

RESOLUTION No.

Adopt an internal cost of carbon policy to ensure major City decisions formally consider the social and environmental costs of carbon emissions in evaluation processes (Resolution).

WHEREAS, the climate emergency is an existential threat to our community and economy, and combatting it will require government agencies to treat this as the crisis it is by taking bold steps to meet Portland's carbon reduction goals and building a healthy, resilient city in which everyone can thrive; and

WHEREAS, the City of Portland government has both an opportunity and obligation to model innovative implementation approaches to reducing carbon emissions in its operations for other organizations and industries to follow in order to help meet the City's community-wide decarbonization goals; and

WHEREAS, the City of Portland's Climate Emergency Declaration, Resolution No. 37494, adopted in June 2020, directed the Bureau of Planning and Sustainability to involve youth and other stakeholders in the development of a proposed climate test, such as an internal carbon fee or shadow price on carbon; and

WHEREAS, the purpose of a climate test is to ensure that City bureaus are making informed decisions based on the best available climate science, particularly for major capital investments and high-carbon-impact decisions, such as fuel and vehicle purchases; and

WHEREAS, Resolution No. 37483, adopted March 2020, identifies the development and application of a shadow price of carbon as an emerging best practice for reducing greenhouse gas emissions in City operations; and

WHEREAS, the Sustainable City Principles, adopted in 2015, commit Portland elected officials and staff to think beyond first costs and consider long-term, cumulative impacts when making policy and financial decisions; and

WHEREAS, Resolution No. 37419 amended the Financial Planning Policy FIN 2.03 requiring City bureaus to minimize environmental, social, and economic risks; and to maintain infrastructure at the lowest life cycle

cost which meets service objectives; and

WHEREAS, Portland is a signatory to the C40 Net Zero Carbon Buildings Declaration, which commits City assets and infrastructure to becoming net zero carbon by 2030; and

WHEREAS, Bureau of Planning and Sustainability staff have conducted a thorough review of climate test applications that have been adopted by other municipal and federal governments, universities, and private industries to inform the City's climate test policy; and

WHEREAS, the City of Portland received valuable input from youth and other stakeholders in the development of a proposed climate test, and continued collaboration will lead to stronger outcomes;

NOW, THEREFORE, BE IT RESOLVED, that the City of Portland internal cost of carbon policy, attached hereto as Exhibit A, is adopted.

BE IT FURTHER RESOLVED, the internal cost of carbon is applied to cost analyses that are developed for evaluation of City investment decisions with respect to City buildings, vehicles and mobile equipment, transportation infrastructure, resource management related to wastewater treatment and ecosystem services, as defined in Exhibit A; and

BE IT FURTHER RESOLVED, the Director of the Bureau of Planning and Sustainability is authorized to approve updates to the policy, including applicability of the policy, standardization of emissions calculations, and adjusting the internal cost of carbon to achieve adopted carbon reduction targets; and

BE IT FURTHER RESOLVED, the Bureau of Planning and Sustainability staff will develop and provide detailed guidance for bureaus to implement the internal cost of carbon policy, including standardized emissions calculation tools, and will share these resources with City staff and the general public via the Portland.gov website; and

BE IT FURTHER RESOLVED, the Bureau of Planning and Sustainability staff is directed to conduct regular trainings for City staff on how to apply the internal cost of carbon policy; track its implementation; and modify its implementation based on results, feedback, and Citywide objectives; and

BE IT FURTHER RESOLVED, the internal cost of carbon policy is

intended as the first phase of the City's climate test policy, and the Bureau of Planning and Sustainability will continue to work with youth and other stakeholders to refine and expand a climate test that applies to other areas where the City has authority; and

BE IT FURTHER RESOLVED, the Bureau of Planning and Sustainability will provide a progress report on the implementation of the policy and recommendations for the next phase of the climate test policy to City Council no later than January 2022; and

BE IT FURTHER RESOLVED, this resolution is binding City policy.

