

Seattle Building Emissions Performance Standard Policy Proposal

DIRECTOR'S REPORT

November 2023



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Office of Sustainability
& Environment

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1 Introduction

This Director’s Report captures the background, rationale, equitable stakeholder engagement process, and the specifics of the proposed BEPS policy (new Seattle Municipal Code (SMC) Chapter 22.925).¹ It also covers changes to two existing City codes: administrative changes to Energy Benchmarking & Reporting (SMC Chapter 22.930) to align it better with the proposed BEPS and a proposal to sunset Building Tune-Ups (SMC Chapter 22.920) to streamline the reporting burden for building owners and reduce overlap with the Washington State’s Clean Buildings Performance Standard (CBPS).

Emissions-based building performance standards are a powerful tool to address climate change — and create healthy and efficient buildings where we work and live. Decarbonizing Seattle’s largest buildings confronts climate pollution and alleviates the harm from climate impacts that are predominantly born by frontline communities.² The greenhouse gas emissions intensity targets (GHGIT) proposed in a new Chapter 22.925, Building Emissions Performance Standard, to the Seattle Municipal code are projected to reduce building emissions 27% citywide by 2050 — making this policy one of the most impactful actions Seattle can take now to meet our [Seattle Climate Action Plan](#) goals. The Building Emissions Performance Standard or “BEPS” requirement will be a catalyst to transition Seattle’s larger nonresidential and multifamily buildings to net-zero emissions by 2050 and will support the growth of 150-270 annual jobs in the clean energy economy.

The City of Seattle is leading by example. From 2008 through 2021, building related emissions were reduced across the municipal portfolio 24% and energy reduced by 25%. The City is developing a plan to fully transition all City-owned buildings to net-zero emissions, analyzing the actions that would be needed to decarbonize by 2035, if possible, and identifying federal and other funding opportunities.

In developing its BEPS standard, Seattle follows other climate-forward cities like New York City, Boston, and Washington DC that have already developed emissions or energy performance standards for large buildings. The City is part of a cohort of more than three dozen US cities that have joined a White House led National Building Performance Standards Coalition to adopt such policies by Earth Day

What is a building emissions performance standard?

- Sets carbon-emissions targets that buildings must meet over the next two to three decades.
- Targets set as a measure of greenhouse gas (GHG) emissions per square foot of a building, known GHG Intensity Targets (GHGITs).
- Provides a framework to improve building energy efficiency and transition to cleaner energy sources.
- Offers building owners flexibility to choose technologies and operational strategies that work for them.
- Identifies long-term expectations so owners can plan for upgrades.

¹ Additional detail such as the research behind the proposed emissions targets are included in the Appendix.

² Frontline communities include black people, Indigenous people, sovereign tribal nations, communities of color, immigrants, refugees, youths, elders, houseless people, disabled people, LGBTQ+ people, people with low and no income, and people who work in outdoor occupations.

2024.³ Furthermore, hundreds of leading businesses and institutions in Seattle, from Amazon to University of Washington to private building owners, have their own climate pledges and goals. While a Seattle BEPS may challenge some to reduce emissions earlier or reduce emissions from operations in Seattle as opposed to offsets elsewhere, it aligns with these goals and the shared understanding that bold action must be taken now to avert climate catastrophe.

Seattle's BEPS policy design complements the goals of the State of Washington Clean Buildings Performance Standard (WA CBPS). The State's requirements support improving the energy efficiency and operations of buildings, while Seattle's sets limits on climate-polluting emissions towards an end goal of net-zero. This is important since improving energy efficiency is one of the most cost-effective approaches to reducing emissions.

1.1 Building Emissions Performance Standard Summary

This policy will **add a new Chapter 22.925, Building Emissions Performance Standard**, to the Seattle Municipal Code that requires incremental greenhouse gas emissions reductions to decarbonize large nonresidential and multifamily buildings over a twenty-to-twenty-five-year timeframe. It includes the following building owner requirements:

- **Starting in 2027, verify previous year's energy and emissions benchmarking data** (reported to City per SMC Chapter 22.930) to ensure it is accurate and up to date.
- **Starting in 2027, document current emissions performance** and building equipment, develop plans and start actions needed to meet upcoming **greenhouse gas intensity (GHGI) targets**.
- **Starting in 2031**, demonstrate that the building's previous year emissions **meet GHGI targets**, or achieve alternative compliance. (between 2041-2045 for nonresidential buildings and 2046-2050 for multifamily buildings).
- **By 2050** or earlier, depending on building size and type, **achieve net-zero building emissions**.
- **Many alternative compliance options and extensions or exemptions** are available to address extenuating circumstances.

In addition, the policy package **will sunset Building Tune-Ups** after completion of the 2023-2026 compliance cycle.

Who Does this Policy Apply To? The policy will cover owners of buildings larger than 20,000 square feet (SF) that already must comply with Seattle Energy Benchmarking & Reporting. This is about 1,650 nonresidential buildings, 1,885 multifamily buildings and 45 campuses (representing approximately 600 buildings).⁴ This includes most large nonresidential and multifamily buildings that are downtown and in denser urban neighborhoods like Capitol Hill, the Chinatown International District, First Hill and SODO, and some buildings in the core of Seattle's many urban villages like Ballard and Columbia City. The range of ownership includes private entities, nonprofits, affordable housing, market rate apartments, condominiums, municipal and public-school buildings, universities, and hospitals. Buildings used for industrial and manufacturing purposes are exempt.

³ National BPS Coalition: <https://nationalbpscoalition.org/>

⁴ Based on 2019 Energy Benchmarking Open Dataset. Cohort based on field "PropertyGFATotal" rounded. <https://data.seattle.gov/dataset/2019-Building-Energy-Benchmarking/3th6-ticf>

Compliance Timing: The compliance timing is consistent with the WA Clean Buildings Performance Standard’s five-year compliance intervals and building size cohorts. Seattle’s proposed legislation starts with verification of emissions performance and a documentation of upcoming emissions targets and actions to meet them in 2027 in the largest nonresidential and multifamily buildings – those with the greatest emissions impact – and with emissions targets in 2031. Smaller nonresidential and multifamily buildings start later, allowing for more time to prepare for emissions targets, and for the expansion of technical assistance and financial incentives. Each five-year compliance interval begins with the largest buildings and ends with the smallest.

Compliance Timing	
Year 1	>220,001 SF
Year 2	90,001 to 220,000 SF
Year 3	50,001 to 90,000 SF
Year 4	30,001 to 50,000 SF
Year 5	20,001 to 30,000 SF

Table 1: BEPS compliance timing.

Phasing by Building Type: Compliance with emissions targets starts with nonresidential and market-rate multifamily. Low-income housing and buildings with human services uses (e.g., shelters) are granted an extension from meeting targets in the initial 2031-2035 interval. In each subsequent interval, buildings are required to meet progressively lower GHG intensity targets. See the [Compliance Schedules section](#) and [Greenhouse Gas Intensity Targets section](#) of this report for detailed tables.

Seattle BEPS Phase-In	
2027-2030	All buildings verify emissions and energy performance (benchmarking verification), document emissions performance and plan or start emissions reductions to meet upcoming emissions targets.
2031-2035	Nonresidential buildings and market rate multifamily buildings meet first emissions targets. Low-income housing exempted from meeting first targets.
2036-2040	Nonresidential and market rate multifamily buildings meet lower emissions targets. Low-income housing buildings meet first emissions targets.
2041-2045	Nonresidential buildings achieve net-zero emissions. Low-income & market rate multifamily buildings meet lower emissions targets.
2045-2050	Low-income & market rate multifamily buildings achieve net-zero emissions.

Table 2: Seattle BEPS phase-in between 2027 - 2050.

Three broad paths to compliance: The Seattle BEPS offers many flexible options to accommodate buildings of various uses, size, type, ownership, age, and systems as summarized into Path A, B and C in the following charts. For more details, please review the proposed legislation section of this report, or the legislation itself.

BEPS Paths to Compliance

Flexible options to accommodate buildings of various uses, size, type, ownership, age, and systems.⁵

Path A

Meet GHGITs at each five-year compliance interval or exempt if already all-electric.

- **Standard GHGIT.** Individual buildings, building portfolios or campuses⁶ can meet a GHGIT prorated for the mix of uses in a building, portfolio, or campus (e.g., a mix of office, retail, and restaurant spaces).
- **Alternate GHGIT.** A constant percent emissions reduction target from a covered building, district campus, connected buildings, or public/nonprofit building portfolio baseline GHGI to net-zero for unique buildings or those with extremely high emissions.
- **All Electric Energy Sources.** If a qualified person⁷ verifies that the building only uses electric energy sources, it will be exempt from meeting a GHGIT and reporting that it has met the GHGIT.

Path B

Small modifications like extensions, emissions deductions for certain energy uses or a compliance payment.

- **Alternative Compliance Payment.** A payment based on the total metric tons of carbon dioxide equivalent (MTCO₂e) exceeding the target and the social cost of carbon for the five years of the compliance interval. Limited to 2031-35 to allow flexibility but ensure future action. Revenue will be prioritized to assisting building owners to reduce emissions in under-resourced buildings.
- **Affordable multifamily housing and human service uses extension.** These buildings may be exempt from meeting the 2031-35 GHGITs but must still verify data and develop plans.
- **High vacancy rate extension.** Leased buildings with high rental vacancy (to be determined by rule) may be exempt from meeting a GHGIT for one compliance interval.
- **Other exemptions.** Newly constructed buildings, buildings with pre-existing financial distress and buildings scheduled to be demolished.
- **Buildings with district energy contracts.** A covered building with a contract in place before June 1, 2024 for district thermal energy with a private district energy provider may deduct emissions from the 2031-2035 compliance interval.
- **Other emissions deductions.** Deductions (in some or all intervals) for emissions from uses like cooking, electric vehicle charging, communications equipment, laundry in hotels and hospitals, process loads in hospitals and labs, and emergency generators and back-up heat in hospitals and labs.

⁵ Please refer to the Proposed Legislation section for complete list, and more information about timing and specific eligibility criteria for the options listed in this table.

⁶ Two or more covered buildings on one or more lots, all owned by the same public, private, or nonprofit entity.

⁷ A “qualified person” means a person having training, expertise and at least three years professional experience in building energy use analysis and one of several certifications or licenses. Please refer to the legislation definition for details.

BEPS Paths to Compliance

Flexible options to accommodate buildings of various uses, size, type, ownership, age, and systems.⁵

Path C

Special consideration and flexibility for extenuating circumstances. Buildings must meet eligibility criteria to use.

- **Net-zero by 2041-2050 Decarbonization Compliance Plan.** A plan, created by a qualified person, that shows how a building will achieve net-zero by 2041-2050. Plan must include details such as an energy/emissions audit, cost analysis, GHGIT schedule, and planned actions.
- **Low Emissions by 2041-2050 Decarbonization Compliance Plan.** A plan, by a qualified person, that shows how a building will achieve a low carbon target by 2041-2050. Plan must include details such as an energy/emissions audit, cost analysis, GHGIT schedule, and planned actions.
- **District Campus Decarbonization Compliance Plan.** A customized plan, by a qualified person, that shows how a campus will upgrade its district energy plant to generate cumulative emissions reductions from 2028 – 2050 equal to or greater than the reductions achievable by meeting the standard GHGIT.

Support and Financial Assistance: Support for all owners and tenants of covered buildings is instrumental to an effective program and emissions reduction. This builds on the strong compliance and relationships OSE has built with building owners covered by the Energy Benchmarking and Building Tune-Ups policies. Basic support will be provided such as outreach materials, a phone and email helpdesk, training workshops for owners and service providers, and fact sheets, tools, and case studies on topics such as financial support and calculating building emissions. The adopted 2023 budget includes funding to support program expansion with a new full-time position to grow the Seattle Clean Buildings Accelerator into a robust resource hub that can reach more buildings and \$400K/year for consultant support. Financial incentives to support engineering and capital investments will also be provided, as funding allows.

Penalties for Noncompliance: While the City of Seattle will encourage robust compliance through engagement and support as it has done with the Benchmarking and Tune-Ups policies, non-compliance carries penalties as follows: \$10 per square foot for nonresidential buildings, \$7.50 per square foot for multifamily buildings, and \$2.50 per square foot for low-income housing or low-rent housing. The amounts are based on a total of \$30 per square foot over four compliance intervals for multifamily and \$30 per square foot over three compliance intervals for nonresidential. Flat fines of \$15,000 and \$7,500, depending on building size, may also be assessed for failure to report and inaccurate reporting. The Director has authority to mitigate fines.

Capital Investments & Engineering: To date, \$8.8 million has been committed through 2024 alone to support building owners, especially affordable housing. This includes \$4.5 million/year in the endorsed 2024 budget, for in-depth engineering design and capital support for nonprofit and affordable housing buildings serving low-income and BIPOC communities. For more details see the [Supporting Actions and Funding sections](#).

1.2 Summary of Updates to Building Tune-Ups

This policy will amend Chapter 22.930 of the Seattle Municipal Code, Building Tune-Ups, enacted by Ordinance 125002 as follows:

- Revise applicability to expire requirement on December 31, 2028, following the completion of the second cycle of mandated tune-ups,
- Modify exemptions and extensions to update certifications, removing expired and adding new programs, and shift repeat extensions to an exemption, and
- Amend enforcement process, penalty structure and allocate fine revenue to fund emissions reductions in under-served nonresidential, multifamily, and single-family buildings.

1.3 Summary of Updates to Energy Benchmarking and Reporting

This policy will amend Chapter 22.920 of the Seattle Municipal Code, Energy Benchmarking and Reporting, last amended by Ordinance 123993 as follows:

- Change reporting deadline to June 1st annually,
- Streamline penalties to reduce issuance frequency, simplify fines into a single amount per specific violation, and allocate fine revenue fund emissions reductions in under-served nonresidential, multifamily, and single-family buildings, and
- Require owners of newly constructed buildings to use a qualified person⁸ to prepare the initial benchmarking report to verify data accuracy.

⁸ Please see [Qualified Person Requirement for Reporting](#) section for more detail about qualified person requirement.

2 Background

2.1 Covered Buildings

The Building Emissions Performance Standard will affect approximately 3,580 properties in the city of Seattle (approximately 4,135 buildings including buildings on campuses) that are greater than 20,000 SF in size. This includes approximately 1,650 nonresidential buildings, 1,885 multifamily buildings and 45 campuses (representing approximately 600 buildings)⁹. These larger buildings represent only an estimated three percent of the total number of buildings (nonresidential, multifamily, and single-family)¹⁰ in Seattle, but emit over one-third of building related emissions. Thus, mandating emission targets for these large buildings nets the greatest emissions reduction available per building.¹¹

These are the same size buildings that already must comply with [Seattle's Energy Benchmarking and Reporting requirements](#), since 2012. In addition, about 565 of the nonresidential buildings > 50,000 SF (excluding parking) and campuses (about 35) already have been complying [Seattle Building Tune-Ups](#) since 2019 and are required, beginning in 2026, to achieve energy efficiency targets and other requirements under the [WA Clean Buildings Performance Standard](#). Smaller nonresidential buildings > 20,000-50,000 SF and multifamily buildings > 20,000 SF will also be required to comply with the State Standard, beginning in 2027 for energy efficiency planning and operations maintenance and after 2030 for energy performance targets. (see Section 3.1.2 for more information on the WA Clean Buildings Performance Standard).

Under the Seattle Building Emissions Performance Standard, covered buildings greater than 20,000 SF will need to conduct benchmarking verification and report performance. However, because many of these properties are already all-electric, and therefore have already extremely low emissions, the numbers of buildings expected to need to make any building improvements is considerably smaller: about 75% of nonresidential buildings and about 55% multifamily buildings.

Thanks to Seattle's Energy Benchmarking program – successfully running for a decade with over 93% compliance in 2021 – and the more recent Building Tune-Ups requirement for large nonresidential buildings – with 94% compliance for the first cycle and over 700 tune-ups completed – OSE has a solid knowledge base that informed the BEPS policy development and will continue to inform implementation of both the mandate and support programs.

2.1.1 Emissions and Energy Mix

Properties greater than 20,000 SF (excluding parking) emit more than 355,000 MT/CO₂e annually, which represents over one-third of emissions from all buildings in Seattle. This is the equivalent emissions from more than 76,000 gasoline powered passenger vehicles per year (EPA equivalency calculator). **Of these buildings, the largest nonresidential buildings have an outsize impact on**

⁹ Based on 2019 Energy Benchmarking Open Dataset. Cohort based on field "PropertyGFATotal" rounded.
<https://data.seattle.gov/dataset/2019-Building-Energy-Benchmarking/3th6-ticf>

¹⁰ Based on 2017 data from the King County Department of Assessments, as reported in the *Zero Cities Project, Preliminary Assessment Report, Seattle, Washington*, Architecture 2030 et. al., 2018.

¹¹ Walter, T., & Mathew, P. (2021). GHG policy impacts for Seattle's buildings: targets, timing, and scope. *Buildings and Cities*, 2(1), pp. 283–301. <https://journal-buildingscities.org/articles/10.5334/bc.81/>

emissions at 65%, but large multifamily and smaller nonresidential buildings are large contributors at 17% and 12% respectively (see Figure 1).

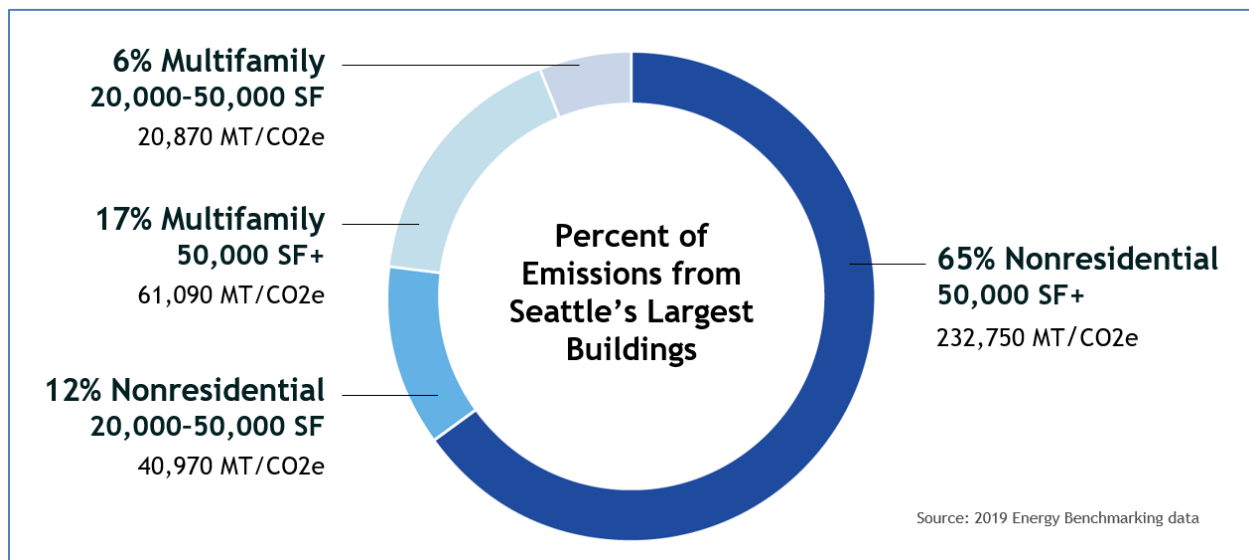


Figure 1: Percent of emissions from Seattle buildings greater than 20,000 SF.

Nearly 25% of nonresidential buildings and 45% of multifamily buildings are already all-electric per their benchmarking reports, meaning an emissions-based performance standard would not require upgrades to these buildings. Gas and district steam are more common in nonresidential buildings.

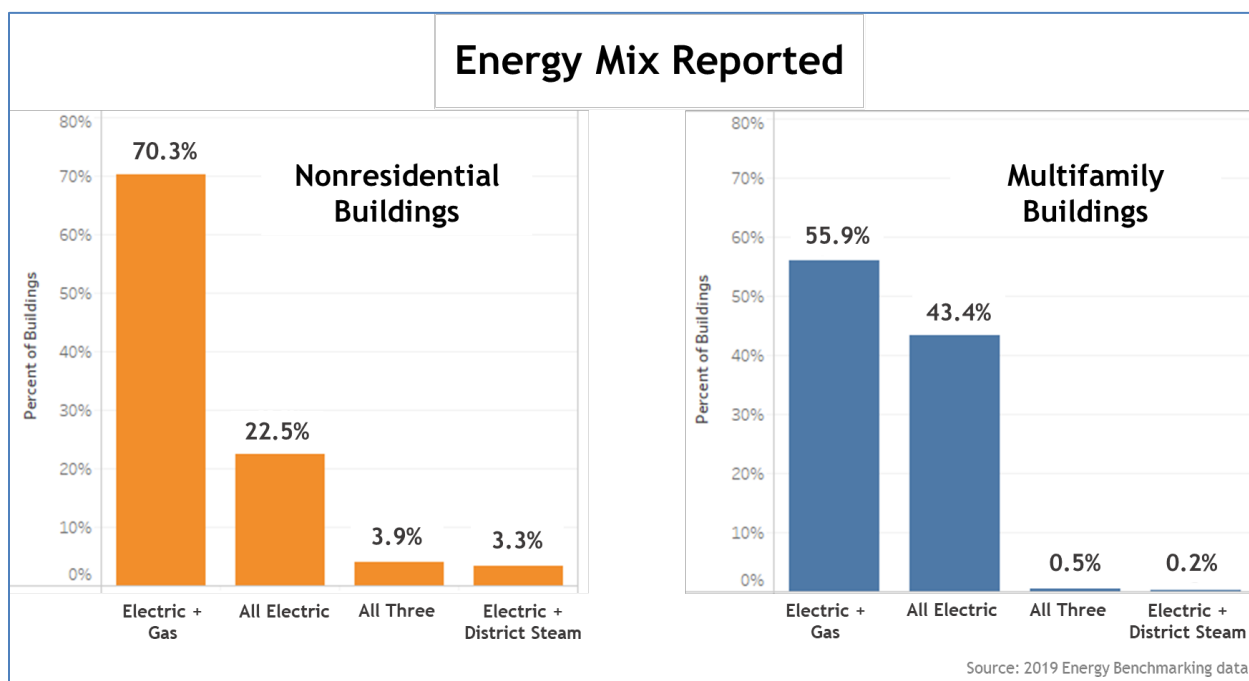


Figure 2: Energy mix reported from Seattle buildings greater than 20,000 SF.

2.1.2 Ownership Type

Using benchmarking data, OSE estimates that the majority of nonresidential buildings are privately owned, with nonprofit ownership accounting for <10%. Institutional owners – government, universities, schools, and hospitals – comprise the remainder. Multifamily buildings are also mostly privately owned. Regulated low-income housing, as identified based on ownership, is approximately 17%. Public and private entities and nonprofit owners with multiple buildings are eligible to comply with the performance targets at a portfolio scale, meaning that performance targets are met in aggregate across all of their buildings vs. on an individual building basis. This allows the owner, such as a nonprofit housing provider, to focus efforts on buildings with the most opportunity and in line with other asset management priorities. For more information see the [Alternative Compliance section](#) of this report.

Estimated Building Ownership Type	
Nonresidential Ownership	
Private	65%
Nonprofit	8%
University	8%
School	8%
Municipal	7%
Hospital	4%
Multifamily Ownership	
Private	86%
Low-Income Housing (Regulated)	14%

Table 3: Building ownership type estimated by OSE.

2.1.3 Unreinforced Masonry Buildings

OSE matched the March 2023 SDCI Unreinforced Masonry (URM) building dataset¹² to records in the benchmarking database and found about 706 total matches. For URM buildings that need to benchmark (based on the 2022 dataset) and will likely be covered by the proposed BEPS, about 188 (5.0%) have no visible retrofit and about 245 (6.5%) have a visible retrofit (either a permitted retrofit, visible retrofit, or substantial alteration). This makes URM issues fairly uncommon in buildings greater than 20,000 SF, but for those, upgrading for both emissions reductions and for seismic safety could create greater complexity and cost impacts. Owners making seismic upgrades concurrently with actions to reduce emissions may apply to use a decarbonization compliance plan that allows greater flexibility in timing and targets. These buildings are also a key audience for technical support and incentives.

Matched SDCI Unreinforced Masonry Risk Factor			
Building Sector	Medium	High	Critical
Multifamily	76	9	0
Nonresidential	72	29	2
Total Properties	148	38	2

Table 4: Estimated number of buildings greater than 20,000 SF with no visible retrofit known on 2023 SDCI URM list.

¹² OSE used SDCI's 2023 URM list, available here: <https://www.seattle.gov/sdci/codes/changes-to-code/unreinforced-masonry-buildings-project-documents>.

2.1.4 Affordable Multifamily Housing

Reducing polluting emissions from multifamily buildings is an opportunity to create healthier more resilient housing through benefits like cooling and better indoor air quality, but is a risk if upgrades increase costs to tenants or owners or displace people – especially those living in unsubsidized affordable housing and frontline communities that already bear the greatest burden of climate injustice.

OSE is generally able to identify Affordable – Subsidized Nonprofit (low-income regulated) owned buildings using ownership names from its benchmarking data and the City’s existing relationships with affordable housing providers. Distinguishing between privately owned buildings with market rate or above rents and those with more affordable, but unsubsidized rents is more difficult. To estimate these building types, OSE used CoStar ratings for about 1,800 multifamily buildings in the dataset as described follows:

- **Affordable – Subsidized Nonprofit:** Regulated low-income affordable housing buildings owned by nonprofit housing providers, such as Seattle Housing Authority, Low Income Housing Institute, and many others. Rents are long-term protected.
- **Affordable (Lower-Rent) – Unsubsidized:** OSE used CoStar 1- and 2-star rated buildings and rent averages to estimate privately-owned properties that may have lower rents.¹³
- **Market Rate:** Buildings with average or higher rents, privately owned and with CoStar ratings of 3, 4 or 5.

Table 5: Estimated ownership type of multifamily buildings greater than 20,000 SF.

Estimated Multifamily Ownership Type	
Affordable – Subsidized Nonprofit	14%
Affordable (Lower-Rent) – Unsubsidized	17%
Private – Market Rate & Above	69%
<i>*Based on 1,800 multifamily buildings in the benchmarking dataset that could be matched in CoStar.</i>	

Seattle’s highest and second highest disadvantaged neighborhoods by Race & Social Equity (RSE) Index¹⁴ have a slightly higher proportion of 2-star buildings and lower percentage of 4-star buildings. But there are more affordable multifamily buildings found throughout Seattle. Therefore, the best understanding of need should be determined on an individual building level.

¹³ OSE matched 77% of buildings benchmarked as ‘multifamily’ to CoStar data (www.costar.com - a commercial real estate analytics provider) to estimate the number of affordable – unsubsidized housing >20,000 SF. This method has been used by other cities like Los Angeles and DC and is a good proxy prior to more detailed analysis.

¹⁴ Based on Seattle’s Racial and Social Equity Composite Index data available in 2022. The index was updated in February 2023 and that dataset is available here: https://data-seattlecitygis.opendata.arcgis.com/datasets/3a6bcc7fa4c14c4daabdb1cd8f329758_0/explore.

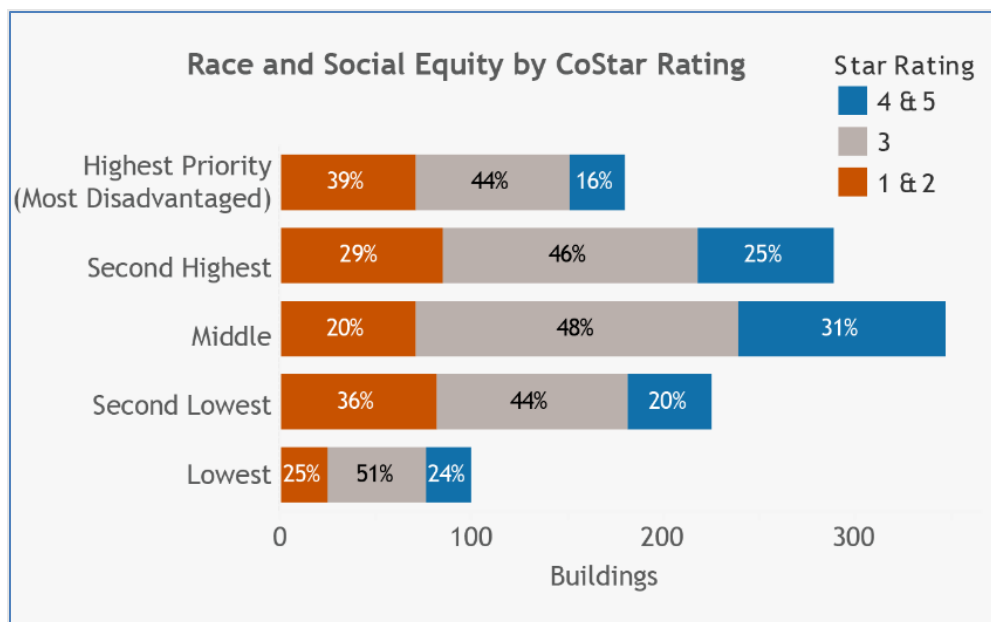


Figure 3: Race and social equity index areas matched with CoStar ratings.

Of the approximately 1,800 total multifamily buildings matched in CoStar, 55% or about 1,000 buildings report benchmarking data indicating the use of some fossil fuels (mainly gas) and would need to reduce emissions – and about 150 of these are considered subsidized affordable housing. The rest already use cleaner electric for heat and hot water. Less than half (40%) have significant GHG emissions – approximately 500 market rate, 110 subsidized affordable housing and 95 unsubsidized affordable housing. These subsidized and unsubsidized affordable multifamily buildings would need to make building improvements are a key priority for technical and financial assistance.

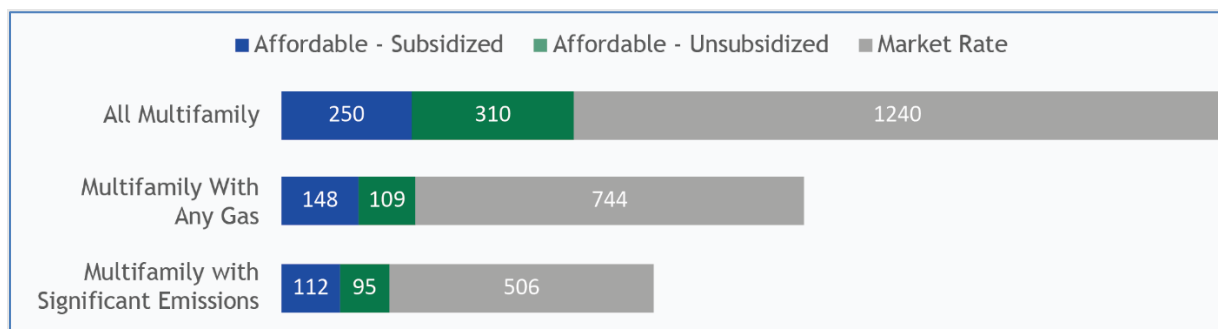


Figure 4: Predicted multifamily building type matched with fuel mix.

2.1.5 Pathway to Net-Zero Emissions

The typical pathway for reducing emissions to net-zero involves implementing a series of measures over time – from first understanding a building’s performance, to implementing low-cost systems operations maintenance, to efficiency upgrades such as lighting replacements, to improved control systems, to updating equipment and/or switching to low carbon energy sources.

Seattle BEPS offers maximum choice and flexibility for owners to choose actions that work for their building or business need to reduce emissions. For example, they may choose to:

- **Improve Operations and Maintenance.** Actions like those implemented under Seattle’s Building Tune-Ups requirement – like aligning heating and cooling schedules with building occupancy, adjusting heating set-points, and following maintenance schedules – all reduce emissions.
- **Install Modern Building Controls.** Modern building controls use smart technologies to sync energy use with building occupant needs for best building performance and comfort. They can also alert building operators to mechanical problems before they waste energy, emissions, and money.
- **Improve Energy Efficiency of Building Systems.** Improving the building’s mechanical systems can result in significant emissions reductions, especially if focused on space heating and water heating systems. For example, efficient distribution fans and pumps can reduce fuel use and emissions. Efficient water fixtures reduce calls for hot water thereby reducing fuel use and emissions. Energy recovery ventilation or ERV is a type of air-to-air heat exchanger that uses exhaust heat to preheat the incoming fresh air supplied to buildings thus dramatically reducing fuel use.
- **Address Walls, Roofs, and Windows.** Adding insulation, sealing air leaks, or investing in new windows not only mitigates heating loss and associated emissions from wasted fuels, but also reduces drafts and noise, and can add value to tenant spaces.
- **Install Right-Sized Energy-Efficient Equipment.** Right-sized, energy efficient equipment can substantially reduce or nearly eliminate emissions. Such replacements could be triggered by the owner’s own asset replacement schedule, equipment failure, owner decision to renovate, or compliance with BEPS. While new equipment is an action that could be used meet BEPS, the prior operations and energy efficiency actions listed above should all be considered first to reduce the buildings base heating and water heating loads. For example, Seattle’s experience in its City owned buildings is that many existing hot water systems are oversized and waste energy and emissions, whereas new systems can be up to 75 percent smaller. This is because older DHW systems were specified before “low flow” fixtures became standard and/or the current DHW use is less than what was expected when the old system was planned. This reduces both equipment cost and emissions.
- **Purchase Renewable Natural Gas (RNG) to replace conventional natural gas.** The BEPS policy does not require the use of specific fuels. To reduce emissions from gas use, a building owner could purchase RNG through Puget Sound Energy’s voluntary program and replace a portion or all (up to 100%) of their conventional natural gas with RNG. This option allows building owners to reduce their building’s emissions fully or partially while using their existing gas equipment. More information about PSE’s program, including price, terms and conditions can be found at [PSE | Renewable Natural Gas](#).

