

We are living in a **climate emergency.**
It's time for Portland to act like it.



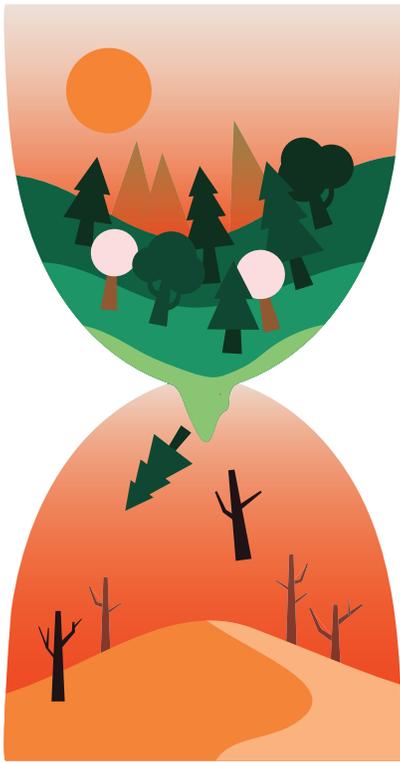
The City of Portland's 2022-2025

**Climate Emergency
Workplan**

July 2022

Exhibit A





Our window is closing.

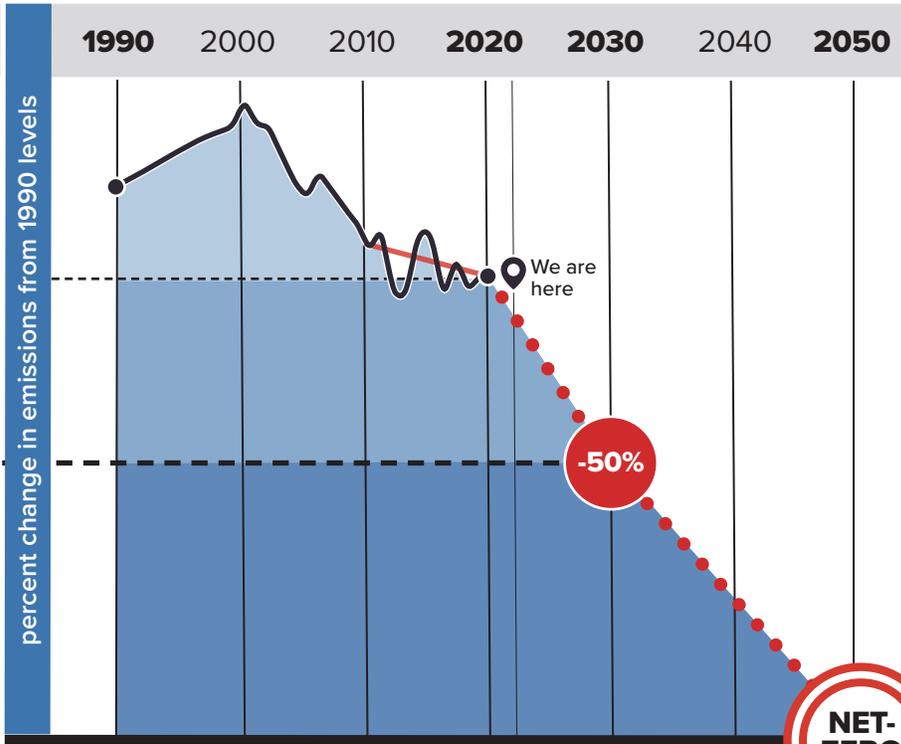
The climate emergency is already here, and time is running out to act. We see and feel it in Portland in the form of record-shattering heat, choking smoke from increasing wildfires, more frequent floods, and other extreme weather that is changing our lives and the city we share. Nearly every Portlander can tell you where they were in June 2021, when temperatures hit 116 degrees and killed 72 people in Multnomah County. Or in September 2020, when smoke from wildfires poured into the city.

City Council declared a climate emergency in 2020 and directed City bureaus to restore a safe climate for all Portlanders, centering the needs and priorities of Black and Indigenous communities, people experiencing low income, and community members who are most at-risk and vulnerable to the impacts of climate change. **This Workplan lays out the priority actions we must take over the next three years, in order to prevent the worst-case scenarios. We have the technologies — and still have some time — to protect this city we love and the legacy we leave. But we must act now.**

NOW OR NEVER

The science is unequivocal: To prevent irreversible damage to the planet, we must keep average global temperatures from increasing 1.5° C above pre-industrial levels. This requires swift action:

By 2030 – We must slash Portland’s planet-warming carbon emissions 50% or more, compared to 1990 levels. We have eight years to meet this goal or else getting to net-zero could become impossible.



By 2050 — We must reduce emissions to net-zero by the time a current sixth-grader is 40 years old.



“It’s now or never, if we want to limit global warming to 1.5°C (2.7°F). Without immediate and deep emissions reductions across all sectors, it will be impossible.”