Adopted by the Council:

Mayor Wheeler
Commissioner Jo Ann Hardesty
Prepared by: Danny Grady
Date Prepared: 11/30/20

Mary Hull Caballero
Auditor of the City of Portland
By

Deputy

1010
 Agenda No.
RESOLUTION NO.
 Title

Adopt an internal cost of carbon policy to ensure major City decisions formally consider the social and environmental costs of carbon emissions in evaluation processes (Resolution)

INTRODUCED BY Commissioner/Auditor: Mayor Wheeler & Comm. Hardesty	CLERK USE: DATE FILED <u>December 8, 2020</u>
COMMISSIONER APPROVAL Mayor—Finance & Administration – Wheeler <i>MW</i>	Mary Hull Caballero Auditor of the City of Portland By: <u><i>Keelan McClymont</i></u> Deputy ACTION TAKEN:
Position 1/Utilities - Fritz	
Position 2/Works - Ryan	
Position 3/Affairs - Hardesty <i>JL Hardesty</i>	
Position 4/Safety - Eudaly	
BUREAU APPROVAL Bureau: BPS Bureau Head: Andrea Durbin <small>Digitally signed by Andrea Durbin Date: 2020.12.07 13:00:05 -0800</small>	
Prepared by: Danny Grady Date Prepared: 11/30/2020	
Impact Statement Completed <input checked="" type="checkbox"/> Amends Budget <input type="checkbox"/>	
Portland Policy Document If "Yes" requires City Policy paragraph stated in document. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
City Auditor Office Approval: required for Code Ordinances	
City Attorney Approval: required for contract, code, easement, franchise, charter, Comp Plan	
Council Meeting Date December 16, 2020	

AGENDA
TIME CERTAIN <input checked="" type="checkbox"/> Start time: <u>2:00pm</u> Total amount of time needed: <u>120 mins</u> (for presentation, testimony and discussion)
CONSENT <input type="checkbox"/>
REGULAR <input type="checkbox"/> Total amount of time needed: _____ (for presentation, testimony and discussion)

FOUR-FIFTHS AGENDA	COMMISSIONERS VOTED AS FOLLOWS:	
	YEAS	NAYS
1. Fritz	1. Fritz	
2. Ryan	2. Ryan	
3. Hardesty	3. Hardesty	
4. Eudaly	4. Eudaly	
Wheeler	Wheeler	

Exhibit A: Framework for Application of Internal Cost of Carbon Policy

1. Background and Policy Intent

The scientific consensus is clear: immediate action is needed in order to combat the climate crisis. A human-made climate emergency threatens our city, our region, our state, our nation, humanity, and the natural world, and such an emergency calls for an immediate mobilization effort initiating greater action, resources, and collaboration.

The City of Portland's Climate Emergency Declaration (Resolution 37494, adopted June 30, 2020) resolved that:

The City of Portland will involve youth and other stakeholders in the development of a proposed climate test – such as an internal carbon fee or shadow price on carbon – by Fall 2020 that will ensure City bureaus are making informed decisions based on the best available climate science, particularly for major capital investments and high-carbon-impact decisions, such as fuel and vehicle purchases, and explore options for a lifecycle climate test that could apply to other areas where the City has environmental, safety, land use, zoning, or design review authority.

The internal cost of carbon policy is the mechanism by which City bureaus begin implementation of a climate test in major capital investments and select high-carbon-impact decisions. "Internal cost of carbon" is an umbrella term used to define the mechanism(s) by which carbon costs are applied to projects; costs may be applied in either actual (e.g. carbon fee) or representative (e.g. carbon shadow price) terms. An internal carbon fee results in real costs borne by City bureaus based upon their actual carbon emissions, while a carbon shadow price is an evaluation tool that models the social cost impacts that result from carbon emissions associated with City investment decisions.

The intent of the City's internal cost of carbon policy is to normalize the inclusion of climate impacts into project, planning and policy decision-making. This policy establishes a framework that makes the cost of carbon much more visible in decision-making and creates a consistent mechanism for City staff to quantify actual or modeled costs associated with select projects and operational decisions that produce carbon emissions.

2. Current Scope

The policy's current scope applies to options analyses that use benefit cost analysis on a lifecycle basis to inform decision-making with respect to the following City assets, operations, and end uses:

City-owned buildings:

- Developing new City buildings exceeding 1,000 square feet;
- Acquiring existing buildings;
- Procuring energy sources for City buildings;

Vehicles and mobile equipment:

- Procuring vehicles and other mobile equipment for City use;
- Procuring fuels and fueling infrastructure for such vehicles and other mobile equipment.