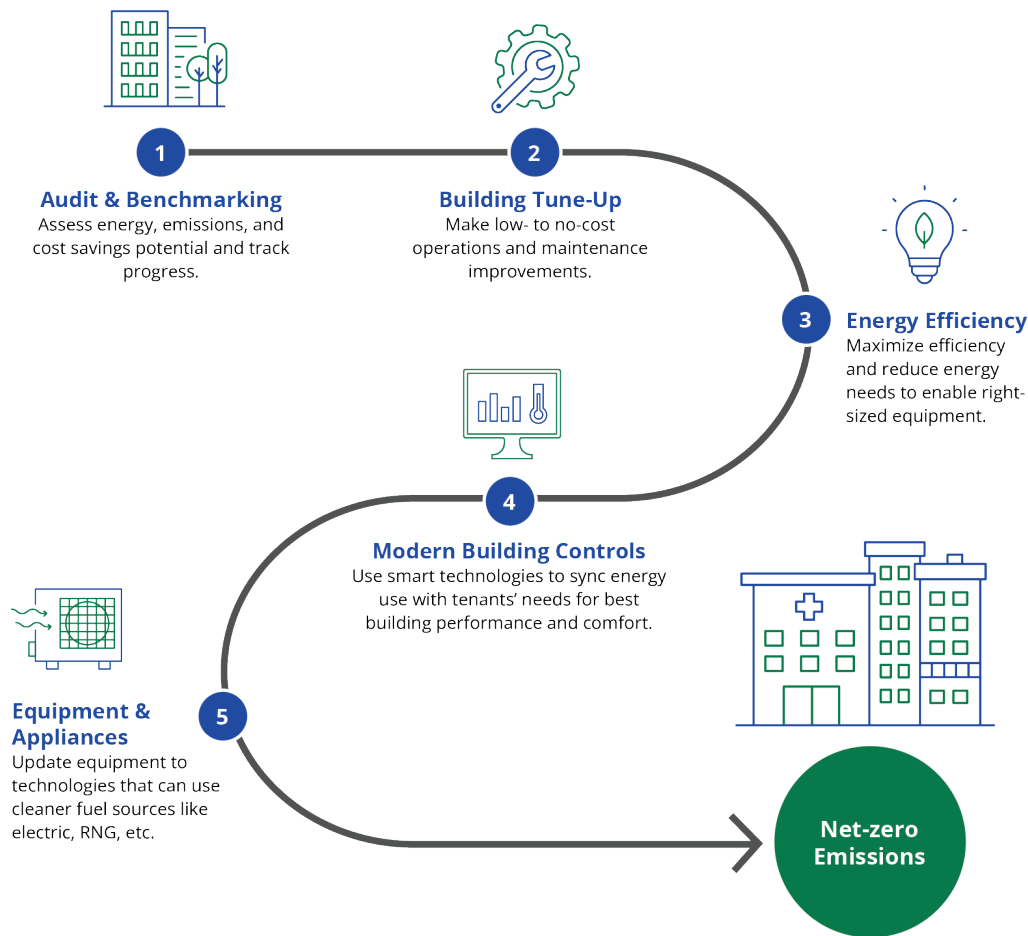


Figure 5: Potential pathway to transitioning to net-zero emissions.

The [Building Seattle Better - A path to cleaner, carbon neutral buildings](#) fact sheet provides an introduction to the range of actions owners might take to improve efficiency and reduce emissions. The pathway and particular actions to reduce emissions for each individual building will vary depending on starting emissions and energy efficiency levels, as well as the types of heating, hot water, and other equipment in the building. Similarly, an owner's chosen approach will vary depending on the particular interests of each owner and the asset improvement plans they may already have in place. For more details on specific technologies, see the [Seattle Building Energy Efficiency and Electrification Costing Analysis](#) factsheet and the [Impact/Cost to Owner section](#) of this report. Factsheets and case studies on various pathways to decarbonization are linked in the [Appendix](#) of this report.

2.2 City Leadership

2.2.1 Racial Equity

The development and implementation of an emissions performance standard policy is guided by the tenants of the Green New Deal – to accelerate action on climate pollution and to invest in the communities most harmed. Seattle's proposed Building Emissions Performance Standard policy is being designed to ensure the benefits of improved working and living spaces accrue to all, while providing

flexibility and a long runway for under-resourced buildings, such as affordable housing and nonprofits to minimize potential cost burdens on owners and tenants. A requirement to meet emissions standards is being combined with a robust support program and the financial resources needed to transition those buildings serving our frontline communities. Outlined below are the actions the OSE has taken, and will continue to take, to engage with community, design and implement an equitable policy, provide support and resources, and promote inclusive jobs in clean energy.

2.2.1.1 Race and Social Equity Index

As detailed in the Racial Equity Toolkit created for the Seattle BEPS policy (see Appendix), OSE’s benchmarking dataset enables us to overlay the covered buildings with the city’s race and social demographic data. This work helps OSE key in on areas of disadvantage and highlight buildings that may need the most support, such as that offered by the Seattle Clean Buildings Accelerator.

Buildings may be located in a high “Race and Social Equity” or RSE priority area such as downtown, but the building itself may be Class A office or high-rent multifamily. *Neighborhood* can help us broadly identify areas of focus due to past and current climate injustice, such as the Duwamish Valley. OSE can combine the RSE data with ownership type and energy data to focus support on nonprofit owned buildings or community-based organizations (CBO).

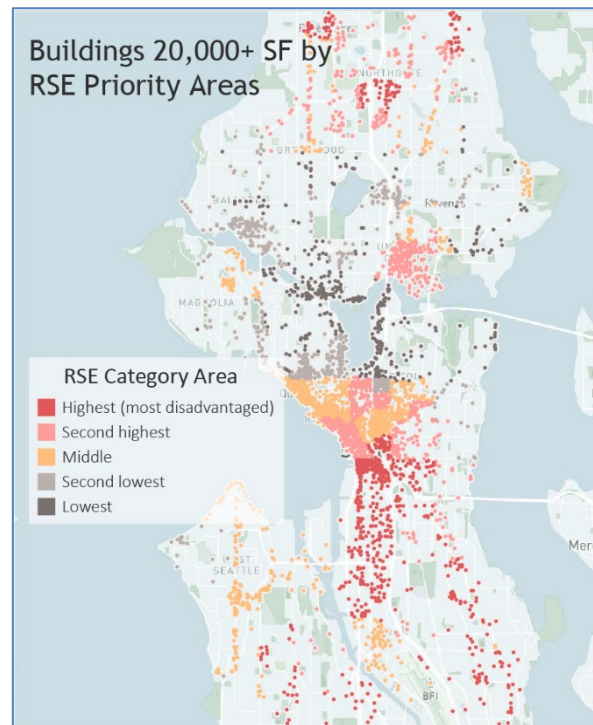


Figure 6: Buildings by race and social equity priority areas.

2.2.1.2 Engaging with the Community

- Racial Equity Toolkit developed preliminary in 2019, with an update in 2021 and the final RET completed in 2022 (See Appendix).
- Partnered with Northwest Energy Coalition on American Cities Climate Challenge (ACCC) supported, stakeholder engagement in 2021. Included two listening sessions with multifamily and small business tenants, in coordination with Beacon Hill Council and Beacon Business Alliance.
- Partnered with Housing Development Consortium (HDC) on ACCC supported HDC affordable housing technical analysis and task force.
- Technical Advisory Group representation included affordable housing (Seattle Housing Authority, O’Brien360) and labor (MLK Labor) representation.
- Focused meetings with nonprofit building owners, and representatives from community-based and workforce organizations, including Wing Luke Museum, United Way, Chief Seattle Club, Salvation Army, Wellspring Family Services, Low Income Housing Institute, Africatown Community Land Trust, Tabor 100, Historic Seattle, Puget Sound Sage, ECOSS,

Beacon Hill Council, Emerald Cities, BlueGreen Alliance, Seattle Renters Commission, Green New Deal Oversight Board

- Note: See [the stakeholder engagement section](#) for more detail on the overall outreach and engagement process.

2.2.1.3 Designing an Equitable and Adaptive Policy

- Lead with, and learn from, municipal facilities. From 2018 through 2022, the City has completed thirty-eight full or partial decarbonization projects and another thirteen are underway in 2023, with prioritization for community facing facilities and those that can serve as resilience hubs.
- Lead with, and learn from, larger commercial buildings (>50K SF). These buildings are already required to comply with the WA State Clean Buildings Standard, in 2026-2028, and have both the greatest impact and greatest resources. Smaller and under-resourced buildings will benefit from this learning.
- Extended timeline for affordable multifamily and buildings with human services uses (e.g., shelters) with first compliance targets in 2036-2040. This will allow the opportunity for continued public support for and investments in improving these buildings prior to their compliance dates.
- Compliance available at a portfolio scale, which allows greater flexibility entities such as affordable housing providers to make improvements in particular buildings according to the provider's own asset improvement timing and needs.
- Cooking exemptions in first two compliance intervals to alleviate impact on restaurant businesses.
- Prescriptive options for multifamily (e.g., replacing hot water heating) in lieu of meeting targets.
- Extensions or limited exemptions for buildings with pre-existing financial distress.
- Decarbonization compliance plan option to achieve net-zero by 2041-2025 or a low carbon target by 2041-2050 for buildings with significant extenuating circumstances, like low-income housing, landmark historic properties, and unreinforced masonry.
- Alternative compliance payments and penalties dedicated to funding technical assistance and financing for under-resourced buildings.

In addition to the proposed legislation, OSE will provide strong support to assist owners and tenants to improve their facilities and comply with the regulation, with prioritized technical assistance and funding for under-resourced buildings. For more detailed information, see the [Supporting Actions and Funding](#) section.

2.2.1.4 Experience Equitably Implementing Mandates

Since 2015, OSE has applied a racial equity lens to its building energy mandate programs (Energy Benchmarking & Reporting and Building Tune-Ups) to ensure the design, implementation, and enforcement of these regulations identify and overcome compliance barriers and mitigate burden and unintentional impacts. Our goal is to offer every building owner the information and resources they need to comply so Seattle can ultimately achieve our goal to be carbon neutral by 2050 in ways that

advance environmental justice and opportunity. OSE will continue to use these strategies to implement the Building Emissions Performance Standard and continue to innovate and do more.

OSE currently does not have race-based information about the owners of approximately 4,135 buildings that must comply with these mandates. Therefore, OSE utilizes several proxies to target outreach, technical assistance, and early compliance engagement to reduce the burden of non-compliance fines and ensure OSE is not enforcing regulations in disparate ways across our community. Key data used includes the City's [Race and Social Equity Index Map](#) to identify [Racial & Social Equity \(RSE\) priority communities](#) and ownership criteria, such as community-based organization, nonprofit, Women-Minority Owned Businesses (WMBE). These tools enable us to systematically flag priority businesses, target customized support, and mitigate disproportionate impacts. Examples of this work from last year are highlighted below:

- **Equity-focused outreach strategy for Energy Benchmarking requirements:** In 2021, OSE prioritized outreach during compliance for community-based organizations (CBOs), nonprofits, and BIPOC-owned or occupied buildings, as well as buildings located in priority RSE communities. OSE hired an intern from South Seattle College's Sustainable Building Science and Technology (SBST) degree program to partner on this work and benefit from real-world experience on the ground and help refine our database to document engagement and compliance by priority RSE communities. At the start of this work, OSE had over 200 buildings on our priority list (either a nonprofit or a non-corporate building in a highly disadvantaged neighborhood). After the intentional efforts described above, OSE ended up with just 15 buildings on the priority list, with only three receiving a violation. Before outreach, the most disadvantaged category of buildings by RSE category was 84% compliant and finished with 95% compliant. In total, OSE conducted direct outreach through multiple channels to 125 buildings on the priority list.
- **Building Tune-Up Accelerator Program:**¹⁵ From 2016-2020, OSE partnered with City Light, the Smart Buildings Center, UW Integrated Design Laboratory, and the Pacific Northwest National Laboratory to implement this multi-year program to provide technical assistance and financial incentives for owners of smaller buildings to complete mandatory Building Tune-Ups. The program was funded through a \$1.3 million grant from the US Department of Energy with about \$1.7 million in non-Federal matching funds. The program was focused on smaller buildings (less than 100,000 SF in size), as those more often have limited staff capacity and financial resources. City Light incentives to owners totaled over \$650,000 and covered roughly half of each building's tune up costs. 102 buildings participated, including 22 public schools, such as Concord Elementary School in the Duwamish Valley (see [Concord School case study](#)). Eight nonprofits also participated.
- **Equity focused outreach and investment for the Building Tune-Ups requirements:** Similar to Benchmarking, last year OSE prioritized outreach for CBOs, nonprofits, and BIPOC-owned or occupied buildings prior to enforcement and provided additional technical assistance and

¹⁵ *Building Tune-Up Accelerator Program: Final Technical Report to U.S. Department of Energy*. May 2020.
https://www.seattle.gov/documents/Departments/OSE/Tune-Ups/DE-EE0007556_Seattle_Final_Technical_Report_May2020.pdf

incentives to CBOs working to complete a Tune-Up early. OSE implemented a RSE outreach approach focused on buildings located in the highest and second highest priority RSE neighborhoods before conducting general outreach. Continuing the efforts begun under the Tune-Up Accelerator, OSE provided technical assistance and proactive outreach to help nine additional nonprofit building owners successfully comply early with the Building Tune-Ups mandate and qualify for incentive money. Seattle City Light (SCL) distributed over \$55,000 in incentive dollars to cover nearly half of each building's tune-up cost.

- **Allocation of fines to decarbonize affordable housing and serve under-resourced populations:** In 2022, OSE allocated Tune-Up fine revenue to electrify and improve the energy and water efficiency of affordable housing in Seattle. OSE has partnered with Office of Housing to leverage Seattle's weatherization and home repair programs to historically disadvantaged communities and non-English speaking customers and convert homes away from fossil fuels. While the burning of natural gas is detrimental to the health of all Seattle residents, it's especially harmful to our most vulnerable communities including children, the disabled or elderly, low-income communities, and people of color. Switching away from fossil fuels to clean, renewable electricity is a critical step towards addressing documented health and other disparities and advancing an equitable and healthy future. In this first pilot year, funding has been prioritized for two different affordable housing provider's single-family buildings, one located in Beacon Hill and another operating as a group home in Lake City.

2.2.2 City-Owned Buildings

The first step in a policy to reduce emissions from Seattle's larger nonresidential and commercial buildings is to lead the way with our own municipal buildings. Learnings from the City's efforts to improve energy efficiency and reduce building emissions have fed policy development for the Building Emissions Performance Standard and will continue to inform ongoing BEPS implementation.

The City committed to building only net-zero new construction, under *Executive Order 2020-01: Advancing a Green New Deal for Seattle*, and in *EO 2021-09: Driving Accelerated Climate Action*, City departments were directed to develop a Municipal Buildings Decarbonization Strategy that would identify a path for municipal buildings to operate without fossil fuel systems and appliances by 2035.

City capital departments have a long history of working towards greater energy efficiency in the buildings they manage, and since 2013 OSE has facilitated a coordinated approach across the City of Seattle's municipal building portfolio under the Citywide Resource Conservation Management Plan (Resolution 31491). The Plan called for a 20% reduction in energy use by 2020 (from 2008) across the City's municipal building portfolio, which was achieved in 2019. Since 2018, the focus expanded to include a priority on reducing building related emissions from the city-owned portfolio. The 2018 [Climate Action Strategy](#) called for the city to reduce *both* energy use and carbon emissions from municipal buildings by 40% by 2025 (from 2008). The next step is the development and implementation of a portfolio-wide Municipal Buildings Decarbonization Strategy.

Since 2018, the City has completed 38 full or partial building electrification, with another 13 underway in 2023. Completed projects include seven fire and police stations, the Brig at Magnuson Park, Jefferson Horticulture Building, four Parks crew quarters, Garfield, Rainier, High Point, Delridge, and Bitter Lake community centers and the Broadview and Central libraries. Results and learning from these

projects are included in the municipal buildings decarbonization case study, [How Seattle's municipal buildings support a carbon-neutral future](#).

Current planning for the Municipal Buildings Decarbonization Strategy covers 182 buildings, comprising 4.7 million square feet, and reflects the full scope of making energy efficiency improvements and decarbonizing building systems, including adding sufficient electrical capacity to accommodate future electric vehicle loads. The planning encompasses routine system renewal and asset preservation and reflects the requirements of the Seattle Energy Code. In coordination with the City's larger efforts to develop community resilience hubs, a key priority for near term action will be the decarbonization of community facilities identified for full resilience programming. A corresponding analysis and planning effort is underway to address emissions from the Seattle Center district energy system.

2.3 Supporting Actions and Funding

2.3.1 Technical Support and Implementation Funding

In addition to implementing the mandate, OSE will ensure strong support is provided to assist owners and tenants to improve their facilities and comply with the regulation. Outreach, education, and compliance assistance will be provided to all owners. Deeper levels of technical assistance, funding for engineering analysis, and direct capital investments will be prioritized towards supporting building owners and tenants that are in or serve frontline communities.

Support for all owners and tenants of covered buildings will include, at a minimum:

- Fact sheets and guidance outlining financial resources such as, utility incentives, new federal tax incentives under the Bipartisan Infrastructure Law, WA Clean Buildings early adopter incentives, WA C-PACER and other financing
- Outreach and informational materials
- Phone and email consultations
- Tools and case studies to support understanding and calculating building emissions
- Training and informational workshops

2.3.1.1 Seattle Clean Buildings Accelerator Program

In 2022 OSE was provided \$220,000 of funds via the Green New Deal Program (JumpStart tax) to develop and launch an initial technical support program for building owners with a focus on prioritizing the support for buildings serving frontline and BIPOC communities.¹⁶ City Light also supported the program with an additional \$100,000 in 2023. This can include many types of buildings like nonprofits, buildings with BIPOC-owned small businesses, healthcare, museums, shelters, community centers and more.

The program concept was a response to the outcomes identified in the BEPS Racial Equity Toolkit (RET) (see Appendix) and to community input highlighting the need for strong technical and financial support for smaller businesses and affordable housing. A separate Accelerator RET (see Appendix) was completed in 2021 that considered how a program could best reach buildings serving frontline

¹⁶ Frontline communities include black people, Indigenous people, sovereign tribal nations, communities of color, immigrants, refugees, youths, elders, houseless people, disabled people, LGBTQ+ people, people with low and no income, and people who work in outdoor occupations.

communities. An RFP was developed by OSE and issued in early 2022 to seek a consultant for this first year of funding. A team led by Stillwater Energy, which has experience implementing similar programs for SnoPUD and Puget Sound Energy, as well as diversity, equity, and inclusion experience in the context of strategic energy management for buildings is leading the first year of work. Both SnoPUD and PSE have support programs and City Light recently funded a program for its customers outside the City limits. The Seattle program is the only effort to explicitly prioritize frontline communities.

The [Seattle Clean Buildings Accelerator launched](#) in summer 2022 as a no-cost technical support and training program for building owners and managers. In this first year, its broad goals were to help prioritized owners and managers meet the State of WA Clean Buildings requirements and to reduce emissions. It was designed this way because the clock is already ticking for those buildings needing to meet the State requirements, whereas the Seattle BEPS was still in policy development. Its initial focus has been on enrolling managers of nonresidential buildings greater than 50,000 SF that serve or are in BIPOC and frontline communities and need to meet the State requirements – and potentially a Seattle BEPS.

It includes self-led education for all audiences and light coaching for priority audiences. The Education track consists of self-led learning including pre-recorded webinars, common energy and emissions reduction opportunities, checklist, templates, examples, how to identify targets, and energy efficiency and emissions reduction opportunities. Current materials are at www.seattlebuildingsaccelerator.com, and this site will be updated as new content related to the Seattle BEPS is developed. The Light Coaching consists of tailored support, including live virtual workshops, site-specific virtual energy walk-throughs, expert review of documents, and project identification and prioritization.

To date three Light Coaching cohorts are complete or underway and a fourth is planned for September 2023. Of the participating organizations, ten have been community organizations or nonprofits and two have been healthcare. Additionally, Seattle Public Schools and Seattle Housing Authority joined. With the additional \$100,000 in funding from City Light in 2023, the program opened the third cohort to six private building owners who do not specifically serve frontline communities, but in several cases are smaller, locally owned buildings. Each coaching cohort starts with a 4-month sprint with monthly small group workshops and individual coaching calls that cover elements of meeting the Clean Buildings Standard. This is followed by quarterly support workshops for the next year. Seattle's program also includes more in-depth workshops on emissions reduction and is currently working with two buildings enrolled in Light Coaching to receive extra analysis support to move energy and emissions reduction projects from idea to implementation. This will include support to identify available incentives and funding.

Stillwater Energy's scope of work includes future program scoping and a needs assessment to inform an expansion in 2023 and beyond to include multifamily buildings and smaller nonresidential buildings 20,000-50,000 SF. It will also consider outreach and content needed to support building tenants. The work in 2022 and 2023 will be reviewed for successes and opportunities for improvement as the program grows and transitions in late 2023 and 2024 to a focus on support for Seattle BEPS.

2.3.1.2 Growing the Accelerator: 2023 and Beyond

As noted earlier, the intent is to scale the program for greater participation, deeper support, and the ability to access additional direct financial resources to upgrade buildings. To support this effort, in 2023 and 2024 OSE will:

- **Create a new full-time position at OSE to help grow the Accelerator into a robust resource hub that can reach more priority buildings**, provide focused support for small business tenants and for unsubsidized affordable housing, develop no to low-cost financing opportunities; seek additional capital resources to develop grants to building owners, and connect to companion city efforts for inclusive clean energy career opportunities.
- **Manage \$400,000/year for consultant support to prioritized building owners.** This work may include aspects of the Light Coaching curricula already underway or new program tracks, based on scoping efforts and community engagement. For example, affordable housing providers have identified a specific need for training on how to adapt and leverage Community Needs Assessments for emissions reduction opportunity identification.

In addition to program development and consultant outreach work, **capital funding is also critical to direct towards project implementation in buildings.** This effort will be supported by the following:

- **The endorsed 2024 budget includes \$4.5M/year** for in-depth engineering design and capital support for nonprofit and affordable housing buildings serving low-income and BIPOC communities.
- OSE and City department coordination to **pursue federal infrastructure funds, inflation reduction act funds**, and other opportunities as they arise.
- **Revenue from implementation of the Seattle BEPS**, which states that revenue from fines, fees, and alternative compliance payments shall be spent on programs and activities to reduce greenhouse gas emissions from buildings, including technical and financial assistance to building owners and tenants with a priority on buildings serving people with low or no incomes and communities historically most harmed by economic, racial, and environmental injustice.
- **Continued coordination with Seattle City Light** on the development of new incentives and support for building owners to access their [existing suite of incentives for building owners](#).
- **Connecting building owners to incentives and financing** via outreach and technical support programs, such as:
 - WA [Clean Buildings Early Adopter Incentives](#)
 - WA [Building Electrification Grant Program](#)
 - King County's [Commercial Property Assessed Clean Energy and Resiliency \(C-PACER\)](#) that enables owners to pay back loans overtime on their property assessment.
 - The [WA State Housing Finance Commission Sustainable Energy Trust](#) loans for water and energy efficiency upgrades.
 - Private lenders like [Craft 3](#) that offer loans for building owners that have clean energy or energy efficiency projects.
 - New Federal rebate programs as they are made available.

2.3.1.3 Support for Affordable Housing Providers

Maintaining Seattle's existing supply of affordable housing is a key priority as the Seattle BEPS is implemented. Approximately 14% (or 250) of the multifamily buildings covered by BEPS have been identified as being owned by subsidized nonprofit housing providers. Of these, OSE estimates that about 148 would need to implement measures to reduce emissions. The remainder are already all-electric. See the [Affordable Multifamily Housing section](#) for more details.

Nonprofit housing providers must maintain rent restrictions and have limited means for raising capital for facility improvements. To help alleviate these potential barriers to emissions reduction the City will support:

- **An affordable housing decarbonization program.** A new dedicated City position has been created, with hiring expected in 2024, to help subsidized affordable housing providers improve environmental sustainability and decarbonization of heating, hot water and other systems.
- **Engineering & Capital Investments: over \$8 Million committed through 2024 alone. This includes:**
 - **\$520,000** in AARA loan funds reallocated for affordable housing decarbonization.
 - **\$1.8 million** Department of Energy grant that was awarded to the City for decarbonizing affordable housing.
 - **\$4.5 million** as noted earlier in this report for the Seattle Clean Buildings Accelerator.
- **\$2.0 million** in 2022 adopted budget (Seattle Payroll Expense Tax-PET Opportunity Fund) for multi-family affordable housing electrification, starting in 2023.
- **Continued coordination with the Office of Housing** to pursue federal infrastructure funds, inflation reduction act funds, and other opportunities.

2.3.2 Workforce Development

Progressive energy policies will spur stronger demand for workers to provide the professional and technical skills needed to upgrade our buildings. Seattle's Building Emissions Performance Standard is estimated to create 150-270 jobs annually in the clean energy economy, increasing demand for electricians and heating and cooling (HVAC) refrigerant workers and providing the opportunity to expand opportunities for women, BIPOC, and WMBEs. Because one of the primary strategies to decarbonize building systems will entail replacing gas-fired heating and hot water with efficient electric heat pumps, there will likely be a reduced demand over the long term for gas-oriented jobs. Some may retool their skills for HVAC refrigeration work, however. City action and investment includes:

- \$1 million awarded in 2022 adopted budget for workforce development in clean energy jobs and construction training.
- New position for Office of Economic Development for a Green Economy Advisor and the city is establishing a cross-departmental Clean Energy Workforce Committee.
- The adopted 2023 budget proposal also includes:
 - A new position in the Office of Sustainability and Environment, beginning 2023, for a Climate Workforce Development Advisor to advance workforce development in clean energy.
 - \$1million/year for pre-apprenticeship and job readiness programs for clean energy careers.
- City leadership: For more than a decade, OSE has partnered with the Sustainable Building Science and Technology (SBST) degree program at South Seattle College to support [internships and learning opportunities](#). Last year, OSE hosted three interns from the college's SBST program in four quarter long internships. Additional students were engaged in an on-site building tune-up assessment effort for a locally owned small hotel that was struggling financially due to COVID 19 pandemic impacts, and a minority owned retail business. Students in the SBST program are 26% female and 58% BIPOC. Of OSE's three interns in 2022, two were female and two BIPOC.

3 Policy Background & Rationale

3.1 Climate Action Plan and Calls for Policy Action

A Seattle BEPS, if successfully implemented, will deliver on the many calls for climate action to reduce emissions in Seattle, starting with the [2013 Climate Action Plan](#) that calls for Seattle to reach an almost 40% emissions reduction in the buildings sector by 2030 and to be net-zero carbon emissions by 2050. In addition, the City Council [Green New Deal Resolution \(Res 31895\)](#) calls for a Seattle to decarbonize at an accelerated pace while prioritizing investment in communities historically most harmed by economic, racial, and environmental injustice.

A Seattle building performance standard is listed as a key climate action highlighted in the [2013 Climate Action Plan](#), [2018 Climate Action Strategy](#), 2020 Green New Deal (GND) Executive Order, 2021 Climate Executive Order, and the [2021 GND Climate Impact Actions Report](#).

The policy is also well aligned with State of Washington goals to reduce carbon emissions, including the WA Clean Buildings Performance Standard (described more below), Climate Commitment Act, Clean Energy Transformation Act, and Washington State Energy Strategy.

While this policy addresses larger buildings, Seattle recognizes that smaller commercial and multifamily buildings and single-family homes are also contributors. For single-family homes, Seattle's [Clean Heat](#) Program fully funds conversions from oil heat to electric heat pumps for low-income households, and provides a \$2,000 rebate to middle-income households. Since 2017, the program has helped convert approximately 1,500 households. It is estimated that the remaining oil heated homes in Seattle will be converted by 2028. Starting in 2024, the state will implement the HOMES rebate program, a program funded with \$166 million by the Inflation Reduction Act. The program will fund heat pumps, heat pump water heaters, electrical panel upgrades, EV charging equipment, energy audits, and more, which will help transition even more homes to clean energy. Additional policies and funding will be needed to fully transition all homes and businesses to clean energy. The [Green New Deal Climate Impact Actions report](#) outlines priorities for next steps.¹⁷

3.1.1 Impact on GHG Emissions

The greenhouse gas emissions intensity targets (GHGIT) proposed for the Building Emissions Performance Standard are projected to reduce building emissions 27% citywide by 2050 – making this policy the most impactful action Seattle can take now to meet our Climate Action Plan goals.

The “wedge” diagram below illustrates the projected emissions reduction impact of the proposed policy compared to other current policies. For example, the Seattle Commercial Energy Code is projected to have the effect of a 10% decrease in emissions against a business-as-usual case, Building Tune-Ups is projected at 2%, and the State energy performance standard at 4%, whereas the Seattle BEPS is projected to reduce building emissions 27% citywide by 2050. This, in combination with the existing policies, gets Seattle about halfway towards net-zero. The remaining cumulative emissions (area in red) will need to be obtained from future policies that address nonresidential and multifamily

¹⁷ City of Seattle Office of Sustainability & Environment, *Climate Impact Actions*, November 2, 2021. https://www.seattle.gov/documents/Departments/OSE/ClimateChange/Green%20New%20Deal/GND_Top_10_Actions_Report.pdf

buildings smaller than 20,000 SF and the single-family sector, beyond those that will be already addressed by the existing residential heating oil conversion program ([Seattle Clean Heat Program](#)).

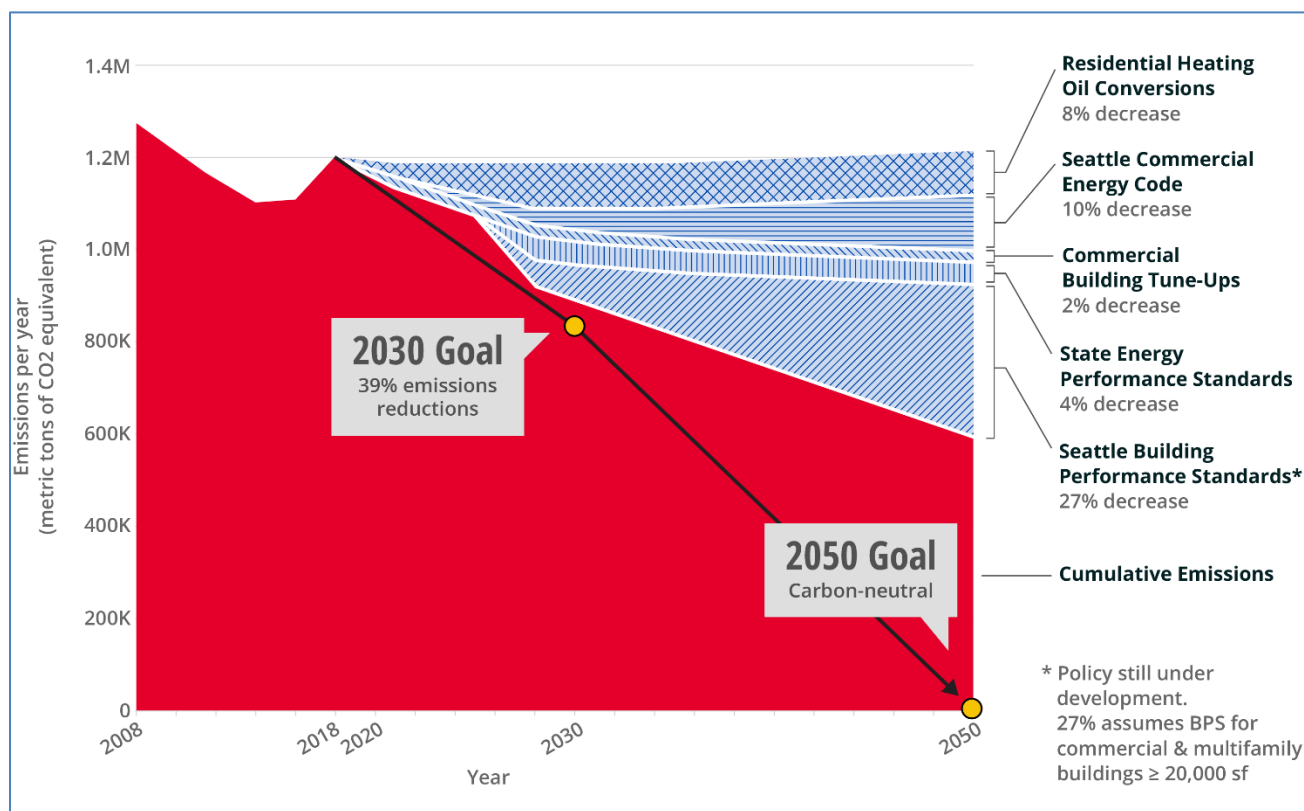


Figure 7: Projected Seattle building emissions reduction by policy.

Projected emissions reductions background: The wedge diagram was created using 2016 Benchmarking & GHG Inventory Data as a starting point using preliminary savings estimates from existing programs. The forecasts were based on a Baseline & Target Model (BATM) tool created for OSE by Ecotope.¹⁸ The BATM tool uses a variety of data sources to forecast building square footage, and energy consumption by fuel type and end use for the years 2020, 2025, 2035, and 2050 across multiple residential and commercial building types. The data is further broken down by existing and new buildings. The tool also includes a policy impact calculator which facilitates the modification of some of the underlying assumptions in the tool – such as effectiveness of future code iterations, for example – and produces an adjusted forecast for energy consumption and resulting emissions. Using the BATM tool forecasts, emissions impacts were estimated for commercial and multifamily buildings using the following size categories: 0 – 10,000 SF, 10,000 – 20,000 SF, 20,000 – 50,000 SF, and 50,000 SF and greater. Additionally, single-family housing emissions were also included (along with impacts of the oil conversion program) to provide a comprehensive picture of building sector emissions impacts to develop the final wedge diagram.

¹⁸ More information about the baseline and targets model is included in the report, “Final Report: Building Energy Use Intensity Targets” Ecotope. March 2017.
https://www.seattle.gov/documents/Departments/Environment/ClimateChange/BldgEngy_Targets_2017-03-30_FINAL.pdf

3.1.2 Washington State Clean Buildings Performance Standard

In 2019 the State of Washington enacted the [Clean Buildings Performance Standard](#), RCW 19.27A.210-240 establishing energy efficiency targets, efficiency reduction planning, and operations and maintenance requirements for large commercial buildings over 50,000 square feet (defined as Tier 1 buildings) beginning in 2026. The bill was expanded in 2022 to add “Tier 2 buildings” which include commercial buildings sized 20,000 to 50,000 square feet and multifamily buildings greater than 20,000 square feet. The Department of Commerce will adopt rules by 2023 for Tier 2 buildings for efficiency planning, and operations and maintenance requirements beginning in 2027, and by 2030 will adopt rules for Tier 2 performance standards.

The Seattle Building Emissions Performance Standard covers the same buildings and builds on the State’s energy efficiency requirements, with an emissions overlay to ensure Seattle buildings are both resource efficient *and* climate pollution free. Although the State energy performance standards are an important start, OSE projects they will only result in about a 4% reduction by 2030 in meeting the City's 2050 carbon-neutral goal, whereas Seattle-specific GHG emissions standards for larger buildings could result in up to a 27% decrease by 2050.

The State law includes several requirements to improve energy efficiency including meeting a minimum average energy use intensity target (EUI_t) for the space uses in building.¹⁹ For Tier 1 large commercial buildings (over 50,000 SF), OSE estimates that nearly 900 Seattle buildings will be impacted. An analysis by SBW indicates that about ¼ of these buildings will need energy efficiency improvements to meet the State EUI_t in 2026-2028.²⁰ The State will be updating the EUI targets for future compliance cycles, with the expectation that the targets will continue to be more stringent over time, with greater numbers of buildings needing energy efficiency improvements.

Owners of Tier 1 commercial buildings over 50,000 SF need to benchmark their building (as Seattle Buildings are already required to do), create an energy management plan (EMP) and an operations and maintenance plan (O&M plan), and show that their building meets the EUI target (EUI_t) or complete energy saving upgrades to meet the target. Building owners will need to demonstrate that: the O&M program has been implemented in their building, the EMP is complete, and that their building's weather normalized EUI is less than or equal to the building's EUI_t for a minimum of 12 months *before* the compliance dates listed below. This means that the largest buildings need to be ready by June 2025 at the latest.

Size Cohort	CBPS Compliance Date
Greater than 220,000 SF	June 1, 2026
90,001 - 220,000 SF	June 1, 2027
50,001 - 90,000 SF	June 1, 2028

Table 6: Washington State Clean Buildings Performance Standard "Tier 1" building compliance deadlines.

