability levels throughout the city.

This includes:

- Allow and actively encourage the development of diverse housing types, including internal home divisions and small and middle housing types.
- Prioritize middle housing in existing single-family residential neighborhoods that are well-served by transit or that are planned as 15-minute neighborhoods.
- Support the greatest variety of housing opportunities near commercial corridors and neighborhood hubs that have abundant transit and public services.
- 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.
- Conduct an assessment of barriers to increasing residential variety and evaluate incentive options.

Method(s)

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

Metrics

Number of new small and middle housing units created; incentives created to promote small/middle housing; number of residences created within walking distance of frequesnt transit; percentage of single-family zoning districts that allow middle housing by right

Lead & Key Partners

Community Development

KEY PARTNERS
- Development community
- Finance industry
- AARP
- Peer cities

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Action #4: Concentrated development along retail and commercial corridors

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 other actions in this CAF, the TSP, and related City plans, policies, and activities. Priorities include:

- Allow for greater development intensity along commercial corridors and major transit stops.
- Upzone and develop strategies to promote mixed-use development.
- Connect corridors and hubs with a high level of transit service.
- Prioritize outstanding facilities for walking and cycling in these areas.
- Ensure safe, comfortable, and complete connections between corridors and centers for walking, biking, and other active modes of transportation.

Method(s)

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

Metrics

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

Lead & Key Partners

Community Development, Economic Prosperity & Housing

KEY PARTNERS

- Community groups and neighborhood associations
- Local business associations
- C-TRAN
- Local schools
- Development community

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Action #5: Parking management plan

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.

Method(s)

Plan research and development

Metrics

Completed parking management plan

Lead & Key Partners

Economic Prosperity & Housing

KEY PARTNERS

- Community groups and neighborhood associations
- Local business associations
- Development community

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X			

Action #6: Annexation policy updates

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 an annexation strategy that targets key growth and job areas within the Vancouver Urban Growth Area (UGA), increases housing and job density, and diverts both work and non-work trips to non-vehicular modes in these areas.

Method(s)
Update to existing plan; update to existing evaluations

Metrics
Adopted updates to the Comprehensive Plan; areas annexed; acres of newly annexed land; average density of newly annexed lands

Lead & Key Partners
Community Development

KEY PARTNERS
- Clark County
- Infrastructure providers like utility districts

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X			

Action #7: Annexation incentives

Beginning at least five years before the expected annexation date, work with Clark County and local leadership of annexation areas to identify sustainability initiatives to align with City of Vancouver policies. Develop and implement incentives, education, and outreach to support the transition.

Method(s)
Strategic partnerships, incentive programs

Metrics
Updated Intergovernmental Agreements (IGAs) for annexation process

Lead & Key Partners
Community Development, CMO

KEY PARTNERS
- Clark County
- Infrastructure providers like utility districts

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Implementation

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 #8: Improved pedestrian infrastructure

In alignment with the TSP, Complete Streets program, and other relevant City plans, increase the abundance, safety, and connectivity of infrastructure for people walking and using mobility devices (such as wheelchairs or walkers). Include the following activities:

- Factor climate impacts into the design, materials & full life-cycle costs of projects.
- Continue implementation of the Sidewalk Management Plan (2017), prioritizing areas of infill by equity concern.
- Complete and connected networks of high-quality pedestrian facilities that provide safe, accessible, and comfortable routes.
- Identify areas of the city (e.g., Fourth Plain, East Vancouver) where pedestrian facilities could be prioritized.
- Expand lighting and other safety features on pedestrian pathways.
- Plan for and implement multi-modal and "first-last mile" infrastructure.

Method(s)
Expansion of existing plans; capital projects

Metrics
Miles of missing sidewalks; ADA updates needed; pedestrian directness; walkscore

Lead & Key Partners
Community Development

KEY PARTNERS
- Community groups and neighborhood associations
- Local business associations
- C-TRAN
- Local schools
- Safe Routes to School programs

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

HIGH

Action #9: Transit ridership improvements

Partner with C-TRAN to increase transit ridership by developing transit-supportive neighborhoods, providing convenient connections to destinations throughout the city, and ensuring safe, accessible infrastructure . This can include:

City Actions:

- Support code updates that increase density, infrastructure, and amenities near current and planned transit routes, in alignment with the TSP.
- Provide connections between transit facilities and bicycle/trail networks.
- Improve sidewalks, curb ramps, and street crossings near transit stops.
- Include plans for high-capacity transit and transit corridors that provide safe, reliable, and climate-resilient services, consistent with the Enhanced Transit Corridor analysis developed as part of the TSP update.
- Promote awareness and expansion of C-TRAN's existing fareless Youth Opportunity Pass and Education Opportunity Pass programs.

Advocate for C-TRAN Actions:

- Prioritize access for overburdened communities
- Factor climate impacts into the design, materials and full life-cycle costs of projects; similarly, include climate adaptation and mitigation criteria in entitlement reviews.
- Provide transit circulators in activity nodes and centers.
- Enhance secure bicycle parking at transit stations and major bus stops.
- Provide weather shelters in public transit.
- Ensure transit vehicles are equipped with air filtration and air conditioning.
- Provide education and outreach to increase comfort and familiarity with the transit system, with a focus on youth and "choice" riders.

Method(s)

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

Metrics

Number of high-frequency transit routes; percent of residents within walking distance of transit stops; ridership; number of students actively using Youth Opportunity passes

Lead & Key Partners

Community Development

KEY PARTNERS

- C-TRAN
- Local schools
- Safe Routes to Schools programs
- Clark County Commute Trip Reduction Program

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Action #10: Driving trip reduction for local schools

Support initiatives to reduce driving trips related to school activities. Thic can include:

- Work with the school districts to promote school bus ridership and explore 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.
- Work with the school districts to 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 students on how to use public transit with C-TRAN's Youth Opportunity Pass program.