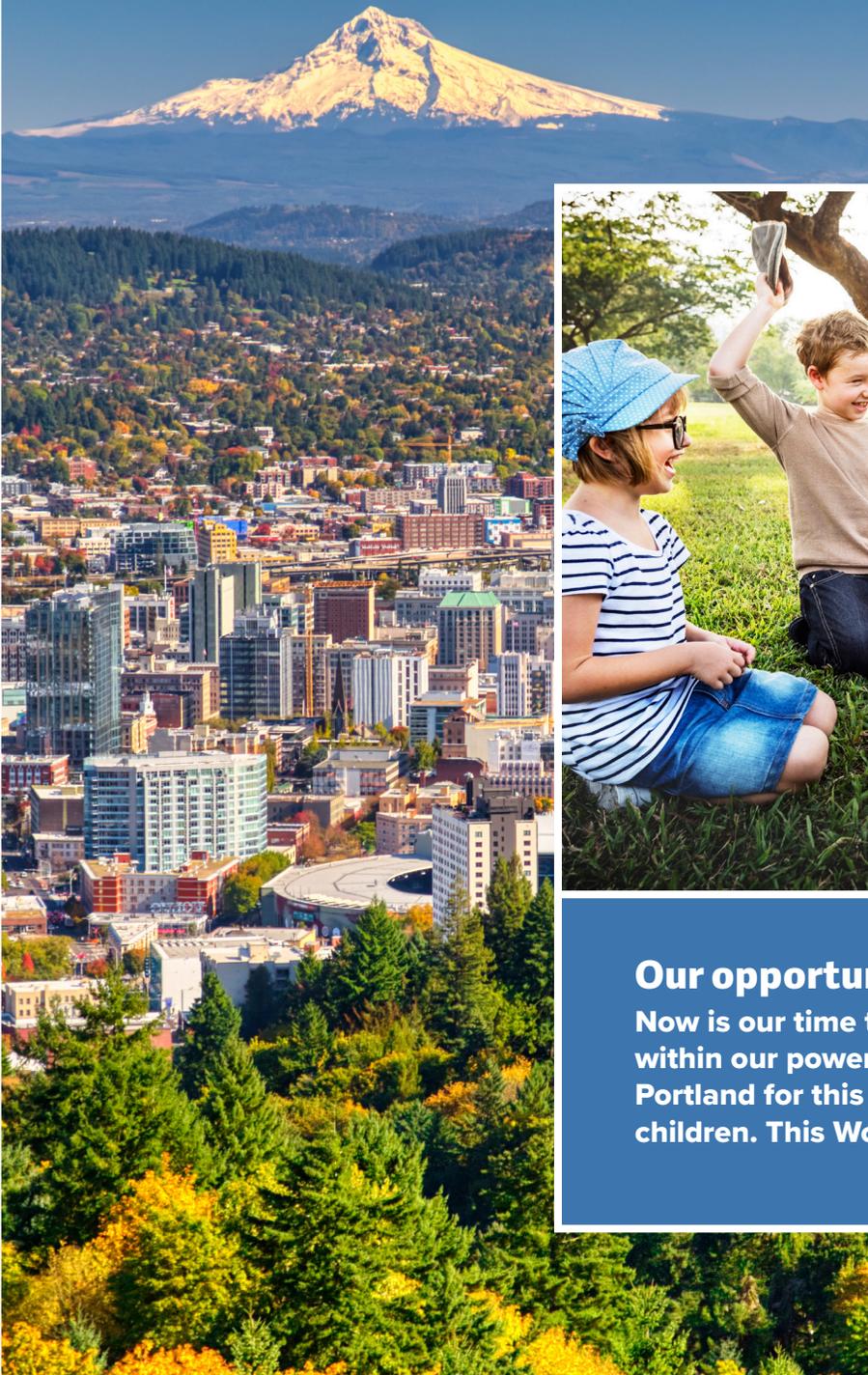
— Jim Skea, Co-Chair, Intergovernmental Panel on Climate Change Working Group III (April 4, 2022)

But there is good news

The worst-case scenario doesn't have to be our future. We still have options that could change the course of events for the people of Portland—those here today and those who will come after us.

We can do this

We can meet our 2030 and 2050 targets if we implement the priority actions in this Workplan over the next three years. These actions are grounded in the best available science and shaped by years of discussions across our communities. They are the steps that City leaders and bureaus can take now to ensure the best-case scenario for Portland in a rapidly warming world.



Our opportunity

Now is our time to act. As City leaders, it is within our power to protect and preserve Portland for this city's children and for their children. This Workplan shows us how.

A clear plan to protect Portland in a warming world

This Climate Emergency Workplan is composed of intersecting strategies and actions that:

- Reduce carbon from the sectors that produce it (like transportation, industry, and buildings)
- Reduce carbon from the consumption of food, goods, and materials
- Sequester carbon in trees and green spaces
- Build Portlanders' resilience to the impacts of climate change, focusing on those most vulnerable

The City is committed to its core value of racial equity in implementing this Workplan. The questions of who benefits, who is burdened, and who is at the table must be asked and answered for each of the policies, programs, and investments identified in this Workplan.



Sources of emissions:	
	Electricity supply <ul style="list-style-type: none"> • Electricity • Natural gas
	Buildings <ul style="list-style-type: none"> • Commercial • Single-family homes • Multi-family dwellings
	Transportation <ul style="list-style-type: none"> • Diesel (commercial trucks, buses) • Gasoline (passenger vehicles, delivery vans)
	Industry <ul style="list-style-type: none"> • Manufacturing • Materials management • Processing
	Embodied carbon <ul style="list-style-type: none"> • Building materials • Purchases of goods and services • Food



Sequestration:	
	Forest carbon storage <ul style="list-style-type: none"> • Plant nearly 100,000 acres by 2050



Resilience actions	
	<p>We must also help Portlanders become resilient to day-to-day impacts of climate change like excessive heat, wildfire smoke, power outages, flooding and more. Our actions must respond to the reality that Black, Indigenous and communities of color are being hit first and hardest by these events.</p>

WHAT'S NEXT:

Most of the priority actions in this plan will require City Council consideration. City bureaus and departments will approach Council with specific requests over the next three years.

Portland's pathways to net-zero carbon by 2050

This represents one visualization of Portland's path to net-zero carbon emissions by 2050. It is based on a set of reduction scenarios modeled in Decarbonization Pathways Analysis ("Pathways"). The graph shows the remaining emissions that will result between now and 2050, as we undertake the reduction strategies laid out in this Workplan and beyond.

Net-zero assumptions and reduction scenarios by 2030, from current levels:

Electricity supply

Business as usual: Pathways models an 18 percent reduction in total emissions by 2030 from more renewable electricity.

Assumptions: Portland reaches 100 percent renewable electricity for PGE territory by 2030, which is an additional 8 percent reduction in total emissions by 2030. Portland has committed to 2 percent of renewable energy being community owned by 2030.

Buildings

Business as usual: Pathways models a 2 percent reduction in total emissions by 2030 from energy improvements in existing and new construction buildings.

Assumptions: Portland reduces emissions 15 percent from residential and commercial buildings through energy efficiency and electrifies 10 percent of all residential and commercial buildings by 2030. Assumes no appreciable increases in use of renewable natural gas until after 2030. This is equivalent to an additional 4 percent reduction in total emissions by 2030.

Transportation

Business as usual: Pathways models an 8 percent reduction in total emissions by 2030 from transportation adopted policies and plans.

Assumptions: Portland implements all of the actions in PBOT's preferred Transportation Policy Scenario and completes updates to the Renewable Fuel Standard (RFS) to phase out fossil diesel fuel by 2030. The Transportation Policy Scenario achieves a 7 percent reduction in total emissions by 2030. Updating the RFS can achieve a 6 percent reduction in total emissions by 2030.