¹⁹ Energy Use Intensity (EUI) is measured in annual energy use per square foot of building area (kBtu/SF/year). The EUI_t will be based on the mix of building uses (e.g., office, retail, hospital, etc.) and the building's weather normalized EUI will be used to determine if the building meets or exceeds (is greater than) the EUI target (EUI_t).

²⁰ See “Seattle BPS Target Analysis” memo in the Appendix of this report.

3.1.3 Seattle Energy Code

The overall approach to eliminating climate pollution from the building sector involves both constructing zero-emissions buildings from the outset and decarbonizing the buildings that already exist. OSE and SDCI coordinate closely to ensure both areas are being addressed and are coordinating on how the upcoming 2021 Seattle Energy Code (under development now and expected in late 2023) and the BEPS are consistent and reinforce each other. OSE and SDCI also have heard clearly from stakeholders that a well-coordinated approach to *implementing* both policies is critical to the ability of owners to comply (e.g., timely permitting) and the departments have committed to strong on-going collaboration and coordination.

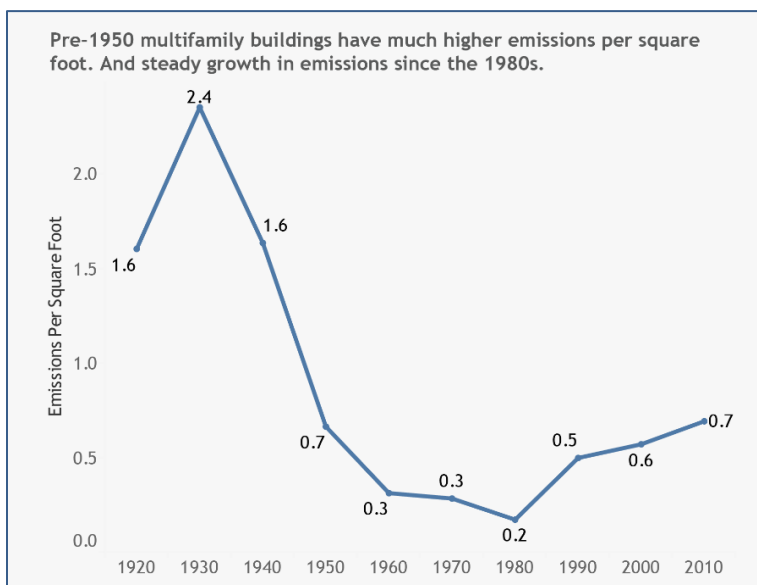


Figure 8: Emissions from Seattle multifamily buildings greater than 20,000 SF by vintage.

The need for a strong approach towards new construction is evidenced by a closer look at emissions trends in multifamily buildings. While emissions dropped significantly after the 1930's, since

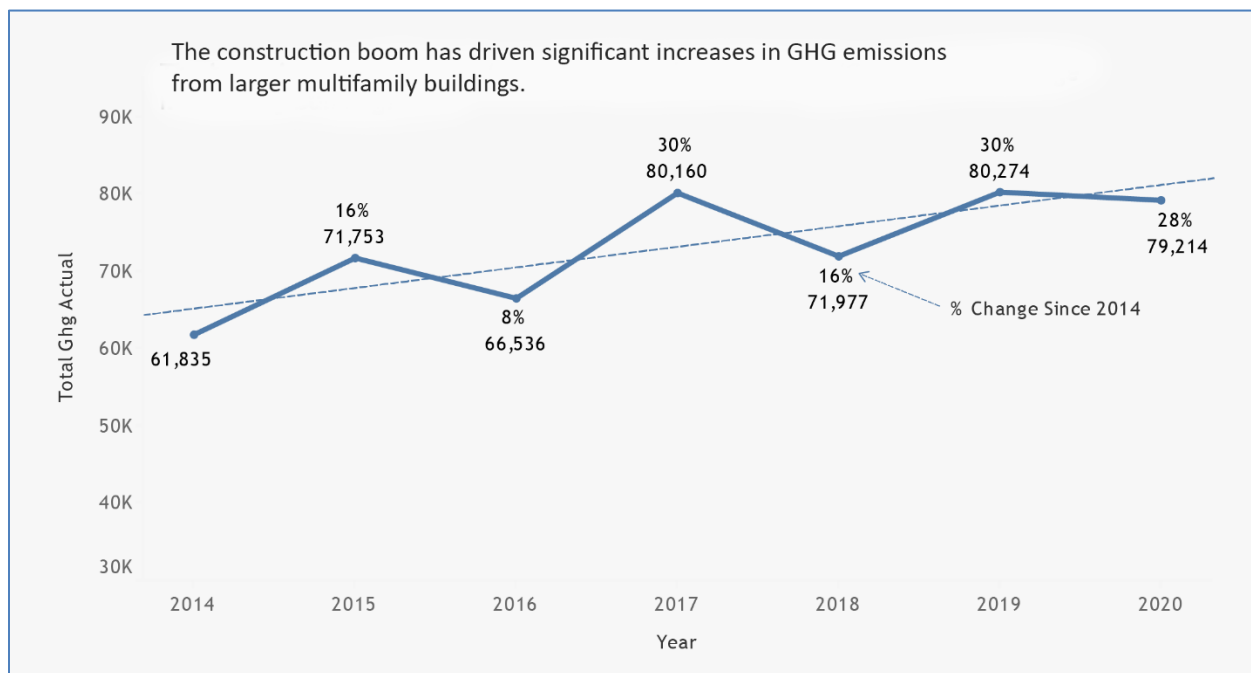


Figure 9: Recent growth in emissions driven by new multifamily buildings that have been constructed with gas for hot water heating.

the 1980's emissions have continued to rise (Figure 10). More recently, Seattle's multifamily construction boom is driving significant increases in building-related greenhouse gas (GHG) emissions – up 28% since 2014, or about 17.4 MT CO₂e annually (Figure 11).²¹ This increase is primarily from the installation of gas for domestic water heating, which is common in new multifamily construction since the late 1980s – whether affordable or market rate. Since 2022, the Seattle Energy Code (SEC) has prohibited the use of gas for central water heating systems, requiring heat pump systems instead.

The SEC governs nonresidential and taller multifamily buildings (over 3 stories) and the 2021 update (expected to be effective late 2023) will also govern low-rise multifamily three stories and less. The SEC is updated every three years and covers not only new construction, but also major renovations and mechanical equipment replacements. The lifespan of new heating and cooling equipment can span upwards of three decades and gas cooking ranges may last even longer. This means that every new or remodeled building, and every new equipment installation, is an opportunity to ensure buildings are on the path to decarbonization.

Owners upgrading their buildings and systems to meet BEPS targets will seek building and mechanical permits through SDCI, ensuring the improvements meet code requirements for efficiency, health, and safety.

²¹ Internal OSE analysis of Energy Benchmarking data

4 Seattle BEPS Stakeholder Engagement

OSE has been responsible for developing a building emissions performance standard policy with community input for the Mayor's and City Council's consideration. Between late 2021 through May 2023, OSE engaged in more than **125 stakeholder meetings**, advisory group meetings, and held four webinars. In addition, OSE has received both comment and support letters, and more than 100 comments or questions were emailed to OSE or conveyed by phone during this timeframe. For more details, please review the BEPS Stakeholder Engagement Summary available in the Appendix of this report.

BEPS stakeholder engagement has been conducted in two broad phases:

- **Phase 1 – Stakeholder Engagement Prior to Policy Proposal:** This phase, through June 2022, included OSE's two online open houses attended by **about 550 people in total**, six technical advisory group meetings, and six meetings of the Housing Development Consortium's affordable housing task force. OSE also met with climate advocates, labor organizations, building owners, building professionals, government partners, and utilities. This included equity focused engagement with non-profit owners, community-based organizations, and engaging residential tenants.
- **Phase 2 – Focused Stakeholder Engagement to Refine Draft Policy:** This phase, from July through Mid-May 2023, included two online webinars, **attended by about 330 people in total** that shared details about the draft greenhouse gas intensity targets and an overview of the proposed policy. OSE also reached out to stakeholders on specific aspects of the draft policy for feedback. This feedback has led to updates that will be incorporated in the final policy draft.

The following broad themes emerged from the stakeholder process:

- **Timing** – communicate targets now to provide long lead time for owners to plan and the labor workforce to grow and transition.
- **Flexibility** – create a streamlined but flexible policy to allow for diversity of compliance needs by ownership and building types.
- **Support** – increased financial incentives, lower interest financing and robust technical help are critical for all types of owners and buildings – and to successful BEPS policy implementation.

5 Proposed Legislation

5.1 Building Emissions Performance Standard

This section explains sections and background detail for the proposed new Chapter 22.925, Building Emissions Performance Standard in the Seattle Municipal Code.

5.1.1 Buildings Required to Meet the Standard (Applicability)

The Building Emissions Performance Standard will affect approximately 3,580 properties in the City of Seattle (approximately 4,135 buildings including buildings on campuses) that are greater than 20,000 SF in size. This includes approximately 1,650 nonresidential buildings, 1,885 multifamily buildings and 45 campuses (representing approximately 600 buildings).²² Buildings used for industrial and manufacturing purposes are exempt.

In order to align with the WA Clean Buildings Performance Standard (CBPS) and reduce confusion for building owners needing to meet both requirements, the applicable buildings will be required to comply using the same size cohorts as the State. The following table shows the size cohorts and the estimated number of buildings or campuses that will be required to comply. It is important to note that these are estimates only and the number of actual buildings changes each year as new buildings are constructed, and others are demolished. For more background on applicable buildings, see the [Covered Buildings](#) section.

Estimated Number of Buildings in Seattle Greater than 20,000 SF by Size Cohort								
		Nonresidential		Multifamily		Campus*		
Size Cohort	Total	Number	Percent	Number	Percent	Number	Percent	Percent
220,001+ SF	370	215	6.0%	130	3.6%	25	0.7%	10.5%
90,001 - 220,000 SF	625	300	8.4%	320	8.9%	5	0.1%	17.4%
50,001 - 90,000 SF	695	335	9.3%	355	9.9%	5	0.1%	19.4%
30,001 - 50,000 SF	945	390	10.9%	550	15.3%	5	0.1%	26.4%
20,001 - 30,000 SF	945	410	11.4%	530	14.8%	5	0.1%	26.4%
Total	3,580	1,650	46.0%	1,885	52.6%	45	1.3%	100.0%
<i>*Campus reports include more than one building reporting and represent about 600 buildings.</i>								
<i>Source: 2019 Energy Benchmarking Open Dataset. Cohort based on field "PropertyGFATotal" rounded.</i>								
<i>https://data.seattle.gov/dataset/2019-Building-Energy-Benchmarking/3th6-ticf</i>								

Table 7: Estimated Number of Buildings in Seattle Greater than 20,000 SF by Size Cohort.

²² Based on 2019 Energy Benchmarking Open Dataset. Cohort based on field "PropertyGFATotal" rounded.
<https://data.seattle.gov/dataset/2019-Building-Energy-Benchmarking/3th6-ticf>

Campuses and Building Portfolios - In order to accommodate buildings on campuses that may have shared metering and/or private district energy and building owners that may have multiple buildings, the standard will allow buildings that meet these various definitions to comply in aggregate:

- “Building portfolio” means two or more covered buildings, on one or more lots, all owned by the same public, private, or nonprofit. Building portfolios may include district campuses and/or connected buildings. For the purposes of this definition, a building management company does not constitute an owner.
- “Public/nonprofit building portfolio” means a building portfolio owned by the same public or nonprofit entity.
- “Connected buildings” means two or more covered buildings owned by the same building owner that are situated on the same or adjacent parcels and have shared mechanical or metering equipment such as energy meters, building controls, or heating, ventilation, or share a thermal envelope because they are physically connected. Where more than one owner shares mechanical or metering equipment under a joint agreement, one owner shall be deemed the building owner for the purposes of complying.
- “District campus” means two or more covered buildings owned by the same building owner that is served by a campus district heating, cooling, water reuse, and/or power system. And “District campus heating and/or cooling system” means a district heating and/or cooling system that serves a district campus. Where more than one owner shares mechanical or metering equipment under a joint agreement, one owner shall be deemed the building owner for the purposes of complying.

It is expected that most large public entities may use the building portfolio option, such as Seattle Public Schools, Seattle Housing Authority, City of Seattle, Port of Seattle, and King County. Other nonprofits and private building owners that may use the building portfolio option include nonprofit subsidized affordable housing providers, a handful of religious entities and nonprofits or private entities owning multiple buildings. Since privately owned buildings tend to change hands more frequently than public or nonprofit, as evidenced by Seattle’s experience administering the energy benchmarking and building tune-up requirements, the rulemaking process will further detail the process for private building portfolio determination and tracking.

As noted earlier, about 600 buildings may be included in district campus or connected building reports. Likely entities using this option include colleges, universities, and hospitals. District campuses may alternatively use a District Campus Decarbonization Compliance Plan, which is a customized plan, by a qualified provider, that shows how the campus will upgrade its district energy plant to generate cumulative emissions reductions from 2028 – 2050 equal to or greater than the cumulative emissions reductions achievable by meeting GHGIT.

5.1.2 Greenhouse Gas Intensity (GHGI) Reduction Requirement

The standard proposes using the metric greenhouse gas intensity (kgCO₂e/SF/year) or “GHGI” as the reporting metric to directly address the need to reduce emissions from buildings. GHGI is the total of the weather-normalized energy for each fuel source to the building (e.g., electric, gas, district steam) multiplied by the emissions factor of each fuel source divided by the building gross floor area. See the section [Greenhouse Gas Emissions Factors](#) for more detail on emissions factors.

Using weather normalized energy data reported in the covered buildings’ U.S. Environmental Protection Agency’s (EPA) Portfolio Manager tool used for Energy Benchmarking, takes annual local fluctuations in heating degree days into account when reporting, which is especially important for fuels

used for heating. Weather normalized data is available for electricity, natural gas, and steam from Portfolio Manager.²³

GHGI expressed in CO₂e, which stands for carbon dioxide equivalent, is an established metric used in the US EPA's ENERGY STAR Portfolio Manager and other climate impact reporting schema. CO₂e includes the combined emissions from carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) on the basis of their global warming potential.

5.1.3 Energy and Emissions Benchmarking Verification

Data Verification will be required as a component of the GHG emissions reporting requirements proposed for complying with the Seattle Building Emissions Performance Standard. Emissions targets (greenhouse gas intensity or GHGI) are calculated using energy benchmarking data. As such, data verification will be a required component of complying with Seattle's building performance standard to accurately establish the individual building's GHGI baseline and for compliance. This is critical to evaluate if an individual building is on track to meet required emissions performance targets. A qualified person will be required to fulfill these reporting requirements.

Rationale: In 2016, Seattle adopted a Building Tune-Ups mandate applicable to nonresidential buildings 50,000 SF or larger. Building Tune-Ups involve assessment and implementation of operational and maintenance improvements to achieve energy and water efficiency and included benchmarking verification as a reporting requirement. Out of 646 completed Tune-Ups, 41% of those building's benchmarking reports required an update or correction to reflect current conditions in the building.

As part of the Energy Benchmarking mandate, Seattle has implemented a pilot of data verification for approximately 100-200 buildings annually that are flagged during compliance review as outliers or reports with potential errors that asks building owners to correct mistakes and resubmit their reports. About 50% of the verification reports submitted by building owners to the City (and reviewed for compliance by staff subject matter experts) required additional corrections, even after building owners completed the report that explicitly requires the corrected of errors. The process to guide the verification submitter to complete additional corrections included back and forth with the verification submitter, technical assistance, and additional review of benchmarking verification submission after corrections were completed. This level of required staff engagement is not possible when scaling up data verification to approximately 3,600 or more buildings.

Through both policy data verification processes, common errors that impact an individual building's GHGI baseline and building performance metrics which were found and corrected included: incorrect building square footage, incorrect property use types, incorrect or missing secondary spaces, missing fuel sources or missing meters.²⁴

Industry-standard best practice: In developing the current proposal for the Building Emissions Performance Standard, OSE researched other jurisdictional approaches and found that all cities that have adopted a building performance standard (BPS) or are in the process of developing BPS, require benchmarking data verification by a qualified third party. Many cities (for example, Washington DC and

²³ ENERGY STAR Portfolio Manager Technical Reference Climate and Weather:
<https://portfoliomanager.energystar.gov/pdf/reference/Climate%20and%20Weather.pdf>

²⁴ OSE's experience with benchmarking analysis is that these individual errors tend not to skew aggregate data used for analysis, and as part of data cleaning prior to analysis, reports with outlier data or known extreme errors are removed.

Boston) explicitly require that the qualified person completing the verification cannot be from the same entity that submits annual benchmarking reports.

Alignment and consistency for existing buildings subject to multiple regulations: Seattle’s proposed qualified person requirement for data verification and the GHGI baseline and target calculations is consistent with the Washington State Clean Building Performance Standard requirement that a qualified person calculate the buildings’ EUI target, and upon completion of reaching the target, validate the accuracy of reporting requirements. Given the importance of accurate data for GHGI baseline calculation and compliance evaluation, it is integral to have the qualified person complete both the validation of the baseline data and emissions targets calculations during the five-year compliance period/process. Alignment with the Washington State Clean Building Performance Standards criteria for “qualified persons” will reduce conflict and create consistency for building owners who have buildings that are subject to both requirements.

Cost: Owners will need to pay for verification and costs range depending on the complexity of the building. The average cost is \$1,500 but it can be as low as \$500. Many providers wrap in benchmarking verification with other services, so it is hard to identify a cost amount in those situations. OSE expects that since the qualified person for greenhouse gas emissions reporting could be the same as the person verifying benchmarking these costs may be combined.

5.1.4 Compliance Schedules

The compliance timing, detailed in the following tables, is consistent with the WA Clean Buildings Performance Standard’s five-year compliance intervals and building size cohorts. Seattle’s proposed legislation starts with verification of emissions performance and a documentation of upcoming emissions targets and actions to meet them in 2027-2028, in the largest buildings (greater than 50,000 SF) – those with the greatest emissions impact – and with emissions targets in 2031-2033.²⁵

Smaller nonresidential and multifamily buildings (20,001 SF to 50,000 SF) start verification and documentation in 2029-2030 and meet targets in 2034-2035 allowing for more time to prepare, and for the expansion of technical assistance and financial incentives. Each five-year compliance cycle begins with the largest buildings and ends with the smallest, as shown in the tables below.

Importantly, to address stakeholder concerns about the impact of the requirements on housing affordability and availability, affordable multifamily buildings, including nonprofit portfolios, are exempt from meeting the GHGI targets from 2031-2035. Buildings with human services use such as shelters may also use this exemption. They will, however, still be required to verify benchmarking data and submit a greenhouse gas emissions report in 2031-2035, as well as in 2027-2030.

Building owners that are reporting their buildings as a building portfolio, district campus and connected buildings will be required to comply mid-cycle (e.g., 2028, 2033, 2038 and so on). This is in response to stakeholders that expressed concerns about the complexity of organizing reports for multiple buildings. It also gives the City more time to have compliance tools or processes in place to accept and review these types of reports. For more about district campus buildings and building portfolios, review the [section on buildings required to meet the standard](#).

²⁵ For the first compliance interval only, The BEPS proposal gives buildings 220,001 SF or greater one extra year (until 2027) for reporting to accommodate BEPS program development timing. Subsequent compliance intervals will sync up fully to the WA Clean Buildings Performance Standard’s five-year compliance intervals and building size cohorts.

Table 8: Covered buildings compliance schedule for benchmarking verification and reporting obligations.

Table A for 22.925.060: Covered buildings compliance schedule for benchmarking verification and reporting obligations	
Gross floor area in square feet (SF):	Shall meet benchmarking verification and reporting obligations by October 1 st of the following years:
220,001 SF or greater	2027
90,001 - 220,000 SF	2027
50,001 - 90,000 SF	2028
30,001 - 50,000 SF	2029
20,001 - 30,000 SF	2030
Building portfolios, district campus and connected buildings compliance schedule	
	Building portfolios, district campuses, and connected buildings approved for alternative compliance per Section 22.925.100 or for a decarbonization plan per Section 22.925.110 shall meet benchmarking verification and reporting obligations by October 1 st of the following year:
	2028

Table 9: Covered buildings compliance schedule for meeting GHGIs, benchmarking verification, and reporting obligations.

Table B for 22.925.060: Covered buildings ¹ compliance schedule for meeting GHGIs, benchmarking verification, and reporting obligations.				
Gross floor area in square feet (SF):	Shall meet GHGI and reporting obligations by October 1 st of the following years:			
220,001 SF or greater	2031	2036	2041	2046
90,001 – 220,000 SF	2032	2037	2042	2047
50,001 – 90,000 SF	2033	2038	2043	2048
30,001 – 50,000 SF	2034	2039	2044	2049
20,001 – 30,000 SF	2035	2040	2045	2050
Building portfolios, district campus and connected buildings compliance schedule				
	Building portfolios, district campuses, and connected buildings approved for alternative compliance per Section 22.925.100 or for a decarbonization plan per Section 22.925.110 shall meet GHGI, benchmarking verification, and reporting obligations by October 1 st of the following years:			
	2033	2038	2043	2048
<i>1 – Pursuant to Section 22.925.110, low-income housing, human service use, and low-rent housing are exempt from meeting the GHGI targets from 2031-2035 but is still required to meet benchmarking verification and all other reporting obligations for 2031-2035.</i>				

5.1.5 Greenhouse Gas Intensity Target Establishment (GHGIT)

The Building Emissions Performance Standard is based on covered buildings meeting greenhouse gas intensity targets or “GHGITs” over time, between 2031 and 2050, depending on building size and type per the compliance schedule.

Targets: To signal the market and demonstrate the required trajectory of emissions reduction to net-zero, the BEPS establishes greenhouse gas intensity targets by building activity type (e.g., office, lab, grocery, multifamily). This concept of building activity targets is consistent with the WA CBPS energy use intensity targets and also follows other cities that have enacted building emissions performance standards like Boston and New York City. The table below lists the building activity type targets.

Table 10: Building activity type greenhouse gas intensity targets (GHGITs).

Table A for 22.925.070: Building activity type greenhouse gas intensity targets (GHGITs)				
	GHGITs (KGC02e/SF/YR) by compliance interval			
Building Activity Type	2031-2035	2036-2040 ¹	2041-2045 ^{1, 2}	2046-2050 ^{1, 3}
College/University	2.69	1.57	0.00	0.00
Entertainment/Public Assembly	1.18	0.69	0.00	0.00
Fire/Police Station	2.23	1.30	0.00	0.00
Hospital	4.68	2.73	0.00	0.00
Hotel	2.06	1.20	0.00	0.00
K-12 School	0.95	0.56	0.00	0.00
Laboratory ¹	6.30	3.68	0.00	0.00
Multifamily Housing ^{3,4}	0.89	0.63	0.37	0.00
Non-Refrigerated Warehouse	0.77	0.45	0.00	0.00
Office	0.81	0.47	0.00	0.00
Other	2.48	1.45	0.00	0.00
Recreation	3.22	1.88	0.00	0.00
Refrigerated Warehouse	0.98	0.57	0.00	0.00
Residence Hall/Dormitory	1.16	0.68	0.00	0.00
Restaurant	5.73	3.34	0.00	0.00
Retail Store	1.03	0.60	0.00	0.00
Self-Storage Facility	0.31	0.18	0.00	0.00
Senior Living Community	2.11	1.23	0.00	0.00
Services	1.36	0.79	0.00	0.00
Supermarket/Grocery Store	3.42	2.00	0.00	0.00
Worship Facility	1.20	0.70	0.00	0.00

- 1 – Targets may be revised by future rule, per subsection 925.070.A.
- 2 – Net-zero emissions by 2041-2045 for nonresidential.
- 3 – Net-zero emissions by 2046-2050 for multifamily housing.
- 4 – Pursuant to Section 22.925.110, owners of low-income housing, human service use, and low-rent housing are may receive an extension from meeting the GHGITS in 2031-2035 but still must meet benchmarking verification and all other reporting obligations for 2031-2035.

The Technical Advisory Group convened during 2022 recommend that activity type targets be established, but also that certain buildings should have an alternative compliance option of using an Alternate Target based on an individual building's own GHGI baseline. This alternate option is also recommended by the Institute for Market Transformation in their model ordinance for a building performance standard (BPS).²⁶ Alternate targets, and the eligibility criteria for them are described in the [Alternate GHGI Targets section](#).

Targets Analysis: To analyze Seattle's energy benchmarking data and develop the Standard Targets as well as the emissions reduction trajectory, Seattle worked with SBW Consulting, the same firm that helped the State establish the WA CBPS EUI. To inform the trajectory, SBW reviewed Seattle's baseline emissions, climate action goals and used an analysis from Lawrence Berkely National Lab (LBNL) to inform how other requirements like Building Tune-Ups and the WA CBPS would impact emissions over time. SBW reviewed energy benchmarking and reporting data from 2019, 2020 and 2021 as part of their analysis. Ultimately 2019 was selected to inform the targets as it was the most consistent and recent year of energy data that was not impacted by the Covid-19 Pandemic's influence on building energy use and occupancy.

Emissions factors used in the analysis are as follows: EPA emissions factor for natural gas, the 2019 local emissions factors for Seattle City Light electricity reported to the Climate Registry²⁷, and the 2019 CenTrio district thermal energy (steam) reported to the WA State Department of Ecology. See the Appendix for a detailed memo describing the SBW analysis and more on emissions factors in the next section.

Target Updates: The building stock will inevitably change and grow over the next two to three decades, and other variables, like the impact of the Climate Commitment Act (CCA) and Clean Energy Transformation Act (CETA) requirements on emissions factors will, in turn, impact both GHGIs and GHGITS.

To accommodate such changes and allow for potential GHGIT revisions that can include stakeholder engagement via rulemaking, especially for the net-zero compliance interval, the proposed legislation sets *required* targets only for the 2031-2035 intervals and the Director has the authority to revise by rule the GHGITS for 2036-2040 by December 31, 2031, for 2041-2045 by December 31, 2036 and for 2046-2050 by December 31, 2041 based on building performance data, evolving technology, new regulations, public service impacts, or other relevant factors. Furthermore, Director shall revise by rule the laboratory GHGIT for 2031-2035 by December 31, 2027, by December 31, 2031, for 2041-2045 by December 31, 2036, and for 2046-2050 by December 31, 2041, based on further evaluation of the unique characteristics of laboratory spaces, evolving technology, and any relevant national standards

²⁶ Institute for Market Transformation's model ordinance for a building performance standard (BPS). <https://www.imt.org/resources/imt-model-bps-ordinance-summary>.

²⁷ The Climate Registry: <https://theclimateregistry.org>

and other relevant factors. If a relevant national laboratory standard has not been adopted by December 31, 2027, the laboratory space GHGIT may be deferred until the date a national laboratory standard has been developed.

Building Activity Types: While many of Seattle’s building activity type categories for GHGITs are consistent with the WA CBPS, a few are different due to the mix of building types for which energy data was reported in Seattle as opposed to state-wide. Both standards are ultimately based on Portfolio Manager Building Types. For educational and compliance purposes, Seattle will publish a reference document that maps the State and Seattle building activity types together.

Like the WA CBPS, targets for mixed-use buildings will be calculated based on a pro-rated mix of spaces. The WA CBPS rules also allow building owners to modify their EUIt using various exceptions for space types.²⁸ For example, in WA CBPS, buildings where more than 75% of the gross floor area has a single building activity listed can be reported as a single use building or as a multiuse building. Another example is that space types that are less than 10% of the gross floor area can combine that space’s floor area with floor area within the building that has a similar building activity and EUIt, as determined by a qualified person. OSE is currently reviewing the feasibility of using the WA CBPS space use exceptions in the same or similar manner for establishing an individual building’s GHGIT. This information will be brought to the rulemaking process for stakeholder input.

GHGIT Normalization Factors: While GHGI will already account for annual variations in local weather by using weather normalized energy data from ENERGY STAR Portfolio Manager, other factors for nonresidential building weekly hours of occupancy and multifamily occupancy density have been recommended by stakeholders, including the Technical Advisory Group and Housing Development Consortium. These normalizing factors can be applied to the GHGIT, as the WA CBPS has done for “operating shifts” or weekly hours of occupancy, using an hours of operation normalization based on the American Society of Heating, Refrigerating and Air-Conditioning Engineers’ ASHRAE 100 Standard. OSE is currently reviewing the feasibility of using the WA CBPS “operating shifts” normalization factor for normalizing the GHGITs. This information will be brought to the rulemaking process for stakeholder input.

The WA CBPS does not currently have a multifamily normalization metric to account for the density of number of people per square foot living in multifamily buildings. This is important because affordable housing tends to have more people living per square foot of space than market rate and certainly luxury housing. More people living in a building means that more energy is used in the building for activities like hot showers, laundry, and cooking. Thus, these buildings tend to have both higher energy use intensity and greenhouse gas intensity than market rate buildings. SBW completed an initial review of benchmarking data for metrics that might be considered to establish normalization factors, such as number of units per square foot and number of bedrooms per square foot and ENERGY STAR’s multifamily score normalization metrics. This information will be brought to the rulemaking process for stakeholder input.

²⁸ Washington State Clean Buildings Performance Standard Powered by ANSI/ASHRAE Standard 100-2018: <https://www.commerce.wa.gov/growing-the-economy/energy/buildings/clean-buildings-performance-standard/> Pages 13-14.

5.1.6 Greenhouse Gas Emissions Factors

Building owners calculate the greenhouse gas intensity (GHGI) of their individual building to determine if they meet the GHGIT. The GHGI is calculated using the total building consumption of each energy fuel type multiplied by the fuel type's emissions factor divided by the square feet of the building. The proposed legislation proposes the factors listed in the table below.

Table 11: Greenhouse gas emissions factors.

Table B for 22.925.070: Greenhouse gas emissions factors		
Energy source	Emissions factors (kgCO ₂ e/kBtu)	
	For baseline GHGI (2019-2028)	For compliance GHGI (2031 – 2035) (Provisional)
Seattle City Light electricity	.0058	.0029
Puget Sound Energy natural gas	.053	.053
CenTrio district thermal energy	.081	.081

Emission factors for all fuel types (expressed in kgCO₂e/kBtu) have already been calculated by the Intergovernmental Panel on Climate Change (IPCC) and adopted by the EPA (per (CFR, Title 40, Chapter 23, Part 98, Subpart C (Table C-1). However, the emission factors are based on a set of assumptions such as generating plant efficiency, fuel mix, etc. that don't apply locally. Given these differences it is important to use the most accurate value and keep consistency across all utilities to account for local factors and to accommodate a more diverse fuel mix in anticipation of the Climate Commitment Act (CCA) and Clean Energy Transformation Act (CETA) requirements.

Puget Sound Energy (PSE) Natural Gas: Natural gas emission factors are referenced by the EPA as 53.11 kg/MMBtu. This would be the default reference emissions factor for at least the first compliance interval, however, PSE is planning on including renewable natural gas (RNG) and possibly green hydrogen in its pipelines in the future (based on gas IRP planning documents) and has the option of purchasing a limited number of carbon offsets (up to 6%) to comply with the CCA.

Starting in 2030, the emissions factor will be that in a report supplied to the City by PSE accompanied by their report to the WA Department of Ecology. Any changes in fuel mix such as the use of RNG, green hydrogen or other renewable sources would be accounted for in that report.

Seattle City Light (SCL): In 2000, the City Council set a long-term goal for SCL to achieve greenhouse gas neutrality while meeting all of the electricity needs of the City. To do so, SCL reports its emissions and emission factors to The Climate Registry²⁹ and purchases greenhouse gas offsets for the emissions reported, which includes emissions associated with SCL's operations and emissions associated with energy supplied to customers.

More recently, Washington enacted the CETA, which amends Washington's Energy Independence Act and sets milestones for utilities to reach 100% renewable or non-emitting electricity supply by 2045. By 2030, utilities must meet the CETA's greenhouse gas neutrality requirement, which requires utilities

²⁹ See: <https://theclimateregistry.org/>

to supply energy with at least 80% from renewable and non-emitting resources and the remaining 20% met with alternative compliance mechanisms. Alternative compliance may be met using Renewable Energy Credits (RECs). One REC is equivalent to one MWh of renewable energy generated and delivered to the grid.

For baseline GHGs, the City will use the emissions factor supplied by SCL accompanied by a summary of their electric power sector report to The Climate Registry. Starting in 2030, Seattle City Light will need to demonstrate compliance with CETA, and report to Commerce. Beginning with the 2031 BEPS compliance interval, the City will use emission factor information from the SCL report to Commerce.

CenTrio (Seattle’s district thermal energy provider): The emissions factor will be based on a report supplied to the City by CenTrio that includes a Climate Registry Report for the baseline years. As with the approach for PSE, for the subsequent years, the emissions factor will include any purchased offsets needed to comply with the Climate Commitment Act (up to 6%) and the City will base the emissions factor on CenTrio’s supplied report to the City, accompanied by their report to the WA Department of Ecology. Note: CenTrio has indicated to OSE that they are committed to decarbonizing their thermal energy at the plant. The transition from gas-fired boilers to electric boilers and other technologies will take investments and time. Their customers are also in long-term contracts for district energy, with substantial penalties should a customer cancel their contract prior to the term end date. The legislation acknowledges these issues by providing covered buildings with a deduction of emissions from CenTrio energy for the first compliance period.

Other fossil fuels: Emission factors for fuels such as heating oil, propane, etc. will reference the US EPA.³⁰

Emissions factor updates: Per the legislation, The Director shall establish by rule the final emissions factors for energy sources for the 2031-2035 compliance interval by December 31 of 2027 and emissions factors for each subsequent compliance interval by December 31 of 2031, 2036, and 2041. The emissions factors shall remain the same during each five-year compliance interval. Emissions factors shall reflect changes in utility energy mix, regulatory requirements, and emissions factors published by the Environmental Protection Agency (EPA).

5.1.7 Calculations for Buildings to Establish and Report GHGIT and GHGI

The proposed policy outlines the basic calculation procedures and formulas that building owners or their consultant will be required to establish and report their covered buildings’ GHGIT and GHGI. This is included in the legislation to help provide more clarity around expectations during the legislation process, instead of waiting for the publication of the Director’s Rule (expected by the end of 2024). The legislation notes, however, that the calculations may be updated by rule. The legislation also defines different aspects of the following metrics: Standard GHGIT, Alternate GHGIT, Baseline GHGI and Compliance GHGI. Future educational reporting documents that will be created for program implementation will clarify each metric further. This section describes the calculations and additional details on each.

Standard GHGIT: This means the calculated greenhouse gas emissions intensity target (“GHGIT”) in kgCO₂e/SF/yr for a covered building, building portfolio, district campus, or connected buildings, based

³⁰ See <https://www.epa.gov/climateleadership/ghg-emission-factors-hub> and this PDF for the 2022 factors: https://www.epa.gov/system/files/documents/2022-04/ghg_emission_factors_hub.pdf.

on the percent of gross floor area of each building activity type in Table 9 and normalization factors. OSE expects that the reporting form or tool (TBD) for the program will enable a qualified person to create the standard GHGIT, similar to how the WA State Department of Commerce created a form to calculate EUI for WA CBPS compliance. Also, like WA CBPS, owners of covered buildings with more than one building activity type will be required to prorate the applicable GHGIT based on the percent of gross floor area of each building activity type.