Method(s)

Strategic partnerships; public outreach; support for school education programs

Metrics

Mode split for trips related to school activities; number of students graduating from SR2S and Bike Clark County bicycle education programs

Lead & Key Partners

Community Development

KEY PARTNERS

- C-TRAN
- Bike Clark County
- Local schools
- Safe Routes to School programs

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X		

Action #11: Transportation demand management requirements

HIGH

Identify and implement code-based transportation demand management (TDM) plan requirements city-wide to shift driving trips to walking, biking, transit, or other active modes. This includes:

- Track mode share and shift for biking, walking, and transit use over time, for both commute and non-commuting trips, to monitor the effectiveness of existing programs.
- Consider strategies to retain and attract new "choice" transit riders.

Method(s)

TDM best practices; develop tailored marketing and communications plan; mode share survey or monitoring program

Metrics

Mode share over time for both commute and non-commute trips; percent of employees affected by Commute Trip Reduction that use non-drivealone modes

Lead & Key Partners

Community Development

KEY PARTNERS

- Communications
- Neighborhood associations
- Local schools and businesses
- Transportation advocacy groups (Bike Clark County, AAA)
- Clark County Commute Trip Reduction Program

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X	X		

Action #12: Medium- and heavy-duty truck VMT reduction

Work with private sector to improve routing and reduce vehicle miles traveled (VMT) from medium and heavy-duty vehicles.

Method(s)
Stakeholder outreach

Metrics
VMT from medium- and heavy-duty trucks

Lead & Key Partners
Community Development

KEY PARTNERS
- Delivery companies (FedEx, UPS, USPS, Amazon)
- Trucking companies
- Columbia-Willamette Clean Cities Coalition

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X	X		

Action #13: Improved bicycling infrastructure

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:
- Create complete and connected networks of high-quality bicycling facilities that provide safe and comfortable routes
- Expand lighting and other safety features on bicycle pathways.
- Update code to require separated bicycle facilities in street construction.
- Consider and accommodate multi-modal and "first-last mile" needs.
- Provide City-owned bicycle racks located in the public right-of-way (ROW) in mixed-use and commercial areas.
- Promote the inclusion of amenities (e.g., showers, changing rooms, lockers) in public and private buildings to reduce barriers to habitual biking.
- Promote widespread adoption of e-bikes.

Method(s)
Expansion of existing plans; capital projects

Metrics
Miles of protected bike lanes; bike network connectivity; cyclist level of service

Lead & Key Partners
Community Development

KEY PARTNERS
- Bike Clark County
- Safe Routes to School
- Local schools
- Business associations

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Action #14: Modal hierarchy

Establish a modal hierarchy for transportation investments that prioritizes active transportation modes such as walking, biking, and transit.

- Include evaluation metrics that emphasize people throughput, movement of people, and quality of experience over vehicle throughput and Vehicle Level of Service.
- Use the City's equity index to prioritize transportation investments and pair them with proactive anti-displacement strategies.

Method(s)

Update to existing plans; code update

Metrics

Adopted update to Comprehensive Plan

Lead & Key Partners

Community Development

KEY PARTNERS

- Local advocacy groups (Bike Clark County, AARP, etc.)

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X			

Action #15: Shared mobility options

- 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), particularly in key growth areas.
- Put code in place to support shared mobility docking stations and reserved spaces for car-sharing vehicles.

Method(s)

Adopt code; strategic partnerships; vendor contracts

Metrics

Adopted code; shared mobility programs initiated

Lead & Key Partners

Community Development

KEY PARTNERS

- Transportation advocacy groups
- Business associations
- Neighborhoods
- Micromobility companies
- Development community
- Ryd

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X		

Action #16: City plan alignment

Align the CAF with the TSP, Comprehensive Plan, economic development plans, COVID-19 recovery plan, and the multi-modal initiatives, guidelines, and priorities identified in the TSP update.

Method(s)
Review of existing plans for consistency

Metrics
Adopted plan updates

Lead & Key Partners
Community Development

KEY PARTNERS
- Transportation agency partners (Regional Transportation Council, WSDOT, C-TRAN, Clark County, Port of Vancouver, City of Camas)

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X	X		

Action #17: Retrofits for vulnerable infrastructure

Prioritize retrofits to reinforce or adapt climate-vulnerable infrastructure, with a focus on routes used for public transportation.

Method(s)
Assessment; capital projects

Metrics
Priority routes identified; percent of needed retrofits completed

Lead & Key Partners
General Services

KEY PARTNERS
- Clark Regional Emergency Services Agency (CRESA)
- C-TRAN

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X	X	

Action #18: Curb management program

Research and develop a curb management program that supports shared mobility options and safe, multimodal streets.

Align with the TSP, CAF "shared mobility options" (Action TLU2.15), and "parking management plan" (Action TLU1.5). Elements of the program could include:

- Establish designated loading/unloading zones for rideshare and delivery vehicles.
- Integrate bicycle and motorcycle parking.
- Facilitate partnerships to reduce delivery trips and prioritize smaller vehicles.
- Integrate shared mobility docking stations and autonomous vehicle loading zones if the technology is adopted in Vancouver.

Method(s)

Expansion of existing plans; strategic partnerships

Metrics

Number of residents with access to fareless transit service

Lead & Key Partners

CMO

KEY PARTNERS
- C-TRAN
- Communications

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X	X		

Implementation

Strategy TLU-3. Decarbonize and electrify vehicles

This strategy encourages zero-emission and low-emission vehicle (ZEVs and LEVs) usage and decreases reliance on single-occupancy vehicles.

HIGH

Action #19: EV infrastructure planning and implementation

Develop and implement municipal and citywide EV infrastructure plans to promote and expand the installation of public and private charging infrastructure for new and existing development.