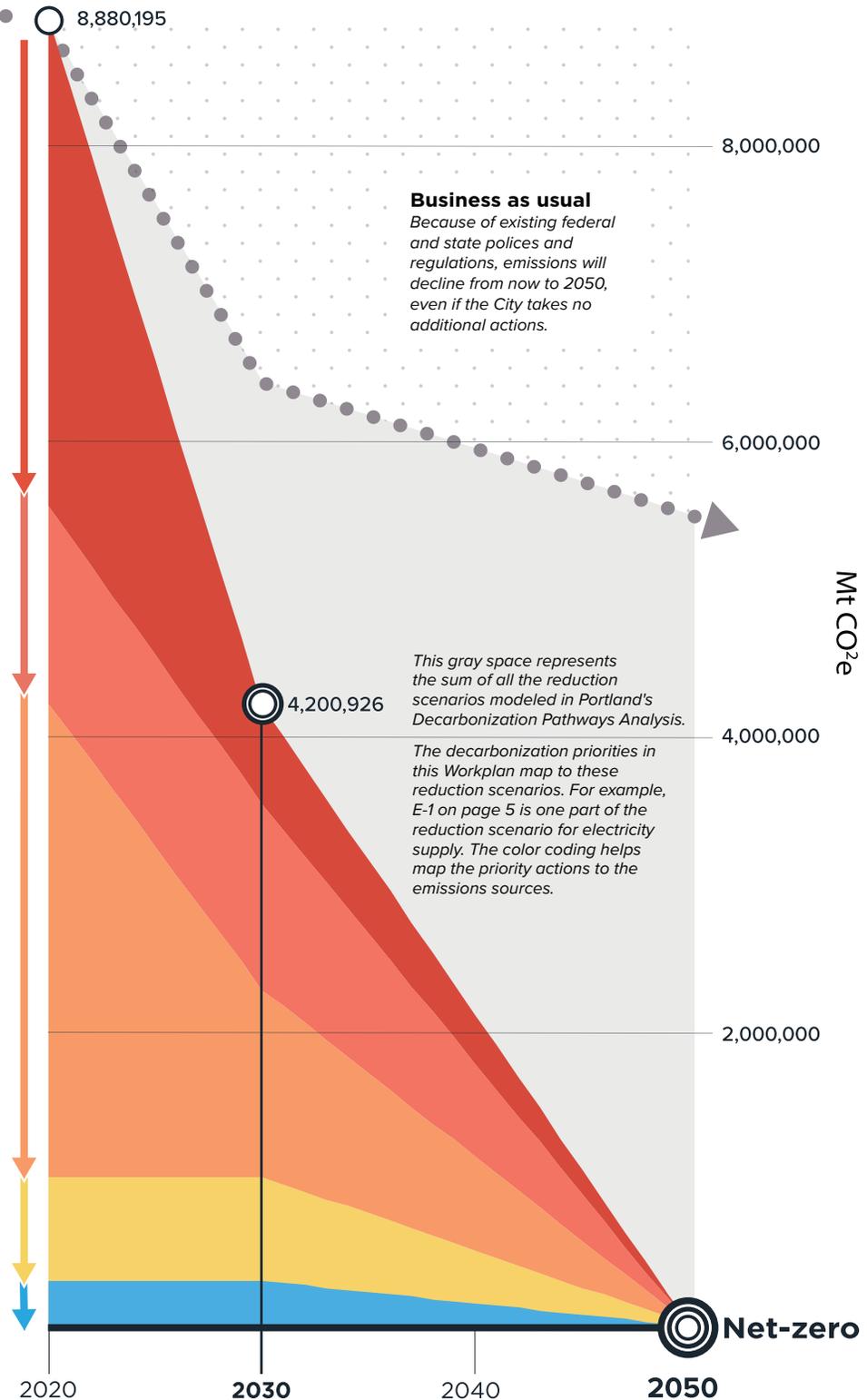
PBOT's preferred Transportation Policy Scenario envisions managing and building a transportation system that improves mobility for everyone and reduces the amount of driving by using roadway and parking pricing, combined with financial incentives and regulations, to help activate and manage demand for safe, attractive, multimodal infrastructure.

Industry

- Remaining industrial sector fossil fuel use
- No expected reductions before 2030

Other emissions

- Remaining emissions from other sectors, like wastewater treatment, landfilled solid waste, and fugitive emissions
- No expected reductions before 2030



Source: BPS Decarbonization Pathways Modeling Analysis, May 2022
Full report available at portland.gov/bps/climate-action/pathways

Climate emergency priorities 2022-2025

Decarbonization priorities

These are the actions required to eliminate carbon from (“decarbonize”) the built environment, vehicles, and industry and to replace it with clean, renewable energy sources that do not create planet-warming emissions.

Energy-related items are at the top because they must happen first in order for others to happen at all. To make it possible for buildings and cars to run on 100% carbon-free electricity, we must first decarbonize our grid—meaning, we must ensure that the electricity generated for Portland comes from renewable sources, not coal or natural gas.

In addition to accelerating the transition to cleaner fuels and electricity, rapidly reducing the amount of driving in our community is a key decarbonization priority.

Reducing the amount of driving also has numerous co-benefits for our community, including improved safety, public health, air and water quality, and supporting our vision for compact, mixed-use growth.

Since the 2015 Climate Action Plan, the City has endeavored to center racial equity, justice, and community benefit in the work of decarbonization. This is evident in many of the policy and programs listed below. We are not done with the journey toward anti-racism. We will continue to center the needs, benefits, and priorities of frontline communities in each of the actions listed in this Workplan.

LEGEND	★ Maps to: Climate Emergency Declaration, 100% Renewable Energy Resolution, or 2035 Comprehensive Plan	BDS	Bureau of Development Services	OMF	Office of Management and Finance	FTE Gap Funding Gap \$ \$100k or less \$\$ \$100k - \$200k \$\$\$ \$200k - \$300k \$\$\$\$ \$300k - \$400k \$\$\$\$\$ over \$500k + sums that are orders of magnitude greater than \$500k
		BES	Bureau of Environmental Services	PBEM	Portland Bureau of Emergency Management	
		BPS	Bureau of Planning and Sustainability	PBOT	Portland Bureau of Transportation	
		BPS (PCEF)	Portland Clean Energy Fund	PF&R	Portland Fire & Rescue	
		BRFS	Bureau of Revenue and Financial Services (City Risk)	PP&R	Portland Parks & Recreation	
		JOHS	Joint Office of Homeless Services	PWB	Portland Water Bureau	

ELECTRICITY SUPPLY	No.	Action	Bureau(s)	Council Request	Why This Matters	Resource Gaps	Fiscal Year
	E-1	★ Implement the state 100% clean electricity law	BPS	Support the development of a community wide auto-enrollment program for 100% clean electricity, in collaboration with Portland's electric utilities and community-based organizations.	Decarbonizing Portland's electricity grid is one of the highest priorities. Our ability to decarbonize other sectors like home heating and transportation, depends on an emissions-free electricity system. This one program could dramatically advance our progress toward 2030 carbon reduction goals. It also is an opportunity to explore the connections between clean energy infrastructure and community benefits. The state legislation enables cities to take a much more active role in determining what is in our electricity supply and insuring that new infrastructure is developed in alignment with our values.	Funded FY 22-23	24-25
E-2	Invest in community-owned renewable energy generation	BPS (PCEF)	Support continued deployment of targeted community funding for solar, energy storage and other renewable energy projects.	On-site solar energy and community solar projects offer cost savings, energy resilience, workforce development opportunities and help to meet goals in the 100% Renewable Energy Declaration that 10% of our energy will come from community-based renewable energy infrastructure by 2050.	N/A	Ongoing	