Normalization factors, to be established by rule, may be used to adjust the GHGIT to account for hours of operation for nonresidential buildings, or occupancy density in the case of multifamily. As part of its work with SBW on emissions targets, SBW did an initial review of the suitability of WA CBPS' hours or operation normalization factors and found that they may also be suitable for use with GHGIT normalization.

Compliance GHGI: This means the greenhouse gas emissions intensity or "GHGI" in kgCO₂e/SF/yr for a consecutive twelve-month period for a covered building, building portfolio, district campus or connected buildings used to show compliance with the requirements of the Building Emissions Performance Standard.

The compliance GHGI for covered buildings is the sum of all GHG emissions from the building(s) minus the sum of allowed GHG emissions deductions, divided by the gross floor area of the covered building(s) expressed as:

$$\text{compliance GHGI} = \text{GHG emissions (CO}_2\text{e/yr)} - \text{GHG deductions (CO}_2\text{e/yr)} / \text{gross floor area (SF)}$$

GHG emissions are the sum of the annual weather-normalized energy use of each energy source reported in ENERGY STAR Portfolio Manager in kBtu multiplied by the emissions factor for each energy source in kgCO₂e/kBtu. This is expressed as:

$$\text{GHG emissions (CO}_2\text{e/yr)} = [\text{energy use A (kBtu/yr)} \times \text{emissions factor A (CO}_2\text{e/kBtu)}] + [\text{energy use B (kBtu/yr)} \times \text{emissions factor B (CO}_2\text{e/kBtu)}] + [\text{energy use C (kBtu/yr)} \times \text{emissions factor C (CO}_2\text{e/kBtu)}]$$

GHG emissions deductions are the sum of the annual GHG emissions of the specific end uses allowed as deductions in the legislation. The methods to document, meter or estimate emissions deductions will be covered during rulemaking. Most of the allowed deductions are "process loads" like hot water for laundry or commercial cooking and therefore input from these sectors, as well as best practice in building science, will inform decision-making.

To calculate a covered building's compliance GHGI, building owners shall use verified energy benchmarking data that can consist of either:

- Twelve consecutive months of verified energy benchmarking data from the time period preceding the covered building's GHGIT compliance deadline. The twelve-month period may run from January 1-December 31 or from July 1-June 30; or
- The annual average of twenty-four consecutive months of verified energy benchmarking data from the time period preceding the covered building's GHGIT compliance deadline. The twenty-four-month period may run from January 1-December 31 or from July 1-June 30.

These time periods were selected because they align with the annual benchmarking deadlines and the benchmarking verification requirements. The two-year average option allows building owners who may be very close to meeting the target to average the preceding two years of emissions.

Baseline GHGI: This means the greenhouse gas emissions intensity (“GHGI”) in kgCO₂e/SF/yr for a particular twelve-month period for a covered building, building portfolio, district campus or connected buildings used to calculate compliance with certain alternative compliance options. The Director shall establish by rule the years and particular twelve-month period(s) allowed for baseline GHGIs and baselines timeframes may also be updated by rule for future compliance intervals.

Alternate GHGIT: This means the greenhouse gas intensity target (“GHGIT”) in kgCO₂e/SF/yr established from the baseline GHGI of a specific covered building, public/nonprofit building portfolio, district campus or connected buildings. The alternative compliance option allows building owners to start at the building’s own baseline and set interim targets from that baseline to net-zero, with incremental targets reducing 33% for each of three compliance intervals for nonresidential buildings and 25% for each of four compliance intervals for multifamily buildings. In this case, each covered building using this would have its own alternate targets determined for each compliance interval.

A **nonresidential building’s** alternate GHGITs for their compliance deadline in each compliance interval shall be calculated as follows. Net-zero emissions shall be achieved by the compliance deadline in the 2041-2045 compliance interval.

- a. Sixty-six percent of the baseline GHGI for the 2031-2035 compliance interval.
 $\text{alternate GHGIT (CO}_2\text{e/SF/yr)} = \text{baseline GHGI (CO}_2\text{e/SF/yr)} * .66$
- b. Thirty-three percent of the baseline GHGI for the 2031-2035 compliance interval.
 $\text{alternate GHGIT (CO}_2\text{e/SF/yr)} = \text{baseline GHGI (CO}_2\text{e/SF/yr)} * .33$

A **multifamily building’s** custom GHGITs for their compliance deadline in each compliance interval shall be calculated as follows. Net-zero emissions shall be achieved by the compliance deadline in the 2046-2050 compliance interval.

- a. Seventy-five percent of the baseline GHGI for the 2031-2035 compliance interval.
 $\text{alternate GHGIT (CO}_2\text{e/SF/yr)} = \text{baseline GHGI (CO}_2\text{e/SF/yr)} * .75$
- b. Fifty percent of the baseline GHGI for the 2036-2040 compliance interval.
 $\text{alternate GHGIT (CO}_2\text{e/SF/yr)} = \text{baseline GHGI (CO}_2\text{e/SF/yr)} * .50$
- c. Twenty-five percent of the baseline GHGI for the 2041-2045 compliance interval.
 $\text{alternate GHGIT (CO}_2\text{e/SF/yr)} = \text{baseline GHGI (CO}_2\text{e/SF/yr)} * .25$

5.1.8 Greenhouse Gas Emissions Reduction and Reporting Obligations

The proposed BEPS policy requires the following reporting obligations of building owners by the compliance deadlines in the legislation (see [Compliance Schedules section](#)).

- Building owners shall submit an **energy benchmarking verification report** from the qualified person documenting that the covered building’s reported ENERGY STAR Portfolio Manager benchmarking data for the previous calendar year, January 1 – December 31, and for any other time period used to comply with Chapter 22.925, has been verified as accurate. See [Energy and Emissions Benchmarking Verification section](#) for more details.
- Building owners shall submit a **Seattle greenhouse gas emissions standard report**, completed by a qualified person, to the Director by the appropriate deadline in the compliance schedule in Section 22.920.060.

- A **qualified person** must complete both of the above reports.

Seattle Greenhouse Gas Emissions Standard Report: The Seattle greenhouse gas emissions standard report, to be completed by a qualified person will be required by the covered building's applicable deadline per the compliance schedule, starting in 2027. The report will be in a form to be developed by the Director. The intent of the report is that OSE will receive the report, review the report, including the GHGI and GHGIT calculations for compliance, and then confirm or deny compliance. This is similar to the process already used by Building Tune-Ups. OSE intends to streamline the report as much as possible to focus on elements which OSE would need to confirm compliance, including:

- a. The GHGIT and the compliance GHGI for the current compliance interval.
- b. A description and documentation of the actions taken to meet the applicable GHGITs.
- c. Documentation for any alternative compliance option used, including baseline GHGIs and alternate GHGITs.
- d. Documentation for any exemptions that may apply.
- e. Documentation of end-use deductions used for calculating compliance GHGI.
- f. A list of major building mechanical equipment, such as equipment used for space heating and cooling, water heating, cooking, and other activities and their age and fuel sources.
- g. An outline of the actions needed for the covered building to meet subsequent GHGITs.

The report may also include additional information required by the Director to determine compliance. For example, to streamline, the benchmarking verification details could be included in the report, as they are now with Building Tune-Ups. OSE will seek feedback on the content and report structure in rulemaking.

5.1.8.1 Qualified Person Requirement for Reporting

To align with the WA CBPS requirements and ensure that knowledgeable persons use current best practices to support owners meeting the requirements, the proposed policy will require a person defined as a "qualified person" to conduct benchmarking verification and submit the GHG report to the City. These are the same certifications or licenses required for WA CBPS compliance. Requiring a qualified person also follows OSE's experience implementing Building Tune-Ups which required a Tune-Up Specialist, of which the certifications below overlap. And as with Tune-Ups, building owners with in-house staff that can demonstrate they have the years of professional experience and have one of the certifications or licenses, may serve as a qualified person.

A qualified person means a person having training, expertise and at least three years professional experience in building energy use analysis and any of the following certifications or licenses:

- A licensed professional architect or engineer in the State of Washington
- A [Building Energy Assessment Professional \(BEAP\)](#) certified by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)
- [Certified Energy Auditor \(CEA\)](#) certified by the Association of Energy Engineers (AEE)
- [Building Operator Certification \(BOC\) Level II](#) by the Northwest Energy Efficiency Council
- A Certified Commissioning Professional (CCP) who is certified by an ANSI/ISO/IEC 17024:2012 accredited organization. Currently this includes:
 - [Building Commissioning Association CCP](#)
 - [ASHRAE BCxP](#)
- A [Certified Energy Manager \(CEM\)](#) in current standing certified by the Association of Energy Engineers (AEE)

- An [Energy Management Professional \(EMP\)](#) certified by the Energy Management Association

The Director is authorized to prescribe additional certifications and training to meet the minimum qualifications of a qualified person.

5.1.9 Alternative Compliance

While the standard GHGIs send a clear signal and path for covered buildings to meet over time to achieve net-zero between 2041-2050 (depending on building type and size), alternative compliance paths offer different options for covered buildings that have unique characteristics or barriers to using the standard targets. During OSE's stakeholder engagement, flexibility was a key concern of building owners and managers, and these options offer that while still ensuring that covered buildings are on a path to net-zero emissions. The chart below summarizes each alternative compliance option, explains the rationale behind it and who can use it. It also notes the allowed compliance intervals. The sections following offer additional detail.

5.1.9.1 Alternative Compliance Payment

The Alternative Compliance Payment or "ACP" option is included in the Seattle BEPS for the first compliance interval only (2031-2035) for nonresidential and multifamily covered buildings. It is designed to respond to stakeholder feedback on the need for compliance flexibility and to accommodate situations when the owner's replacement timeline for major heating and cooling (HVAC) or domestic hot water (DHW) assets is out of sync with the compliance target timeline. For example, an owner may be planning a major electrification upgrade that would get the building's emissions to net zero, but that work won't be funded or completed in the initial compliance cycles. The ACP could be used to cover any percentage up to 100% of the emissions target, thereby enabling an owner to make partial progress towards meeting a GHGI in a cycle, by combining in-building emissions reductions from operations and/or equipment upgrades that don't quite meet the target with the remaining percent made up by a partial ACP payment. ACP revenue will be dedicated to funding technical assistance and financial support for under-resourced buildings.

The ACP is not a chance to opt-out of emissions reductions. It is a short-term deferral option – with a payment targeted to support emissions reductions efforts in communities experiencing climate change first and worst. By 2036-2040, nonresidential buildings will still be required to meet GHGI targets that are on average a 66% reduction from the 2019 baseline year, and multifamily buildings will have GHGI targets that are on average 50% below the 2019 baseline. Buildings that fail to meet targets for 2036-2040 and beyond, or another alternative compliance option will be assessed a penalty (see [Penalties section](#)).

The ACP will only cover the emissions reduction requirement – buildings must still provide a GHG report that will include information about equipment age and plans to meet future GHGI targets and they must verify benchmarking data. The ACP option enables compliance outside of the more administratively cumbersome penalty process and is recommended by the Institute for Market Transformation as a BPS best practice.³¹ The ACP alleviates the stigma of non-compliance while pushing building owners to plan, and at the same time, provides payments that will be targeted to emissions reduction work in frontline communities. This reserves penalties for building owners that fail to report

³¹ *Model Ordinance for a Building Performance Standard*. Institute for Market Transformation. October 2021. Available for download from: <https://www.imt.org/resources/model-ordinance-for-building-performance-standards/>

at all and thus fail to engage with the City on demonstrating a path to reducing emissions in their buildings.

The legislation sets the ACP compliance payments on a per MTCO₂e basis and the cost of each MTCO₂e is based on a social cost of greenhouse gas emissions of \$190.00 per MTCO₂e except that the ACP shall not exceed the penalty amount for the same compliance interval. The cost of \$190.00 per MTCO₂e is the proposed rate of the U.S. EPA that is currently under final review and expected to be adopted later this year. No later than December 31, 2027, the Director by rule may raise the dollar amount per MTCO₂e to adjust for inflation and to account for adjustments to the social cost of carbon by a relevant government agency. To ensure that administrative costs can be covered for situations where the calculated ACP may be minimal, there is a minimum payment for owners to utilize this option of \$1,250 for buildings with a GFA less than or equal to 50,000 SF and \$2,500 for buildings greater than 50,000 square feet. (Covered buildings whose calculated ACP cost is less than the minimum payment would just pay the minimum.) An example calculation for an average-size office building, with 100% of the spaces with an office activity type and having an average 2019 GHGI, using the ACP option for the 2031-2035 interval is as follows:

Table 12: Example Alternative Compliance Payment calculation for an average-size office building with an average 2019 GHGI.

Example 90,000 SF Office Building	2033 Payment Calculation
Gross Floor Area (excluding parking)	90,000
Total GHG Emissions (MTCO ₂ e/yr)	102.6
GHG Intensity (kgCO ₂ e/SF)	1.14
GHGI Target in 2033 (kgCO ₂ e/SF) from Building Activity Type Table	0.81
GHG Intensity Reduction Required to Meet Target (kgCO ₂ e/SF)	.33
Annual MTCO ₂ e Required to Meet Target	29.7
ACP Payment of \$190.00 per MTCO ₂ e/yr for 5 years	\$28,215
Minimum Payment (NA - payment exceeds so not charged)	\$0
Total Payment	\$28,215
Cost per SF	\$0.31

While it is unknown how many owners will ultimately utilize this option, the table below provides an estimated revenue range if the ACP were utilized by 5% to 10% of the buildings that exceed the target for 2031-2035. The revenue estimate below of \$6 million would cover the cost of converting approximately 300 homes from oil heat to electric heat pumps (assuming conversion costs average \$20,000/home).

Table 13: Estimated potential revenue from use of alternative compliance payments.

Compliance Interval	Percent of buildings exceeding targets using ACP	Estimated potential revenue
2031 - 2035	5% - 10%	\$6,000,000 - \$12,000,000

5.1.9.2 Aggregate Standard GHGIT

This option is available for building owners with two or more covered buildings that meet any of the following definitions in the legislation: **building portfolio (nonprofit, private or public entity owned), district campus, or connected buildings, for any compliance interval** (see [Buildings Required to Meet the Standard section](#) or legislation for definitions). When a building portfolio, district campus, or connected buildings includes a landmark building(s) or building(s) within a historic district approved for a decarbonization compliance plan under legislation subsection 22.925.100.E.2.b the building(s) may be excluded from the portfolio, district campus or connected buildings for the purposes of the aggregate standard GHGIT.

“Aggregate emissions reduction” means that these buildings can set and meet their GHGIT, based on a pro-rated mix of spaces for all their building’s square footage combined, in lieu of building by building compliance. This is designed to provide flexibility for owners of multiple buildings, including low-income housing providers, to invest in those buildings most in need first or those buildings with equipment that is already scheduled for replacement. Covered buildings using this option will be required to report during the middle of each 5-year compliance interval since they likely have a mix of small and large buildings. It is important to note that benchmarking verification will still be required at the individual building level for those buildings using the building portfolio option.

The allowance for entities to exclude landmark buildings from the portfolio aggregate standard GHGIT, and instead do a decarbonization plan for them, provides owners flexibility. It acknowledges that these buildings may have higher baseline GHGIs and/or special features or characteristics of a designated landmark that necessitate a different plan for decarbonization than the rest of the entities’ portfolio of buildings.

5.1.9.3 Alternate GHGI Targets

The Alternate GHGI Targets option allows buildings to start at a building’s own baseline and set interim targets from that baseline to net-zero, with incremental targets reducing 25% for each compliance interval. It can be used for all compliance intervals, but the option is only available to covered buildings the meet certain conditions as follows:

- **District campus, connected buildings, or public/nonprofit building portfolio.** This was created to allow public and nonprofit owners a more straightforward compliance approach instead of calculating targets for each building and each individual building space. The custom target created could be used with aggregate emissions reduction described above. For example, this would enable a portfolio of multiple public-school buildings to start at the portfolio’s total 2019 baseline GHGI and then achieve: a 33% emissions reduction from baseline by 2033; a 66% emissions reduction from baseline by 2038; and net-zero by 2043.
- **Nonresidential buildings with more than 50% of the building with no established targets (or those defined as 'other') in the GHGIT table.** While most buildings in Seattle have uses, or a mix of uses, that could be covered by the activity types identified in the targets table, unique building types exist. For example, Seattle’s icon, the Space Needle, is a good example of a unique use building that may be suited to consider this option. Another example is the Seattle Aquarium.
- **Buildings with baseline GHGI emissions 3.5 times greater than the 1st interval GHGIT for their building type(s).** This accommodates buildings that have exceptionally high baseline GHGIs relative to similar type buildings by enabling them to create targets with a consistent reduction for each interval instead of having a very challenging initial reduction just to meet

the 1st interval targets. For example, a poor performing church with a GHGI of 4.16 KGC02e/SF/YR, which is 3.5 times the “worship facility” 1st interval GHGIT of 1.20 KGC02e/SF/YR, would have to reduce its emissions about 72% just to meet the 1st interval GHGIT without this alternative compliance option.

5.1.9.4 Multifamily Prescriptive Option

Multifamily buildings tend to have a more limited number of space and water heating system scenarios than nonresidential buildings. Under this alternative compliance option **owners may choose to replace either the space heating or water heating in lieu of meeting the greenhouse gas intensity target (GHGIT)**. Providing prescriptive options allows multifamily building owners a simplified compliance approach by eliminating the need to model greenhouse gas intensity to ensure that the applicable GHGIT will be achieved by the project. Owners will have confidence that the energy measure they implement will be sufficient to meet compliance.

This prescriptive option allows owners to take a more incremental approach and replace only one major system in each compliance interval. In addition, the prescriptive option allows about a year more time before a compliance deadline to complete work since compliance will not rely on a year’s worth of benchmarking data.

The multifamily prescriptive option is available for 2031-2035, 2036-2040, and 2041-2045, but all multifamily buildings must still obtain net-zero emissions in 2046-2050. Owners are still required to complete GHG reporting requirements and benchmarking verification each interval.

5.1.9.5 Decarbonization Compliance Plan

Building owners with extenuating circumstances that make complying with the compliance schedule or meeting the GHGITs a significant hardship for an individual building may apply to use a decarbonization compliance plan for achieving net-zero greenhouse gas emissions or an approved low emissions GHGIT by 2041-2050. The public owner of a building portfolio whose primary purpose is to provide education at no cost and who is funded through state and/or local taxes may apply to use a decarbonization compliance plan covering multiple buildings within the owner’s building portfolio. The legislation sets guardrails as to the types of significant hardships or extenuating circumstances that may trigger the need for a plan. The extenuating circumstances included were based on feedback received during the stakeholder engagement process. More common challenges that may impact a group of buildings are addressed in the extensions and exemptions or may be covered by the prior alternative compliance options. Importantly, the Decarbonization Compliance Plan is about the owner clearly demonstrating that the act of compliance – either getting to net zero on the established compliance schedule or meeting net-zero - creates a significant hardship.

Net-zero by 2041-2050 Decarbonization Compliance Plan extenuating circumstances for an individual building are as follows:

- a) When a substantial alteration under Section 307 of the Seattle Energy Code is concurrent with upgrades to meet GHGIT.
- b) When seismic upgrades for a covered building with unreinforced masonry will be undertaken concurrently with building upgrades to meet the GHGIT.
- c) When significant electric infrastructure upgrades are needed to increase electric capacity in the building, such as adding a new transformer vault to meet GHGIT.
- d) When upgrades to meet the GHGIT would require replacing HVAC or DHW equipment already vested under the Seattle Energy Code by the effective date of this ordinance and that equipment has not yet reached a defined percentage of life expectancy. A standard

percentage based on industry guidelines, such as those established by ASHRAE, will be determined in rulemaking.

- e) When a laboratory, in-patient or emergency healthcare requires non-interruptible operations.
- f) 2031-2035 only: A tenant lease in place before effective date of this ordinance precludes owner access to work on equipment needed to meet the GHGIT.
- g) No practicable low/ zero GHG emissions alternative is available.

Low Emissions by 2041-2050 Decarbonization Compliance Plan extenuating circumstances for an individual building are as follows:

- a) When upgrades necessary to meet net-zero emissions in a low-income housing multifamily building are infeasible.
- b) Would adversely affect the special features or characteristics of a designated landmark or compromise the historic integrity of the covered building or a portion of the covered building, as determined by either the City's Historic Preservation Officer, or historic board or commission, whichever has authority to grant or deny a Certificate of Approval for the building retrofit.
- c) When structural or electrical capacity upgrades necessary to meet net-zero emissions are infeasible due to distinct technical and/or physical limitations of the covered building.
- d) When a cost analysis of the measures necessary to meet net-zero emissions and a property valuation or other business financial analysis, whose content shall be determined by rule, can demonstrate that the incremental cost of meeting net-zero would create financial distress to the building.
- e) When a laboratory, or in-patient or emergency healthcare operate equipment for which there are no practicable zero GHG emissions alternatives.
- f) When there are no practicable zero GHG emissions alternatives available on the market for a necessary function.

Decarbonization Plan Content

Since these decarbonization compliance plans must clearly demonstrate eligibility, the rationale for the plan, and the proposed actions, the plan must be completed by a qualified person. They also shall be updated and submitted prior to each compliance interval. While details will be further formalized during rulemaking, the plan must include:

- a building energy and greenhouse gas emissions audit and an analysis of energy efficiency greenhouse gas emissions reduction actions.
- the incremental and final GHGITs and actions at each compliance interval.
- any applicable content specified by decarbonization plan provisions in the Seattle Energy Code.
- a cost analysis for achieving the incremental and final GHGITs for each compliance interval covered by the plan. The cost analysis shall be in a form developed by the director by rule and shall include, at a minimum, the incremental cost of any equipment or other upgrades needed to meet the GHGIT above standard asset replacement costs or business-as-usual conditions. The analysis must include the social cost of carbon, utility cost savings, available grants, incentives, tax deductions or other financial incentives, and any additional information required by the Director.

- any additional information required by the Director to demonstrate the building meets one of the extenuating circumstances listed above.

Decarbonization compliance plans shall be resubmitted for reapproval by OSE to reflect any changes in building use, major tenants, or management, or other circumstances that may impact compliance.

5.1.9.6 District campus decarbonization compliance plan.

A district campus that can demonstrate through a campus decarbonization compliance plan that upgrades to the district campus plant will generate cumulative emissions reductions from 2028 – 2050 that are equal to or greater than the cumulative emissions reductions that would be achieved by meeting standard or alternate GHGIs may submit a campus decarbonization compliance plan to OSE for approval. The plan content and form shall be specified by rule but shall at a minimum be in alignment with decarbonization compliance plans content listed in the above section and under subsection 22.925.100.E.6 in the legislation.

5.1.10 Extensions and Exemptions

Extensions and exemptions will be available for various scenarios. In this case, building owners with covered buildings may be exempt from meeting the GHGI, benchmarking verification, and/or reporting requirements for just one compliance interval (in effect, an extension) or more compliance intervals. Extensions and exemptions may require an application for approval (to be determined by rule). The chart on the following page summarizes these extensions and exemptions. And as noted earlier, the GHG Report must include documentation for any exemptions that may apply.

Exemptions & Extensions (Draft BEPS legislation, Section 22.925.110)

Option	What	Who Can Use	Intervals Allowed 2027-2050				
			27-30 ¹	31-35	36-40	41-45	45-50
New Construction	One-time extension from all requirements of initial compliance date.	Any covered building: Certificate of Occupancy less than 3 years before compliance date.	yes	yes	yes	yes	yes
Financial Distress	One-time extension from all requirements for one compliance interval. (May be renewed).	Any covered building with pre-existing financial distress (e.g., on tax lien sale list, controlled by a receiver, owned by financial institution, senior mortgage default, & other conditions by rule).	yes	yes	yes	yes	yes
High Rental Vacancy Rate	One-time extension from GHGIT requirements for one compliance interval -- must still verify benchmarking and report. (May be renewed).	Covered building with a high rental vacancy rate, as determined by rule, during a consecutive 12-month period within the 36-months preceding the compliance date.	NA	yes	yes	yes	yes
Low Income Housing and Human Service Uses	One-time extension from meeting GHGIT in 2031-2035 -- must still verify benchmarking and report and meet 2036-2040 and later GHGITs.	A low-income housing building or a covered building with >50% occupancy by human service uses.	NA	yes	no	no	no
Low Income Housing: Pre-established refinancing date conflict	One-time extension from meeting GHGIT in 2036-2040 -- must still verify benchmarking and report and meet subsequent GHGITs.	Multifamily that meets Low-Income Housing definition (gets public funding) and had a pre-established refinancing date that will not occur until after 2036-2040.	NA	NA	yes	no	no
Low-Rent Housing	One-time extension from meeting GHGIT in 2031-2035 -- must still verify benchmarking and report and meet 2036-2040 and later GHGITs.	Multifamily (does not get public funding) where contract rent + utility allowance meets requirements published by Office of Housing.	NA	yes	no	no	no
Electric-only Building	Exemption from GHGIT requirements and reporting for all intervals – must still verify benchmarking.	Any covered building: Benchmarking verification confirms all-electric energy sources only. ¹	yes	yes	yes	yes	yes
Building Demolition	Exemption from all requirements and all intervals.	Any covered building: demolition scheduled within 3 years of compliance deadline.	yes	yes	yes	yes	yes

1 – If yes, option applies to benchmarking verification and/or reporting requirements during 2027-2030.

2 - Residential condominiums may meet Electric-only Building exemption when all space and water heating systems, and other equipment and appliances, under common ownership use only electric energy sources.

5.1.11 Deductions

Both the Technical Advisory Group and stakeholder engagement identified specific building uses that could reasonably be deducted from the GHGI used for compliance. This includes certain process loads and other end-uses for safety (like emergency generators) for which currently there is not a low or no carbon alternative technology reasonably available at scale in the market.

In the case of cooking, while induction technology and electric resistance are already available for residential cooking, the cost of providing increased electric service (120v to 240v), wiring, and panel upgrades throughout large multifamily buildings, and especially in individually owned condos, was cited as a major barrier for which owners need time to prepare. Similar concerns were cited by the restaurant industry for upgrading electric kitchens both for obtaining electric supply from landlords and for disruptions to operations. Many restaurant stakeholders, however, showed a strong interest in decarbonizing their kitchens and a desire to participate in cooking demonstrations and pilot projects.

The chart on the following pages summarizes the deductions. The Director shall also consider extending the timeframe of the exemptions listed or add other deductions by rule for highly specialized equipment for which no low or no carbon alternative technology is reasonably available at scale in the market.

And as noted earlier, the GHG Report must include documentation for any end-use deductions used for calculating compliance GHGI.

Deductions (Draft BEPS legislation, Section 22.925.120)

Option	What	Who Can Use	Intervals Allowed 2027-2050				
			27-30 ¹	31-35	36-40	41-45	45-50
Fossil fuel cooking equipment	May deduct emissions from cooking equipment (e.g., gas stoves, grills) from compliance GHGI	Any covered building	yes	yes	yes	no	no
High-intensity process or laundry equipment	May deduct emissions from this equipment from compliance GHGI	Hospital and laboratory: High-intensity process Hospital and hotel: High-intensity laundry	yes	yes	yes	no	no
Fossil fuel equipment within residential condo units	May deduct emissions from this in-unit equipment (e.g., in-unit gas water heaters, gas stoves) from compliance GHGI	Multifamily building that is a residential condo	yes	yes	yes	yes	yes
Electric vehicle charging & communications equipment (antennas, cell towers, etc.)	May deduct emissions from this equipment from compliance GHGI	Any covered building. Communications equipment must be unrelated to the primary purpose of the building	yes	yes	yes	yes	yes
Emergency fossil fuel generators or backup heat	May deduct emissions from this equipment from compliance GHGI	Any covered building: Emergency backup generators Hospital and laboratory: Emergency backup heat	yes	yes	yes	yes	yes
District energy contract in place from provider	May deduct emissions from private district energy providing steam, hot water and/or chilled water from compliance GHGI	Any covered building with a contract in place before June 1, 2024 for district thermal energy with a private district energy provider and where a breach of contract would impose a financial penalty on the building owner	yes	yes	no	no	no

Note: The Director may by rule add additional end uses for highly specialized equipment and add compliance intervals for which the end use deduction applies based on technological and market availability of low and zero GHG emissions alternatives.

1 – If yes, option applies to benchmarking verification and/or reporting requirements during 2027-2030.

5.1.12 Penalties

The Director is authorized to investigate and determine if any building owner, tenant, or other person has complied or not complied with the requirements of the BEPS policy and may issue a notice of violation to the building owner, tenant, or other person subject to policy.

5.1.12.1 Penalties for Failure of Building Owner to Comply

Penalties for non-compliance could be applied for, (1) failure to report, (2) inaccurate reporting, and (3) not achieving performance targets. The fine structure for each is outlined below.

1. Failure to report:
 - a. \$15,000 for buildings over 50,000 square feet
 - b. \$7,500 for buildings over 20,000 square feet to 50,000 square feet
2. Inaccurate reporting:
 - a. \$15,000 for buildings over 50,000 square feet
 - b. \$7,500 for buildings over 20,000 square feet to 50,000 square feet
3. Failure to meet greenhouse gas intensity target (GHGIT)
 - a. \$10/SF for nonresidential buildings
 - b. \$7.50/SF for multifamily buildings
 - c. \$2.50/SF for low-income housing or low-rent housing.

Owners of covered buildings using the building portfolio, district campus or connected buildings reporting options will be assessed a fine based on the total gross floor area of all buildings greater than 20,000 square feet in the building portfolio, district campus or connected buildings, and prorated by square foot if multiple owners of a district campus or connected buildings.

Failure to report: This flat fee fine is for building owners that fail to report by October 1st of any compliance deadline. OSE will send a warning letter stating this fine will be levied 360 days after October 1st. It is possible that these buildings could later demonstrate they meet the targets, so this fine could be levied, waived, or mitigated at the discretion of the Director. No fine shall be imposed when a building owner cannot comply with the reporting obligations due to a tenant's failure to provide information required by the policy.

Inaccurate reporting: GHG emissions reports and benchmarking verification will be reviewed for accuracy. This flat fee could fine a building owner for submitting an inaccurate report, for example, failure to report accurate square footage or correct building type, regardless of if the GHGIT is achieved. Accurate reporting is important both for buildings that meet targets and those that do not for the City to assess the impacts of the policy.

Failure to meet the GHGIT: The penalty for the failure of a building owner to demonstrate they have achieved the GHGIT, or an alternative compliance option, is set to be reasonably similar to the cost for an owner to implement building upgrades to meet the target. OSE will send a warning letter stating this fine will be levied 360 days after October 1st to those buildings failing to report (above), since without a report it is unknown if they meet the target, and to buildings that reported but did not meet the target. While there will be a wide range of upgrade costs that are specific to each individual building, the costs of \$3.33/SF and \$2.50/SF are set at the low end of the range of costs from a number of case studies, including upgrades to city-owned buildings. Over three compliance intervals for nonresidential buildings and four compliance intervals for multifamily, the fines equal \$10.00/SF.

A per SF penalty metric is proposed for two reasons. First, building construction and leasing costs are understood and quoted on a per SF basis. For instance, the costs to improve a small 25,000 SF multifamily building will typically be less than to improve a large one million SF office buildings. Second, a per SF metric will be available for a building even if they have not reported their greenhouse gas intensity (GHGI), which is one of the reporting requirements of the proposed regulation. A building's

area, to determine the fine, would be based on the building's gross square feet – which excludes parking – as reported by the owner in their most recent verified benchmarking report. If an owner has not submitted a verified benchmarking report, the City will use the gross square footage (excluding parking) listed in the King County Assessor's property detail record.

5.1.12.2 Tenant Obligations & Penalties

The BEPS policy states that unless otherwise restricted by state or city regulations, tenants shall allow building owners access to mechanical systems and utility information as necessary to comply. When failure to meet the required GHGIs is due to a tenant's failure to provide access to mechanical systems as required, the Director may adjust the fine amount imposed on the building owner considering the proportional impact on the building's compliance GHGI.

If the Director determines that a tenant has failed to allow access to mechanical systems or provide utility information to a building owner as required under Section 22.925.130, the Director may, in addition to any other remedy authorized by law or equity, impose a fine on the tenant as follows. For tenant spaces with a gross floor area:

1. Greater than 20,000 square feet, a fine of \$2.50 per square foot for low-income housing or low-rent housing, \$7.50 per square foot for a multifamily building activity type that is not low-income housing or low-rent housing, and \$10 per square foot for all other building activity types, shall be imposed;
2. Greater than or equal to 5,000 square feet but not more than 20,000 square feet, a fine of \$2,500 shall be imposed;
3. Less than 5,000 square feet, a fine of \$500 shall be imposed;

5.1.12.3 Other Penalty Provisions and Adjustments

The Director may establish grace periods for imposing fines for any class of structure upon a finding that such grace period will facilitate the submission of reports, accurate reporting, compliance with greenhouse gas emissions reduction. And, by rule, the Director may raise penalty amounts to adjust for compliance rates, inflation, or other relevant market conditions. Penalty amounts may not be adjusted for compliance intervals before 2036. Revised penalty amounts must be established no later than October 1, 2034 for compliance from 2036 to 2040 and every five years thereafter for subsequent compliance intervals.

Fine mitigation: The Director may adjust or mitigate fines on a covered building. These include:

- When an owner has achieved a GHGI that is no more than 120% of the GHGIT the Director may adjust the fine amount imposed through the appeal process on the building owner in consideration of the proportional impact on the building's compliance GHGI.
- When the owner is a public entity funded through state and/or local taxes the Director may consider adjustments to the fine amount imposed on the building owner through the appeal process in consideration of any potential conflicting impacts related to climate change and delivery of public services.
- When failure to meet the required GHGIs is due to a tenant's failure to provide access to mechanical systems as required under Section 22.925.130, the Director may adjust the fine amount imposed on the building owner considering the proportional impact on the building's compliance GHGI.

5.1.13 Revenue Expenditures

Revenue collected under this BEPS policy from fines, fees, (see penalties section) and alternative compliance payments ([see section](#)) will be spent on programs and activities to reduce greenhouse gas

emissions from nonresidential, multifamily, and single-family buildings, including technical and financial assistance to building owners and tenants with at least 40% prioritized towards buildings serving people with low or no incomes and communities historically most harmed by economic, racial, and environmental injustice.

5.1.14 Impact / Cost to Owner

Benchmarking Verification: The costs for benchmarking verification will depend on whether the verification is conducted by a qualified person that is part of a building owner's on-site team or is completed by an outside provider. Many owners currently hire service providers to fulfill annual benchmarking and reporting requirements. The average cost is \$1,500 but it can be as low as \$500 depending on the complexity of the building.

Meeting greenhouse gas intensity targets (GHGIT): Because the GHGITs are based on averages by building type, many buildings will already meet the GHGI targets, especially in the first two compliance intervals, thereby incurring no costs for building improvements related to compliance with the Building Emissions Performance Standard. They may, however, incur some internal staff or consultant costs for completion and submittal of the GHG report by a qualified person to show the building already meets the targets.