Transportation infrastructure construction capital projects:

- Embodied carbon in road construction projects
-

Resource management at Columbia Boulevard Wastewater Treatment Plant

- Management of methane emissions at CBWTP;
- Development of CBWTP Resource Recovery Plan

Ecosystem Services

- The benefits of climate regulation, carbon sequestration, and carbon reduction attributable to the protection, restoration, and expansion of natural systems, such as trees and forests, wetlands, and park land.

3. Applicability to City Bureaus

This policy applies to all City infrastructure bureaus that manage City-funded projects and planning initiatives identified in the [Current Scope](#). Specifically, the policy is applicable to the following City bureaus:

- Office of Management and Finance, Division of Asset Management, specifically:
 - Facilities Services
 - CityFleet
- Portland Parks and Recreation
- Portland Fire and Rescue
- Portland Bureau of Transportation
- Portland Water Bureau
- Portland Bureau of Environmental Services

City staff in the Bureau of Planning and Sustainability shall play a complementary role in supporting the implementation of the policy in conjunction with staff from the infrastructure bureaus noted above.

Specific employee roles, responsibilities, and expectations are further described In Appendix A.

4. Definitions

Applicable Sources of Carbon Pollution is carbon pollution associated with City assets or operations (expressed in *Carbon Dioxide Equivalent*). Carbon pollution can be created through energy use, industrial processes, wastes, and those avoided through ecological carbon storage/sequestration.

Carbon Dioxide Equivalent (CO₂e) is the common metric used to quantify and compare different types of greenhouse gases. It is expressed in tons.

Carbon Shadow Price is a price on carbon emissions used for analysis and evaluation of alternatives, expressed as dollars per ton of CO₂e. As the name implies, no costs are incurred.

City-Owned Buildings include workspaces and structures that the City designs, builds, owns, operates, maintains, or supports through loans, grants, and/or other financial benefit.

Greenhouse Gases (GHGs) are the atmospheric gases responsible for causing global warming and climate change. The major GHGs are carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O). Less prevalent, but very powerful, greenhouse gases are hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆).

Lifecycle refers to consecutive and interlinked stages of a goods or services system, from resource generation and raw material acquisition through production, use and final disposal. This is sometimes referred to as “cradle to grave.”

Lifecycle Cost Analysis (LCCA) is the method for calculating the costs of goods or services throughout their lifecycle. It includes total cost of ownership, including operating and maintenance costs, and positive or negative externalities which can be monetized both to the City and to society.

Mobile Equipment refers to motorized mobile equipment that requires fuel to operate and are not otherwise defined as typical City fleet vehicles. Examples may include, but are not limited to, riding lawnmowers, tractors, forklifts, and heavy construction equipment such as bulldozers, loaders, pavers, graders, excavators, etc.

Social Cost of Carbon (SCC) is an economic estimate of the present-day dollar value of future societal and environmental damage caused by carbon emissions. This value is typically used as a shadow price, meaning no money is exchanged, but the “cost” incorporates future impacts into decision analysis.

5. Policy Statement

City staff responsible for conducting options analyses for projects and plans within the [Current Scope](#) will apply an internal cost of carbon in the form of a carbon shadow price. The carbon shadow price represents the value (expressed as a project cost or credit) of [applicable sources of carbon emissions](#) associated with each option. The carbon shadow price value will be included in the [lifecycle cost analysis](#) for each option, alongside all other relevant costs (e.g. capital, operating and energy costs) and potential revenue streams (e.g. federal, state, or local grants and incentives).

The carbon shadow price shall inform the lifecycle cost of project options for evaluation purposes. Reducing carbon impacts may not necessarily be the exclusive priority for all decision-making; staff must weigh multiple priorities, and there may be other priorities that take precedent over carbon emissions on individual projects.

5.1 Carbon Shadow Price Level

The carbon shadow price that bureaus will use is based on established values for the social cost of carbon (See Appendix A.3). Table 1 provides the carbon shadow price bureaus will use each year from 2020 through 2050:

Table 1: City of Portland Carbon Shadow Price (2020-2050)

Year	Carbon Shadow Price
2020	\$117 per ton CO2e
2025	\$130 per ton CO2e
2030	\$143 per ton CO2e
2035	\$156 per ton CO2e
2040	\$170 per ton CO2e
2045	\$182 per ton CO2e
2050	\$194 per ton CO2e

The carbon shadow price is subject to review and adjustment via the [continuous maintenance process](#) as City staff apply the policy, develop lessons learned and gauge impacts across a larger sample size.