★ Maps to Climate Emergency Declaration, 100% Renewable Energy Resolution, or 2035 Comprehensive Plan

BUILDINGS	No.	Action	Bureau(s)	Council Request	Why This Matters	Resource Gaps	Fiscal Year
	B-1	★ Eliminate carbon from existing buildings in the private market	BPS	Adopt climate and health standards for existing buildings.	When we look at carbon emissions by sector, heating, cooling and powering our buildings currently accounts for most of the city's local emissions. The climate crisis intersects with our housing crisis. Addressing health, safety, and carbon emissions in rental apartments is a community priority. BPS has been collaborating with the Build/Shift community members since 2019 to develop a racially just and equitable building decarbonization policy. Climate and health standards are the result of this long-term engagement.		TBD
	B-2	★ Eliminate carbon from City operations.	BPS	Update the City Green Building Policy (ENB-9.01).	This helps maximize the City's efforts to decarbonize its own building stock, fleet vehicles and equipment. Accounting for the cost of carbon in decision making is considered a best practice among cities that have net-zero carbon goals. This demonstrates leadership by example.		23-24
	B-3	Implement energy retrofits, including life, health, and safety improvements on homes owned by priority populations and on affordable multifamily and single family rental housing properties.	BPS (PCEF)	Support building decarbonization through deployment of community projects that insulate, weatherize, and install heat pump-based HVAC systems and water-heaters for low income households.	Carbon emission reductions, household stability, multigenerational wealth preservation, direct economic benefit through utility savings, improved indoor air quality, improved resilience to extreme weather events.	N/A	Ongoing
	B-4	★ Lower embodied carbon in the built environment.	BPS	Support policies that reduce the embodied carbon of building materials and construction through the use of low-carbon alternatives, adaptive reuse and whole-building life-cycle assessments (LCAs).	The embodied carbon of building materials refers to the lifecycle emissions associated with extracting, manufacturing, transporting, installing, maintaining, and disposing of these materials. As we work to decarbonize buildings, addressing the role these upfront impacts play becomes increasingly important as operational carbon emissions decline (from retrofits, accelerated energy efficiency, and renewable energy policies). Additionally, because the impacts of embodied carbon are locked in when a building is constructed, it's critical to lower embodied carbon through project design and material selection <u>before</u> construction begins.	Funded in FY 22-23	24-25

★ Maps to Climate Emergency Declaration, 100% Renewable Energy Resolution, or 2035 Comprehensive Plan

TRANSPORTATION	No.	Action	Bureau(s)	Council Request	Why This Matters	Resource Gaps	Fiscal Year
	T-1	★ Make low-carbon travel options safe, accessible, and convenient for all Portlanders.	PBOT	Support allocation of space on city streets for non-single occupant auto trips, increase funding for infrastructure projects, activation and programs that support more people making more trips by walking, biking and transit.	For more Portlanders to use climate-friendly travel options, our streets must prioritize people biking, walking and taking transit. These physical spaces along with services like BIKETOWN, shared e-scooters and the Portland Streetcar must provide welcoming, reliable and timely access to daily needs and key community places, especially for BIPOC Portlanders, people living with disabilities and other community members living on low-incomes.	(\$)((\$)((\$)((\$)((\$)+	22-23 23-24 24-25
	T-2	★ Use equitably designed pricing strategies and parking management to encourage less driving when people and businesses have other travel options.	PBOT	Support implementation of Pricing Options for Equitable Mobility (POEM) Task Force Recommendations.	Using pricing to manage demand and reinvesting in equitable mobility options is the most effective strategy available to equitably reduce emissions and vehicle miles traveled (VMT), while expanding safe, reliable access to transportation for Portlanders.	N/A	TBD
	T-3	Decouple transportation funding from fossil fuels.	PBOT	Support transition of local, regional and state funding to revenue streams that do not rely upon fossil fuel sales.	Decoupling transportation funding from fossil fuels will help to provide greater funding stability to ensure essential investment can be made while fossil fuel use is reduced. Current funding approaches create a perverse incentive that limits the City's ability to provide core services. Providing this underlying financial stability will also enable more targeted use of price signals to manage demand.	N/A	TBD
	T-4	★ Make low-carbon transportation options more affordable, especially for those who can least afford them.	PBOT	Support sustainable funding for financial incentives to support low-carbon transportation options.	Financial incentives help people try new modes and services, reduce financial barriers and make pricing strategies more equitable, and can involve private sector partners in funding and service provision to help expand the impact of public sector investment.	(\$)((\$)((\$)((\$)((\$)+	TBD
	T-5	Support state and regional vehicle miles traveled (VMT) reduction policies.	PBOT	Support changes to regional and state planning rules and mobility standards to emphasize VMT reduction.	While the City can take actions to reduce VMT and emissions, without supportive state and regional actions, those actions will be undermined. As a result, we would not significantly advance toward our City Council adopted VMT and emissions targets.	N/A	22-23
	T-6	★ Make new construction ready for electric vehicle charging.	BPS BDS	Adopt EV-ready codes.	This project augments and expands on state climate rules and policies. EV-ready code provides more people the option to drive an electric vehicle (EV) by increasing the number of sites with charging infrastructure. It's less expensive to install EV charging infrastructure during new building construction compared to later during a building retrofit. This code update will require 50% of the parking spaces in newly built multi-dwelling and mixed-use buildings to include EV-ready infrastructure. This is especially important to support the current and future EV charging needs of renters and low-income Portlanders living in multi-dwelling buildings.	  BDS may raise fees to cover cost of implementation	22-23 23-24 24-25

★ Maps to Climate Emergency Declaration, 100% Renewable Energy Resolution, or 2035 Comprehensive Plan

TRANSPORTATION	No.	Action	Bureau(s)	Council Request	Why This Matters	Resource Gaps	Fiscal Year
	T-7	★ Make it easier to use electric vehicles if you can't charge at home.	PBOT BDS BPS	Support city policy around public EV charging. Pursue state and federal funding opportunities to catalyze investment in charging infrastructure.	By making it easier for people to use electric options and support increased access to EV charging for BIPOC and low-income community members who disproportionately live in multifamily or other residences without garages, we can equitably expand access to the benefits of electrified transportation.	 	22-23 23-24 24-25
	T-8	★ Make freight cleaner.	PBOT	Adopt the 2040 Freight Plan, which will identify Strategies and Actions to equitably reduce emissions from freight and delivery. Pursue state and federal funding opportunities to support implementation.	Carbon pollution from trucks is an increasingly large proportion of Portland's climate pollution. By electrifying trucks, along with replacing fossil diesel at the pump, reducing the amount of driving needed to deliver goods, and shifting last mile freight to low-carbon modes, we can significantly reduce both air pollution and climate pollution.	    	22-23 23-24 24-25
	T-9	Replace petroleum diesel at the pump.	BPS	Update the Renewable Fuels Standard.	Diesel is the fourth largest source of local carbon emissions and is responsible for producing harmful air pollutants like soot (PM 2.5) These pollutants disproportionately impact the health of Black, Indigenous, and low-income community members. Replacing petroleum diesel at the pump is a high-impact carbon and equity policy that City Council has the authority to enact.	   	22-23