This includes:

- Prioritize equity in EV infrastructure planning so that renters, low-income people, and communities of color are able to access and use electric vehicles.
- Develop code for EV-readiness that would require EV charging (fully installed and operable) for at least 25% of spaces in new parking facilities, commercial, and multifamily developments that include parking, exceeding WA HB 1257 requirements of >10% of spaces. Require EV readiness in additional spaces to accommodate increased demand over time.
- Include considerations for charging e-bikes and other electric micro-mobility options (scooters, etc.), especially at multi-family developments.
- Consider areas that would support transit usage and long-distance travel, such as park & rides.
- Explore options for incentivizing or requiring installation/retrofitting for EV charging infrastructure in existing building stock.
- Leverage programs and funding opportunities from Clark PUD, federal agencies, and other partners.

Note that state law requires new single-family construction to be EV-ready starting in 2024 (HB 1287).

Metrics
Approved EV infrastructure plan

Lead & Key Partners
Community Development, Public Works

KEY PARTNERS
- Clark PUD
- Columbia-Willamette Clean Cities Coalition

Method(s)
New plans; staff capacity; strategic partnerships; capital projects; joint funding proposals

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X	X		

HIGH

Action #20: Electric vehicle advocacy & education

Advocate for the expansion of existing incentives and introduce new local incentives to accelerate the adoption of EVs. Educate residential and commercial communities on the costs, benefits, and available funding options.

This includes:

- Work with Clark PUD to expand participation in their used EV program for 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.
- Offer non-financial incentives to encourage EV adoption and expand EV infrastructure, such as resident-selected EV charging locations and streamlined permitting for developers.
- Support state policies to limit sales of new fossil fuel passenger cars and trucks by 2030.

Method(s)

Strategic partnerships; incentive programs; public outreach

Metrics

Available incentives; number of incentives utilized; rate of EV adoption; number of EV vehicles purchased locally

Lead & Key Partners

CMO

KEY PARTNERS

- Clark PUD
- Columbia-Willamette Clean Cities Coalition

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X		

HIGH

Action #21: Medium-and heavy-duty truck decarbonization

Take local action to decarbonize medium- and heavy-duty trucks including the following:

- Require that construction projects and other entities (e.g., delivery trucks) that rely on medium and heavy-duty trucks replace vehicles with ZEVs in accordance with the targets outlined in the Advanced Clean Trucks (ACT) rule, adopted by the Department of Ecology in November 2021.
- Set a community goal of replacing 40% of all new medium- and heavy-duty trucks with ZEV by 2030.
- Encourage adoption of lower-carbon fuels where ZEVs are not feasible.
- Advocate for state policy to limit sales of new fossil fuel-powered medium- and heavy-duty trucks by 2030.

Method(s)

Stakeholder outreach; code update; contract updates

Metrics

% of new heavy/medium-duty vehicles that are ZEVs; participation levels in ZEV programs; local compliance with Advanced Clean Trucks rule

Lead & Key Partners

Public Works, CMO

KEY PARTNERS

- Existing station owners
- Alternative fuel providers
- AAA
- Trucking agencies
- Columbia-Willamette Clean Cities Coalition

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X	X		

Action #22: Transit and waste collection fleet electrification

Require that all buses that serve Vancouver are electric by 2040 and increase the proportion of waste collection vehicles that are ZEVs.

This includes:

- Partner with Clark PUD, C-TRAN, and Waste Connections to expand ZEV buses and waste collection vehicles, prioritizing implementation in communities overburdened by local air pollution and respiratory ailments.
- Support partner agencies by facilitating access to city-owned charging stations throughout the City.
- While internal combustion engine vehicles are still in use and a ZEV alternative is not feasible, transition to lower-carbon intensity fuels where feasible and applicable.

Method(s)
Strategic partnerships; code update; capital projects

Metrics
Number and percentage of transit and waste collection vehicles that are ZEVs

Lead & Key Partners
Public Works

KEY PARTNERS
- Clark PUD
- C-TRAN
- Waste hauler

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X	X		

Action #23: Alternative fueling and charging options at gas stations

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:

- Encourage existing gas stations to supply alternative fuels (compressed natural gas, propane, renewable diesel, etc.) as well as EV charging.
- Update code to be supportive of alternative fuel infrastructure.
- Explore the feasibility of prohibiting new fossil-fuel-only gas stations.

Method(s)
Code update

Metrics
Number and percentage of total fueling stations offering alternative fuels

Lead & Key Partners
Community Development

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X	X	

HIGH

Action #24: Alternative fuels education & advocacy

Provide education and advocacy to increase awareness and adoption of low-carbon and alternative fuels (e.g., electricity, biodiesel, renewable diesel, compressed natural gas, liquified natural gas, and hydrogen).

Method(s)
Existing and new outreach programs

Metrics
Number and percentage of residents using low-carbon and alternative fuels

Lead & Key Partners
CMO

KEY PARTNERS
- Public Works—Fleet
- Communications
- Existing station owners
- Alternative fuel providers
- AAA
- Trucking agencies
- Columbia-Willamette Clean Cities Coalition

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X	X		

Action #25: Medium-and heavy-duty truck decarbonization infrastructure

Work with the Port of Vancouver and other partners to expand infrastructure for the decarbonization of medium- and heavy-duty trucks. This action will help the City and local businesses achieve the requirements of the WA Advanced Clean Truck (ACT) rule and the WA Clean Fuel Standard. It includes:
- Encourage widespread adoption and distribution of lower-carbon fuels.
- Identify barriers to adoption in Vancouver and seek avenues to remove them.
- Coordinate with the Port of Vancouver to develop infrastructure supporting this conversion while maintaining competitiveness.

Method(s)
Strategic partnerships; joint funding proposals

Metrics
Number of fueling stations offering alternative fuels; facilities generating clean fuels

Lead & Key Partners
CMO

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Action #26: Battery replacement incentives

Explore incentives, rebates, or similar methods to reduce the costs of battery replacement for battery electric vehicles with batteries nearing the end of their useful life.