5.2 Applicable Sources of Carbon Emissions

For City assets and operations in the [Current Scope](#), the shadow price will be used to calculate a value for applicable sources of carbon pollution associated with the following categories of emissions:

- **Scope 1** emissions are those that are directly released from an activity (e.g. the tailpipe emissions from a gasoline or diesel vehicle).
- **Scope 2** emissions are those that are directly released from the production of electricity and/or heat supplied for an activity (e.g. the emissions from generating the electricity needed to power an electric vehicle, or the natural gas emissions associated with burning gas in a boiler).
- **Scope 3** are indirect emissions for an activity other than those covered by scope 2 (e.g. the carbon released through the manufacture of the concrete and steel used in a building).

If scopes 1, 2 or 3 emissions are unavailable, unreliable, or not applicable across all options, staff will have the discretion to exclude one or more scopes from the analysis.

6. Policy Compliance and Reporting

City employees are responsible for complying with this policy, utilizing applicable tools and resources, and providing data relating to the application of the carbon shadow price on end uses identified in the [Current Scope](#) upon request.

The application of the carbon shadow price shall be tracked by BPS staff to facilitate feedback to bureaus on policy implementation performance, and to inform subsequent scope development and continuous maintenance of the policy.

For each of the targeted impact areas identified in the [Current Scope](#), the [applicable City bureau](#) shall provide a complete list of applicable projects that employed the carbon shadow price in options analysis, the impact of the carbon shadow price to the life cycle cost analysis, and the decision that was adopted. Additional narrative that explains the reasoning for the final decision, rationale for exclusion of any scope(s) of emissions, and other relevant documentation may also be included in the report.

The Bureau of Planning and Sustainability staff shall create an annual report that compiles the above information.

7. Policy Updates and Continuous Maintenance

7.1 Policy Updates

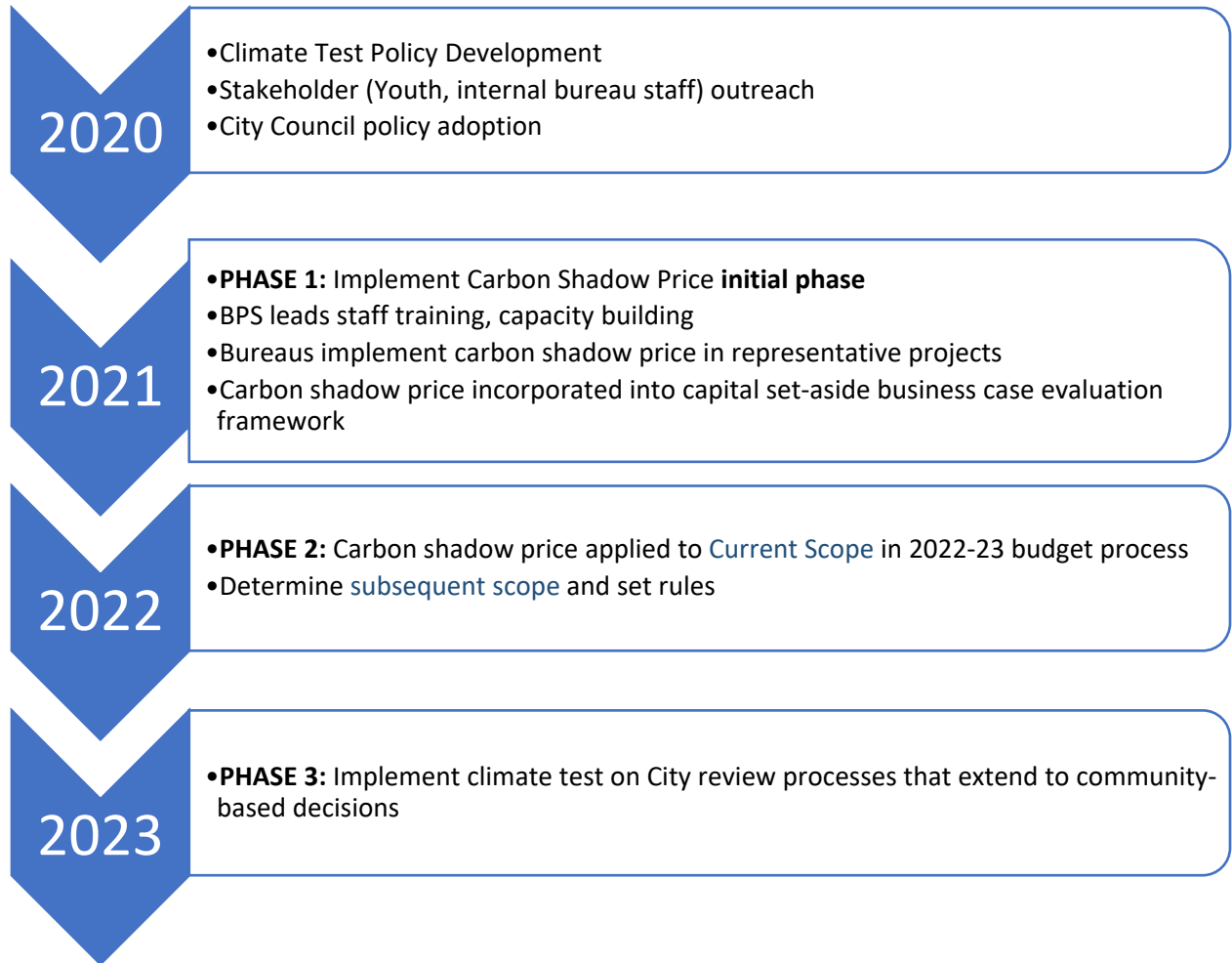
Bureau of Planning and Sustainability (BPS) staff shall periodically bring together both internal and community-based stakeholders to review and update this policy to evaluate effectiveness, including but not limited to carbon shadow price level, applicable scope, and availability of carbon emissions measurement tools. Given the role of local youth climate advocates in the initial development of this policy, City staff must ensure that these stakeholders continue to have a strong voice in the continued development of this policy.