INDUSTRY	No.	Action	Bureau(s)	Council Request	Why This Matters	Resource Gaps	Fiscal Year
	I-1	Develop strategies for the industrial sector to reduce emissions, pollution, and waste, and follow inclusive practices.	BPS	Support future funding requests related to the clean industry hub implementation.	In 2020-21, stakeholders from the industrial sector requested assistance in transitioning to be decarbonized, clean, circular, and inclusive. Decarbonizing this sector is complex, since many industrial processes require high temperatures that cannot be achieved with electrification. The clean industry hub will identify strategies to support the sector in meeting climate goals and implementing circular economy practices.	TBD	23-24

★ Maps to Climate Emergency Declaration, 100% Renewable Energy Resolution, or 2035 Comprehensive Plan

LAND USE	No.	Action	Bureau(s)	Council Request	Why This Matters	Resource Gaps	Fiscal Year
	LU-1	★ Increase ongoing capacity to develop plans for centers and corridors to encourage compact mixed use communities with easy walking and biking access to services like grocery stores, jobs, schools, and medical care. Prepare implementation and investment plans for centers and corridors with adopted area plans, in coordination with infrastructure bureaus.	BPS PBOT BES PP&R PWB	Support adoption of the West Portland Town Center and the Lower SE Rising Area Plan; and funding for future area planning projects in inner SE Portland, NE quadrant of the Central City, and 82nd Avenue. Identify resources to support planned street systems, active transportation investments, greening of corridors, and regional transportation priorities that serve known high-growth centers and corridors.	Ensuring that Portland evolves and grows in a way that reduces the need to drive is an important tool for reducing carbon emissions from the transportation sector. Infrastructure planning and investments are needed, along with planning and zoning actions, to implement the Comprehensive Plan and the regional growth strategy, which supports sustainable land use development patterns.		22-23 23-24 24-25
	LU-2	★ Work with existing communities to avoid economic and cultural displacement as neighborhoods grow and change. Develop strategies to ensure that new development better reflects the full range of people and cultures in Portland and is more accessible to people at all income levels.	BPS	Identify ongoing resources to support retention of existing communities in high growth areas.	The climate benefits of the regional growth strategy are only realized if existing communities benefit. Displacement of lower-income households and communities of color to the fringes of the region undermines the carbon emissions benefits of the intended transit-oriented land use pattern.		
	LU-3	Explore the feasibility of last-mile urban logistics hubs and right-sizing the number of Central City off-street loading/unloading areas to support the decarbonization of delivery vehicles.	BPS PBOT	<ol style="list-style-type: none"> Further study and potential Code updates are needed for urban logistics hubs if they are to be located in areas currently not zoned to allow them, such as the Central City. Code may need to be updated depending on the outcome of the right-sizing analysis for off-street loading/unloading areas to support the efforts of partner bureaus such as PBOT. 	This work is meant to reduce barriers to increase the amount of human-powered and small electric delivery vehicles (Fed Ex, Amazon, UPS van-sized) serving Portland. Urban logistics hubs are a place where goods can be consolidated from bigger trucks into smaller trucks, vans and bicycles for last-mile delivery. A last-mile logistics hub could have EV charging infrastructure available for delivery vehicle and e-bike use, if needed.		Funded through FY 23-24 Ongoing funding will be needed for FY 24-25 and beyond.

★ Maps to Climate Emergency Declaration, 100% Renewable Energy Resolution, or 2035 Comprehensive Plan

EMBODIED CARBON/FOOD	No.	Action	Bureau(s)	Council Request	Why This Matters	Resource Gaps	Fiscal Year
	S-1	Prevent food waste through business and residential outreach and engagement.	BPS	N/A	Between 25 and 40 percent of all food grown or imported into the U.S. and Canada for human consumption is wasted. Food waste accounts for 20 percent of natural resource use, including water, land and fertilizer and contributes 8 percent of global greenhouse gas emissions. Meanwhile, 40 million Americans and 4 million Canadians are food insecure. Project Drawdown, the most comprehensive plan ever proposed to reverse global warming, ranked food waste reduction as the first most effective solution out of 100 solutions evaluated.	N/A	Ongoing
	S-2	Reduce food waste through business and residential composting and the donation of edible surplus food.	BPS	Continue to support the regional commercial food scraps requirement and the residential composting program. There will be upcoming opportunities to support and invest in community food access and resilience, including building out existing food surplus donation systems.		N/A	Ongoing
	S-3	★ Invest in community-led opportunities to rent, share, fix, and reuse goods.	BPS	Continue to support the investment of the community-led opportunities to rent, share, fix, and reuse goods.	Reusing and repairing materials and products decreases impacts on the environment by preventing or delaying the purchase of new items. Hundreds of organizations in the Portland region help residents, businesses, schools and others extend the life of their products by repairing them or getting them reused, instead of thrown away.	 	23-24

CROSS-SECTOR	No.	Action	Bureau(s)	Council Request	Why This Matters	Resource Gaps	Fiscal Year
	C-1	★ Implement the internal cost of carbon in City decision-making.	BPS PP&R OMF/CBO BES PBOT PWB			This is considered a best practice among leading cities aiming to become carbon-neutral, like Portland. It helps internalize costs that we currently don't account for (externalize). Accounting for the cost of carbon in decision making allows us to properly weigh the costs of NOT making low carbon choices.	Funded FY 22-23

Resilience priorities

These are the actions required to make Portlanders and our communities more resilient to the current and future impacts of climate change.