The two tables below estimate the approximate numbers covered buildings exceeding the proposed Seattle GHGITs 2031-2035, and 2036-2040. Note that the numbers of buildings in the tables below are based on the number of buildings for which energy data was available for in 2019, excluding outliers and known errors. The estimates are based on data available and do not include possible deductions, all space types or potential normalization factors. Also, as buildings are constructed or meet the targets, the actual numbers will change, therefore the estimates for 2036-2040 may change significantly. Furthermore, the 2036-2040 estimates are based on GHGIT targets that may be updated by the Director through rule.

Table 14: Compliance estimates for 2031-2035 BEPS targets based on 2019 benchmarking data.

Nonresidential		
	Meet Seattle GHGIT (<i>electric only buildings</i>)	23% (385)
	Meet Seattle GHGIT (<i>mixed energy source buildings</i>)	34% (578)
	Do not meet Seattle GHGIT (<i>mixed energy source buildings</i>)	43% (716)
	Subtotal	1,679
Multifamily		
	Meet Seattle GHGIT (<i>electric only buildings</i>)	43% (760)
	Meet Seattle GHGIT (<i>mixed energy source buildings</i>)	30% (520)
	Do not meet Seattle GHGIT (<i>mixed energy source buildings</i>)	27% (485)
	Subtotal	1,765
	Total Buildings	3,444

Table 15: Compliance estimates for 2036-2040 BEPS targets based on 2019 benchmarking data.¹

Nonresidential		
	Meet Seattle GHGIT (<i>electric only buildings</i>)	23% (385)
	Meet Seattle GHGIT (<i>mixed energy source buildings</i>)	16% (277)
	Do not meet Seattle GHGIT (<i>mixed energy source buildings</i>)	61% (1,017)
	Subtotal	1,679
Multifamily		

	Meet Seattle GHGIT (<i>electric only buildings</i>)	43% (760)
	Meet Seattle GHGIT (<i>mixed energy source buildings</i>)	15% (260)
	Do not meet Seattle GHGIT (<i>mixed energy source buildings</i>)	42% (745)
	Subtotal	1,765
	Total Buildings	3,444
1 - 2036-2040 estimates are based on GHGIT targets that may be updated by the Director through rule.		

For owners whose buildings GHGIs are greater than the GHGITs and need to take action to reduce emissions, the costs for individual building owners to meet the GHGIT, or alternative compliance options, in each compliance interval will vary considerably depending on the specific measures being implemented. Section 2.1.5, Pathway to Net-Zero Emissions, provides an overview of the measures that might be implemented in typical multifamily and nonresidential buildings, and OSE's [Seattle Building Energy Efficiency and Electrification Costing Analysis](#) factsheet provides sample cost estimates by measure. It should be noted that these cost estimates represent the full cost of implementing these measures, versus an incremental cost that would be specific to meeting GHGITs under the Building Emissions Performance Standard. In fact, many energy efficiency actions, and mechanical equipment upgrades would be part of typical asset management processes or would be required under other regulations. For instance, under the Seattle Energy Code, when most space or water heating equipment has reached the end of its useful life and is replaced, code requires replacement with non-fossil fuel or electric resistance equipment, which will in turn contribute to a buildings' ability to achieve the GHGITs.

OSE has developed a series of case studies that outline the costs for some building types, including:

- [Seattle Midsize Office Building - An energy and electrification path to carbon neutral](#) (conceptual plan)
- [Stewart Manor Affordable Housing - An energy and electrification path to carbon neutral](#) (conceptual plan)
- [How Seattle's Municipal Buildings Support a Carbon-neutral Future](#) (project highlights and lessons learned)
- [Washington State Department of Services for the Blind - An energy efficiency and electrification path to carbon neutral](#) (case study)

5.2 Updates to Building Tune-Ups Policy

This policy will amend Chapter 22.930 of the Seattle Municipal Code, Building Tune-Ups, enacted by Ordinance 125002 as follows:

- 010 Applicability – Expire Chapter 22.930 on December 31, 2028.
- 040 Exemptions and extensions – Revise notification timeframe for exemption requests, modify green building certification exemption, remove expired Seattle City Light Energy Assistance Analysis program, add Washington Clean Buildings Performance Standard (WA CBPS) exemption for early adopters, add an exemption for two approved extensions for second tune-up interval (2023-2026), and modify the occupancy extension.
- 050 Schedule for tune-ups – Change extension for low occupancy to require buildings with at least 50,000 square feet of occupied space to complete a tune-up.
- 120 Penalties – Remove additional fine for failure to disclose energy benchmarking report, add tune-up specialist to misrepresented results penalty provision, designate fine increment by building size for misrepresented results, clarify notice of violation service, and add Director's

ability to establish by rule grace periods for submitting an appeal. Clarify that revenue will be allocated in accordance with the revenue expenditures for the BEPS policy (spent on programs and activities to reduce greenhouse gas emissions from nonresidential, multifamily, and single-family buildings, including technical and financial assistance to building owners and tenants with a priority on buildings serving people with low or no incomes and communities historically most harmed by economic, racial, and environmental injustice).

- 140 Administrative review – Clarify Director’s administrative review of notice of violation appeals and change the name of the appeal form.

5.2.1 Rationale

Expiring the Building Tune-Ups regulation post completion of the second cycle of required compliance will reduce regulatory burden. The WA CBPS which applies to the same buildings, includes a significant operations and maintenance (O&M) program and reporting requirement as defined by rule and adopted via Washington Administrative Code ([WAC Chapter 194-50-060](#) and [WAC Chapter 194-50-130, Normative Annex L – Operations and maintenance implementation](#)). Seattle reviewed the WA CBPS regulation to identify areas of overlap and determined that although the regulations have differences, the majority of the two laws cover the same O&M best practices. In some ways, the State regulation is more rigorous as it requires ongoing O&M work as opposed to Seattle’s every fifth-year assessment, corrective action implementation, and reporting requirement. Both policies require in-depth actions to maintain building systems to save energy. The WA CBPS requires the development of a formal operations and maintenance (O&M) program and regular maintenance of additional systems that the Seattle tune-up does not address: refrigeration, electric power distribution, and on-site power generation.

5.2.2 Change from Existing Policy (Sunset Requirement)

To reduce owner costs and reporting burden, the Tune-Up regulation will sunset after the 2023-2026 compliance interval as the WA CBPS requirement begins. Tune-up deadlines are about 2-3 years ahead of the WA CBPS deadlines depending on the building size. Building owners are encouraged to use the tune-up process to get started with the WA CBPS and O&M requirements and realize energy savings and emissions reduction in the near term through low and no cost actions.

Expiring Seattle’s tune-up law will reduce administrative burden and shift focus to a policy that will more directly result in emissions reductions from Seattle’s largest buildings.

5.2.3 Impact on GHG Emissions

In response to [Council Resolution 31714](#), Seattle conducted a preliminary analysis of Seattle’s Building Tune-Ups mandate. An initial estimate of energy and emissions savings from the first cohort of buildings required to comply observed on average a 7% energy savings per building and an 8% reduction in greenhouse gas emissions in the first year of after a tune-up. A wide range of outcomes was observed from slightly higher energy use to up to 20% energy savings. Most buildings fell in the range of 1% to 12% energy savings and 2% to 14% emissions reductions. Although Tune-Ups are lowering emissions, the policy is ill equipped to significantly reduce carbon emissions. At scale, the GHG emissions savings are not sufficient to enable Seattle to meet our established carbon neutral goal.

Using data from more compliant buildings of different sizes, Lawrence Berkeley National Laboratory (LBNL) conducted additional energy savings analysis in 2022 that is published a peer-reviewed paper. This study found that median tune-up energy savings were 4.1%.³²

OSE does not anticipate an overall reduction of GHG emissions due to sunseting the tune-up regulation as any energy and emissions that would have been saved from tune-ups will now be realized through BEPS and WA CBPS. The Building Tune-Ups mandate tended to gain more electric energy savings than from fossil fuels as LBNL's study further confirmed.

5.2.4 Cost to Owner

There will be no increased cost to building owners, rather the proposed amendment to expire SMC 22.930 on December 31, 2028, will reduce overall costs to owners, streamline reporting requirements and remove redundant regulations.

5.3 Updates to Energy Benchmarking and Reporting Policy

This policy will amend Chapter 22.920 of the Seattle Municipal Code, Energy Benchmarking and Reporting, last amended by Ordinance 123993.

- 010 Applicability – Clarify gross floor area calculation excludes parking, and exclude R-3 occupancy from buildings required to benchmark.
- 020 Definitions – Amend director definition to reflect the Seattle Office of Sustainability and Environment, and the energy benchmarking definition to include greenhouse gas emissions.
- 030 Nonresidential benchmarking buildings preparing energy benchmarking reports – Amend section title and add multifamily, change reporting deadline to June 1st annually.
- 040 Multifamily benchmarking buildings preparing energy benchmarking reports – Remove separate section.
- 120 Sanctions – Amend section title to “Penalties” for consistency, streamline penalties by reducing issuance frequency and simplify fines into a single amount per specific violation, increase fine for submitting an inaccurate benchmarking report, add ability for the director to raise penalty amounts every five years by rule starting in 2036 to adjust for inflation or other relevant market conditions. Clarify that revenue will be allocated in accordance with the revenue expenditures for the BEPS policy (spent on programs and activities to reduce greenhouse gas emissions from nonresidential, multifamily, and single-family buildings, including technical and financial assistance to building owners and tenants with a priority on buildings serving people with low or no incomes and communities historically most harmed by economic, racial, and environmental injustice).
- 130 Administrative review of notice of violation by director – Amend section title for consistency, clarify Director's administrative review of notice of violation appeals and change the name of the appeal form.

³² Walter, T. and Mathew, P. Lawrence Berkeley National Laboratory. September 2022. *City-level impacts of building tune-ups: Findings from Seattle's building tune-ups*. See: <https://escholarship.org/uc/item/4f4186bf>

5.3.1 Rationale

The benchmarking regulation has more than ten years of active implementation. The program has attained high compliance rates annually as owners have adjusted to the annual reporting requirement. Shifting the penalty structure to a simplified single violation for failure to report (non-compliance) will reduce administrative costs and eliminate multi-year penalty processes. Enacting one penalty for failure to report means the enforcement and appeal process will occur in the same calendar year that benchmarking reports are due. Simplification will also assist building owners that are also subject to tune-ups and building performance standards.

5.3.2 Change from Existing Policy

The proposal will give owners until June 1st to benchmark and report to the City of Seattle. This amendment shifts the annual reporting date out from the original April 1st deadline to allow building owners and their agents additional time to comply. Seattle City Light uploads the prior year's energy use data through automated services in early March. By shifting the annual deadline, owners have two or three more months to complete reporting and work with their respective utility to address any data issues.

In place of quarterly accruing fines, a single, total fine will be issued for failure to report benchmarking following a 90-day grace period based on building size, \$2,000 (buildings 20-50K SF) and \$4,000 (buildings 50K SF +). Currently the regulation provides authority to fine for non-compliance \$500 per quarter for a total penalty of \$2,000 if an owner (buildings 20-50k SF) remained non-compliant for 360 days. And \$1,000 per quarter for a total penalty of \$4,000 if an owner (buildings 50K SF +) remained non-compliant for 360 days. (Note: a separate possible fine for failure to submit accurate benchmarking data remains unchanged.)

5.3.3 Impact on GHG Emissions

There are no known impacts on GHG emissions associated with these proposed changes.

5.3.4 Cost to Owner

Building owners of newly constructed buildings benchmarking for the first time will be required to verify their initial report to ensure accuracy by a qualified person. Many owners currently hire service providers to fulfill annual benchmarking and reporting requirements. The average cost is \$1,500 but it can be as low as \$500 depending on the complexity of the building.

6 List of Acronyms

ASHRAE	American Society of Heating, Refrigeration, and Air Conditioning Engineers
BPS	Building Performance Standard
BEPS	Building Emissions Performance Standard
CBOs	Community-Based Organizations
DHW	Domestic Hot Water
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
EUI	Energy Use Intensity
EUI _t	Energy Use Intensity Target (WA CBPS requirement)
GHG	Greenhouse Gas
GHGI	Greenhouse Gas Intensity
GHGI _T	Greenhouse Gas Intensity Target
HVAC	Heating, Ventilation and Air-Conditioning
kBtu	Thousand British Thermal Units
O&M	Operations & Maintenance
OSE	Seattle Office of Sustainability and the Environment
PSE	Puget Sound Energy
RET	Racial Equity Toolkit
SCL	Seattle City Light
SDCI	Seattle Department of Construction and Inspections
SMC	Seattle Municipal Code
SF	Square Feet/Foot
WAC	Washington Administrative Code
WA CBPS	State of Washington Clean Buildings Performance Standard
WMBE	Women and Minority Owned Business Enterprise

7 Additional References

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<https://www.commerce.wa.gov/growing-the-economy/energy/buildings/>

8 Appendices

- A. Stakeholder Engagement Summary – May 2023 (attached)
- B. Seattle Building Performance Standard Racial Equity Toolkit – 2022 (attached)
- C. Seattle BPS Targets Analysis Memo (attached)
- D. Seattle Clean Buildings Accelerator Racial Equity Toolkit:
https://www.seattle.gov/Documents/Departments/OSE/Equity/RETs/RETSummarySheet_RetrofitAccel_2021.pdf
- E. Case Studies and Fact Sheets (PDF Format) – links to web locations
 - a. [Building Performance Standards Fact Sheet](#)
 - b. [Building Seattle Better - A path to cleaner, carbon neutral buildings](#)
 - c. [Building Energy Efficiency & Electrification Costing Analysis](#)
 - d. [Seattle Midsize Office Building - An energy and electrification path to carbon neutral](#) (conceptual plan)
 - e. [Stewart Manor Affordable Housing - An energy and electrification path to carbon neutral](#) (conceptual plan)
 - f. [How Seattle's Municipal Buildings Support a Carbon-neutral Future](#) (project highlights and lessons learned)
 - g. [Washington State Department of Services for the Blind - An energy efficiency and electrification path to carbon neutral](#) (case study)



BEPS Stakeholder Engagement Summary

May 30, 2023 Update

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Introduction

OSE is responsible for developing a building emissions performance standard policy with community input for the Mayor's and City Council's consideration. This **document summarizes the more than 125 stakeholder meetings**, advisory group meetings, and webinars between late 2021 to May 2023. In addition, OSE has received both comment and support letters, and more than 100 comments or questions were emailed to OSE or conveyed by phone during this timeframe.

The BPS stakeholder engagement has been conducted in two broad phases:

- **Phase 1 – Stakeholder Engagement Prior to Policy Proposal:** This phase, through June 2022, included OSE's two online open houses attended by **about 550 people in total**, six technical advisory group meetings, and six meetings of the Housing Development Consortium's affordable housing task force. OSE also met with climate advocates, labor organizations, building owners, building professionals, government partners, and utilities. This included equity focused engagement with non-profit owners, community-based organizations, and engaging residential tenants.
- **Phase 2 – Focused Stakeholder Engagement to Refine Draft Policy:** This phase, from July through Mid-May 2023, included two online webinars, **attended by about 330 people in total** that shared details about the draft greenhouse gas intensity targets and an overview of the proposed policy. OSE also reached out to stakeholders on specific aspects of the draft policy for feedback. This feedback has led to updates that will be incorporated in the final policy draft.

The following broad themes emerged from the stakeholder process:

- **Timing** – communicate targets now to provide long lead time for owners to plan and the labor workforce to grow and transition.
- **Flexibility** – create a streamlined but flexible policy to allow for diversity of compliance needs by ownership and building types.
- **Support** – increased financial incentives, lower interest financing and robust technical help are critical for all types of owners and buildings – and to successful BEPS policy implementation.

Phase 1 - Engagement Prior to Policy Proposal (Late 2021 - July 2022)

Open Houses

Online Open House – April 5, 2022

OSE's event was **attended by about 350 people** and OSE received about 80 comments and questions, most for more details about the policy, or questions on how to reduce emissions, and available incentives or support. Seattle City Light staff participated to address questions about the electric grid and their programs. *More details:*

- [Open House Recording](#) and [Slide Deck](#)
- [Summary of Questions and Answers](#)

Online Open House – June 16, 2022

This 2nd open house, **attended by about 200 people**, provided a brief policy background and update on work to date and shared highlights of stakeholder feedback received on developing a BPS policy. OSE also shared the Draft Seattle BPS policy framework for the regulations, the updated policy timeline, and took comments and questions on the draft policy framework.

- [Open House Recording](#) and [Slide Deck](#)
- [Summary of Questions and Answers](#)

Advisory Group Meetings

Technical Advisory Group (TAG)

The 16-member TAG ([view member roster](#)) was primarily comprised of buildings owners/managers in the private, institutional, and multifamily sectors (affordable and market rate), as well as service providers and engineers. The TAG also includes representatives from the MLK Labor Council, Seattle City Light, NW Energy Coalition and Northwest Energy Efficiency Council. *Top takeaways:*

- *Clarity and avoidance of regulatory overlap:* Keep the Seattle BPS clear and certain. Energy efficiency is important, but don't duplicate state's energy mandate. Focus on onsite fossil fuel use and district systems and include energy targets only where not covered at State level. Clean Energy Transformation Act will ensure carbon neutral electric utilities statewide. Avoid regulatory overlap for refrigerants and indoor air quality, but recognize they both can be addressed through implementation, support, or training.
- *Timing:* Owners want to know the targets soon to allow for long term planning.
- *Support:* Provide strong support – both technical and financial, especially for smaller buildings and affordable housing. Avoid costs trickling down to tenants. Reinvest fines towards incentives. Consider opportunities for solar.
- *Technical highlights:*
 - Create emissions targets by building type that get stronger every five years (five-year compliance cycles), but also allow an alternative path to compliance for buildings to have customized targets.
 - Emissions targets should account for occupancy density of buildings, especially for affordable housing (more people per square foot).
 - Allow owners of multiple buildings, especially public and nonprofit entities, to comply at a portfolio scale.
 - With the right resources, multifamily and smaller nonresidential (<50K SF) can be included in the first compliance interval in 2026-2030, after the largest buildings. Pushing out the first compliance date until 2031-2035 compresses the time to upgrade.
 - Extensions for uses like food service and life science/labs or for specific technologies are important and should be considered during rulemaking. Historic buildings too.
 - Consider a smaller emissions reduction increment for first compliance interval (2026-2030).
 - Keep planning / reporting requirements concise but useful to OSE and owners – informative, not exhaustive.
- *Other:* Don't ignore smaller buildings, including single-family / townhomes, where there are significant emissions reduction opportunities.
- TAG meeting slides and detailed notes from each meeting are on [OSE's BPS policy webpage](#).

Affordable Housing Advisory Task Force (led by Housing Development Consortium - HDC)

HDC's 25-member [BPS Advisory Task Force](#) was comprised of nonprofit subsidized housing owners and developers, engineers and financiers, and representatives from Seattle Office of Sustainability and the Environment (OSE) and Office of Housing (OH), and Seattle Housing Authority (SHA). OSE was part of the Strategy Team that develops agendas for the meetings. In addition to the monthly convenings, research included building audits on 15 low-income housing buildings across different mechanical system typologies to determine opportunities and barriers to electrification and decarbonization that can inform policy recommendations. HDC reported its policy recommendations to OSE in September.

Top takeaways:

- *Commitment:* The affordable housing community is committed to a net zero carbon portfolio to meet climate goals and mitigate its impacts that affect low-income communities first and worst, but policies should not financially or operationally burden providers. Energy efficiency is essential to keep costs low and the sector should share in the benefits of efficient and cleaner buildings.
- *Draft policy and program recommendations (prioritized as most critical by HDC Advisory Task Force members in a recent survey)*
 - Funding for upgrades through grants:
 - Electrical system upgrades, building shell upgrades and environmental remediation, and historic preservation.
 - Technical assistance and planning assessments:
 - Create a city-run roster of providers for capital needs assessments and electrification planning, city-provided service to access funding and financing, and create a city-run roster of qualified energy service contractors.
 - Alternative compliance pathways:
 - Prescriptive path to compliance in lieu of emissions performance requirements; compliance aligned with timing of tax credit financing, and alternative compliance for historic buildings.

Phase 1 Stakeholder Meetings

Equity Engagement

OSE's policy development is created through an equity lens and stakeholder engagement that includes meetings with community-based organizations (CBOs), nonprofit building owners (including affordable housing), and outreach to multifamily residential tenants. To minimize duplicative community outreach, OSE leaned on existing research and outreach by OSE and other City departments, as well as community-led research by Puget Sound Sage. This was especially important since CBOs expressed their limited capacity to engage. Our strong engagement with nonprofit building representatives included a tour of the Low Income Housing Institute's (LIHI) Frye Apartments to learn about their unique challenges with a recently renovated historic building. *Top*

takeaways:

- Displacement and cost impacts on tenants are key concerns. Support should be prioritized for those who need it most (e.g., loans due when property sold and incentives to make upgrades cost neutral, needs assessments, and education).
- *Nonprofit owners told us* that metering issues need correction for accurate tracking of energy use/emissions, they need more in-house facilities staff with energy expertise, donations don't

necessarily align with energy/emissions reduction, and that it's hard to get non-profit boards/executives behind the mission of reducing emissions.

- *Nonprofit owners* are also very concerned about the cost of upgrades potentially taking away from budgets dedicated to helping community owners in need – grants to cover upgrades were suggested as a remedy.
- *Nonprofit affordable housing developers* have projects just breaking ground that are incorporating gas use due to upfront funding, and electric capacity, constraints. They need support now to change plans to all-electric or financing/flexibility to upgrade later.
- Frye apartments is a good example of challenges in historic and older multifamily buildings – electric capacity and space constraints, difficulty insulating existing walls and maintaining historic windows, etc.
- Results from a multifamily tenant research study conducted by the Smart Energy Consumer Collaborative (SECC, October 26, 2021) indicate the top two upgrade priorities are weatherization and energy-efficient appliances.

Labor Organizations

Since decarbonizing buildings will mean a transition, over decades, away from natural gas-oriented jobs such as gas pipefitters and more work for electricians and HVAC-refrigerant workers, OSE has been meeting with labor organizations to ensure they are engaged and that their feedback and input help inform policy development. This includes meetings with organizations such as: MLK Labor, UA Local 32 Plumbers, Pipefitters and HVAC-refrigeration workers; IBEW Local 46 (electrical workers); LiUNA Local 242 (Laborers); and Insulators Local 7. *Top takeaways:*

- There are some labor organizations, including UA Local 32 and LiUNA that oppose a policy focused solely on electrification – and prefer a policy that includes alternative fuels such as synthetics, biofuels, renewable natural gas (RNG), and green hydrogen.
- *The UA Local 32* is concerned about the impact of this policy on existing gas pipefitter jobs, which is estimated to be about 1,000. However, given this policy's transition timing, they've indicated that a reskilling pathway program could be developed to support gas pipefitter workers to acquire HVAC refrigerant piping certifications, while still retaining their union benefits. A transitional pathway will require more detailed planning and coordination with the UA. Additionally, Local 32 is already incorporating HVAC-refrigerant training in their gas piping apprenticeship program to ensure new gas pipefitters have the needed skills in a transition to a decarbonized economy.
- *UA Local 32 HVAC-R workers* are installing more and more heat pumps, but the union is concerned about the high global warming potential of refrigerants given that they are used for heat pumps. They are interested in better refrigerant certification and permitting enforcement, leakage prevention and monitoring. The passage of House Bill 1050 last year will require the state to develop a refrigerant management program in the next year as well as require lower climate-impacting refrigerants, which should mostly ease these concerns. Like many building trades, they also cited workforce shortages as a concern.

Climate Advocates

Seattle's climate advocates are broadly on-board with the urgent need to reduce emissions from buildings and the NW Energy Coalition (NWECC) has been engaging groups like Climate Solutions, Sierra Club, 43rd District Democrats, Shift Zero, People for Climate Action, Physicians for Social Responsibility and 350 Seattle to demonstrate support. *Top takeaways to date:*

- Supportive of work to reduce emissions, especially if there is an equity focus, like helping low-income folks get heat pumps and avoiding cost burdens to under-resourced owners and tenants.
- Concerns about ability of grid to handle an electric increase in electric load and support for energy efficiency.
- Interested in gas restrictions as other cities have done, but concern about State law prohibitions.

Nonresidential Building Owners

To date OSE staff have convened more than a dozen meetings and targeted focus groups for owners of midsize nonresidential buildings, whom we know through our experience implementing benchmarking and tune-ups have more challenges when complying with City requirements. In general, most we met with are supportive of the need to reduce emissions for climate and equity, but have concerns about implementation, especially cost, regulatory burden, and technical constraints. *Top takeaways:*

- Align Seattle carbon-based BPS with State energy requirements to streamline reporting needs and regulatory overlap.
- Concerns about cost, especially in older buildings that are difficult to electrify, either due to equipment or electric capacity needs (transformers, vault space), or difficult to fully get to net-zero (e.g., the last 20% of emissions may be extremely costly).
- Newer commercial buildings have gas systems installed in last decade – retiring them early would be a financial loss. This was also a concern of newer market rate multifamily development.
- Suggested ways to mitigate costs include cost limits to required work, opportunity to use offsets for emissions savings elsewhere, renewable natural gas (RNG), and alignment with other Environmental & Social Governance reporting requirements.
- Incentives for electric equipment *and* for upgrades to electric service or vaults are critical. Incentives for this are especially important for owners of mid-size (class B/C) buildings.
- *Owners of mid-size (class B/C) buildings* also cited concerns with rapidly escalating equipment costs on recent bids, likely due to inflation and supply chain issues. Support with matchmaking to service providers and evaluating bids for reasonable cost and scope could help them.
- For *University of Washington* on campus buildings, the BPS timeline under consideration aligns well with UW's timeline to reduce campus emissions 45% by 2030 and 95% by 2045 via building updates and converting their aging gas-fired district steam system to hot water with electric HP heating.
- For *Hotels*, they are still in the red since Covid impacts on bookings. Inflation and staffing costs are current impacts.
- *Facility Managers* are an aging workforce with many retiring – workforce development is needed in this sector to grow, diversify and train in how to operate high performance buildings.
- Of note, OSE received a compliment from the President of BOMA, Rod Kauffman who noted he *appreciates OSE listening, is 'favorite' City department, and will help to get their members involved in this process.*

Multifamily Housing Building Owners

In addition to the HDC task force, OSE has engaged with market rate owners through the TAG and by meeting with ownership groups. OSE also toured the LIHI's Frye apartments to hear about their unique challenges with a recently renovated historic building. *Top takeaways:*

- Smaller “mom/pop” owners do not like city regulations, are distrustful of City and many are selling properties due to challenges owning here. They will take incentives, but not one with rent control of any kind attached. This is an issue because buildings in this ownership category (as opposed to large corporate ownership) are most often the source of more affordable unsubsidized units.
- Residential condominium owners will have unique challenges due to the private ownership of units and association budgets for upgrades – some condos are the only “affordable” single family homes.
- Newer multifamily buildings have gas systems installed in last decade – retiring them early would be a financial loss and there are concerns around electrical upgrades needed and vault space.

Building Professionals

The BPS TAG included service providers and engineers, and that group is largely supportive of emissions reduction and energy efficiency policies, assuming they can help their customers implement a clear policy with available incentives or technical support. Further engagement will take place in rulemaking. Other key groups include architects on the forefront designing or retrofitting net zero emission buildings and historic preservation professionals. *Top takeaways:*

- *Architects* desire efficient electric but see need to focus on emissions reduction and suggest also considering embodied carbon of energy production and retrofits. Need support for owners to understand pathways to electrification – city could have a decarbonization planning requirement. Carbon offsets OK in short term if tied to fund to help owners upgrade.
- *Historic preservationists* indicated a desire to support emissions reduction broadly and the value of existing buildings, as a sustainability measure, is important. They noted only select cases of issues with historic aesthetics of interiors as a barrier to electrification or emissions reduction. Pioneer Square historic district was designed to be district steam, making for difficult changes to on-site systems. Greater cost for owners of historic properties to make upgrades that maintain historic integrity may be opportunity for incentives.

City of Seattle Departments (including Seattle City Light) and Other Government

As “One Seattle” all departments are working to achieve climate justice, whether through economic development, transitioning off fossil fuels or building resilient communities. Working as “One Seattle” starts with internal coordination and OSE excels at this work. *Top takeaways:*

- *Seattle City Light* is our primary city collaborator in this work to date. They are highly engaged and supportive with an interest in total cost / financing, so that City Light might know what to contribute.
- For *Office of Housing* – also a key collaborator - costs to meet requirement may conflict with their funding priorities towards creating new units. Concerns with work that could trigger building code substantial alteration requirements.
- For *SCDI*, the number of unreinforced masonry (URM - seismic risk) overlap buildings is not of concern. There may be opportunities to reconsider substantial alteration triggers if related to energy equipment upgrades.
- *Multiple departments* expressed interest and support for City-supported financing and early adopter programs.
- *The RRIO program* had specific advice to avoid things that could trigger displacement and tenant relocation beyond just temporary interruptions (72 hours). Common tenant complaints to consider addressing through BPS: need for air conditioning, broken boilers (no hot water or heat), utility costs,

old windows, and mold. These tenant priorities are reinforced from similar information from the multifamily tenant survey reference earlier.

- *WA State Dept of Commerce* is supportive and has no concerns. Offered to reconnect on areas of policy overlap.

District Thermal Energy

CenTrio is a private, investor-owned thermal energy (steam and closed loop hot water/chilled water) provider to approximately 200 commercial buildings in Seattle’s downtown, First Hill, and Pioneer Square neighborhoods. District steam is generated by burning fossil gas in large boilers and it is distributed through a network of pipes. CenTrio has an opportunity to reduce emissions at the source, thereby greatly reducing the investment and technical challenges facing their individual customers to reduce building emissions. *Top takeaways:*

- CenTrio is interested in how the policy will factor in emission reductions from generation and distribution improvements. Currently, CenTrio loses approximately 30% of energy generated, through leaky distribution lines. They are working on measures like transitioning buildings from steam to closed loop hot water/chilled water, capturing waste heat in buildings like data centers, and potentially using renewable natural gas (RNG) and biodiesel, pending on the outcome of an RNG/biofuels study.
- CenTrio has indicated that they are committed to reducing climate pollution and being in alignment with the City’s Climate Action Plan and climate goals. OSE staff participate in CenTrio’s quarterly Clean Energy Roadmap stakeholder group meetings.

Phase 2 - Focused Stakeholder Engagement to Refine Draft Policy (July 2022 - May 2023)

Open Houses

Webinar: Draft Emissions Targets for Seattle BPS - October 25, 2022

At this technical webinar **attended by nearly 200 people**, OSE and SBW Consulting shared the draft greenhouse gas intensity targets and the analysis conducted to inform the targets. A brief overview of the proposed policy and the updated policy timeline was also shared.

- [View the slide deck](#) (PDF)
- [View the recording](#)

Webinar: Estimating Your Building’s Emissions and Draft Targets for the Proposed Seattle Building Emissions Performance Standards (BEPS) - March 23, 2023

This webinar **attended by about 130 people** provided a brief overview of the proposed policy. It then provided basic instructions, suitable for beginners, to learn how to quickly estimate and track a building’s current greenhouse gas emissions and estimate BEPS proposed targets. It also showed how to retrieve energy data from Portfolio Manager.

- [View the slide deck](#) (PDF)
- [View the recording](#)

Phase 2 Stakeholder Meetings

This includes one-on-one meetings on specific aspects of the draft policy and general updates to groups as OSE was invited. OSE also convened a seventh meeting for members of the Technical Advisory Group to review the first policy draft in August. About 70 meetings or events in total were conducted.

Affordable Housing

OSE continued to engage with this community primarily through the Housing Development Consortium. Key feedback:

- *Include criteria in legislation that exempts these buildings if available funding not adequate or if work is infeasible.*
- Concern about unsubsidized affordable housing not clearly defined in BEPS. (OSE with help from OH added a definition to include this owner group).
- **Stakeholder letters:** HDC also shared specific comments on the draft proposal (see record of letters of comment and/or support).

Equity Engagement

OSE updated the Green New Deal Oversight Board (GNDOB) on the policy during this time period. Key feedback:

- GNDOB is generally supportive of the BEPS policy.
- Some concerns with idea for alternative compliance payment, in which owners can pay to not comply. However, appreciated the timing constraints described.
- Important to have dedicated, committed, resources for priority buildings as part of policy.
- Important for GNDOB to continue to monitor that there is enough funding for low-income owners and tenants to make the transition.

Building Professionals

OSE presented on BEPS at the Smart Buildings Exchange and to architects at a forum hosted by the firm EHDD.

- General interest and support for BEPS conveyed with various technical implementation questions.
- **Stakeholder letters:** Eight building professional firms and/or representatives have sent letters in support of the proposed BEPS policy (see record of letters of comment and/or support).

Labor Organizations

OSE continued to hear concern about the transition, over decades, away from natural gas-oriented jobs such as gas pipefitters and BEPS influencing more work for electricians and HVAC-refrigerant workers. Key feedback:

- Some concern about SCL's electricity supply and impact to the grid during periods of peak demand.
- Interest in ensuring that labor agreements are attached to incentives/grants from the City.
- **Stakeholder letters:** MLK Labor passed a resolution in support of the proposed BEPS policy in February 2023 (see record of letters of comment and/or support).

Climate Advocates

OSE continued its engagement with climate advocates and presented at a Lunch Learn Presentation hosted by Shift Zero. Several meetings were also conducted with Climate Solutions, Sierra Club, 350 Seattle, NW Energy

Coalition, Shift Zero, RMI, WA Physicians for Social Responsibility, People for Climate Action, UW Institute for Climate Action, and 43rd Dems Environmental Caucus. Key feedback:

- Overall supportive of City pursuing a BEPS but have concerns about strength of policy.
- *Disallow the use of renewable natural gas or hydrogen for building decarbonization.*
- *Include provisions to exempt energy use specifically for charging electric vehicles from the policy*
- *Remove the exemption for compliance by entities covered by the statewide Climate Commitment Act (CCA)*
- *Increase the amount and frequency of noncompliance penalties to incentivize compliance.*
- *Remove the alternative compliance pathways that allow building owners to make payments through 2035 in lieu of carbon reductions.*
- *Require that any replacements of fossil fuel equipment made by covered building owners must be free of fossil fuels beginning immediately.*
- *Timeline with net-zero by 2050 is too slow – Achieve greater greenhouse gas emissions in the short-term by providing a shorter timeline for compliance overall, and by increasing the carbon reductions required in earlier compliance periods.*
- **Stakeholder letters:** Six letters have been sent by climate advocate groups in support of a stronger BEPS policy and/or making specific policy recommendations. This includes letters from the 43rd Democrats Environmental Caucus, NW Energy Coalition, Climate Solutions, RMI, Sierra Club, and South Seattle Climate Action Network (see record of letters of comment and/or support).