7.2 Continuous Maintenance Process

Sections of this policy subject to continuous maintenance may be revised in between policy update cycles in order to incorporate best practices, new applicable emissions measurement tools, capabilities and processes, and removal of outdated references. Updates made to this policy through continuous maintenance will be posted on the BPS website. Month and year of updates will be noted. A cross-bureau working group shall be convened to regularly review bureau recommendations for continuous maintenance and make updates to the policy. Approval of updates is at the discretion of the BPS Director. Continuous maintenance updates shall occur no more frequently than once a year.

8. Timeline

The following timeline represents the policy's proposed rollout schedule. Given the timing of capital budget decision making, the need to train staff on implementation, and the development of carbon emissions calculation tools, a phased approach to policy implementation is required.



Appendix A – Supplemental Information

A.1 Shadow Price calculation methodology

When staff conduct lifecycle cost assessments as part of options analysis related to the [Current Scope](#), the carbon shadow price shall be calculated as follows:

1. Identify [applicable sources of carbon emissions](#) for the project.
2. Calculate annual CO₂e emissions of each project alternative using appropriate [carbon emissions calculation tool](#).
3. Determine the estimated lifecycle of the project being evaluated. The lifecycle is the amount of time (in years) that the project or plan is expected to be in operation and/or creating CO₂e emissions.
4. Multiply the annual CO₂e emissions value (in tons) by the expected lifecycle term (in years) to determine the lifecycle CO₂e emissions for each option under consideration.
5. Multiply total lifecycle emissions value (in tons) by current [carbon shadow price level](#) (\$USD per ton) to determine total carbon shadow price. Add carbon shadow price to all other applicable project costs to perform lifecycle cost analysis.
6. Conduct options analysis to determine preferred project option.

A.2 Carbon emissions calculation tools

As part of the [continuous maintenance](#) process, BPS staff will develop and maintain a library of approved carbon emissions calculators that City staff shall use to calculate [applicable sources of carbon emissions](#) relating to their projects. As new calculation tools emerge in the marketplace, BPS shall review, approve, and add these resources to the library. The library will be made available to all bureaus via a dedicated page on the Portland.gov website for ease of access.

City staff may use their discretion in determining the appropriate emissions calculator to apply to a particular project analysis. To ensure the options analysis is using the same set of carbon emissions assumptions, the same calculator must be employed for all options being evaluated in the analysis.