LEGEND	★ Maps to: Climate Emergency Declaration, 100% Renewable Energy Resolution, or 2035 Comprehensive Plan	BDS	Bureau of Development Services	OMF	Office of Management and Finance	FTE Gap Funding Gap \$ \$100k or less \$\$ \$100k - \$200k \$\$\$ \$200k - \$300k \$\$\$\$ \$300k - \$400k \$\$\$\$\$ over \$500k + sums that are orders of magnitude greater than \$500k
		BES	Bureau of Environmental Services	PBEM	Portland Bureau of Emergency Management	
		BPS	Bureau of Planning and Sustainability	PBOT	Portland Bureau of Transportation	
		BPS (PCEF)	Portland Clean Energy Fund	PF&R	Portland Fire & Rescue	
		BRFS	Bureau of Revenue and Financial Services (City Risk)	PP&R	Portland Parks & Recreation	
		JOHS	Joint Office of Homeless Services	PWB	Portland Water Bureau	

FLOODING	No.	Action	Bureau(s)	Council Request	Why This Matters	Resource Gaps	Fiscal Year
	F-1	★ Update floodplain maps based on modeling by federal and state agencies and apply new regulations to maintain Portlanders' access to federal flood insurance and disaster funding, reduce the impacts of future flooding and support recovery of threatened and endangered species.	BPS BES BDS PBOT	<ul style="list-style-type: none"> Support for the program Funding for next phases of planning Adoption of map and code amendments 	Climate change analysis indicates that the Portland area will continue to see warmer, wetter winters with the potential for more intense rain events and river flooding. These projections call into question the accuracy of existing maps and models Portland uses for land use and infrastructure planning.	 	22-23 23-24 24-25
F-2	★ Update the hydraulic and hydrologic (H&H) models for Johnson Creek. Update floodplain maps (based on new modeling) and Titles 33 and 24 floodplain codes for Johnson Creek. Develop programs to assist property owners as needed.	BPS BES BDS PBOT	<ul style="list-style-type: none"> Support for the program Adopt code and maps Establish and fund new program as needed 	<p>Johnson Creek has the most chronic flood risk in the city. Thousands of homes and businesses, including many in East Portland, are in the floodplain and at risk of regular flooding. The City has been working over the last 25 years to acquire the most at-risk floodplain properties and build floodplain restoration projects that reduce flood risk and improve water quality and habitat. The flood models for Johnson Creek are dated and not accurate enough to inform floodplain restoration design or a floodplain map update. Producing one creek-wide model would be an efficient way to support the floodplain remapping and restoration design that is underway. Updating the floodplain maps will inform some Portlanders about the true flood risk their property carries. In many cases, these are lower income households that do not know they are at flood risk due to outdated maps.</p> <p>Additionally, current code allows for offsite compensatory cut and fill in Title 24 but that has never been utilized because of the unknown risk of increasing flooding elsewhere in the system. This model will inform what's appropriate for a Title 24 code update and F3 below.</p>	 	23-24 24-25	

★ Maps back to directives in the Climate Emergency Declaration or goals or policies in the 2035 Comprehensive Plan or the 2035 Citywide Systems Plan.

FLOODING	No.	Action	Bureau(s)	Council Request	Why This Matters	Resource Gaps	Fiscal Year
	F-3	★ Develop a mitigation banking program to maintain flood storage capacity and habitat and a long-term operations and maintenance plan.	BES BPS BDS	<ul style="list-style-type: none"> Support for the program Funding for staff to develop proposal and establish the mitigation bank Decision on mitigation bank management 	Some areas that are zoned for development cannot compensate for lost flood storage on site due to soil conditions or other situations, and/or cannot compensate for lost habitat in the floodplain which is critical for floodplain function, water quality, and healthy fish and wildlife populations. There are also river-dependent projects such as bridges that will require compensatory mitigation. Therefore, there is a need for off-site options.	 	22-23 23-24 24-25
	F-4	★ Expand the Willing Seller Program to acquire frequently flooded properties along Portland's waterways that provide critical floodplain functions.	BES	Support and continued funding for the program	Climate change is expected to increase flood risk. Where feasible, acquiring and removing at-risk structures from the floodplain, then restoring the natural processes of the floodplain, reduces flood risk not just for the acquired properties, but also the surrounding community. These projects also help meet salmon and steelhead recovery goals and improve water quality in streams that serve as part of our stormwater management system.	TBD	Ongoing
	F-5	★ Identify key floodplain and wetland sites then design and construct them to reduce flood risk, restore habitat, improve water quality and serve as community and educational amenities.	BES	Support and continued funding for these projects	The City has a successful 25-year history of floodplain acquisition and restoration and is used as a model for other cities just now recognizing their increasing flood risk and beginning their own programs.	TBD	Ongoing

TREES (Canopy)	No.	Action	Bureau(s)	Council Request	Why This Matters	Resource Gaps	Fiscal Year
	T-1	★ Update and implement Urban Forestry Management Plan.	PP&R (Urban Forestry)	Adoption of the plan once developed	A healthy urban forest contributes to the economic vitality of the city, provides environmental stability, and ensures a better quality of life. Urban trees provide an array of environmental, public health and livability benefits. Trees improve air quality by actively removing particulate matter and other pollutants, provide for safer streets by reducing vehicle speeds, reduce urban flooding through stormwater capture, and lower summer temperatures through shade and evapotranspiration. Communities in East Portland are more exposed to these hazards than other parts of Portland. In particular, East Portland experiences summer temperatures up to 15 degrees hotter than neighborhoods east of the Willamette with significantly greater tree canopy.	TBD	22-23 23-24
	T-2	★ Update Title 11 regulations to improve tree preservation, increase resources for tree planting in high priority communities.	BES BPS BPS (PCEF)	Adopt proposed amendments once developed		TBD	Starting within the next 2 years
	T-3	★ Expand tree planting in East Portland and other priority neighborhoods, parks, and outdoor community spaces through existing pathways and funding for community organizations.		Continued support		TBD	Ongoing

★ Maps back to directives in the Climate Emergency Declaration or goals or policies in the 2035 Comprehensive Plan or the 2035 Citywide Systems Plan.

NATURAL RESOURCES/GREEN INFRASTRUCTURE	No.	Action	Bureau(s)	Council Request	Why This Matters	Resource Gaps	Fiscal Year
	NR-1	★ Ensure that environmental protections are applied to the City's important natural resources through the Ezones Map Correction Project and continued application of Drainage Reserve Rules to protect water quality and flow.	BPS BES	Adopt the ezone map correction project and provide funding for updates in industrial areas	Due to the age of many of the City's natural resource protection plans, our environmental overlay zones are not always correctly applied to identified resources. These updates will ensure that our environmental protections are applied to important natural resources using current technologies, such as LiDAR and geographic information systems (GIS). This work is especially important in the Columbia Corridor, where a large amount of the historic natural resources (e.g., wetlands, riverbank habitat, etc.) has been removed to accommodate development. This has implications for stream health, fish and wildlife habitat, water quality, public access to nature, urban heating and many other health and livability issues.	 	22-23 23-24 24-25
	NR-2	Continue support for community-based organizations doing watershed stewardship, community engagement, and education.	BES PP&R PBEM	Continue support	Community-based organizations such as watershed councils are trusted by and embedded within the community and are critical partners in pursuing City resilience goals. They work tirelessly to build community and environmental resilience through community events, volunteering, public education, restoration, cleanups, and more. The environmental stresses on communities where they work continue to pile up, making their work more important than ever.	none	Ongoing
	NR-3	★ Incorporate climate resilience into the Economic Opportunities Analysis (EOA). This includes allowing space for trees, protection of wetlands, riparian corridors, and other natural areas.	BPS BES PP&R	Support	State Planning Goal 9: Economic Development, requires that cities maintain an adequate supply of land for jobs. The last update of the EOA and actions taken since indicate that while there is an excess of land in central city and other employment areas, there is a shortage of industrial land. As a result, the city has not been able to update its environmental provisions in industrial areas. The current update of the EOA needs to incorporate climate resilience.	TBD	22-23 23-24
	NR-4	★ Launch the development of a citywide green infrastructure systems plan building on the work completed 2019-2020.	BES PBOT PP&R BPS BPS (PCEF) PBEM	Support and funding	Green infrastructure, including the urban forest, provides many resilient services including stormwater management, air quality improvement, carbon sequestration, urban heat island mitigation, biodiversity, and improvement of mental health. The versatility of maintained green infrastructure indicates that a comprehensive planning effort to address climate disparities around the city could greatly benefit the city overall.	TBD	TBD