Method(s)
Expansion and promotion of existing programs

Metrics
Available incentives; participation rates

Lead & Key Partners
CMO

KEY PARTNERS
- Auto service stations
- Electric vehicle manufacturers
- Columbia-Willamette Clean Cities Coalition

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X		

Natural Systems & Water Resources

Vancouver's parks, trails, and green spaces will store carbon, connect our neighborhoods, and preserve sensitive land and wildlife. The community will manage water consumption 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 such as extreme heat and flooding, 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:

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:

6. Critical areas code enforcement
7. Habitat restoration for new development
8. Tree canopy recommendations

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:

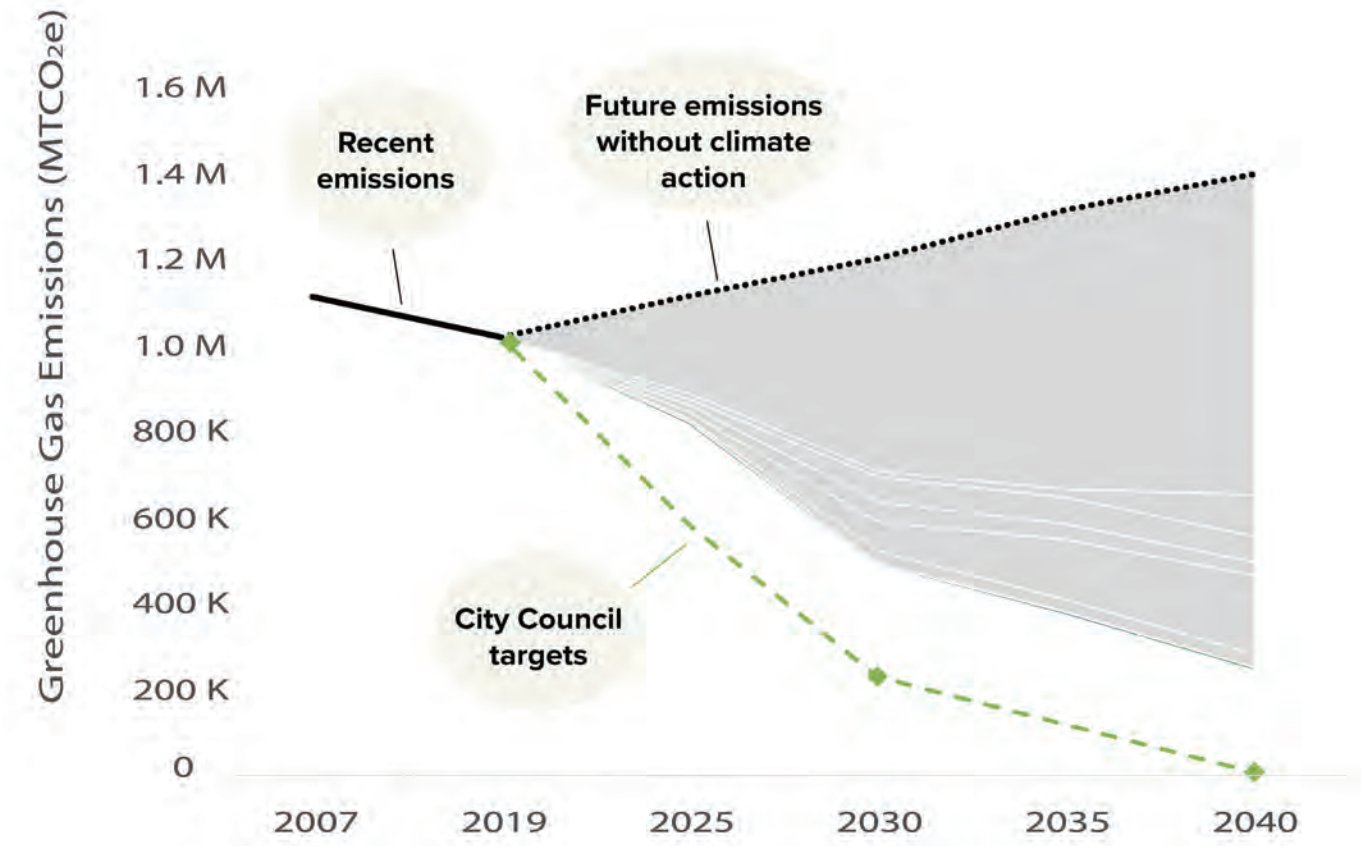
9. Community water conservation
10. Rainwater capture incentives
11. Lawn removal and drought tolerant landscaping incentives

Natural Systems & Water Resources

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.

- <1% 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 #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 to maximize carbon sequestration. Also prioritize retention of existing canopy.

Method(s)

New development plan review; existing plans review; code update; Parks design focused on sustainable environmental landscape design principles with closed loop composting

Metrics

VMC code updated & new development projects meeting climate goals; sustainable landscape design principles in parks and school designs; retrofit existing designs and sites

Lead & Key Partners

Urban Forestry and Community Development

KEY PARTNERS

- Parks, Recreation and Cultural Services
- Public Works Operations
- School Districts
- Parks and Recreation Advisory Commission
- Urban Forestry Commission

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Action #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, large form, drought-tolerant, climate-resilient native plantings and retention of the mature canopy in existing and new developments. This includes:

- Prioritize plantings in areas that score 8 or above on the WA Health Disparities Map and/or that experience more severe urban heat island effects.
- Prioritize plantings in the Burnt Bridge Creek watershed and other high-value habitat areas.

Method(s)

New development review; existing plans review; code update; public outreach; community revegetation projects

Metrics

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

Lead & Key Partners

Public Works—Urban Forestry and Community Development

KEY PARTNERS

- Development community and professionals (engineers, landscape architects, arborists, landscapers)
- Private property owners
- Nonprofit partners (Friends of Trees, Watershed Alliance, others)

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Action #3: Street tree maintenance

Working through the City's Urban Forestry Program, preserve existing street trees through proper care and maintenance. This includes:

- Optimize maintenance to increase carbon sequestration and resilience to extreme weather events.
- Where replacement trees are needed, replace with climate-resilient trees.
- Prioritize service in overburdened communities and areas with a tree canopy deficit to promote equitable distribution of benefits, risk reduction, and resilience to climate-related extreme weather events.
- Support overburdened communities consistent with anti-displacement best practices.