Building Owners

OSE continued its engagement with building owners about the proposed BEPS policy. While the majority of feedback was from private sector commercial real estate and life science, it also included owners of large downtown market-rate multifamily. Other sectors also had detailed feedback. These other sectors included higher education (University of WA, Seattle University, Seattle Pacific University and Seattle Colleges) and healthcare institutions convened through Healthcare without Harm (Providence, Children's, Virginia Mason, Fred Hutch, Swedish). OSE also engaged with the Seattle Hotel Association, and the Seattle Restaurant Alliance. Key feedback:

- Allow higher education to focus investments and effort to reduce carbon pollution in district energy plants because it is the most effective and cost-efficient way to achieve results in multiple buildings.
- Higher education needs time to secure funding, the public university biennial budgets, 2023-25 have already been submitted, we cannot secure additional State funding until the 25-27 biennial budget.
- BEPS decarbonization goal is consistent w/ where hospitals are headed and Seattle is showing leadership needed to decarbonize and looking at reasonable solutions and trying to understand how buildings operate.
- Hospitals need "backup" exemption expanded to include heating energy for space conditioning (not just power generation). Would allow gas heating assets to get put in back-up position, which would help make their decarb transition more manageable for health and safety.
- Interest in adding owner provided common area gas grills used by residential tenants to commercial cooking exemptions.

- Restaurants need incentives and technical support. Would like to see an all-electric retrofit or pilot of an existing kitchen. Restaurants are concerned about owners passing on costs to them as tenants and can't get owners to supply more electric power to their spaces.
- Restaurants generally have an interest in electrification as relates to climate, but electric capacity, costs of panel upgrades, code updates needed when moving to new exhaust hoods are big barriers. Less of an electric equipment issue and more of a design planning issue.
- Restaurants noted that certain cultural foods – like smoke jerk foods – can't be replicated with electric. Woks and others equipment are starting to come out, but costly.
- Life science owners recommend adding a specific hardship exemption to the BEPS policy for life science owners or tenants whose science and research would be negatively impacted or threatened by the electrification or building upgrades required to achieve the BEPS targets, and that the BEPS policy should exempt all lab mechanical and electrical equipment and load that serves the lab spaces that typically make up 50-60% of a given life science floor with the balance being office use.
- **Stakeholder letters:** OSE received comment letters from the WA Healthcare Climate Alliance, NAIOP and Alexandria Real Estate, as well as a list of specific requests from a group of downtown building owners (see record of letters of comment and/or support).

Residential Condo Owners

In addition to the concerns expressed by owners of large downtown multifamily buildings, OSE heard significant feedback from a group of residential condominium owners.

- *Concern with complexity of managing improvements under individual ownership structure of residential condominium buildings.*
- Cost impact on condo owners – many of the units are the most affordable home ownership option in the City now. Cost of both common equipment and cost to upgrade in-unit gas stoves and supply 240V electric to each unit.
- Space constraints in older buildings to accommodate extra space needed for heat pump water tanks, and electric upgrades.
- Desire for support understanding process and costs to upgrade condos – wants support from OSE for a case study of a representative building.
- Certain condo owners have expressed strong support for upgrading their units to reduce emissions.

City of Seattle Departments (including Seattle City Light) and Other Government

OSE continued to meet with City Departments to inform the departments about the proposal and align the policy with other city policies and initiatives. This included Office of Housing, Office of Planning and Community Development, Seattle Department of Construction and Inspections, Seattle City Light, Department of Neighborhoods, Green New Deal – City of Seattle Interdepartmental Team. We also engaged with WA Dept of Commerce on areas of policy alignment with the State energy performance standards.

District Thermal Energy

OSE continued to meet with CenTrio to inform them of policy developments and get feedback. CenTrio is the private, investor-owned thermal energy (steam and closed loop hot water/chilled water which is fueled by gas) provider to approximately 200 commercial buildings in Seattle's downtown, First Hill, and Pioneer Square neighborhoods. Key feedback:

- CenTrio has indicated they are committed to reducing emissions in Seattle and serving as a model thermal energy provider for their other plants across the country. They have communicated their intention to develop and implement a decarbonization plan for their operations, in response to the Climate Commitment Act, BEPS and requests from their customers to reduce emissions at the source.
- They are concerned with BEPS impacting their customers and their viability as a company and wish to have time to decarbonize their system. OSE and SCL continue to engage with them about this potential.

Record of stakeholder meetings

OSE engaged in more than 125 stakeholder meetings from late 2021 through mid-May 2023 to develop the proposed BEPS policy.

Date Met	Stakeholder Meeting Organization Name or Event
11/9/2021	Sierra Club + Environmental Coalition
12/1/2021 (& earlier in 2021)	IBEW Local 46, UA Local 32, Teamsters Local 176, Blue Green Alliance, LiUNA, WSLC, MLK Labor
12/2/2021	Green New Deal Oversight Board (presentation only, no input provided)
12/2/2021	American Institute of Architects (AIA) Seattle
12/14/2021	Seattle 2030 District
12/22/2021	Green Buildings Now
1/4/2022	Seattle City Light
1/13/2022	People for Climate Action
2/3/2022	WA Dept of Commerce (implementer of WA Clean Buildings Standards)
2/8/2022	Seattle Office of Housing
2/10/2022	Seattle Dept. of Construction & Inspections (SCDI)
2/15/2022	CenTrio
2/23/2022	Building Owners and Managers Association (BOMA - Seattle/King County)
3/1/2022	Labor Organizations Roundtable Meeting 1 (Seattle Building Trades, UA Local 32, Insulators Local 7, LiUNA)
3/14/2022	CenTrio
3/16/2022	Shift Zero
3/18/2022	UA Local 32
3/21/2022	City Cross-departmental Meeting (OSE, DON, OH, SCL, SCDI, OPCD, SPU)
3/23/2022	NW Energy Coalition (NWECC) BPS Lunch and Learn
3/30/2022	Commercial Real Estate Development Association (NAIOP) WA State Chapter
4/6/2022	Puget Sound Sage
4/6/2022	SDCI - Rental Housing Registration & Inspection Ordinance (RRIO)
4/7/2022	Labor Organizations Roundtable Meeting 2 (UA Local 32, LiUNA)
4/7/2022	International Facility Managers Association (IFMA) Seattle Chapter
4/11/2022	Urban Land Institute (ULI) NW
4/12/2022	Beacon Hill Council
4/13/2022	BOMA - Lunch and Learn Webinar – 33 attendees
4/13/2022	Historic Seattle and WA Trust for Historic Preservation

Date Met	Stakeholder Meeting Organization Name or Event
4/19/2022	Rental Housing Association (RHA) of WA
4/25/2022	Survey to multifamily tenants – understanding tenant priorities around energy efficiency, comfort, and health (30 surveys complete to date)
4/27/2022	Low Income Housing Institute (LIHI) – Tour of Frye Apartments
5/3/2022	U. Of Washington - Facilities and Sustainability Staff
5/4/2022	WA Hospitality Association (Seattle Hotels)
5/5/2022	Nonprofit-Owned Buildings Cohort (Wing Luke Museum, United Way, Space Needle + Chihuly Holy Names Academy)
5/5/2022	Samis Land Company (Pioneer Square Building Owner)
5/6/2022	Africatown Land Trust
5/10/2022	Nonprofit-Owned Buildings Cohort 2 (Temple De Hirsch, Salvation Army)
5/10/2022	Small/Midsize Commercial Buildings Cohort
5/10/2022	Midsize Nonresidential Buildings Cohort
5/11/2022	Hospitals Cohort (Kaiser, Swedish and Fred Hutch)
5/12/2022	WA State Community Associations Institute (WSCAI) - Condos
5/16/2022	Chief Seattle Club
5/19/2022	WA Multifamily Housing Association (WMFHA)
5/23/2022	IBEW Local 46
5/24/2022	Children's Hospital
5/26/2022	Labor Organizations Roundtable Meeting 3
5/27/2022	International Facility Managers Association (IFMA) – Facility Manager Roundtable
6/2/2022	UA Local 32
6/7/2022	Urban Land Institute (ULI) – Multifamily Product Council
6/8/2022	Seattle 2030 District – Webinar for quarterly meeting
7/28/2022	Office of Housing
7/28/2022	Office of Planning and Community Development
7/28/2022	Seattle Department of Construction and Inspections
8/18/2022	Shift Zero - Lunch Learn Presentation
8/18/2022	Building Owners & Managers Association (BOMA)
8/18/2022	Seattle 2030 District
8/18/2022	TAG – additional meeting
8/22/2022	Housing Development Consortium
8/24/2022	Presentation @ Smart Buildings Exchange
8/25/2022	Climate Solutions
8/29/2022	WMFHA and ULI MF Product Council members
9/7/2022	WAHESC (Washington Higher Education Sustainability Coalition) - UW, Seattle U, SPU, Seattle Colleges
9/7/2022	Puget Sound Energy
9/9/2022	WA Dept of Commerce
9/12/2022	CenTrio
9/12/2022	Seattle Children's Hospital
9/14/2022	Seattle Hotel Association

Date Met	Stakeholder Meeting Organization Name or Event
9/19/2022	Green New Deal Oversight Board presentation
9/20/2022	Labor - IBEW
9/23/2022	Vulcan
9/27/2022	Housing Development Consortium
9/28/2022	Labor - UA 32
10/5/2022	Seattle Renters Commission
10/12/2022	WAHESC (Washington Higher Education Sustainability Coalition) - UW, SU, SPU, Seattle Colleges
10/13/2022	Seattle Hotel Association – Presentation to annual member meeting
10/13/2022	NAIOP public affairs consultants
10/24/2022	Seattle City Light
10/24/2022	NW Energy Coalition (NWECC)
10/25/2022	CenTrio
10/26/2022	Green New Deal – City of Seattle Interdepartmental Team
10/26/2022	Department of Neighborhoods
10/26/2022	Seattle Department of Construction and Inspections
10/26/2022	WAHESC (Washington Higher Education Sustainability Coalition) - UW, Seattle U, SPU, Seattle Colleges
10/27/2022	Housing Development Consortium BPS Task Force
10/27/2022	UMC (University Mechanical)
10/31/2022	Office of Housing
11/7/2022	Seattle City Light
11/14/2022	Healthcare w/o Harm (rec. by Children's Hospital)
11/17/2022	Housing Development Consortium BPS Task Force
11/17/2022	Building Owners and Managers Association (BOMA) / Seattle 2030 District
11/17/2022	Alexandria Real Estate
11/23/2022	WAHESC (Washington Higher Education Sustainability Coalition) - UW, Seattle U, SPU, Seattle Colleges
11/29/2022	City Depts: OH, SDCI-RRIO, OPCD
12/2/2022	Hospitals (Providence, Children's, Virginia Mason, Fred Hutch, Swedish) and Healthcare w/o Harm
12/12/2022	MLK Labor / IBEW
12/16/2022	Puget Sound Energy
1/10/2023	Alexandria Real Estate
1/10/2023	NAIOP
1/11/2023	Vulcan
1/19/2023	CenTrio
1/24/2023	BOMA
1/26/2023	EHDD (Architect + Design)
1/26/2023	Downtown/SLU Building Owners
1/30/2023	NAIOP
1/30/2023	Healthcare w/o Harm
2/1/2023	Seattle Restaurant Alliance (SRA) Membership Meeting
2/7/2023	Climate Solutions, 350.Org, NW Energy Coalition

Date Met	Stakeholder Meeting Organization Name or Event
2/7/2023	Condo owners
2/15/2023	Condo owners
2/16/2023	Condo owners
2/27/2023	Green New Deal Oversight Board
2/28/2023	Downtown/SLU Building Owners (various)
3/16/2023	Housing Development Consortium
3/16/2023	Condo owners
3/20/2023	Dunn and Hobbes
3/21/2023	Seattle City Light - Electrification Division
3/22/2023	Alexandria RE (Life Sciences)
3/23/2023	Downtown/SLU Building Owners (various)
3/23/2023	JLL Sustainability
3/29/2023	BOMA Seminar - Presentation
4/7/2023	Downtown/SLU Building Owners (various)
4/21/2023	King County Facilities Management Division
4/18/2023	Building Owners meeting with SDCI
4/25/2023	Climate Solutions, Sierra Club, 350 Seattle, NWECC, Shift Zero (Build Electric WA Coalition), RMI, 43rd Dems Environmental Caucus, UW Institute for Climate Action
4/27/2023	Seattle 2030 District and BOMA
4/28/2023	CenTrio
4/28/2023	Building Owners meeting with Seattle City Light
5/1/2023	Condo owners
5/8/2023	Downtown/SLU Building Owners
5/12/2023	Climate Solutions, Shift Zero
5/15/2023	Green New Deal Oversight Board
5/15/2023	MLK Labor
5/18/2023	350 Seattle
5/31/2023	Healthcare without Harm (sched.)

Record of organizations sending questions or comments by email or phone

More than 100 comments or questions have been sent to OSE, primarily to the cleanbuildings@seattle.gov email address. Calls are also listed in the table below. OSE incorporated input into revisions to the proposed policy and responded to all inquiries with more information or references to other City department leads as applicable.

Date of Email (or call)	Organization / Entity Sending Comment or Question
11/18/2021	Seattle Public Schools
12/21/2021	Equity Residential
1/5/2022	Deutsche Pfandbriefbank AG
2/10/2022	O'Brien 360

Date of Email (or call)	Organization / Entity Sending Comment or Question
3/8/2022	Boulder-Xcel Energy Advisory Council
3/10/2022	Metropolitan Homes
3/11/2022	Hart Crowser, a division of Haley & Aldrich
3/11/2022	Local resident
3/14/2022	Park Vista Coop
3/15/2022	Local resident
3/16/2022	MEETS Coalition
3/18/2022	Local resident
3/28/2022	Homestead Community Land Trust
4/5/2022	Motif Seattle
4/6/2022	Local resident
4/6/2022	Local resident
4/6/2022	Low Income Housing Institute
4/6/2022	Local resident
4/14/2022	Local resident
4/18/2022	Local resident
5/11/2022	Salvation Army NW Divisional HQ
5/11/2022	Temple de Hirsh
5/12/2022	Mott Holdings
5/20/2022	ME Engineers
5/25/2022	DBA Albireo Energy, LLC
6/1/2022	King County
6/2/2022	McKinstry
6/3/2022	MSRE Management LLC
6/12/2022	Seattle 20230D
6/14/2022	CBRE
6/16/2022	The Management Trust
6/17/2022	US EPA
6/21/2022	Hargis Engineers
6/23/2022	Seattle Public Schools
6/23/2022	First United Methodist Church
6/28/2022	Sustainable Strategies
7/5/2022	Energy Benchmarking Services
7/13/2022	Seattle Pacific University
7/20/2022	Seattle Pacific University
7/22/2022	Local resident
7/29/2022	46th District Environmental Caucus
8/10/2022	Pike Place Market
8/12/2022	Seattle University
8/15/2022	Seattle Pacific University

Date of Email (or call)	Organization / Entity Sending Comment or Question
8/17/2022	Energy Benchmarking Services
8/20/2022	Seattle Public Schools
8/23/2022	NW Energy Coalition
9/1/2022	Local resident
9/7/2022	Local resident
9/8/2022	Housing Development Consortium (HDC)
9/9/2022	Seattle Children's
9/16/2022	Rocky Mountain Institute, South Seattle Climate Action Network, Climate Solutions, Sierra Club
9/26/2022	Unico Properties LLC
9/26/2022	Children's
9/28/2022	UA Local 32
10/14/2022	Port of Seattle
10/17/2022	NAIOP Washington State
10/18/2022	McKinstry
10/19/2022	Port of Seattle
10/26/2022	Glumac
10/28/2022	PSR Mechanical
11/6/2022	Energy Benchmarking Services LLC
11/15/2022	BNB Builders
11/15/2022	CenTrio
11/18/2022	WA Healthcare Climate Alliance
11/21/2022	Rocky Mountain Institute, Climate Solutions, Sierra Club
12/3/2022	Alexandria Real Estate
12/30/2022	Energy Benchmarking Services LLC
1/9/2023	RMI
1/17/2023	Thompson Hotels
1/20/2023	Ceis Bane East Strategic
1/20/2023	Whitney Jennings
1/20/2023	Whitney Jennings
1/27/2023	Alexandria Real Estate
1/27/2023	Avalon Bay Communities
1/30/2023	Condo Connection
1/31/2023	Seattle 20230D
2/1/2023	Affiliated Engineers
2/1/2023	Sustainable Strategies
2/3/2023	Canlis
2/6/2023	UW Medicine
2/6/2023	Avalon Bay Communities
2/8/2023	MacDonald Miller
2/13/2023	Climate Solutions

Date of Email (or call)	Organization / Entity Sending Comment or Question
2/14/2023	Seattle Pacific University
2/16/2023	Sustainable Strategies
2/16/2023	Condo owner, retired building architect
2/22/2023	Condo Connection
2/23/2023	Seattle condo residents
2/24/2023	Residential Condo Owner
3/13/2023	Amazon
3/13/2023	Condo Connection
3/14/2023	MoPop
3/15/2023	CBRE
3/19/2023	Residential Condo Owner
3/21/2023	Sierra Club
3/25/2023	Avalon Bay
3/26/2023	Ovus Partners
3/27/2023	Climate Advocates HUB Seattle King Co
3/27/2023	Steinhauer Properties
3/28/2023	Rooted Media
3/30/2023	Condo owner & retired architect
4/17/2023	UMC
4/21/2023	MSRE Management LLC
4/27/2023	Integrity Energy Services, Co
4/27/2023	Climate Solutions
4/28/2023	RMI

Record of letters of comment and/or support

The following pages include letters of support for BEPS or comment letters making specific recommendations sent to OSE that were otherwise not included in comments received at meetings. In addition, OSE was informed that the Mayor's office directly received 325 emails expressing support for a stronger BEPS policy. One example is attached.

Emerald Cities Collaborative
Response to Draft BPS Policy for Seattle
September 8, 2022

Policy Draft: Comments attached in draft.

Policy Impact:

- Naturally Occurring Affordable Housing (NOAH) should also be “affordable housing” - can there be wording that requires the maintenance of “affordable” status throughout the compliance period to qualify for the 5 year delay, incentives and technical assistance. This would help limit gentrification.
- Greenhouse Gas Emissions Intensity Target - should be adjusted for affordable housing and other multi-family housing based on number of bedrooms/residents. Gross floor area also gives advantages to luxury multi-family buildings with gyms, party rooms, etc. Need alternative to GHGIT for multi-family. Is this under occupancy density for the reference table? Should be spelled out for multi-family housing.
- Who pays for third party verification of benchmarking? What would it cost? Doesn't OSE already do this?
- Who pays for Seattle Greenhouse Gas Emissions Report? Would be best to combine with state requirements.
- Building Portfolio Compliance - will not know if this benefits affordable housing until the standards are published. If the ultimate goal is zero emissions - then in the long run, this will not help.
- Seattle Climate Investment Fund - glad that these funds are directed into the items listed, but there should be a floor for all of these activities that is backstopped with other funds from the city or other sources. This is not assured funding - but these uses need assured funding.
- What about mixed-use buildings? Multi-family with a restaurant especially?
- The extended timeline for affordable housing is beneficial only if the owners have the capacity and technical expertise to plan for the transition. There needs to be a firm commitment of support for technical assistance.

Review of HDC Recommendations and areas where the draft policy falls short:

- Prescriptive measures are offered as alternative compliance - they should be in the policy for affordable housing - and maybe all multi-family housing. All-electric buildings are exempt - 22H - is this effectively a prescriptive path? What about a pathway to an all electric building over the course of the compliance period as requested in the prescriptive path?
- Code compliance flexibility is not addressed - fear that upgrading systems will require additional building upgrades to comply with “substantial alteration”.
- Concern about cost of electrical upgrades - capacity of building and building infrastructure. Need funding or alignment with SCL or other funding.
- Need commitment to providing technical assistance and funding for - capital needs assessments, audits, modeling, access to programs, construction management, environmental remediation, historic preservation, electrical infrastructure.

- Loan programs for affordable at below market rates. City investment in loan loss reserve. Work with WSHFC to extend their loan program to longer than 10 years.

Economic Inclusion:

- We applaud efforts to date for clean energy workforce development - City needs commitment to long-term development of diverse workforce - GND?
- Call for development of a Community Benefits Agreement (CBA) to align community needs with BPS policy, city investments and other climate policies
- Don't see a call for a "program support hub" that can help building owners but also provide for a clear pathway for minority contractors to get referrals -
- In our experience there is a lack of expertise and experience in the building electrification realm - We think that the City should foster a Center of Excellence for this knowledge and that could provide specific opportunities for WMBE engineering, auditing, and contracting firms to learn and become experts in this area.
- Need a contractor development program to ensure access to WMBE firms for the work generated by BPS



September 15th, 2022

Dear City of Seattle Office of Sustainability and Environment Buildings Team:

The undersigned groups thank the City of Seattle ("The City") staff for the opportunity to comment on the draft carbon-based building performance standard (BPS) ordinance. We are excited about this policy concept in general and see it as a very important and necessary step to address greenhouse gas emissions from existing buildings. However, we do have some suggestions on how to improve the draft language and recommendations on how it might be implemented. These recommendations will hopefully increase the effectiveness of the policy, while ensuring that it does not have unintended consequences.

In general, we recommend the City make modest changes to the proposed language to ensure that there are not unintended consequences of this BPS, particularly on low-income and BIPOC Communities. Specifically, we suggest that the City consider the following recommendations:

- The policy should be drafted to include guardrails for low-income and BIPOC communities who are living in multifamily units that will be impacted by this code. The effect of these guardrails will ensure that this policy will not financially, legally, or operationally burden low income renters, homeowners and affordable housing providers. Emphasis that these guardrails shouldn't be used primarily as an exemption for low-income owners and providers, rather that adequate funding needs to be available to allow for these low income residents and providers to comply with the BPS. The BPS implementation could include compliance flexibility, funding and technical assistance for these communities. Further, the BPS implementation plan should ensure robust protections for low-income tenants living in non-rent restricted affordable housing and include anti-displacement strategies. In developing these protections, the City should prioritize input from low-income residents, tenants, and community-based organizations, as well as resources like [Strategic Actions for a Just Economy's report](#) on the potential tenant impacts of building decarbonization. This report recommends guardrails that could be incorporated into the BPS implementation plan or pursued in parallel, including banning the pass-through of costs to low-income tenants, strategically directing public investments for decarbonizing low-income housing, and applying tenant protections when buildings are retrofitted.
- Consider public feedback received from affordable housing advocates during the stakeholder process and current draft comment period and share out information on how OSE incorporated

this feedback into the ordinance and implementation. During the rulemaking process and implementation phase of the BPS, we suggest the City develop an advisory board with members of the affordable housing, environmental justice and tenant justice community to help inform decisions and avoid inequitable outcomes.

- We recommend not using greenhouse gas emissions per square foot as a metric for multifamily buildings. Multifamily building energy use is often inversely proportional to the size of the units. In other words, smaller units mean more energy use per sf of area (think showers, cooking, laundry as major energy uses for a family of four that could be in an 800 sf unit or a 2,000 sf unit). This means that lower income folks, who often live in smaller apartments, are more affected by this rule than those with means that have fewer occupants per sf area. Using emissions/sf as the metric would fall along similar lines. This is not just about built-to-purpose affordable housing, but also naturally occurring affordable housing that we want to keep that way. A greenhouse gas emission per bedroom, with studio apartments counting as 1-bedroom units, might be a better metric for multifamily units.
- The transition required to reach these targets needs significant investment for those who cannot afford the transition and comply with this law. Requirements and penalties without significant incentives could exacerbate high housing prices and inequities, especially at the smaller end of the building scale. So far, it's unclear what funding amount is associated with the Seattle Climate Investment Fund, and whether the City plans to leverage other funding sources, such as the Inflation Reduction Act, to aid compliance. Note that municipal funding schemes that rely on a specific new taxation, fine, or fee scheme have proven unreliable in the recent past ([example](#)), suggesting additional funding sources may be necessary to provide equitable compliance assistance.

In addition to addressing affordability concerns, we also recommend the following improvements:

- **Ambition:** While the State of Washington is implementing a BPS, its level of required energy efficiency improvement and implied greenhouse gas emissions reductions is far lower, proportionately, than would be necessary to meet Seattle's climate action goals. In some cases, the statewide BPS may function as a standard of last resort, but we recommend the City design its own standard to avoid falling back to the relatively modest level of ambition reflected by the Washington standard.
- **Data Access:** The draft ordinance includes "Tenants shall allow building owners reasonable access to systems and utility information". This statement is vague and may infringe upon tenants' expectations of privacy. The process of data acquisition should either be clearly defined in the ordinance or deferred to rulemaking. Additionally, this section should refer to the benchmarking ordinance, since the data sources/processes are presumably the same. See other jurisdictions' language on utility provision of data ([Colorado example](#)) for ways to preserve privacy while avoiding putting the onus of data sharing on tenants.
- **Exemptions:** "exemptions of emissions" - from a climate alignment perspective, we would not recommend excluding commercial cooking equipment or any other end uses for which zero-emission alternatives are available.
- **Verification:** The criteria for *who* can perform benchmarking verification are either defined in the WA BPS or deferred to rulemaking, but *who pays* and otherwise how conflicts of interest are eliminated is unclear. Building owners should not pay verifiers directly.
- **Electricity Use:** Building owners should not be able to comply with the law by free-riding on continued electricity decarbonization. Not assuming compliance with the statewide BPS will prevent this outcome.

- If the statewide BPS isn't effectively reducing energy usage, then set a floor on electricity use or emissions for all-electric buildings to avoid inefficient electrification (e.g., widespread resistance heating applications).
- Consider options to allow building owners to benefit from the carbon value of demand flexibility and grid-connected efficient appliances, insofar as other actors, such as utilities, are not already counting those benefits toward their own decarbonization goals.
- On-site renewables should influence GHG emission calculations from electricity use following the same logic as the Seattle City Light's net metering protocol, with the addition of an emissions floor of zero (i.e., no net negative emissions from on-site renewables). However, if the building owner transfers or sells renewable energy credits (RECs) from their on-site renewables, their site emissions should be calculated using the same emissions factor as grid-provided electricity. To avoid inadvertently allowing GHG emissions during and after the final compliance period, on-site renewables should not be permitted to cancel out GHG emissions from on-site fossil fuel combustion.
- **Alternative Fuels:** The use of alternative fuels such as "renewable natural gas, biofuels, [and] green hydrogen" referenced at page 8 should not be allowed or supported as a compliance pathway. These alternative fuels present numerous well-documented risks and drawbacks, including [high costs](#), [limited current and future availability](#), [GHG leaks throughout the supply chain](#), [risks of explosion](#), and environmental and public health harms associated with [production](#) and [combustion](#) of these fuels. For example, allowing the use of green hydrogen as a compliance pathway could encourage investments in hydrogen procurement that could help comply with the proposed BPS in the short term. But these investments would mean missed opportunities to pursue more viable long-term building decarbonization solutions like electrification. These investments would become increasingly untenable as we encounter [limits to the level of hydrogen blending](#) compatible with existing infrastructure and equipment, and competition from higher-priority uses drives up the cost of limited green hydrogen supply. To avoid risks like these, Seattle's BPS should discourage the use of alternative fuels in buildings, instead focusing on electrification and energy efficiency.
- **Fines:** Fines for violations should be designed (in amount, frequency, etc.) to encourage compliance. The draft ordinance appears to fine building owners only once per compliance period, and given the amounts in proportion to building sizes, the fines seem likely insufficient to encourage compliance. Options to improve this could be:
 - Charge the fine quarterly while the violation persists (encouraging late compliance rather than no compliance)
 - Defer determining the amounts of fines to rulemaking and set them in a manner likely to encourage compliance (e.g., in proportion to estimated or last known building greenhouse gas emissions (GHGE) or estimated gap between last known GHGE and target GHGE)

Note also that the "mitigation hearing" appears to be the only current method for building owners to comply late. The time and coordination costs of attending such a hearing may make noncompliance more attractive than late compliance. The option set should be adjusted so late compliance is more attractive than total noncompliance.

- **Seattle Climate Investment Fund:** We support the allocation of revenue from fines, penalties, and alternative compliance payments to the Seattle Climate Investment Fund. These funds should be used to support affordable, equitable decarbonization for highly impacted communities, affordable housing, and LMI tenants. We recommend that the BPS ordinance specify a minimum percentage of these funds that must be allocated to programs directly

benefiting these communities, or that the ordinance identify priority programs directed at these communities that must be funded before funds are allocated to other uses. For example, the ordinance could specify that 40% of the funds be directed to highly impacted communities in line with the federal government's [Justice 40 Initiative](#), although a significantly higher percentage may be appropriate in this context.

- Notwithstanding the above, every effort should be made to ensure women, persons of color and veteran-owned business owners and residential tenants (especially LMI tenants) are not made more legally vulnerable due to nonpayment of fines or failures to appear at hearings. For example, the City should prioritize the use of Climate Investment Fund money to help highly impacted and LMI communities decarbonize and comply with the proposed BPS, and it could waive LMI tenants' fines in cases where this has not yet been achieved. Additionally or alternatively, the City could send these groups additional evidence-based communications to reduce failures to appear and nonpayment of fines ([example 1](#), [example 2](#)) and provide coaching or guidance both to improve compliance and to manage non-compliance for these groups.

Finally, we have the following questions about the BPS, which should be addressed either before the final version of the ordinance is complete or during the subsequent rulemaking process:

- Because the Climate Commitment Act ("CCA") regulates electricity at the point of generation and gas at the distribution company, what buildings are excluded from this ordinance due to the CCA? Are all polluting entities' office buildings exempt from the BPS according to the text? How can that loophole be closed?
- Why are *whole buildings* excluded due to manufacturing energy use? Would it be feasible to exclude only manufacturing floors and process energy?
- Why exclude fugitive emissions like refrigerants, industrial gasses, and fire suppression chemicals? These are GHG emissions from buildings even if they are not directly related to energy use. If they are excluded from the standard, how might the standard account for leakage resulting from their exclusion? (i.e., if buildings are intended to be net zero by a certain time but these emissions sources are unmanaged, can the City estimate their CO_{2E} and compensate by reducing GHGI targets during interim compliance cycles and requiring "below net zero" measures by 2050?)
- Will there be rulemaking around the "environmental attributes from renewable energy..." additionality issue at the top of page 12? How does that interact with CCA given that electricity and natural gas are both subject to it?
- Based on energy codes currently or soon to be implemented in the City, will new buildings immediately be compliant with the BPS once occupied? If, during the first compliance period, data suggests that new buildings are not immediately compliant, what corrective action can be taken?
- How will building owners be expected to calculate carbon emissions? How can building owner calculations be audited, reduced, or managed, such that owners will not fail to comply due to a miscalculation and without their knowledge?
- What is the assumed workload of "benchmarking verification" certified workers under this policy (e.g., how many buildings per day)? How will workload affect data integrity? What workforce development efforts will ensure sufficient availability of verification certified workers?
- How is Seattle planning to link any anti-displacement resources to implementation of this law?

Undersigned Organizations:

Jonny Kocher
Senior Associate
RMI

Amy Wheeless
Senior Policy Associate
NW Energy Coalition

Erin Sherman
Senior Associate
RMI

Kelly Hall
Washington Director
Climate Solutions

Anne Miller
Outreach Coordinator
South Seattle Climate Action Network

Jim Dennison
Associate Attorney
Sierra Club



COMMERCIAL REAL ESTATE
DEVELOPMENT ASSOCIATION

WASHINGTON STATE CHAPTER

October 17, 2022

City of Seattle Office of Sustainability and Environment
c/o Director Jessyn Farrell, Nicole Ballinger
Seattle Municipal Tower
700 5th Avenue
#1868
Seattle, WA 98104

Dear Director Farrell and Ms. Ballinger,

Thank you again for your time last week to discuss the Office of Sustainability and Environment's (OSE) proposed Building Performance Standards. Today's letter comments on the current legislation direction on behalf of NAIOP Washington State, the Commercial Real Estate Development Association Washington State (NAIOP) and our more than 1,000 members.

Emitter Equity

We are concerned that commercial and multifamily buildings continue to bear the brunt of meeting our sustainability goals, while the city's largest emitters are not equitably taken into consideration. For example, transportation represents the largest share of Seattle emissions (around 60%) and while buildings make up 37% of total emissions, single-family homes make up nearly half of that.

Seattle's building code is already roughly 15-17% above the state building code and adds millions of dollars to the total cost of office and residential construction. These costs are passed on to our small businesses and renters, while Seattle homeowners are not required to help offset their sizable impact.

We believe that meeting our city's sustainability goals should be a shared, equitable commitment from all emitters.

City Electrical Capacity

As the city considers converting more buildings to electric, we strongly encourage the city to work closely with Seattle City Light to ensure the infrastructure and capacity is in place to support these changes. Data must be readily available that shows energy use projections versus capacity for this legislation, as well as overlaid with other future electrical consumption (electric vehicles, etc.).

Gas Conversion

We believe the city's desire for buildings to convert from gas to electric must include flexibility. This should not be a one-size-fits-all approach. Here's why:

- Restaurants will need more time to convert to different energy sources, as very few have access to expensive non-gas fired equipment like induction cooking. Gas is also preferred by most in the culinary world and electric technology in this area is not interchangeable. Forcing these changes too quickly will harm Seattle's small business community and discourage restaurant leasing. Consideration should be given for restaurant exceptions or appropriate time to convert when technology has caught up.
- Property owners and managers are only one part of the equation. Legislation must build in flexibility for tenant-operator agreements, as well as tenants' individual behaviors and preferences.
- Many building back-up systems run on gas, even if the primary system is electrical. Legislation must acknowledge that targets will not pertain to back-up systems.

Older Buildings / Historic Buildings

Older buildings and some uses will require significant upgrades or mechanical equipment replacements to meet emission targets. What resources will be available for financial support and financing?

Incentives

We strongly encourage OSE to look at ways to incentivize participation in any new environmental regulations on new or existing buildings. This will help offset costs for the owner / developer and increase more carbon-offset sooner.

Phasing

We appreciate the proposed phasing-in of any possible new regulation on multifamily buildings in 2036. This allows for more time to address some of the concerns mentioned above and hopefully lessen the impact on housing affordability.

We look forward to continuing this conversation with you and appreciate the opportunity to comment.

Sincerely,

Danielle Duvall

Acting Executive Director, NAIOP Washington State

November 18, 2022

Nicole Ballinger
Buildings and Energy Strategic Advisor
Office of Sustainability & Environment
City of Seattle
Submitted via email

RE: Seattle decarbonization draft ordinance

Dear Nicole,

On behalf of the Seattle cohort of the Washington Health Care Climate Alliance, thank you for the opportunity to submit feedback on the proposed decarbonization ordinance.

On Earth Day 2022, the U.S. Department of Health and Human Services launched the Health Sector Climate pledge, a voluntary commitment to reduce emissions which includes cutting greenhouse gas (GHG) emissions by 50 percent by 2030 and achieving net zero emissions by 2050. 102 organizations have signed the pledge and almost all hospitals represented by our cohort are included in that list.

Health systems experience the effects of climate change daily as we treat the health impacts climate change has on our communities. We also recognize an unfortunate cycle incumbent to our industry: climate change is causing harm, our work calls us to treat the harm, and health care contributes to that harm by emitting greenhouse gases as we deliver care to our patients and communities. We have also seen how the impact of climate change has highlighted the health inequities within our communities. This serves as a reminder that health equity and the health of our planet are linked. Reversing climate change is healthcare and will lead to improved health in our communities.