★ Maps back to directives in the Climate Emergency Declaration or goals or policies in the 2035 Comprehensive Plan or the 2035 Citywide Systems Plan.

WILDFIRE	No.	Action	Bureau(s)	Council Request	Why This Matters	Resource Gaps	Fiscal Year
	W-1	<p>★ Prioritize and implement wildfire prevention and response actions from the Multnomah County Wildfire Protection Plan and State Wildfire plans and other emergency plans, including:</p> <ul style="list-style-type: none"> • Promote fire-wise landscaping and material selection on homes • Invasive species management and fuel reduction (including ladder fuels) to maintain safe fuel levels in natural areas • Fire road maintenance • Reduce human induced fire risk • Work with electrical utilities on powerline/fire prevention issues 	<p>PBEM PF&R BPS PP&R JOHS</p>	<p>Funding in future years, including matching dollars for federal grants</p>	<p>Portland has significant fire risk in Forest Park, Powell Butte, Oaks Bottom, Willamette Bluff, and other City natural areas. As the climate warms, these risks will increase significantly and are compounded by drought and insect stress to trees. Flood and landslide risk increase dramatically after forest fires and may be compounded by increased rainfall. Portland's housing crisis also means more people are camping in natural areas. The risk of wildfire goes up with increased human activity. Wildfires pose a significant risk to the health and safety of people camping in natural areas, people living nearby, and wildlife that depends on natural areas for habitat.</p>	TBD	Ongoing
W-2	<p>Begin to build a Wildfire Prevention Program to coordinate with state and county wildfire planning, update Portland's Forested and Wildland Interface Areas Fire Protection Plan, and seek grant funding to implement the plans to help make Portland more resilient.</p> <p>The work will include an evaluation of the wildland interface areas to identify the specific hazards that increase the threat of wildfire and provide mitigation strategies to address these concerns.</p>	<p>PF&R PBEM PP&R BPS BDS</p>	<p>Support development and funding of this program</p>	<p>Lush and natural vegetation is part of Portland's identity, and the wildland areas make our city beautiful and livable. However, the wildland-urban interface creates significant fire risk threatening lives, property, and the environment.</p> <p>Portland has significant fire risk in Forest Park, Powell Butte, Oaks Bottom, Willamette Bluff, and other City natural areas. As the climate warms, these risks increase significantly and are compounded by drought and insect stress to trees. Portland's housing crisis also means more people are camping in natural areas. The risk of wildfire goes up with increased human activity. Wildfires pose a significant risk to the health and safety of people camping in natural areas, people living nearby, and wildlife that depends on natural areas for habitat.</p>	<p>  </p>	22-23	

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HEALTH IMPACTS - HEAT AND SMOKE	No.	Action	Bureau(s)	Council Request	Why This Matters	Resource Gaps	Fiscal Year
	H-1	<p>★ Reduce indoor health impacts</p> <p>Implement PCEF heat response program distributing 15,000 efficient heat pump cooling units to vulnerable Portlanders</p> <p>Upgrade HVAC systems in PP&R community centers and other community spaces that can serve as cooling spaces and clean air spaces during heat emergencies. Provide resilient power to ensure continued operations in an emergency. (See East Portland Community Center pilot project.)</p> <p>Monitor and analyze temperatures inside some buildings to better understand the relationship between outside temperature and inside temperature based on conditions such as landscaping, construction type, resident practices.</p>	BPS (PCEF) PP&R PBEM	Continue program support	In summer 2021, the Pacific Northwest endured record-breaking high temperatures caused by a “heat dome” that saw record temperatures across the state, with Portland reaching 116 degrees, breaking its own record for three days in a row. Seventy-two people died in Multnomah County, most of who were older, lived alone, and had no working air conditioning. Extreme heat is the greatest proven climate threat to life and health in the region and, according to the CDC, is a top weather-related killer in the U.S. with impacts felt disproportionately by the elderly and other vulnerable populations.	TBD	Ongoing
H-2	Reduce outdoor workers’ health impacts Maintain extreme heat and wildfire smoke protocols for outdoor workers.	Water PP&R BES PBOT BDS BHR BRFS (City Risk) PF&R	Continued support	Field staff come from diverse backgrounds and often from frontline communities. The health and safety of our staff is paramount especially during extreme events when enclosed working spaces can pose a higher health threat than what weather projections indicate. Heat stress is a silent killer and causes fatalities and injuries to outdoor workers (Bureau of Labor and Statistics). Research shows that days with higher maximum temperatures have more outdoor work-related accidents (MIT and College of William and Mary studies.) Heat waves have a monetary impact as well. Research shows an increase in workers’ compensation claims in outdoor industries (Xiang et al. 2014).	TBD	Ongoing	