A.3 Relationship between Social Cost of Carbon and Carbon Shadow Prices

The shadow price is based upon the social cost of carbon (SCC), which is an economic estimate of the present-day dollar value of future societal and environmental damage caused by carbon emissions. There is a wide range in calculated SCC values from a variety of economists and climate research professionals. A survey of existing research, and the recommendations of existing state and local government policies with adopted SCC values has been taken into account to establish the City's price level. The primary sources of research used to establish the City's carbon shadow price are outlined below.

Leading economic research that surveys existing professional SCC models ([Pindyck, *The Social Cost of Carbon Revisited*, National Bureau of Economic Research, 2016](#)) indicates a central estimate of \$108-\$138 / ton CO₂e. The research develops cost ranges using multiple parameters used to survey the data; the central estimate used for the City's purposes is defined by the author as those SCC studies with high confidence in their responses, cost range in the 5th to 95th percentile.

The [Washington State Energy Office](#) recommendation for standardizing the SCC when used for public decision-making processes indicates a 2020 value of \$78 / ton CO₂e (in 2020\$), based upon the federal

central estimate at a 2.5% discount rate. The federal values were published by the [Environmental Protection Agency \(EPA\) in 2016](#); it is derived from a federal Interagency Working Group on Social Cost of Greenhouse Gases that calculated the SCC at various discount rates and impact scenarios. [King County, Washington](#) developed an Operational Cost of Carbon report that adopted the Washington State Energy Office recommendation for their application of an internal SCC for evaluation purposes.

City of Vancouver, British Columbia, Canada adopted an [Internal Corporate Carbon Pricing policy](#) in December 2018. The 2020 value is the equivalent of \$117 USD (\$155 CAD).

The King County Operational Cost of Carbon report and the Vancouver BC Internal Corporate Carbon Pricing policy served as invaluable models for municipal government application of a carbon shadow price.

A.4 Training and Internal Capacity Building

The following internal capacity building plan will be used to support the Policy's implementation:

- BPS staff will lead workshops throughout 2021 with the staff tasked with developing options analyses that fall under the [Current Scope](#). Workshops will be scheduled in CityLearner and be made available to all City staff with interest in the learning how to implement the policy. BPS staff will specifically communicate with bureau management to ensure that appropriate bureau staff is identified to attend the training sessions, and training is built into staff workplans.
- BPS staff will provide support on lifecycle carbon calculations as needed for staff working on decisions impacted by the policy. Where support is provided, it shall be documented so that it is available to a broader range of staff to build capacity. When common questions surface during support sessions, additional tools and support will be formally developed.
- BPS staff will provide briefings on the policy to Planning and Development (P&D) directors and the Citywide Asset Managers Group (CAMG) so that bureau directors and relevant senior management become familiar with the policy and how it impacts their work.
- BPS staff will document case studies developed during the Year 1 pilot phase for different types of decisions to show how the policy was used and if/how it impacted the final decision.
- Sustainability staff will work with the City Budget Office (CBO) to explain the policy and update CBO guidance as needed.
- Sustainability staff will work with Procurement Services to explain the policy and update the Sustainable Procurement policy to refer to the Carbon Shadow Price policy.

A.5 Communications

The following high-level communications plan will be used to support policy implementation:

- The carbon shadow price policy will be included in the next Climate Emergency Declaration update to City Council.
- City staff will share the policy with other local governments to encourage adoption of similar approaches that further government leadership in addressing climate change.
- City staff will share the policy with interested local businesses to encourage adoption of similar approaches within the business community to advance climate action at the community level.
- City staff will share the credit for program success with the youth climate advocates that provided valuable feedback in the development of the policy.

A.6 Subsequent Scope

The initial scope of decisions subject to the carbon shadow cost policy is relatively limited. City staff are committed to developing a robust policy over time that is successful in meeting the [policy intent](#), and ramping the policy over time is an essential strategy to achieving success. Staff will continue to investigate how to apply the policy to other areas where the City has environmental, safety, land use, zoning, or design review authority.

The following have been identified as priorities for additional research and possible stakeholder consultation. Note that potential scope expansion that affects privately owned buildings, residents and the greater community in general may require adjustments to the policy design.