Method(s)

Existing plans; City budget appropriation; task force to develop street tree maintenance program

Metrics

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

Lead & Key Partners

Public Works— Urban Forestry

KEY PARTNERS
- Transportation
- Public Works Operations
- Property owners
- Friends of Trees
- Tree care providers/arborists

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Action #4: Carbon sequestration on public lands

Increase the carbon sequestration potential of soil throughout the City to offset emissions and increase soil resistance to drought and floods. This includes:

- Implement carbon sequestration projects on City property where feasible (e.g., City parks, building grounds).
- Reduce the use of synthetic nitrogen fertilizer with organic soil amendments such as manure, compost, and mulch) on landscape installations.
- Work with Parks to reduce high-maintenance turf in designs to reduce the need for fertilizers and gas-powered mowers.
- Partner with other public agencies to expand sequestration potential on public lands.
- Consider acquiring parcels to be used as carbon sinks and expand equitable access to urban green space.

Method(s)

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

Metrics

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

Lead & Key Partners

Public Works—Urban Forestry

KEY PARTNERS
- 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

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Action #5: Carbon sequestration on private lands

Support soil management on private lands to increase carbon sequestration potential throughout the city, offset emissions and increase soil resistance to drought and floods. This includes:

- Subsidize the cost of compost to developers and property owners.
- Encourage naturescaping in lieu of high-maintenance turf.
- Partner with nurseries, garden stores, and gardening groups on educational campaigns to increase awareness of soil management best practices.

Method(s)

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

Metrics

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

Lead & Key Partners

Community Development, Water Resource Education Center

KEY PARTNERS

- Landscapers
- Tree care providers
- Volunteer coordinator
- Urban Forestry
- Solid Waste
- Friends of Trees
- Watershed Alliance
- Greenway Sensitive Lands Team
- DePave

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Implementation

Strategy NS-2. Improve ecosystem resilience

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

Action #6: Critical areas code enforcement

Strengthen and enforce code to protect critical areas such as fish and wildlife habitats, frequently flooded areas, geologically hazardous areas, and special ecosystems.

- Consider habitats that support culturally significant species (such as salmon) for additional protection.

Method(s)

Increased staff capacity; code updates; stakeholder outreach; public outreach to parcels with critical areas

Metrics

VMC code updated; outreach in critical area parcels; outreach to arborists and landscapers

Lead & Key Partners

Community Development and Public Works

KEY PARTNERS

- Urban Forestry
- Stakeholders such as ecology and engineering firms, development community
- Tree care providers/arborists
- Landscapers

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X		

Action #7: Habitat restoration for new development

Require private development to address habitat restoration issues onsite before development and explore options for enhanced requirements. This includes:

- Strengthen codes to prioritize tree preservation and create areas for native and climate-resilient large-form trees.

Method(s)

Code evaluation and update; require TreeCAP participation; stakeholder outreach

Metrics

VMC code updated; Outreach; increase in tree canopy over time

Lead & Key Partners

Community Development

KEY PARTNERS

- Urban Forestry
- Stakeholders such as ecology, engineering and landscape architect firms and development community.

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X		

Action #8: Tree canopy recommendations

Implement the recommendations in the City's Tree Canopy Assessment (2021) in a way that is consistent with Reside Vancouver and best practices to avoid green gentrification.
This includes:

- Accelerate progress toward the City's stated tree canopy goals to secure carbon sequestration and heat island mitigation benefits in the near term.
- Prioritize equitable expansion of the canopy and street tree maintenance, with a focus on areas with low urban tree canopy, high susceptibility to urban heat island effects, areas of poor air quality, and areas with higher percentages of low-income people and communities of color.
- Partner with community organizations such as Friends of Trees to expand existing outreach programs toward private landowners, focusing on low-canopy, underserved, and overburdened neighborhoods.
- Consider establishing new short- and long-term canopy cover goals.
- 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.
- Explore the feasibility 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.

Method(s)
Existing plan; public outreach; community revegetation projects

Metrics
Number of plantings in overburdened communities; number of community enhancement projects in priority areas; TreeCAP participation; increase in tree canopy over time; volunteer engagement

Lead & Key Partners
Public Works—Urban Forestry

KEY PARTNERS
- 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)

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Implementation

Strategy NS-3. Conserve Water Resources

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

Action #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.

Method(s)
Implementation of existing plan

Metrics
ERU annual water consumption

Lead & Key Partners
Public Works—Water

KEY PARTNERS
- Urban Forestry
- Stakeholders such as ecology and engineering firms, development community
- Tree care providers/arborists
- Landscapers

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X	X		

Action #10: Rainwater capture incentives

Work with building owners and developers to include rainwater capture for reuse and stormwater flow control/infiltration facilities for residential and commercial buildings.

Method(s)
Stakeholder outreach; incentive program

Metrics
Incentives created; incentives utilized

Lead & Key Partners
Community Development

KEY PARTNERS
- Environmental advocacy and educational groups (Watershed Alliance, Columbia Springs, Lower Columbia Nature Network)
- Water Resources Education Center
- Residential and commercial building owners

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X		

Action #11: Lawn removal and drought-tolerant landscaping incentives

Support private property owners in replacing grass lawns with native and climate-resilient plantings, adopting drought-tolerant landscaping, and using efficient irrigation. This includes:

- Support community partners and nonprofits that do this work.
- Explore incentives or rebates for interested property owners.