Many hospitals have implemented reduction measures and timelines based on the technology available and what is realistic and feasible based on our industry needs. Overall, we support the goal of this proposed ordinance but have a few concerns with the base language that we would like to see amended:

Alternative compliance: In Section 22.925.070C, we recommend that hospital district campus buildings be added to the list of building owners who can demonstrate that extenuating circumstances would create significant hardship in complying with the compliance timeline and as such would be permitted to submit a customized compliance plan for achieving net zero emissions. Our justification for this request follows:

- Hospital district campus buildings require the capability for emergency heating to ensure patient safety (as seen in Section 22.925.080F). To provide backup heating capability, the same district system must be capable of operating from two separate sources of energy. It is not feasible to maintain completely independent, redundant central heating

systems to serve these emergency heating requirements. Currently these systems typically use natural gas and stored on-site fuel oil supply to continuously operate dual – fuel boilers. In a future net zero carbon district system the low carbon energy source (such as electricity or hydrogen) would need to be capable of operating on an alternate backup source in the loss of the primary source (such as battery, microgrid or locally produced hydrogen). These backup heating energy source technologies are uncertain as to adoption timelines. Allowing hospital district campus buildings to develop and adhere to a customized compliance plan for achieving net zero greenhouse gas emissions by 2041 – 2045 would address this need to maintain emergency heating systems and provide the planning flexibility to accommodate future technologies while also meeting the net zero emissions target.

- Hospital district campus buildings by their design (a single energy plant) will need to be upgraded to net zero energy sources in one large closely coordinated project (over a period of several years during one or two compliance periods) involving both the district energy plant as well as upgrades to the buildings served on the campus. This approach to modernizing for a net zero carbon future does not lend itself to incremental carbon reduction improvement as provided for in the BPS ordinance. An incremental approach to compliance would likely require hospital district campus to abandon the central system concept and segment their district systems into separate, smaller (say 25%) systems – a radical departure from current design and likely a less efficient, more costly approach.
- This policy approach of allowing hospital campus buildings to create a customized compliance plan is consistent with similar agreements between the hospital campus sector and the City of Portland in development of their Climate and Health Standards Proposal for Existing Buildings.

Financial support for compliance: Currently, there is a financial premium to electrify mechanical equipment to move away from the use of natural gas, the largest emission block of buildings and Scope 1 emissions. The path to electrification and carbon net-zero is difficult without additional financial support. The legislation offers financial & technical support for building owners, but we would like to offer points to consider for the legislation.

- To help fill the gap between like replacement and electrification premium, provide grants, low interest loans or other financial incentives from the Clean Buildings Investment Fund as well as the from the Seattle Clean Buildings Accelerator program.
- Consider an even mix of penalties and support as a method to distribute funds based upon cost for compliance rather than a flat fee penalty which would help owners meet the targets more readily.
- It is unclear how OSE decided on the fine of \$5 per square foot for failure of the building owner to meet the targets and we request the dollar amount be removed from the language and determined as part of rulemaking with stakeholder engagement.

Define Net Zero Emissions: We recommend defining net zero emissions in the ordinance since there could be confusion on what net zero emissions means in this context. We understand your intent is to focus on building energy only, so we recommend the following definition, along with other clarifying definitions:

- (Achieving) *Building Energy Net Zero Emissions* means the fuel sources used to heat or cool a building will emit no new greenhouse gas emissions by the year 2045.
- Consider addressing different *fossil fuel offset types* that could be used to achieve building energy net zero emissions.
 - Examples of fossil fuel offset types: *renewable natural gas and renewable energy power purchase agreements* (PPA's) outside the city of Seattle.
- Consider addressing and adopting *carbon capture technology* as a means to reduce greenhouse gas emissions.

Thank you for the opportunity to provide feedback. We recognize that many details specific to alternative compliance plans may be dealt with as part of rulemaking but believe the above concerns should be addressed in the base language. We look forward to continuing to partner with OSE and the City as this legislation moves forward. Please do not hesitate to contact Keith Edgerton if you have questions or would like to discuss directly.

Sincerely,

The Seattle cohort of the Washington Health Care Climate Alliance



November 21st, 2022

Dear City of Seattle Office of Sustainability and Environment Buildings Team:

The undersigned groups thank the City of Seattle (“The City”) staff for the opportunity to comment on the updated draft of the carbon-based building performance standard (BPS) ordinance. We submit the following brief comments on the updated draft that we hope you will consider before releasing the final version.

WHEREAS statements (pp. 1-5)

1. We have some concerns about the mentioning of renewable natural gas (RNG), biofuels, and green hydrogen as “less GHG emissions-intensive fuels”. In our experience, these alternative fuels should not be used for buildings and instead reserved for hard-to-decarbonize sectors, for the following reasons:
 - a. **Electrification is a more cost-effective solution for buildings than either RNG and hydrogen.** Washington’s 2021 State Energy Strategy¹ concluded that we need to essentially zero out the use of gas in homes and buildings over the next two to three decades through widespread electrification and efficiency, not through alternative fuels, to achieve our climate goals.
 - b. **Electrification is better for our health and climate.** RNG, as with fossil gas, is still primarily methane and does not reduce harmful air pollution when combusted indoors, making it less viable as an option for cleaning up our built environment. Using RNG does not solve for potentially huge climate and air pollution harms of methane leaks along the supply chain and in homes and buildings, nor the combustion of harmful air and climate pollutants like NOx indoors and outdoors.
 - c. **Supplies of alternative fuels like RNG and green hydrogen will not be sufficient for buildings to decarbonize.** RNG is very limited in supply, and we will not be able to replace more than a small percentage of the current levels of gas usage with RNG. Similarly, hydrogen can only be used as a substitute for a small percentage of fossil gas in existing infrastructure. Hydrogen is a lighter

¹ Washington State Department of Commerce, “Washington 2021 State Energy Strategy: Transitioning to an Equitable Clean Energy Future,” December 2020, <https://www.commerce.wa.gov/growing-the-economy/energy/2021-state-energy-strategy/>

physical molecule than methane and it has shown to be highly explosive, leak more through plastic pipes, and corrode metal-based pipes and pipelines. Only low levels of hydrogen (5-20% by volume, up to 7% by energy delivered) can be blended into existing gas systems without requiring pipeline upgrades and end-use appliance replacements.

2. Attend to what advocacy comments say about the affordability “WHEREAS”es

22.925.020 Definitions

3. “Affordable multifamily housing” and “low incoming housing”: is naturally-occurring affordable housing not covered? How will this potentially impact tenants?
4. “Carbon dioxide equivalents” or “CO₂e” – on what timescale is this calculated? (Refs to WA state?)
5. “Multifamily building” - *“A building shall use the multifamily building compliance schedule if 50% or more of its occupancy is multifamily use”*: What does “proportion of occupancy” mean? Proportion of square feet used for multifamily?
 - a. The same issue exists with “nonresidential building” definition – should use consistent and defined language, probably sqft
6. “Weather normalized”: What is going to count as a “typical weather year”? What will the effect be – in other words will weather normalization make compliance easier or harder? Will it cause “illusory compliance”?

22.925.040 Greenhouse gas emissions intensity targets

7. Table A: typo, which footnote 2 notation is intended to refer to footnote 3?
8. Section D, Part 4: renewable fuels attestation: Standards for this calculation? What happens if a building uses a “renewable” fuel but has no attestation – is it assumed equivalent to the non-renewable analog?

22.925.050 Greenhouse gas emissions reduction & reporting obligations

9. Section B: *“Unless otherwise restricted by state or city regulations or contract, tenants shall allow building owners access to mechanical systems and utility information, such as energy consumption data or meter numbers, if necessary to comply with the terms of this Chapter 22.925.”* -> when is it otherwise restricted? What happens when it is? Tenant advocate flags for privacy or other risks?

22.925.070 Alternative compliance

10. Some parts of the language suggest multifamily buildings can't use alternative compliance paths and some suggest they can; which is it?

22.925.080 Exemptions and exclusions

11. Section D - exemption for buildings that have been foreclosed/are owned by a financial institution: Why are these buildings exempt?
12. Section E, Part 4 - exemption for *“nonresidential buildings that are owned by a registered nonprofit organization or leased to registered nonprofit organization(s) in 50% or more of the building, whose primary organizational mission aligns with the Seattle City Council Green New Deal Resolution 31895 to broadly prioritize communities historically most harmed by economic, racial, and environmental injustice, for compliance intervals 2026-2030 or 2031-2035 only”*: How will it be determined that a nonprofit's mission aligns with the Green New Deal Resolution?
13. Section F, Part 1 - re allowing exclusions of combustion equipment “permitted under 2018 energy code”: At minimum, need clarification: literally permitted under the code I.e. the permit was pulled for the equipment while that code was live? Or any equipment that would have met the code at that time? The second is definitely unacceptable; the first is still not great but at least sort of understandable
14. Still troubled by tenant penalty possibilities. Enforcement action language e.g. around hearings does a poor job of covering what happens to accused tenants (as opposed to building owners)

Undersigned Organizations:

Jonny Kocher
Senior Associate
RMI

Deepa Sivarajan
Washington Clean Buildings Policy Manager
Climate Solutions

Erin Sherman
Senior Associate
RMI

Kelly Hall
Washington Director
Climate Solutions

Dylan Plummer
Senior Campaign Representative
Sierra Club



ALEXANDRIA.

11/30/2022

Jessyn Farrell, Director
Nicole Ballinger, Buildings & Energy Strategic Advisor
Office of Sustainability & Environment
PO Box 94729
Seattle, WA 98124-4729

Re: Alexandria Real Estate Comments to Proposed OSE Building Emission Standard Ordinance

Dear Jessyn and Nicole,

Thank you for taking time to discuss our feedback regarding the current draft of Seattle Building Emissions Performance (BEP) Standards Ordinance. Alexandria is deeply committed to tracking and actively reducing our portfolio's GHG emissions as part of our national sustainable strategy. As we discussed in our call before Thanksgiving, Alexandria's sustainable commitments align with the overarching goals of the BEP Ordinance, and we are committed to working collaboratively with the Office of Sustainability and the Environment (OSE) to ensure the BEP Ordinance accurately accounts for the complexity of life science buildings and intense energy use necessary for science and innovation to thrive.

As the largest owner and operator of mission critical life science buildings in Seattle, Alexandria has a unique perspective on how to effectively reduce GHG emissions within individual life science buildings of various vintages. As you know, life science buildings make up small fraction of the built environment covered by the Ordinance when compared to traditional office buildings. In addition, life science buildings are also substantially more complex than office buildings, with typically more than 50% of their space dedicated to laboratory space and more robust mechanical and electrical equipment. This equipment is required for lab buildings to run constantly to ensure the safety, security and ultimate success of life-saving scientific research housed within.

Though we are still analyzing the BEP standard with our technical teams, as a foundational matter, we are concerned that the BEP Ordinance Green House Gas Intensity Targets (GHGITS) for lab buildings cannot be feasibly achieved without major disruptions to the science conducted therein and to the Seattle life science sector as a whole. We also remain concerned about the ability of the current Seattle City Light electrical grid to accommodate the desired level of building electrification without substantial upgrades to enhance needed capacity, particularly in life sciences buildings.

As such, we believe that OSE should seriously consider the creation of an alternate GHGIT compliance pathway specifically tailored for lab/life science buildings, beyond what is currently included in the BEP Ordinance. A specific life science-focused approach will ensure measured, achievable GHG reduction progress over set intervals, without jeopardizing the critical research conducted in labs, threatening the continued growth of the life science sector in Seattle or forcing lab building owners to simply pay fines in lieu of performance.

Specifically, within a life science alternate compliance approach, we ask that OSE consider revisiting the proposed GHGIT targets and timelines for lab/life science building compliance, including extending the alternate GHGI reduction against the baseline GHGI beyond the first compliance interval.

In addition, OSE should exclude all lab-related energy used from the GHGIT total emissions calculation, by exempting all equipment needed for lab/life science functions (e.g., heating, cooling, air changes, and other core functions) in addition to what is currently exempted or excluded in the Ordinance. This approach would normalize the building's use for more achievable reduction targets without massive tenant disruption resulting from full building retrofits required to hit the existing GHGIT lab metrics.

A life science alternate compliance pathway could also expand the definition of exempted process load to include all lab related mechanical and electrical equipment, beyond process load from equipment found at the lab bench.

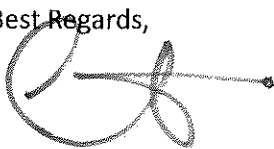
Finally, in determining compliance, OSE could include the use of life cycle/feasibility analyses during energy audits for life science owners developing capital plans to achieve GHG reductions.

These are just a few examples of the technical requirements to continue to allow the life sciences sector to thrive and grow in our region. We would be very happy to work with you and your office to further refine these ideas and explore others.

As a key stakeholder, we look forward to continuing the conversation with OSE on the evolution of the BEP Standards and partnering with the city on the creation of a lab/life science alternate compliance pathway that allows the City and Alexandria to achieve our GHG reduction goals.

Thanks again. Please contact me if you have any questions.

Best Regards,

A handwritten signature in dark ink, appearing to read 'Gunter', with a stylized flourish extending to the right.

Christian Gunter
Senior Vice President – Development

cc: Hart Cole, Alexandria Real Estate Equities, Inc.
John Cox, Alexandria Real Estate Equities, Inc.
WA Legal

From: Katie Garrow
Sent: Wednesday, February 22, 2023 8:01 AM
To: Farrell, Jessyn <Jessyn.Farrell@seattle.gov>
Subject: Labor Council Resolution on Seattle's Building Emissions Performance Standards

CAUTION: External Email

Jessyn,

At our most recent delegate meeting, we voted to pass a resolution to support the Seattle Office of Sustainability and Environment proposal to enact BEPS and transition Seattle buildings to lower carbon emissions in the next 2-3 decades. We also support implementing the fastest possible timeline within the policy.

I've attached the resolution in full and pasted it at the bottom of this email.

Please let me know if you have any questions.

Thank you

Katie Garrow
MLK Labor
Executive Secretary-Treasurer

--

Resolution on Seattle's Building Emissions Performance Standards

FEBRUARY 16, 2023

WHEREAS, Buildings are responsible for more than one-third of Seattle's carbon emissions and must be part of the solution to climate change- both by reducing carbon emissions, and keeping people comfortable and healthy during heat waves and wildfire smoke,

WHEREAS, Seattle's Building Emissions Performance Standards policy is projected to reduce building emissions by 27 percent by 2050, making it the most impactful climate action Seattle can take now.

WHEREAS, The proposed BEPS policy is forecasted to create 150 to 270 new well-paying jobs annually, benefitting Seattle area workers, and our local economy, and expanding career opportunities and pathways for women and people

of color.

THEREFORE, BE IT RESOLVED, that MLK Labor supports the proposal developed by the Seattle Office of Sustainability and Environment under the leadership of Director Jessyn Farrell to enact BEPS and transition Seattle buildings to lower carbon emissions in the next 2-3 decades.

BE IT FURTHER RESOLVED that MLK Labor supports implementing the fastest possible timeline for lowering building emissions within the policy.



Resolution on Seattle's Building Emissions Performance Standards

FEBRUARY 16, 2023

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THEREFORE, BE IT RESOLVED, that MLK Labor supports the proposal developed by the Seattle Office of Sustainability and Environment under the leadership of Director Jessyn Farrell to enact BEPS and transition Seattle buildings to lower carbon emissions in the next 2-3 decades.

BE IT FURTHER RESOLVED that MLK Labor supports implementing the fastest possible timeline for lowering building emissions within the policy.

KATIE GARROW, EXECUTIVE SECRETARY-TREASURER | DUSTIN LAMBRO, PRESIDENT | STEFAN MORITZ, VICE PRESIDENT

AFFILIATED WITH THE AMERICAN FEDERATION OF LABOR AND CONGRESS OF INDUSTRIAL ORGANIZATIONS

From: Robin Briggs
Sent: Sunday, March 5, 2023 12:28 PM
To: Harrell, Bruce <Bruce.Harrell@seattle.gov>
Cc: Farrell, Jessyn <Jessyn.Farrell@seattle.gov>; Tim Gould
Subject: Building Emission Performance Standards amendment needed

CAUTION: External Email

We really appreciate your past support for reducing greenhouse gas emissions from Seattle's new commercial buildings and your signing of the [Mayoral Climate Pledge](#). The time is now to follow through on this commitment by standing firm on the new performance standard for existing commercial buildings. Existing buildings are the second largest contributor to GHG (Greenhouse House Gases) in the city and we need to act now to reduce this pollution to fight climate change and meet the city's climate goals.

Over the last year, the Office of Sustainability and Environment has worked hard to get community input and put together a GHG emissions standard for large commercial buildings to meet the city's climate goals. We fully support this effort.

We have concerns that the new timelines are not short enough to meet the City's goals and that the penalties are not enough to deter building owners from shirking their duty. In addition, RNG (Renewable Natural Gas), should not be allowed because it leaks methane, potent greenhouse gas. We look forward to hearing back from you on this.

Thank you for everything you do to ensure that our citizens, especially those that are the most vulnerable. are protected from health and economic disasters.

Robin Briggs on behalf of the 43rd Environmental Caucus



Date: March 21, 2023

To: Director Jessyn Farrell

CC: Lylianna Allala, Christine Bunch, Sandra Mallory, and Nicole Sanders

Subject: Requested revisions from Seattle Office of Sustainability and Environment on Building Energy Performance Standard policy

Director Jessyn Farrell,

I am writing on behalf of the Sierra Club and our thousands of members and supporters in Seattle, and across the State. We urge you to make revisions to the proposed Building Energy Performance Standard (BEPS) policy that the Office of Sustainability and Environment has been developing in order to ensure that the policy is aligned with the City of Seattle's aggressive decarbonization goals as set in the 2019 Green New Deal Resolution, and to ensure it doesn't provide carve outs for dangerous and polluting alternative fuels like "renewable natural gas" (RNG) and green hydrogen.

Buildings are one of the largest and fastest growing sources of emissions in the region, primarily due to the use of fossil fuels for space and water heating. In Seattle, buildings produce over one third of existing emissions, and building emissions continue to rise year over year even as Seattle has made progress with other sectors like transportation. The City's [2018 Climate Action Strategy](#) calls for a 40% emissions reduction by 2030, and the [2019 Green New Deal Resolution](#) calls for a complete transition off of climate-polluting fuels by 2030.

Burning fossil fuels in buildings also emits dangerous air pollutants like nitrogen oxide (NOx) and particulate matter (PM2.5). Data from a [study](#) from the Harvard T.H. Chan School of Public Health indicates that air pollution from fossil fuel use in buildings is responsible for dozens of early deaths and hundreds of millions of dollars' worth of annual health impacts in Washington. These impacts are [disproportionately being borne](#) by People of Color.

While recent changes to the Washington state energy codes and market trends have almost completely halted the construction of new buildings using fossil fuels for space and water heating, existing buildings continue to pose a significant barrier to reaching net zero emissions. In order to meet the City's goals to reduce polluting emissions and protect public health and safety, Seattle must rapidly transition its existing buildings off of fossil fuels and to clean, renewable electricity.

Areas for Improvement:

While the Sierra Club broadly support the policy's framework, there are a few items that we hope to see change before the policy is passed:

No New Gas Equipment: In order to meet decarbonization goals, it will be critical to ensure that as buildings regulated under this policy naturally replace fossil fuel-fired equipment in the future, these are being substituted with high efficiency all-electric alternatives at time of replacement, disallowing the installation of any new fossil fuel equipment - including all equipment that currently uses fossil fuels, even if it building owners believe it could use green hydrogen or RNG in the future. As commercial heating equipment generally lasts between 25-30 years, allowing new fossil fuel-fired equipment to be installed in Seattle will lead to stranded assets for building owners as they are required to comply with the BEPS targets. We strongly encourage OSE to include provisions to ensure that, as building owners strive for compliance, there are requirements to take advantage of the significant [federal incentives for electric alternatives under the Inflation Reduction Act](#) and substitute these alternatives any time building owners are replacing fossil fuel-fired equipment.

Need for More Ambitious Timelines: Decarbonizing Seattle's buildings over 20,000 square feet will result in lowering Seattle's building emissions by 27%. While this is significant, we need to achieve these reductions as soon as possible for them to be meaningful, and to allow time to address residential emissions in the future. We agree with the [MLK Labor Council's resolution](#) and support more ambitious timelines for this policy in order to meet the City's climate targets, which call for a complete transition off of fossil fuels by 2030. Specifically, we support requiring all publicly owned buildings to be fossil free by 2030, and for more stringent timelines for privately owned buildings to require complete decarbonization by 2035 with targeted exemptions to protect hospitals and affordable housing. Moreover, all buildings need to start planning for compliance -- project plan outlines including financing as well as timing of equipment replacement should be in place for all building types by 2025, and the city should budget and staff for ample planning assistance, particularly for affordable housing providers.

Prioritizing an electrification pathway over alternative fuels: Washington's [2021 State Energy Strategy](#) found that electrification of all sectors is the most cost-effective way to meet our statutory climate targets. Electric heat pumps, heat pump water heaters, and induction cooking appliances are proven technologies for Seattle's climate. Meanwhile, alternative fuels like RNG and green hydrogen are only available in limited quantities and should be reserved for sectors that are currently difficult to decarbonize, such as some specific transportation and industrial uses where electrification is not yet technologically or financially feasible. Green hydrogen and RNG also have the following health issues:

Hydrogen:

[Recent studies](#) have found that blending hydrogen with methane dramatically increases NOx emissions of gas appliances, and the associated health impacts. Additionally, [a comprehensive risk assessment conducted by Hy4Heat](#) evaluating a theoretical methane-hydrogen blend predicted that the number of explosions per year and the risk of injuries from in-home explosions would be four times higher with a 20 percent blend of hydrogen compared to methane alone.

RNG:

Chemically identical to conventional “natural” methane gas, RNG adoption does nothing to mitigate the significant health impacts associated with gas burning appliances detailed above. Additionally, according to [a report by California Climate and Agriculture Network](#), increasing demand for RNG likely increases localized pollution, disproportionately impacting low income and BIPOC communities.

We urge the City to remove the use of alternative fuels as a compliance pathway. If these fuels are included, we encourage the policy to require electrification as the primary pathway for compliance with the BEPS, and to only consider alternative fuels like RNG and green hydrogen as an alternative compliance pathway when a building owner has filed a hardship claim. We would also like to see building owners answer the following questions when requesting to use RNG or green hydrogen:

- How will building owners guarantee that 100% RNG is used directly on-site, rather than through purchasing Renewable Thermal Credits (RTCs) that may not originate locally?
- How will building owners mitigate the air quality impacts of combusting RNG or green hydrogen, both of which can emit high levels of air toxics like nitrogen oxides (NOx)?
- Why is electrification not feasible for the covered buildings?
- Has any cost-effectiveness calculations done by building owners included the social cost of greenhouse gasses?
- How will building owners account for upstream emissions from pipeline leaks, or from gas appliances like gas stoves that have been [proven to leak methane even when turned off](#)?

Fines: We believe that fines for violations should be designed (in amount, frequency, etc.) to encourage compliance. Currently, the fines system in the draft ordinance seems likely insufficient to encourage compliance, and are not comparable to the compliance fees that have been instituted by other cities across the country with carbon-based building performance standards:

- Boston’s updated [Building Energy Reporting and Disclosure \(BERDO\)](#) law charges building owners between \$300-\$1,000 (depending on building type and size) *per day* for failure to comply with emissions standards, and a fee of between \$1,000-\$5,000 for failure to report accurate information.
- Washington D.C.’s [BEPS](#) charges an alternative compliance penalty of up to \$10/sq ft of gross floor area, not to exceed \$7.5 million.
- Vancouver, Canada’s [Annual Greenhouse Gas and Energy Limits By-law](#) charges a penalty of \$350C per ton of CO2e for the GHG emissions that exceed the annual limit set by the policy

Options to improve Seattle’s compliance fee include:

- At minimum, including a fee equal to or greater than the examples listed above
- Charge the fine quarterly while the violation persists (encouraging late compliance rather than no compliance)

- Defer determining the amounts of fines to rulemaking and set them in a manner likely to encourage compliance

Seattle Climate Investment Fund: We support the allocation of revenue from fines, penalties, and alternative compliance payments to the Seattle Climate Investment Fund. These funds should be used to support affordable, equitable decarbonization for highly impacted communities, affordable housing, and low- and moderate-income (LMI) tenants. We recommend that the BEPS ordinance specify a minimum percentage of these funds that must be allocated to programs directly benefiting these communities, or that the ordinance identify priority programs directed at these communities that must be funded before funds are allocated to other uses.

For example, the ordinance could specify that 40% of the funds be directed to highly impacted communities in line with the federal government's [Justice 40 Initiative](#), although a significantly higher percentage may be appropriate in this context.

Climate Commitment Act (CCA) Exemption

The current draft BEPS exempts any entity that is covered by CCA, the state's cap-and-invest program, from complying with the Seattle BEPS. There is no legal reason for this exemption - CCA does preempt local jurisdictions from passing policies that levy a tax or charge on greenhouse gas emissions, but the BEPS is not a carbon price. Entities that are covered by CCA should not be exempted from the Seattle BEPS as this sets a dangerous precedent that any local law aimed at reducing greenhouse gas emissions would be preempted by CCA, which is not in the spirit *or* letter of the law.

These are our broad must-haves for a sound BEPS policy. We look forward to working with you on details of the final legislation to make sure it doesn't have undue loopholes, exemptions, or other risks to a stable climate.

Thank you for your consideration, and for your work to reduce emissions in line with what is called for by the best available climate science.

Signed,

Dylan Plummer, Senior Campaign Representative, Sierra Club



04/11/2023

Mayor Bruce Harrell
City of Seattle
600 4th Ave
7th Floor
Seattle, WA 98104

Dear Mayor Harrell,

ArchEcology is writing to voice our support for the City of Seattle's Building Emissions Performance Standards (BEPS) policy that the Office of Sustainability and Environment has been developing. As members of the sustainable building industry, we know that building retrofits require planning and investment, and a strong BEPS for the City's largest buildings is needed to support the transition to clean, efficient electric heating and hot water systems in our buildings.


The City's [2018 Climate Action Strategy](#) calls for a 40% emissions reduction by 2030, and the [2019 Green New Deal Resolution](#) calls for a complete transition off of climate-polluting fuels by 2030. To meet the City's goals to reduce polluting emissions and protect public health and safety, Seattle must rapidly transition its existing buildings off fossil fuels and to clean, renewable electricity. The proposed BEPS policy will put in place a timeline to ensure that large commercial and multifamily buildings make the transition in the coming years to protect our climate, while expanding access to high efficiency heat pumps which provide life-saving cooling in the face of extreme heat events and wildfire smoke.

Highly efficient all-electric buildings typically cost less to operate once built, while also helping to avert public health and climate costs. All-electric, energy-efficient buildings are more resilient in the face of climate change. Under extreme weather conditions, a highly insulated building will do a far better job at maintaining habitable temperatures. Plus, more efficient buildings will have lower energy costs.

A strong BEPS is needed now, to encourage Seattle building owners to access key funding for clean energy retrofits from the federal Inflation Reduction Act, which are only available this decade. Without a policy pathway and support, many building owners may not be aware of these investments, nor of the potential cost-savings associated with fuel-switching and retrofitting earlier rather than decades down the line.

Thank you, Mayor Harrell, for joining the National BPS Coalition, and we encourage you to follow through on this commitment and pass a strong, equitable BEPS here in Seattle. Thank you for your consideration, and for your continued work on impactful climate action policies.

Sincerely,



Nancy Henderson, AIA, LEED AP BD+C
Managing Member, ArchEcology, LLC

cc: Deputy Mayor, Greg Wong; OSE Director, Jessyn Farrell

From: Patricia Heye

Sent: Tuesday, April 11, 2023 4:54 PM

To: Harrell, Bruce <Bruce.Harrell@seattle.gov>

Cc: Wong, Greg <Greg.Wong@seattle.gov>; Farrell, Jessyn <Jessyn.Farrell@seattle.gov>; Brad Jacobson; Christopher Patano; Jack Rusk

Subject: Please Pass Seattle's Building Emissions Performance Standards Policy (BEPS)

CAUTION: External Email

Date: 04/11/2023

To: Mayor Harrell

CC: OSE Director Jessyn Farrell, Deputy Mayor Greg Wong

Subject: Support for Building Emissions Performance Standards

Mayor Harrell,

EHDD is writing to voice our support for the city of Seattle's Building Emissions Performance Standards (BEPS) policy that the Office of Sustainability and Environment has been developing. As architects, designers, and members of the Seattle community, we know that building retrofits require planning and investment, and a strong BEPS for the City's largest buildings is needed to support the transition to clean, efficient electric heating and hot water systems in our buildings.

Buildings are one of the largest and fastest growing sources of emissions in the region, primarily due to the use of fossil fuels for space and water heating. In Seattle, buildings produce over one third of existing emissions, and building emissions continue to rise year over year even as Seattle has made progress with other sectors like transportation. While recent changes to the Washington state energy codes and market trends have almost completely halted the construction of new buildings using fossil fuels for space and water heating, existing buildings continue to pose a significant barrier to reaching net zero emissions.

In order to meet the City's goals to reduce polluting emissions and protect public health and safety, Seattle must rapidly transition its existing buildings off of fossil fuels and to clean, renewable electricity. The proposed BEPS policy will put in place a timeline to ensure that large commercial and multifamily buildings make the transition in the coming years to protect our climate, while expanding access to high efficiency heat pumps which provide life-saving cooling in the face of extreme heat events and wildfire smoke.

A strong BEPS is needed now, to encourage Seattle building owners to access key funding for clean energy retrofits from the federal Inflation Reduction Act, which are only available this decade. Without a policy pathway and support, many building owners may not be aware of these investments, nor of the potential cost-savings associated with fuel-switching and retrofitting earlier rather than decades down the line. Other major cities have already

passed similar policies, including Washington D.C., New York City, and Boston. Let's ensure that Seattle maintains its position as a climate leader, and join other major cities in passing one of these policies to transition large buildings off of polluting fossil fuels.

Thank you, Mayor Harrell, for joining the National BPS Coalition, and we encourage you to follow through on this commitment and pass a strong, equitable BEPS here in Seattle. Thank you for your consideration, and for your continued work on impactful climate action policies.

Sincerely,

Patricia Heye on behalf of EHDD

Patricia Heye AIA, LEED® BD+C
Architect

1101 Alaskan Way - Pier 55, Suite 203
Seattle, WA 98101
[+1 206-649-3646](tel:+12066493646)



[OSE Editorial Note: This list of recommendations is from a group of downtown building owners (primarily commercial real estate, life science and market rate multifamily). It was sent on 04/12/23 by John C. McCullough, MCCULLOUGH HILL PLLC via email.]

BEPS Oversight Group Recommendations

Our preliminary list of recommended modifications to the program includes the following:

1. Defer Non-Residential Compliance. Defer non-residential compliance dates to be consistent with the residential compliance dates.
2. Expand the Categories of Uses. Establish separate compliance standards, timetables and metrics for lab, hospital, datacenter, research & development and life science uses that address the unique characteristics and requirements of such uses.
3. District Energy. Allow decarbonization of district steam systems (in compliance with WA Climate Commitment Act) to qualify as compliance for customer buildings.
4. Landmark Buildings. Establish performance exemptions for landmark buildings.
5. Older Buildings. Create a separate extended compliance path for non-steam, non-landmark buildings built before 1930.
6. Final Compliance Target. Reduce final compliance target below 100% and/or extend final compliance timetable.
7. Equipment Life-Cycle Allowance. Adopt life-cycle allowances and timetables for existing equipment replacement, similar to the State's CBPS investment criteria performance metric.
8. Financial Hardship Allowance. BEPS should adopt criteria for extension of compliance dates and/or modification of compliance standards in cases where the cost of BEPS compliance will deprive the building owner of a demonstrated current return.
9. Non-Interruptible Uses. BEPS regulations must accommodate a special compliance path for uses not subject to interruption, such as research, life science and datacenter uses.
10. Site Access Issues. Lease agreements and other property restrictions (e.g., lender covenants) may restrict the timing and manner of access to certain building areas, which will impact the timing of BEPS compliance. BEPS regulations should account for these unavoidable limitations.
11. Alternative Compliance Paths/Physical & Financial Infeasibility. BEPS should include a process to validate cases where full compliance is infeasible due to physical limitations and offer alternative paths to offset carbon emissions in such hardship cases (and in cases of financial hardship as noted in #8 above), such as off-site/non-Seattle based solar power purchase programs or electric vehicle subsidies for residents.
12. SCL Program Benchmarking. BEPS compliance timetable should be benchmarked against demonstrated capacity in SCL network and service delivery. Loss of

hydropower resources, significant power needs for EV charging and long timelines for network and building service upgrades will affect the compliance schedule. A process should be in place to adjust compliance dates based on these issues. SCL network and service capacity should be certified at least 18 months prior to each compliance date, or the compliance date extended accordingly.

13. Land Use & Building Code Flexibility. The Land Use Code should be amended to create a range of code departures associated with BEPS compliance. Similarly, the Building Code should exempt all BEPS compliance work from substantial alteration review.
14. Permit Assistance. SCL and SDCI should have a staff team committed to supporting permitting for BEPS compliance, including expedited permitting and abatement of permit fees.
15. Use of Penalties. Use proceeds of any penalty payments to fund single-family house upgrades (e.g., heat pump installation).
16. Campus & Portfolio Compliance. Establish campus-wide and portfolio-wide solutions for compliance.
17. Projects in Progress. Buildings now in the permit process may not be delivered for several years, only to face imminent BEPS retrofit requirements. In addition to the life-cycle allowances noted above, provide an extended compliance date for such new buildings.
18. Building Conversion. Create incentivized compliance pathways to promote office-to-residential/hotel building change of use.
19. Incentives. Create incentives for early compliance (e.g., state program for property tax abatement).
20. Peaking Exceptions. Provide allowances for back-up power, peaking needs, special uses.
21. Affordable Housing Exception. Establish exceptions and/or extended compliance dates for low-income housing & shelters.
22. Technical Working Group & Rulemaking. Establish a Technical Working Group to provide consultation to OSE in the rulemaking process.
23. Program Evaluation. Require evaluation of BEPS based on compliance results, cost issues and secondary effects every 5 years, to determine if the program should be adjusted.



April 14, 2023

To: Mayor Bruce Harrell: Bruce.Harrell@seattle.gov
CC: Deputy Mayor Greg Wong: Greg.Wong@seattle.gov
OSE Director Jessyn Farrell: jessyn.farrell@seattle.gov

Re: Support for Seattle Building Emissions Performance Standards

Dear Mayor Harrell,

McKinstry is writing to state our support for the City of Seattle Building Emissions Performance Standards (BEPS) and to recommend additional market engagement before compliance requirements are finalized.

We applaud the city's leadership toward a clean energy economy. Seattle's goal of net-zero emissions (by 2041-2045 for nonresidential buildings, 2046-2050 for multifamily buildings) is necessary and urgent. McKinstry fully supports decarbonization of the built environment to mitigate environmental damage and to enable building owners to provide the market with buildings that are resilient, healthy, and differentiated to attract tenants and investors. Thirty U.S. cities or local authorities are developing regulations similar to BEPS and New York City's Local Law 97 in the next two years, and research indicates that policymakers and building owners have a common goal in effective decarbonization policies that lead to better buildings and better environmental and social outcomes.