- Existing building renovations, retrofits, and deferred maintenance projects
- Land use planning decisions
- Transportation planning decisions
- Solid waste management
- Waste to energy projects, such as the generation of renewable natural gas from organic food waste
- Pipeline and pump station conveyance and distribution infrastructure
- Electric vehicle charging infrastructure for public use
- City employee air travel
- City permitting requirements

IMPACT STATEMENT

Legislation title: Adopt an internal cost of carbon policy to ensure major City decisions formally consider the social and environmental costs of carbon emissions in evaluation processes (Resolution)

Contact name: Danny Grady, Senior Energy Specialist, Bureau of Planning and Sustainability

Contact phone: 503-823-3919

Presenter name: Danny Grady

Purpose of proposed legislation and background information:

In September 2019, youth climate activists held a youth climate strike and presented City leadership with a list of demands. At the top of this list, youth called on the City to **“Establish a Climate Test. Every decision made by the city of Portland and its departments must take into account the health of the planet and choose what will most benefit the earth.”** (<https://actionnetwork.org/events/pdx-climate-strike-4>).

In December 2019, Mayor Ted Wheeler directed the Bureau of Planning and Sustainability to **“implement a ‘climate test’ to ensure major City decisions are integrating climate action”** and directed bureau leadership **“to return to City Council with a proposed ‘climate test’ (such as a carbon fee and/or a shadow price on carbon) that will ensure City bureaus are making informed climate-friendly decisions, particularly for major capital investments and high carbon-impact decisions, such as fuel and vehicle purchases.”** (December 11, 2019 memo from Mayor Wheeler to bureau directors.) This directive was later codified in the Climate Emergency Declaration adopted by Portland City Council in June 2020 (Resolution No. 37494.)

The internal cost of carbon policy (Exhibit A) represents the mechanism by which City bureaus will formally incorporate the cost of carbon emissions into the evaluation of major capital investment options and high carbon-impact decisions. The intent of the City’s internal cost of carbon policy is to normalize the inclusion of climate impacts into project, planning and policy decision-making. This policy establishes a framework that makes the cost of carbon much more visible in decision-making and creates a consistent mechanism for City staff to quantify actual or modeled costs associated with select projects and operational decisions that produce carbon emissions.

The policy scope applies to analyses that use benefit-cost analysis on a lifecycle basis to inform decision-making with respect to City assets, including City buildings, City fleet vehicles, energy and fuel purchases, transportation infrastructure, resource management and resource recovery at the Columbia Boulevard wastewater treatment plant, and ecosystem services.

The application of an internal cost of carbon into bureaus' respective business case evaluation frameworks serves to quantify the lifecycle cost of carbon associated with the investment and impacts project benefit-cost ratios. Quantifying carbon emissions and assigning a cost to those emissions serves to inform City decision-makers about the cost effectiveness and fiscal impact of pursuing lower carbon investment options relative to a base case (business as usual.)

The Climate Emergency Declaration (Resolution 37494, adopted June 30, 2020) required that:

The City of Portland will involve youth and other stakeholders in the development of a proposed climate test – such as an internal carbon fee or shadow price on carbon – by Fall 2020 that will ensure City bureaus are making informed decisions based on the best available climate science, particularly for major capital investments and high-carbon-impact decisions, such as fuel and vehicle purchases, and explore options for a lifecycle climate test that could apply to other areas where the City has environmental, safety, land use, zoning, or design review authority.

The proposed legislation supports the following City policies:

- Climate Emergency Declaration (Resolution No. 37494) commits the City to develop a climate test to help inform City decision making based on the best available climate science; and
- 2015 Climate Action Plan (Resolution No. 37135) set a 2030 objective to reduce carbon emissions from City operations 53 percent below fiscal year 2006-07 levels; and
- Sustainable Purchasing Policy (Resolution No. 37483, adopted March 2020), identifies the development and application of a shadow price of carbon as an emerging best practice for reducing greenhouse gas emissions in City operations; and
- Sustainable City Principles, adopted in 2015, commit Portland elected officials and staff to think beyond first costs and consider long-term, cumulative impacts when making policy and financial decisions; and
- Financial Planning Policy amendment FIN 2.03 (Resolution No. 37419, April 2019) requiring City bureaus to minimize environmental, social, and economic risks; and to maintain infrastructure at the lowest life cycle cost which meets service objectives; and
- Portland is a signatory to the C40 Net Zero Carbon Buildings Declaration, which commits City assets and infrastructure to becoming net zero carbon by 2030.