Method(s)

New program, expand TreeFund program; Nature Patch; Backyard Habitat Program

Metrics

Number of participants; amount of turf converted; number of plants

Lead & Key Partners

Community Development

KEY PARTNERS

- Environmental advocacy and educational groups (Watershed Alliance, Columbia Springs, Lower Columbia Nature Network)
- Water Resources Education Center
- Residential and commercial building owners

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X		

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

HIGH

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:

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.

Action:

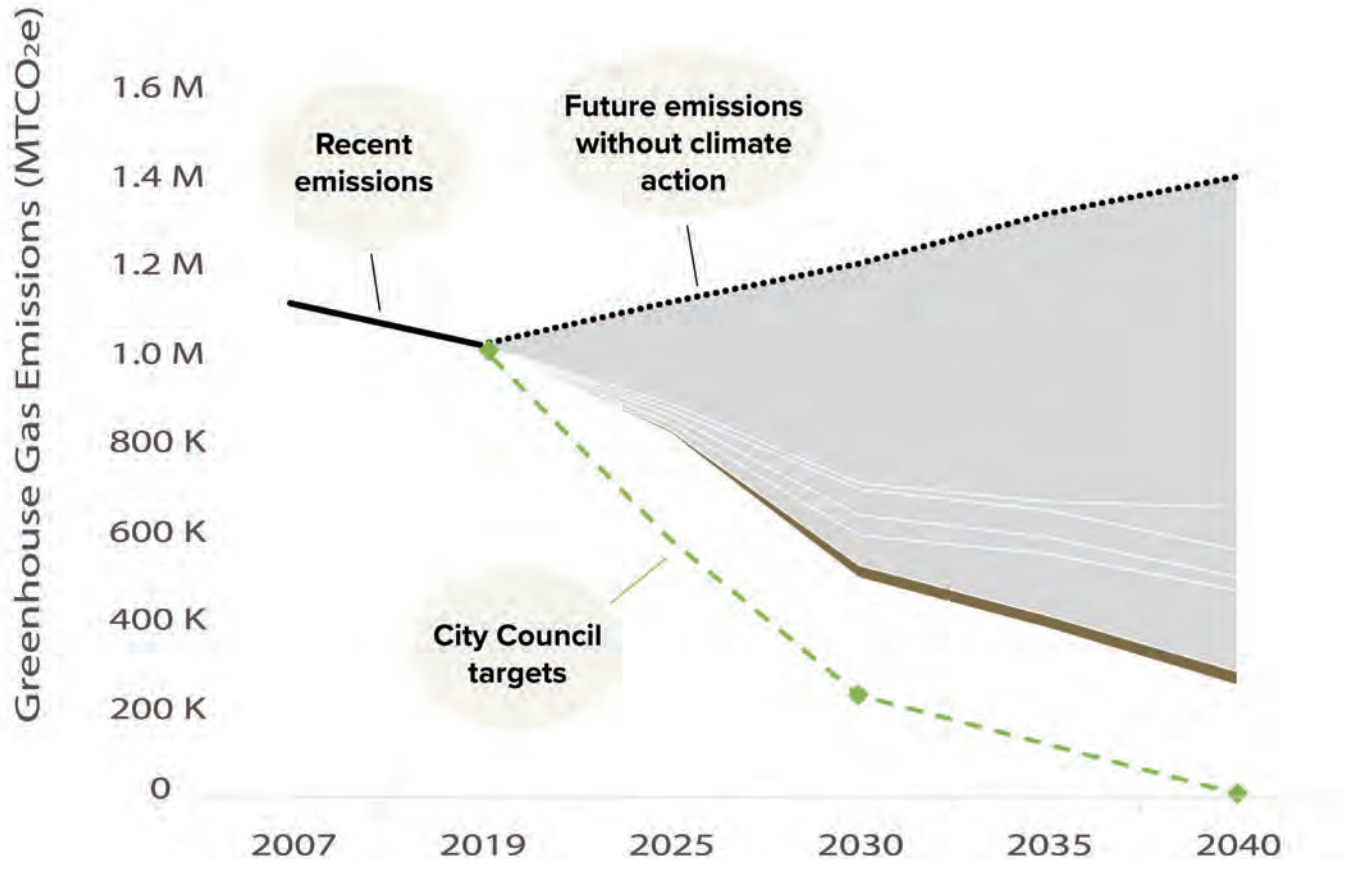
6. Solids management and resource recovery plan

Solid Waste & Wastewater

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.

- 2% of our 2040 goal will be met by reducing the amount of waste generated, diverting organic materials from landfills, and managing wastewater with advanced systems to capture methane emissions.
- Diverting organic waste from landfils is a particularly effective action for fighting climate change because it prevents the production of methane gase (a very potent greenhouse gas).



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 #1: City-wide composting and organics management

Along with other organics management actions, divert organic waste to landfill by 75% by 2030. This includes:

- By City ordinance, require organics collection services in compliance with RCW 43.19A.150.

Method(s)
Adopt code

Metrics
Number and percentage of eligible City customers; achieve metrics set by HB1799

Lead & Key Partners
Public Works—Solid Waste

KEY PARTNERS
- Contracted hauler
- Clark County Solid Waste

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X			

Action #2: Municipal recycling & composting collection

Require food waste composting and glass and co-mingled recycling at City buildings.

Method(s)
Adopt code

Metrics
Number of city facilities participating; number of employees; various service levels

Lead & Key Partners
Public Works—Solid Waste

KEY PARTNERS
- Contracted hauler
- Leadership/points of contact at City facilities

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X			

Action #3: Recycled materials markets

Pursue regional partnerships to bolster the market for recycled materials to minimize the use of raw materials and accommodate increased flows from the implementation of waste diversion actions.

Method(s)

Conversations and partnerships with organizations representing local and regional businesses

Metrics

Number of potential opportunities identified and pursued; examples of successful market opportunity developments

Lead & Key Partners

Economic Prosperity & Housing

KEY PARTNERS

- Greater Vancouver Chamber of Commerce
- Columbia River Economic Development Council
- Port of Portland
- Clark County

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X	X	

Action #4: Waste diversion community participation

Work with haulers, material recovery facilities 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.