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RESILIENCE HUBS	No.	Action	Bureau(s)	Council Request	Why This Matters	Resource Gaps	Fiscal Year
	RH-1	<p>★ Convert East Portland Community Center into an energy efficient, resilience center for extreme heat, smoke, ice, extreme cold, power outages and other disasters.</p> <p>Begin HVAC upgrades in FY22-23, with other work continuing beyond the 3-year timeline of this Workplan, if funded. Use the pilot work to expand improvement to all five large community centers.</p>	PP&R PBEM	Funding in future years for water, wastewater, seismic, emergency power, transportation and other necessary facility upgrades.	Emergencies increase existing disparities. Black, Indigenous, and other communities of color, low-income residents, and people with disabilities face disparate risks from disaster. The concentration of communities of color in outer east, which also experiences urban heat island impacts and less easy access to public transport, make this neighborhood an ideal location to pilot a community center that can provide respite from heat, cold, and smoke during emergencies, provide a commissary kitchen that can serve people in an emergency, and have resilient power so that the services will be reliable in a power outage. Multiple bureaus (PP&R, PBEM, PBOT, BES, Water) have supported this concept through the Disaster Response and Recovery Action Group.	TBD	Ongoing
RH-2	<p>★ Develop neighborhood-scale energy resilience through solar + battery systems.</p> <p>Work with the community and other bureaus and agencies to prioritize facilities that are essential to the City or the community. Prioritize installations in neighborhoods that serve communities facing the greatest risks.</p>	BPS PBEM PP&R	Support federal grant applications and other resource development activities needed to fund community engagement, planning, siting, and installation.	Solar plus storage systems can provide a renewable, resilient source of power for communications and cellphone charging, refrigeration, and other basic needs that require the provision of electricity in the aftermath of a climate-related disaster, like wildfire, or other serious regional hazards, like earthquakes. Each neighborhood in Portland should host at least one community-serving solar plus storage system (on a building) to ensure the area can meet emergency response needs during a prolonged power outage.	 	23-24 24-25	

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INFRASTRUCTURE PLANNING & CONSTRUCTION	No.	Action	Bureau(s)	Council Request	Why This Matters	Resource Gaps	Fiscal Year
	IP-1	★ Incorporate climate change information (i.e. flood risk, extreme heat, drought) in capital planning and infrastructure design.	BES PWB PBOT PP&R			Integrating climate resilience and analysis into engineering and capital planning can reduce long-term costs and impacts for the City and provide benefits to the communities that rely on critical capital infrastructure. This includes evaluating the social cost of carbon, and the cost of replacement and repair for assets damaged by climate stressors.	 
IP-2	Complete the identified improvements needed to avoid landslides throughout the West Burnside Road right of way.	PBOT BES PP&R	Funding is needed for this large capital project in future years		West Burnside Road is a major thoroughfare for the city. It is identified as a major risk for a catastrophic landslide during either a seismic event or extreme rain/flooding event.	       	Five Year Capital Project (Design to Construct)

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EMERGENCY PLANNING	No.	Action	Bureau(s)	Council Request	Why This Matters	Resource Gaps	Fiscal Year
	E-1	<p>★ Continuity of operations actions</p> <p>Invest in equipment to keep modes of transportation in operation during extreme weather events.</p> <p>Purchase, install, and operationalize a prioritized list of equipment to enable modes of transportation to continue during extreme weather events, including snow/ice, intense rain/flooding, heat, and smoke events.</p>	<p>PBOT</p> <p>PP&R</p> <p>BES</p>	Funding in future years	In extreme weather events, it is critical to maintain safe access to modes of transportation to ensure that Portlanders can get where they need to be. Currently, during extreme weather, the right of way (ROW), streetcar operations, and tram are impacted. By equipping our maintenance & operations teams appropriately, PBOT will be able to improve our continuity of operations during extreme weather, including the timely treatment and removal of snow/ice, clearing/mitigating flooding areas, and maintaining appropriate temperatures & air quality of the streetcars and tram during high heat and smoke conditions.	(\$(\$(\$(\$(\$(\$+))	23-24
	E-2	<p>Emergency response preparation</p> <p>Invest in equipment to improve the city's ability to respond to emergencies during extreme weather events.</p> <p>Purchase and operationalize prioritized list of equipment to improve the city's ability to respond and manage destruction due to extreme weather events.</p>	<p>PBOT</p> <p>PP&R</p> <p>BES</p> <p>Water</p>	Funding in future years	When severe weather occurs, the city needs to have essential equipment on hand to adequately anticipate extreme weather, as well as respond to and minimize the damage of emergencies and more quickly recover after disasters.	(\$(\$(\$(\$(\$(\$+))	23-24
	E-3	<p>★ Continuity of operations actions</p> <p>Draft or revise essential emergency and continuity of operations city & regional plans, including a short-term climate change emergency response plan.</p>	<p>PBEM</p> <p>PBOT</p> <p>PP&R</p>		<p>The city has several plans that either need to be updated or drafted to support critical areas of resiliency preparedness and responsiveness. In the event of extreme weather, having documented plans and procedures will allow for the city to swiftly coordinate and respond effectively.</p> <p>Operations (COO'P) Plan, Major Flooding Plan, Dam Failure Plans, Rain Event SOP, Damage Assessment Plan, Mitigation Action Plan, Emergency Contracts to support emergency plans, and more. Efforts will include identification of best practices for resilience & adaptive management.</p>	(\$(\$(\$(\$(\$(\$+))	23-24
	E-4	<p>★ Increase climate resilience awareness regionally</p> <p>Benchmark & integrate climate resiliency with the greater Pacific Northwest Regional Area to help shape & implement climate challenges, adaptivity and resiliency.</p> <p>Work with people who have historically been economically disadvantaged, or negatively impacted by service levels, projects, and geographic locations to collaboratively improve the region's resilience by building adaptive capacity & expertise, as well as establishing levels of services and expectations during severe weather events.</p>	<p>All Infrastructure Bureaus</p> <p>PBEM</p>	Funding in future years	<p>By building collaboration to inform our resiliency strategies, the city will be better informed on how to respond and communicate to meet stakeholder's expectations.</p> <p>This could be part of an existing collaboration.</p>	(\$(\$(\$(\$(\$(\$+))	

This is our moment.

We've made great strides as a city to address climate change, but it hasn't been enough. The climate emergency is here, and it's putting our current residents and future generations at risk. We must move faster to reduce Portland's planet-warming carbon emissions, starting now.

A safe climate is still within reach.

This Workplan lays out the actions we can take to help Portland avoid the worst-case scenario. If City Council, working with communities and City staff, implement these actions over the next three years, we can set our city up for success in a rapidly warming world.

Increase our resilience, decarbonize our city — equitably.

This plan includes actions to make Portlanders more resilient to climate change. These have grown more important to community members since the September 2020 wildfires and the June 2021 heat dome. We can all see the climate emergency unfolding, but low-income Portlanders and Black, Indigenous, and communities of color are getting hit first and hardest.

Yet the science makes clear that we can't devote all of our resources to adaptation and resilience. Driving down carbon emissions by 2030, and decarbonizing our city by 2050, are critical goals. This plan shows us how to accomplish them in a way that distributes the burdens and benefits of climate change in a more equitable manner.



Current and future Portlanders are depending on us.

Fortunately, we're fully equipped to act, with a Workplan in hand. Portland was once a leader among the global community of cities fighting climate change. By implementing the priority actions in this plan, we can be leaders again.

The science is unequivocal:
It's now or never.
LET'S CHOOSE NOW.

To learn more visit:
portland.gov/bps/climate-action
or email: cityinfo@portlandoregon.gov

City of Portland, Oregon
Bureau of Planning and Sustainability
July 2022



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