Financial and budgetary impacts:

The proposed legislation does not have direct budgetary impacts to City investments, as the internal cost of carbon is a non-cash cost that serves as an evaluation tool meant to inform the business case for City investments. There may, however, be indirect financial

impacts associated with the implementation of this policy in such cases where a bureau decides to proceed with a lower carbon, but higher cost, project option.

The legislation does not propose additional staff positions to implement the policy. Additional staff time may be required to implement the policy as part of existing City capital project and capital set-aside development processes, respectively. Bureau of Planning and Sustainability staff time will be required to develop resources and tools to aid in the calculation methodology and to conduct staff training to implement the policy.

Community impacts and community involvement:

Youth climate activists were instrumental in calling for the City to establish a climate test, starting with the youth-led Climate Strike in September 2019. Key participants included Portland Youth Climate Council (PYCC) and Sunrise Movement PDX. Community outreach for this policy focused on engaging with youth to respond to those demands and understand what youth would like to see in the City's climate test.

As research into the climate test began in earnest in January of 2020, City staff invited youth climate activists to participate in a series of youth roundtable sessions to introduce the goals of the climate test and an initial draft policy framework, hear initial ideas and feedback from youth, and hear how youth would like to be engaged in the policy development process to chart a course for ongoing engagement.

City staff held three youth roundtable public meetings to introduce the goals of the climate test and an initial draft policy framework, hear initial ideas and feedback from youth, and hear how youth would like to be engaged in the policy development process to chart a course for ongoing engagement. Meetings were held on August 13 (11 participants), September 17 (7 participants), and October 22 (4 participants).

Since the climate test was part of the Climate Emergency Declaration, some feedback on the climate test was received as part of the public comment period for that resolution. Comments received from youth respondents stated that "...an internal price on carbon is not what the youth who have struck envision for a climate test. A climate test should be a lens through which all decisions in the City are made. Each proposed policy or project should be evaluated to see the impacts it would have on Portland's climate and equity goals. If it is not in line with those goals the policy/project should not go through. A carbon fee or price on carbon is important and should be added as a separate clause elsewhere in the resolution, but the climate test must be more extensive."

In developing the internal cost of carbon policy, staff tried to balance the demands of youth climate activists with the needs and constraints of the implementing bureaus. Based on extensive research into the available policy options and on conversations with the infrastructure bureaus, and after acknowledging the realities of the City budget as a result of the Covid-19 pandemic, City staff concluded that the broadest implementation of a climate test as proposed by youth climate activists will take more time and requires a

phased approach. Staff believe that starting with the attached internal cost of carbon policy is an important and necessary first step, but more work remains to be done in future phases.

The proposed internal cost of carbon policy was made available for public comment from November 2 to November 20, 2020. City staff promoted the public comment period through BPS and Mayor's office communications channels, including web, social media and direct email.

Six public comments were received. Most were positive. However, a handful of comments, including those of the Portland Youth Climate Council, expressed dismay over the proposal's lack of an actual monetary carbon fee, its limited scope and the length of timeline to implement. Youth also expressed frustration over not being sufficiently engaged in the process.

100% Renewable Goal:

The internal cost of carbon policy directly contributes to the City's goal of meeting 100 percent of community-wide energy needs with renewable energy by 2050. Renewable energy inherently has lower carbon emissions than fossil-fuel based energy resources. When City investments related to energy and fuel use are evaluated using the internal cost of carbon framework, the benefit cost ratio of lower-carbon investments increases, making them more attractive to pursue than higher carbon choices. The policy also can be expanded in the future to apply to decision-making in broader community-based applications.

It is likely that this policy will reduce the City's total energy use. The application of the internal cost of carbon will benefit the cost-effectiveness of City project options that reduce carbon emissions. In many instances (though not all), lower carbon emissions are a result of reduced energy use in the project.

The application of the policy will benefit the cost-effectiveness of City project options that employ renewable, carbon-free sources of energy. Thus, this policy is likely to increase the City's renewable energy use.

Budgetary Impact Worksheet

Does this action change appropriations?

- YES:** Please complete the information below.
 NO: Skip this section