Method(s)

Existing programs from City and waste hauler

Metrics

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

Lead & Key Partners

Community Development

KEY PARTNERS

- Contracted and/or licensed haulers
- Contracted yard debris vendors
- Clark County Solid Waste

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X		

Action #5: Construction & demolition incentives

Promote waste reduction from construction & demolition.

This may include:

- Promote deconstruction and recycling through City ordinances and/or incentives.
- Deconstruct municipal facilities that would normally be demolished and document as a case study to show how this practice supports sustainability and CAF goals.
- Construct new municipal facilities using Designs for Disassembly principles that allow building components to be extracted from buildings in a reusable form.

Method(s)
Green Building Policy development

Metrics
Inclusion in green building policy

Lead & Key Partners
Community Development

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X		

Implementation

Strategy SW-2. Zero out wastewater emissions

This strategy will reduce emissions from wastewater treatment.

Action #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.

Method(s)

Incorporate into plans for scheduled facility upgrades/ expansions

Metrics

Facility design; completed plan

Lead & Key Partners

Public Works—Wastewater

KEY PARTNERS

- Solid Waste
- Local businesses affected by HB 1799

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X	X		

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 CAF implementation. Improve City staff knowledge of and capacity for their role in climate action. Identify and secure adequate permanent funding for successful and equitable CAF implementation.

Actions:

1. Critical staff capacity
2. Climate priority declaration
3. Regular updates of GHG inventory and CAF 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
9. Phase out of two-cycle lawn equipment
10. Administrative policy alignment

Implementation

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

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

Action #1: Critical staff capacity

Build critical staff capacity to support CAF development and implementation.

This includes:

- Provide adequate staffing to implement the goals and strategies of the CAF
- Provide education on City's CAF for new hires during the onboarding process.

Method(s)

Budget request; developing training modules for new employees; incorporating training modules into onboarding process

Metrics

Number of FTE added to CAF work; number of internships and fellowships; % of new employees completing CAF training modules

Lead & Key Partners

CMO

KEY PARTNER
- Human Resources

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X			

Action #2: Climate priority declaration

Release a climate priority declaration.

Method(s)

City resolution

Metrics

Adopted resolution

Lead & Key Partners

CMO

KEY PARTNERS
- City Council
- Legal

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X			

Action #3: Regular updates of GHG inventory and CAF strategies

- Conduct a GHG Emissions Inventory update every 4 years.
- Evaluate progress towards goals and adjust CAF strategies accordingly.
- Modify CAF to reflect changing conditions and new technology.

Method(s)
Conduct updates of GHG inventories; community engagement, assessment of existing plan's effectiveness

Metrics
GHG and CAF updates completed on schedule

Lead & Key Partners
CMO

KEY PARTNERS
- Community stakeholders
- Climate Community Advisory panel (if formed)

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Action #4: Environmentally Preferable Purchasing program

Develop and enforce a City of Vancouver environmentally preferable purchasing policy (EPP). This policy should:

- Support the purchase of local, recycled, and environmentally preferred products to minimize GHG impacts relating to City work
- Support the development of a green local economy by prioritizing the use of local businesses for sustainable goods and services.

Method(s)
Best practices review; engagement with City departments; development of policy; education on new policy implementation

Metrics
Completed policy document; completed trainings on policy implementation for City staff

Lead & Key Partners
Finance—Procurement

KEY PARTNERS
- Public Works
- General Services
- Parks
- Recreation
- Cultural Services
- Police
- Fire

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X			

Action #5: Expedited permitting for sustainability projects

Expedite plan review within the green building section of the code.

Method(s)
Code update

Metrics
Updated code

Lead & Key Partners
Community Development —Development Review

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X		

Action #6: Reduce vehicle trips by municipal employees

Promote, accommodate, and incentivize commuting by walking, cycling, transit, carpooling, and telecommuting among City employees to reduce drive-alone commute trips.

Method(s)
TDM best practices; staff engagement

Metrics
Percent of City staff using alternate transportation; percent of staff reducing driving though telecommuting or flexible schedules; number of employees taking advantage of commuter benefits

Lead & Key Partners
Human Resources

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
			X

Action #7: City green teams

Create a "Green Teams" program to support City staff in leading sustainability initiatives in their departments or building.

Method(s)
Establish goals and structure for new program; identify and convene interested participants from each department

Metrics
Established Green Teams program; number of participating departments and buildings

Lead & Key Partners
CMO

KEY PARTNERS
- **City departments: Buildings, Facilities**

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X			

Action #8: Municipal energy fund

Establish a municipal energy fund to create a self-sustaining source of funds for investing in energy-efficient municipal operations.

Method(s)
Evaluation of potential funding sources; budget allocation

Metrics
Established municipal energy fund; number of projects funded per year via the fund

Lead & Key Partners
General Facilities

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
	X		

Action #9: Phase out of two-cycle lawn equipment

- Replace municipal two-cycle lawn equipment usage wherever feasible.
- Update Procurement guidelines to restrict usage of two-cycle lawn equipment by City contractors.
- Explore options for equitable implementation of a city-wide phaseout of two-cycle lawn equipment.

Method(s)
Develop language for Fleet and Procurement policies. Develop draft ordinance for Council consideration.

Metrics
Adopted Fleet policy, Procurement guidelines, and a completed draft ordinance for Council Consideration.

Lead & Key Partners
CMO

KEY PARTNERS
- Fleet
- Procurement

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X	X		

Action #10: Administrative policy alignment

Review city administrative policies, including travel policies, for alignment with city climate goals and amend as necessary.

Method(s)
Policy review

Metrics
Completed policy review with updates/revisions as needed.

Lead & Key Partners
CMO

KEY PARTNERS
- Procurement

Timeframe			
Near Term	Mid Term	Long Term	Ongoing
X			

What We're Doing Next

This CAF 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, CAF 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 CAF governance.** As we formalize climate action across the city, we will establish and maintain clear roles and responsibilities for departmental executives, departmental CAF leads and support staff, and the City Manager's Office. We will also define policies, procedures, and guidance for CAF 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 CAF implementation.

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

- **Continue to implement the Early Action Package.** CAF 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 CAF actions.
- **Assess climate risks.** The CAF 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 CAF 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 CAF 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 CAF 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).

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	15%
Decarbonize and electrify vehicles	TLU3.20	EV infrastructure plan	H	527,560	2	14%
Require recycling and organic material management	MC1.1	Reduce organic waste to landfill	H	396,660	3	10%
Decarbonize homes, businesses, and other buildings	BE2.12	Commercial building electrification incentives	H	339,825	4	9%
Decarbonize homes, businesses, and other buildings	BE2.11	Home electrification incentives	H	276,994	5	7%
Decarbonize and electrify vehicles	TLU3.22	Electric vehicle advocacy & education	H	263,780	6	7%
Shift driving trips to clean, active modes of transportation	TLU2.11	Transportation demand management requirements	H	227,556	7	6%
Decarbonize homes, businesses, and other buildings	BE2.17	Natural gas carbon intensity	H	219,259	8	6%
Decarbonize and electrify vehicles	TLU3.21	EV charging requirements	H	211,024	9	6%
Shift driving trips to clean, active modes of transportation	TLU2.9	Transit ridership improvements	H	183,557	10	5%
Decarbonize homes, businesses, and other buildings	BE2.18	Contractor training for electric transition	H	166,107	11	4%
Shift driving trips to clean, active modes of transportation	TLU2.8	Improved pedestrian infrastructure	M	100,665	12	3%
Increase use and storage of renewable energy while reducing consumption	BE1.2	Energy upgrades for existing commercial buildings	M	82,019	13	2%

Strategy Name	Action Number	Action Name	H/M/L	Estimated Emissions Reduction by 2040 (MT CO_2e)	Rank	% of Total Estimated Emissions Reductions
Increase use and storage of renewable energy while reducing consumption	BE1.1	Community energy efficiency incentives	M	51,626	14	1%
Decarbonize homes, businesses, and other buildings	BE2.14	All-electric incentives for new development	L	35,312	15	1%
Increase use and storage of renewable energy while reducing consumption	BE1.5	100% renewable energy for municipal buildings	L	34,232	16	1%
Create neighborhoods that support clean modes of transportation	TLU1.2	Sustainable Neighborhood-Scale Development	L	31,138	17	1%
Create neighborhoods that support clean modes of transportation	TLU1.1	Mixed use development	L	30,730	18	1%
Decarbonize and electrify vehicles	TLU3.24	Transit & waste collection fleet electrification	L	14,502	19	<1%
Increase carbon storage in trees, vegetation, and soil	NS1.4	Carbon sequestration on public lands	L	12,120	20	<1%
Shift driving trips to clean, active modes of transportation	TLU2.10	Driving trip reduction for local schools	L	11,428	21	<1%
Increase carbon storage in trees, vegetation, and soil	NS1.5	Carbon sequestration on private lands	L	10,507	22	<1%
Increase use and storage of renewable energy while reducing consumption	BE1.3	Clean energy financing	L	6,607	23	<1%
Increase use and storage of renewable energy while reducing consumption	BE1.4	Solar incentives	L	6,607	24	<1%
Increase carbon storage in trees, vegetation, and soil	NS1.1	Native & climate-resilient planting in municipal projects	L	1,497	25	<1%
Increase carbon storage in trees, vegetation, and soil	NS1.2	Native & climate-resilient planting in private projects	L	1,331	26	<1%
Increase use and storage of renewable energy while reducing consumption	BE1.6	Natural gas demand management	L	0*	27	<1%
Cumulative CAF reductions by 2040				**3,810,057**		**100%**

Estimated Costs

We modeled the costs to the City, costs to the community, and the cost of inaction of the top 13 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	$15,418,815
Decarbonize homes, businesses, and other buildings	BE2.11	Home electrification incentives	$32,309,531	$690	$23,267,527
Decarbonize homes, businesses, and other buildings	BE2.17	Natural gas carbon intensity	$32,098	$680	$18,417,762
Decarbonize homes, businesses, and other buildings	BE2.18	Contractor training for electric transition	$25,670,687	$368	$13,953,013
Decarbonize homes, businesses, and other buildings	BE2.12	Commercial building electrification incentives	$7,784,366	$360	$28,545,300
Decarbonize and electrify vehicles	TLU3.20	EV infrastructure plan	$34,691,084	$30	$44,315,072
Increase carbon storage in trees, vegetation, and soil	NS1.2	Native & climate-resilient planting in private projects	$1,289,142	$18	$111,772
Require recycling & organic material management	SW1.1	City-wide composting and organics management	$15,630,814	$0	$33,319,452
Increase carbon storage in trees, vegetation, and soil	NS1.1	Native & climate-resilient planting in municipal projects	$7,500,720	$0	$125,744
Decarbonize and electrify vehicles	TLU3.23	Medium- and heavy-duty truck decarbonization	$267,059	($226)	$47,662,633
Decarbonize and electrify vehicles	TLU3.22	Electric vehicle advocacy & education	$25,735,126	($546)	$22,157,537
Shift driving trips to clean, active modes of transportation	TLU2.11	Transportation demand management requirements	$407,665	($671)	$19,114,735
Decarbonize and electrify vehicles	TLU3.21	EV charging requirements	$73,260	($1,780)	$17,726,029
Total			**$151,525,081**	**$1,863**	**$284,135,392**
Average per year			**$7,975,004**	**$98**	**$14,954,494**
Average FTE requirement			**2.66**