McKinstry is a national leader in the decarbonization and electrification of buildings and infrastructure, and we have unique perspective on compliance with regulations and codes. We support building owners, developers, builders, and operators in planning, designing, constructing, and optimizing buildings across vertical markets in both private and public sectors. Our engineering services include planning, feasibility, and project development, and we conduct studies for buildings and portfolios on behalf of owners pursuing decarbonization goals and in several jurisdictions with progressive policies, including Seattle and Denver. We navigate the technical and financial realities of decarbonization on most of our projects.

While we unambiguously support the push to net-zero emissions, we also encourage the City of Seattle to take all possible steps to evaluate feasibility across all affected building types, to tailor requirements based on use cases, and to define specific city commitments to help building owner's transition. BEPS and similar legislation force a new way of evaluating real estate value and planning for investments. Our experience with supporting compliance with the Washington Commercial Clean Buildings Performance Standard (CBPS) indicates that considerable technical and financial support will be necessary to ensure equitable application of performance goals. We believe that the ultimate goal of net-zero emissions by 2045 will only be better enabled through refinement of the draft compliance requirements, and we are committed to supporting this effort through technical and financial analysis.

Thank you, Mayor Harrell, for remaining steadfast in the need to decarbonize our built environment through strong, equitable policy here in Seattle.

Sincerely,

Ash Awad | President & Chief Market
Officer 206.832.8227 |



Date: 4/13/2023

To: Mayor Harrell

CC: OSE Director Jessyn Farrell, Deputy Mayor Greg Wong

Subject: Support for Building Emissions Performance Standards

Mayor Harrell,

On behalf of O'Brien360, I am writing to voice our support for the city of Seattle's Building Emissions Performance Standard (BEPS) policy that the Office of Sustainability and Environment has been developing. As participants in the multifamily and commercial real estate industry in the Pacific Northwest, we know that building retrofits require planning and investment. A strong, predictable BEPS for Seattle's buildings is needed to catalyze market transformation and support the transition to clean, efficient electric heating and hot water systems in our buildings.

In order to meet the City's goals to reduce polluting emissions and protect public health and safety, Seattle must rapidly transition its existing buildings off of fossil fuels and to clean, renewable electricity. A strong BEPS is needed now, to encourage Seattle building owners to access key funding for clean energy retrofits from the federal Inflation Reduction Act, which are only available this decade. Without a policy pathway and support, many building owners may not be aware of these and other capital resources, nor of the potential cost-savings associated with fuel-switching and retrofitting earlier rather than decades down the line.

While the real estate industry might prefer to delay this inevitable transition to protect their near term returns, the social cost of that delay, largely born by those least able to afford it, is unacceptable. The BEPS will actually set the stage for a market transformation and will incentivize building owners to proactively transition their portfolios, improving competitiveness and avoiding spiralling operating cost increases associated with fossil fuel dependence.

Thank you, Mayor Harrell, for joining the National BPS Coalition, and we encourage you to follow through on this commitment and pass a strong, equitable BEPS here in Seattle. Thank you for your consideration, and for your continued work on impactful climate action policies.

Signed,

A handwritten signature in black ink, appearing to read 'Alistair Jackson', is written over a light blue horizontal line.

Alistair Jackson

Principal



April 12, 2023

To: Mayor Harrell

CC: OSE Director Jessyn Farrell, Deputy Mayor Greg Wong

Subject: Support for Building Emissions Performance Standards

Mayor Harrell:

Miller Hull is writing to voice our support for the city of Seattle's Building Emissions Performance Standards (BEPS) policy that the Office of Sustainability and Environment has been developing. As architects who practice in this city, we know that building retrofits require planning and investment, and a strong BEPS for the City's largest buildings is needed to support the transition to clean, efficient electric heating and hot water systems in our buildings.

In order to meet the City's goals to reduce polluting emissions and protect public health and safety, Seattle must rapidly transition its existing buildings off of fossil fuels and to clean, renewable electricity. The proposed BEPS policy will put in place a timeline to ensure that large commercial and multifamily buildings make the transition in the coming years to protect our climate, while expanding access to high efficiency heat pumps which provide life-saving cooling in the face of extreme heat events and wildfire smoke.

A strong BEPS is needed now, to encourage Seattle building owners to access key funding for clean energy retrofits from the federal Inflation Reduction Act, which are only available this decade. Without a policy pathway and support, many building owners may not be aware of these investments, nor of the potential cost-savings associated with fuel-switching and retrofitting earlier rather than decades down the line.

Thank you, Mayor Harrell, for joining the National BPS Coalition, and we encourage you to follow through on this commitment and pass a strong, equitable BEPS here in Seattle. Thank you for your consideration, and for your continued work on impactful climate action policies.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert Misel".

Robert Misel, AIA, Partner
The Miller Hull Partnership

The Miller Hull Partnership, LLP

www.millerhull.com

Seattle

Polson Building
71 Columbia Street, Sixth Floor
Seattle, WA 98104
Tel: 206.682.6837

San Diego

Point Loma Marina
4980 North Harbor Drive, Suite 100
San Diego, CA 92106
Tel: 619.220.0984



Date: 4/13/2023

To: Mayor Harrell

CC: OSE Director Jessyn Farrell, Deputy Mayor Greg Wong

Subject: Support for Building Emissions Performance Standards

Mayor Harrell,

I am writing on behalf of Cascade Built to voice our support for the city of Seattle's Building Emissions Performance Standards (BEPS) policy that the Office of Sustainability and Environment has been developing. As sustainable building developers, contractors and owners as well as members of the greater Seattle community, we know that building retrofits require planning and investment, and a strong BEPS for the City's largest buildings is needed to support the transition to clean, efficient electric heating and hot water systems in our buildings.

In order to meet the City's goals to reduce polluting emissions and protect public health and safety, Seattle must rapidly transition its existing buildings off of fossil fuels and to clean, renewable electricity. The proposed BEPS policy will put in place a timeline to ensure that large commercial and multifamily buildings make the transition in the coming years to protect our climate, while expanding access to high efficiency heat pumps which provide life-saving cooling in the face of extreme heat events and wildfire smoke.

A strong BEPS is needed now, to encourage Seattle building owners to access key funding for clean energy retrofits from the federal Inflation Reduction Act, which are only available this decade. Without a policy pathway and support, many building owners may not be aware of these investments, nor of the potential cost-savings associated with fuel-switching and retrofitting earlier rather than decades down the line.

Thank you, Mayor Harrell, for joining the National BPS Coalition, and we encourage you to follow through on this commitment and pass a strong, equitable BEPS here in Seattle. Thank you for your consideration, and for your continued work on impactful climate action policies.

Sincerely,

Sloan Ritchie

President
Cascade Built

From: Ben Wolk

Sent: Friday, April 14, 2023 9:40 AM

To: Harrell, Bruce <Bruce.Harrell@seattle.gov>

Cc: Wong, Greg <Greg.Wong@seattle.gov>; Farrell, Jessyn <Jessyn.Farrell@seattle.gov>

Subject: Support for Building Emissions Performance Standards

CAUTION: External Email

Mayor Harrell,

I am writing on behalf of myself as an architect and resident of Seattle to voice my support for the city of Seattle's Building Emissions Performance Standards (BEPS) policy that the Office of Sustainability and Environment has been developing. As a member of the building industry and member of the Seattle community, I know that building retrofits require planning and investment, and a strong BEPS for the City's largest buildings is needed to support the transition to clean, efficient electric heating and hot water systems in our buildings.

In order to meet the City's goals to reduce polluting emissions and protect public health and safety, Seattle must rapidly transition its existing buildings off of fossil fuels and to clean, renewable electricity. The proposed BEPS policy will put in place a timeline to ensure that large commercial and multifamily buildings make the transition in the coming years to protect our climate, while expanding access to high efficiency heat pumps which provide life-saving cooling in the face of extreme heat events and wildfire smoke.

A strong BEPS is needed now, to encourage Seattle building owners to access key funding for clean energy retrofits from the federal Inflation Reduction Act, which are only available this decade. Without a policy pathway and support, many building owners may not be aware of these investments, nor of the potential cost-savings associated with fuel-switching and retrofitting earlier rather than decades down the line. Not only are there cost savings associated with the operation of the buildings, this improves the indoor air quality for the inhabitants, which encourages them to extend their leases, thus reducing costs associated with turnover. It also will improve the health of the residents and the city as a whole, thus reducing external costs related to healthcare. Better buildings are better for all and we must look towards the long term and not be blinded by short term costs/challenges.

Developers and builders will complain about additional costs and claim that this makes housing unaffordable to build and own. This is a strawman argument and they are only looking at their own profits and short term issues. We should not reduce the

quality of our housing stock to placate developers who are afraid of change or putting effort into quality construction. The city has other levers to pull that have a significantly greater impact on construction costs and affordability. These include reducing the timeframe and costs for permitting, providing more incentives for affordable and green housing to lower permit fees and delays, and not putting the onus on developers/builders for improving infrastructure or the right of way. Infrastructure should be a cost borne by the city for smaller affordable projects, and a shared partnership for larger projects.

Thank you, Mayor Harrell, for joining the National BPS Coalition, and I encourage you to follow through on this commitment and pass a strong, equitable BEPS here in Seattle. Thank you for your consideration, and for your continued work on impactful climate action policies.

Signed,

Ben Wolk, RA, SHP, CPHC, NCARB

Additional Points to Note:

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-
- The City's
- [2018](#)
- [Climate Action Strategy](#)
- calls for a 40% emissions reduction by 2030, and the [2019](#)
- [Green New Deal Resolution](#)
- calls for a complete transition off of climate-polluting fuels by 2030.
-
-
-
- Buildings are one of the largest and
- fastest growing sources of emissions in the region, primarily due to the use of fossil fuels for space and water heating. In Seattle, buildings produce over one third of existing emissions, and building emissions continue to rise year over year even as Seattle
- has made progress with other sectors like transportation. While recent changes to the Washington state energy codes and market trends have almost completely halted the construction of new buildings using fossil fuels for space and water heating, existing buildings
- continue to pose a significant barrier to reaching net zero emissions.
-
-
-
- Burning fossil fuels in buildings also
- emits dangerous air pollutants like nitrogen oxide (NOx) and particulate matter

(PM2.5). Data from a

- [study](#)
- from the Harvard T.H. Chan School of Public Health indicates that air pollution from fossil fuel use in buildings is responsible for dozens of early deaths and hundreds of millions of dollars' worth of annual health impacts in Washington. These impacts are
- [disproportionately](#)
- [being borne](#) by communities
- of color.
-
-
-
- Other major cities have already passed
- similar policies, including Washington D.C., New York City, and Boston. Let's ensure that Seattle maintains its position as a climate leader, and join other major cities in passing one of these policies to transition large buildings off of polluting fossil
- fuels.
-
-
-
- Highly efficient all-electric buildings
- typically cost less to operate once built, while also helping to avert public health and climate costs. All-electric, energy-efficient buildings are more resilient in the face of climate change. Under extreme weather conditions, a highly insulated building
- will do a far better job at maintaining habitable temperatures. Plus, more efficient buildings will have lower energy costs.
-



Mayor Harrell,

The NW Energy Coalition (NWECC) is writing to voice our support for the city of Seattle's Building Emissions Performance Standards (BEPS) policy that the Office of Sustainability and Environment has been developing. As clean and affordable energy advocates in Seattle and the Pacific Northwest, we know that building retrofits require planning and investment, and a strong BEPS for the City's largest buildings is needed to support the transition to clean, efficient electric heating and hot water systems in our buildings.

NWECC has supported the BEPS policy alongside many other stakeholders over the last three years. **We support many of the recommendations in the recent letter you received from Climate Solutions and RMI.**

The City's [2018 Climate Action Strategy](#) calls for a 40% emissions reduction by 2030, and the [2019 Green New Deal Resolution](#) calls for a complete transition off climate-polluting fuels by 2030. To meet these goals to reduce polluting emissions and protect public health and safety, **Seattle must rapidly transition its existing buildings off fossil fuels and to clean, renewable electricity.** The proposed BEPS policy will put a timeline in place to ensure that large commercial and multifamily buildings make the transition in the coming years to protect our climate, while expanding access to high efficiency heat pumps which provide heat and life-saving cooling in the face of extreme heat events and wildfire smoke.

A strong BEPS is needed now, to encourage Seattle building owners to access key funding for clean energy retrofits from the federal Inflation Reduction Act, which are only available this decade. Without a policy pathway and support, many building owners may not be aware of these investments, nor of the potential cost savings associated with fuel-switching and retrofitting earlier rather than decades down the line.

Seattle is a leader among cities in adopting aggressive policies to combat climate change and achieve an equitable energy transition. Thank you, Mayor Harrell, for joining the National BEPS Coalition, and we encourage you to follow through on this commitment and pass a strong, equitable BEPS here in Seattle. Thank you for your consideration, and for your continued work on impactful climate action policies.

Sincerely,

Lauren McCloy, Policy Director
NW Energy Coalition



To: Seattle Office of Sustainability and Environment Director Jessyn Farrell

CC: Mayor Bruce Harrell, Deputy Mayor Greg Wong

From: Climate Solutions and RMI

Subject: Technical recommendations for Seattle's BEPS proposal

Date: Friday, April 14, 2023

RMI and Climate Solutions strongly support the implementation of a Building Emissions Performance Standard (BEPS) in Seattle that aims to reduce greenhouse gas (GHG) emissions from buildings over 20,000 square feet. Seattle's BEPS, when passed, is expected to be the strongest carbon-based building performance standard (BPS) in the country, reducing 27% of Seattle's building emissions overall and leading the way in tackling climate and air pollution. We applaud Seattle's Office of Sustainability and Environment for developing this policy and leading a robust stakeholder process, and we thank Mayor Harrell for signing onto the National BPS Coalition and making this commitment to building decarbonization.

We would love to see the policy implemented in its strongest possible form to reduce emissions and air pollution equitably and effectively, and to be enforced in a way that will achieve its climate targets as soon as feasible. **This memo is meant to serve as technical guidance and insight as the Seattle Office of Sustainability and Environment (OSE) revises the current draft of the city's BEPS ordinance.**

Our overall recommendations, described in more detail below, are that the BEPS policy should:

- Require that any replacements of fossil fuel equipment made by covered building owners must be free of fossil fuels beginning immediately
- Disallow the use of renewable natural gas or hydrogen for building decarbonization
- Achieve greater greenhouse gas emissions in the short-term by providing a shorter timeline for compliance overall, and by increasing the carbon reductions required in earlier compliance periods
- Remove the alternative compliance pathways that allow building owners to make payments through 2035 in lieu of carbon reductions
- Increase the amount and frequency of noncompliance penalties to incentivize compliance
- Include provisions to exempt energy use specifically for charging electric vehicles from the policy
- Remove the exemption for compliance by entities covered by the statewide Climate Commitment Act (CCA)

Phase out fossil fuel equipment replacements

The policy currently does not address or explicitly phase out the replacement of existing fossil fuel equipment. According to data collected by the Energy Information Administration (EIA), the useful life of different fossil fuel equipment ranges from 10 years for gas storage water heaters to nearly 30 years for large commercial gas-fired boilers.¹ This means that when existing boilers burn out, building owners that

¹ Guidehouse, "EIA – Technology Forecast Updates – Residential and Commercial Building Technologies – Reference Case," U.S. Energy Information Association (EIA) (2023): 119, 148.

<https://www.eia.gov/analysis/studies/buildings/equipcosts/pdf/appendix-a.pdf>

replace them with new boilers will likely be required to tear them out before the end of their useful life in order to successfully reach the GHG emission targets.

Ideally, the requirement to replace fossil fuel appliances on burnout would be both a requirement in the building code and BEPS so that these policies could complement each other. The requirement does not currently exist in the BEPS, and the proposed 2021 Seattle Commercial Energy Code presents a loophole for existing buildings that will allow many buildings to continue to install gas equipment. This exemption allows buildings to replace their gas equipment with new gas equipment if electrification would otherwise trigger a utility transformer upgrade. Given the substantial increase in electrical panel demand from heating and water heating equipment when installed, this will be triggered in many buildings. These buildings cannot be left behind in the BEPS or existing building code process, and OSE has the opportunity to effectively address their decarbonization in both.

To further ensure that the BEPS is not allowing for new gas appliances to be installed, during each compliance period, OSE should analyze the overall gas usage of the building as a percentage of total energy use of the building. If the gas usage is more than 10% of the total energy usage of the building, OSE should assume they are still using gas for space and/or water heating, and OSE should have the building owner list out the boiler plate data for all gas equipment in the building. If found between one compliance period to another that the owner has replaced the old gas equipment with new gas equipment, then OSE should consider mandating the building owner sign a letter acknowledging that they will need to replace this equipment in future compliance periods if the gas grid is not decarbonized. If the owner refuses to sign, then they could be subject to a penalty.

If the owner is using a lot of gas (more than 40% of total energy usage) in an earlier compliance period, and the provided nameplate data that suggests that the gas equipment is past the end of its useful life (compared to the EIA estimates), then the owner should be warned by OSE that they will need to fuel switch the gas appliance by the next compliance period, or face penalties.

Disallow use of renewable natural gas and hydrogen

Renewable natural gas (RNG) is an inadequate solution that is limited in supply, very expensive, and does not lower emissions. For this reason, OSE should seek every opportunity possible to fuel-switch from gas to electricity and not rely on the gas grid's decarbonization as part of its strategy to decarbonize the building sector.

Research from the National Renewable Energy Laboratory (NREL) suggests there is only enough biomethane to decarbonize 5% of the nation's natural gas consumption.² This means that meeting the 2050 federal climate goals will require the use of power-to-gas technology to create the renewable fuels needed to heat buildings. A study from the American Geophysical Union on least-cost carbon-neutral pathways found that creating renewable fuels from electricity involves higher electrical usage than the

² National Renewable Energy Laboratory, "Energy Analysis: Biogas Potential in the United States," U.S. Department of Energy (2013): 1. <https://www.nrel.gov/docs/fy14osti/60178.pdf>

electrification scenario, and that creating renewable fuels will, in turn, drive up carbon emissions.³ This is due to the high electrical demand needed to create renewable fuels and the low energy efficiency of space heating technologies that combust the gas. The American Gas Foundation's own data found that after two decades of ramping up supply, RNG could supply only 6 to 13% of the nation's total gas consumption.⁴ RNG is also expected to cost 8 to 17 times more than the expected price trajectory of natural gas, according to research from the California Energy Commission.⁵

The vast majority of that small RNG supply is not carbon-negative nor even carbon-neutral, as industry often claims. The amount of carbon-negative biogas, which comes from capturing unintentionally-created waste methane that would normally be leaked to the atmosphere, is extremely limited and should not be considered as a significant resource. Recent research published in *Environmental Research Letters* found that less than 1% of the nation's total gas demand can be captured from unintentional waste methane. This indicates that RNG producers would need to intentionally produce methane to meet any sustainable amount of national gas demand. The research also found that "RNG from intentionally produced methane is always GHG-positive unless total system leakage is 0".⁶ This means that only a small fraction of RNG can be used for building decarbonization, while all other RNG will still be contributing to climate change.

If a customer is going to use green hydrogen to comply, then they should have to prove they are installing devices that are capable of burning hydrogen.

Achieve greater greenhouse gas reductions in the short term

The timeline of expected greenhouse gas reductions from the current draft BEPS legislation does not align with the City of Seattle's stated climate goals. Seattle's Green New Deal resolution calls for Seattle to be carbon-free by 2030, citing the 2018 report by the Intergovernmental Panel on Climate Change (IPCC) that warns we only have until 2030 to limit global warming to 1.5 degrees Celsius and avoid climate catastrophe.⁷ Even looking to 2050, we need to achieve greater greenhouse gas reductions in the short term to stay aligned with the limit of 1.5 degrees Celsius (Fig. 1).

³ James H. Williams, Ryan A. Jones, Ben Haley, Gabe Kwok, Jeremy Hargreaves, Jamil Farbes, and Margaret S. Torn, "Carbon-Neutral Pathways for the United States," *American Geophysical Union* (2020): 7.

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2020AV000284>

⁴ Sasan Saadat, Matt Vespa, and Mark Kresowik, "Rhetoric Vs. Reality: The Myth of 'Renewable Natural Gas' for Building Decarbonization," *Earthjustice and Sierra Club* (2020): 11, 26.

<https://s3.documentcloud.org/documents/6988834/Rhetoric-vs-Reality-The-Myth-of-Renewable.pdf>

⁵ Dan Aas, Amber Mahone, Zack Subin, Michael Mac Kinnon, Blake Lane, and Sneller Price, "The Challenge of Retail Gas in California's Low-Carbon Future," *California Energy Commission* (2020):

<https://www.energy.ca.gov/sites/default/files/2021-06/CEC-500-2019-055-F.pdf>

⁶ Emily Grubert, "At scale, renewable natural gas systems could be climate intensive: the influence of methane feedstock and leakage rates," *Environmental Research Letters* (2020): 4, 5.

<https://iopscience.iop.org/article/10.1088/1748-9326/ab9335/pdf>

⁷ City of Seattle, "Resolution No. 31895: Green New Deal Resolution" (2019).

<http://seattle.legistar.com/ViewReport.ashx?M=R&N=Text&GID=393&ID=3611579&GUID=ADF51F71-1823-4D7B-B599-9ED04DFD8860&Title=Legislation+Text>

The current draft BEPS, which will reduce Seattle’s building emissions by 27%, will only achieve those reductions by 2050. Additionally, OSE’s estimates for BEPS compliance show that only 41% of the nonresidential buildings covered by the policy would be required to make any reductions at all by 2030, and only 51% by 2035. The timeline is even longer for multifamily buildings, who do not have to begin reducing carbon until the 2031-2035 compliance period; even so, only 37% of multifamily buildings will be required to achieve reductions by 2035, and only 47% by 2040.

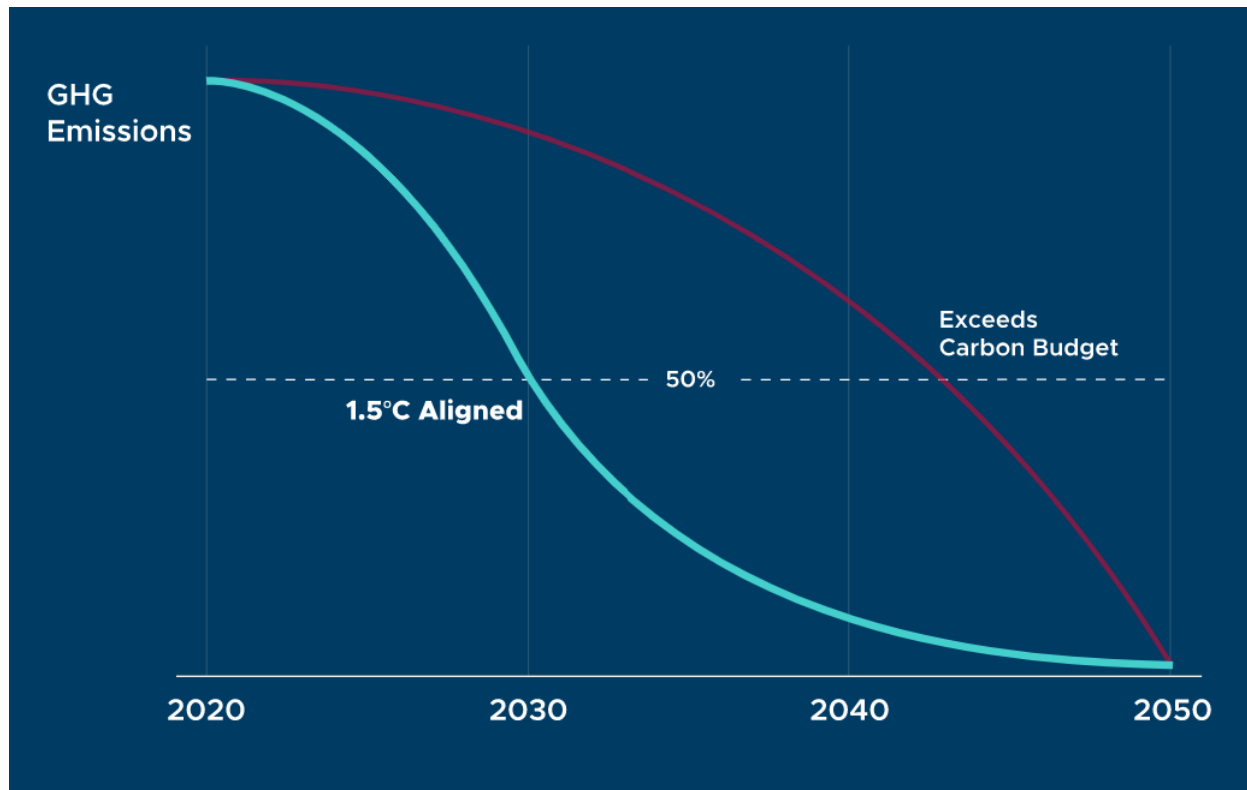


Figure 1: Carbon Budget⁸

To mitigate climate impacts in the shorter-term, reduce the risk of climate feedback loops, and require building owners to properly assess the reductions they can make now to save money in the long-term, OSE should shorten the overall timelines for compliance so that buildings must comply sooner, and increase the greenhouse gas intensity targets (GHGIs) in the earlier compliance periods. Currently, the policy does the opposite by allowing building owners to only reduce 10% of their total GHGs in a building’s first compliance period. This trend should be reversed, with higher GHGIs “front-loaded” so that a greater number of buildings must achieve deeper reductions before 2030. We also recommend that affordable housing is exempted from these bolder targets to ensure equity and affordability for low-income tenants.

Currently, the draft legislation includes an alternative compliance pathway with prescriptive options for multifamily buildings to meet the BEPS within one compliance period by replacing existing fossil fuel

⁸ RMI, “Our Work” (2023). <https://rmi.org/>

combustion service hot water or HVAC heating system equipment with electric heat pump systems. Given that the majority of fossil fuel use in all buildings goes to space heating, the prescriptive option for electrifying HVAC heating systems could be extended to all buildings covered by the BEPS. Additionally, if a building uses this prescriptive option for space heating before 2030, that building could be exempt from the following two compliance periods to incentivize early compliance.

Finally, in order to comply with the intent of the Seattle Green New Deal Resolution and to model equitable decarbonization practices for other building owners, the City of Seattle should decarbonize its own municipal building stock by 2030, instead of by 2035 as stated in the current draft legislation.

Remove alternate compliance pathways that allow payments instead of improvements

Section 22.925.100, part B of the draft legislation allows building owners to meet their compliance requirements for the 2027-2030 and 2031-2035 periods simply through payments. This does not serve the stated goal of reducing GHGs to prevent further climate catastrophe, nor are the payments high enough to encourage compliance. Given that less than half of covered buildings will even be required to reduce carbon at all in this time range, OSE should remove the option to comply purely through payments.

Increase amount and frequency of compliance penalties

To better enforce the BEPS and encourage compliance across all buildings subject to the standard, OSE should issue a compliance penalty system that increases the amount and frequency of fees. Cities with similar energy performance standards, including Boston and Washington D.C., charge higher penalties for noncompliance. For example, Washington D.C. charges a compliance penalty of up to \$10 per square foot of gross floor area, with a cap of \$7.5 million.⁹

Increasing the penalty amount will more likely stimulate compliance with the BEPS if the cost of noncompliance is high enough. In Boston, failure to comply with their emission standard could result in fees as high as \$1,000 per day.¹⁰ The state's 2019 Clean Buildings Act (CBA), which requires reductions in energy use, has been cited to justify a lower compliance fee in Seattle because compliant properties will be subject to both. However, the state's Penalties Calculator shows that penalties for buildings in noncompliance with the CBA are approximately \$2-3 per square foot.¹¹ Adding Seattle's currently drafted \$2.50 per square foot would be a total fee of about \$4.50-\$5.50 per square foot, which is only about half of Washington D.C.'s penalty. Setting a low penalty will result in low compliance rates in Seattle, which will reduce the overall impact of the BEPS.

⁹ "Building Energy Performance Standards (BEPS) Enforcement Guidebook for Compliance Cycle 1: Chapter 6 – Enforcement," District of Columbia Department of Energy and Environment (2023). https://dc.beam-portal.org/helpdesk/kb/BEPS_Guidebook/75/

¹⁰ City of Boston, "Ordinance Amending City of Boston Code, Ordinances, Chapter VII, Sections 7-2.1 and 7-2.2, Building Energy Reporting and Disclosure (BERDO)" (2021). <https://www.boston.gov/sites/default/files/file/2022/12/Final%20Amended%20Docket%200775%20BERDO%2020.pdf>

¹¹ Clean Buildings Performance Standard Document Library, "015 – Penalties Estimator," Washington State Department of Commerce (2022). <https://www.commerce.wa.gov/growing-the-economy/energy/buildings-archive-page/clean-buildings-performance-standard-document-library/>

Additionally, the draft BEPS's compliance penalty is currently a one-time fee for the five-year period. Increasing the frequency of penalties throughout the five-year compliance timeframe will help ensure compliant properties are regularly reminded of their legal responsibility to abide by city policies. Daily penalty issuances, such as what Boston has instituted, can add more pressure on compliant properties and complement the CBA's daily penalty structure for administrative convenience, as long as these penalties are also significantly higher than the CBA's.

[Include provisions to exempt energy use from electric vehicle charging](#)

As it stands now, the draft BEPS does not consider the increase in energy consumption in buildings that provide charging to electric vehicles. We recommend that buildings in Seattle that choose to include or expand charging infrastructure for electric vehicles be allowed to deduct the energy consumption from Electric Vehicle Supply Equipment (EVSE), provided that the chargers are metered separately and can be tracked and reported accurately.

Buildings that choose to build EV charging infrastructure should not be penalized for higher energy consumption as a result of more electric vehicles using electricity at their sites. Given the city's transportation electrification efforts and the state's Clean Cars 2030 measure which both aim to accelerate vehicle electrification, the BEPS should not serve as an unintentional hindrance to the buildout of EV charging infrastructure.

The City of Boston's Building Energy Reporting and Disclosure (BERDO) Ordinance allows this exemption and can help inform language in Seattle's BEPS. The ordinance text says that building owners may "choose to deduct energy used by ... Electrical Vehicle Supply Equipment (EVSE) from a Buildings' total Energy use" that is subject to the city's emissions standard provided that "ii. Electrical Vehicle Supply Equipment is separately metered or EVSE is capable of tracking and reporting accurate energy usage, and EVSE meets specifications as defined by Regulations... and iv. In the event that ... EVSE serve or have the potential to serve, multiple Buildings in a Building Portfolio, the Energy use from such activities shall be allocated for individual Buildings in proportion to the square footage of each Building."¹² OSE could consider these requirements in the BEPS modeled after Boston's ordinance.

[Remove exemption for entities covered by the Climate Commitment Act](#)

The current draft BEPS legislation exempts any entity that is covered by the Climate Commitment Act (CCA), the state's cap-and-invest program regulating emissions from the state's largest polluters, from complying with the Seattle BEPS. However, we did not find any legal reason for this exemption – CCA does preempt local jurisdictions from passing policies that levy a tax or charge on greenhouse gas emissions, but the BEPS is not a tax or charge.

While CCA is a big win for climate, it is solely one tool to reduce greenhouse gas emissions and was not intended to stand completely alone – particularly because no provisions specifically for buildings have been outlined in the law. Entities that are covered by CCA should not be exempted from the Seattle BEPS

¹² City of Boston, "BERDO" (2021): 11 (Item J).



as this sets a dangerous precedent that any local law aimed at reducing greenhouse gas emissions would be preempted by CCA, which is not in the spirit or letter of the law.

If entities covered by CCA feel unduly burdened by compliance with the Seattle BEPS, they could instead apply for a hardship exemption or alternative compliance pathway, rather than setting the precedent that local governments cannot act on climate.

We appreciate your consideration of these recommendations for the current draft BEPS legislation. Thank you for ensuring that Seattle's BEPS will be equitable, enforceable, and effective to reach the City's climate targets and prevent further climate catastrophe.

Thank you,

Jonny Kocher
Manager
RMI

Deepa Sivarajan
Washington Local Policy Manager
Climate Solutions

Jasmine Chiu
Senior Associate
RMI & America is All In Coalition



To: Mayor Bruce Harrell
CC: OSE Director Jessyn Farrell, Deputy Mayor Greg Wong

April 17, 2023

Re: UMC, Inc, supports direction of Seattle's Building Emissions Performance Standard in partnership with building owners

Honorable Mayor Harrell,

Thank you for your leadership for Seattle's built environment and for the clean-economy careers that are achieving our City's climate goals.

UMC, Inc, is a Washington-based mechanical and energy services contractor, proud to be a union company since our founding in 1920. We serve private and public commercial-scale buildings across the Northwest, including substantially within the City of Seattle.

UMC supports the City's direction in framing a carbon-based Building Emissions Performance Standard in partnership with building owners. As a longtime leader on Seattle's Building TuneUps, UMC has now recently been glad to serve as a bridge-builder among our clients and City leaders developing the BEPS.

With ambitious but achievable emissions targets, established on timelines that align with building managers' capital planning obligations alongside their other market drivers, we believe there can be a shared success for the City's climate goals and for the building industry. A smart BEPS can facilitate meaningful momentum within commercial real estate, life sciences, and healthcare buildings, both to cut emissions outright as well as to showcase that progress as attractive to tenants and investors.

As long-tenured leaders in Washington's building industry, we know that building upgrades require time for facilities and investment planning, ideally accessing federal Inflation Reduction Act resources soon. From there, a phased Seattle BEPS can make good use of our clean electricity to curb local building emissions without pushing building leaders to facilities outside Seattle.

Finally, we hope that the BEPS clearly defines its implementation among the City's involved agencies: clear guidelines codifying responsibility among OSE, SDCL, SCL, and others will be essential for the policy's success.

Thank you for your hard work for Seattle's built environment and climate goals. UMC, Inc, is ready to put our hundreds of union jobs to work to help Seattle's buildings keep living up to the challenge. We support the BEPS policy's direction.

Bonnie Frye Hemphill
Director, Policy & Partnerships





Member Organizations

A&R Solar
American Institute of Architects Seattle
American Institute of Architects Washington Council
ArchEcology
Balderston Associates, LLC
Bundle Design Studio
Carbon Innovations
Climate Solutions
Ecotope
Electrify Now
Emerald Cities Seattle
FSi Engineers
Housing Development Consortium of Seattle-King County
ILFI South Sound Collaborative
International Living Future Institute
The Miller Hull Partnership
LMN Architects
New Buildings Institute
Northwest EcoBuilding Guild
Northwest Energy Efficiency Council
Northwest Renewables
NW Energy Coalition
O'Brien360
Optimum Building Consultants, LLC
PAE Engineers
Passive House Accelerator
Passive House Institute of the United States
Passive House Northwest
RE Sources
Resource Media
RMI
Sierra Club - Washington State
South Seattle Climate Action Network
Spark Northwest
Stand.earth
Sustainable Connections
Thurston Climate Action Team
UMC
Washington Conservation Action
Washington Physicians for Social Responsibility
2050 Institute
350 Seattle
350 Spokane

April 18, 2023

Dear Mayor Harrell,

Shift Zero is an alliance of over 50 green building, energy efficiency, and climate action businesses, organizations, and certification programs, working together to promote the equitable adoption of zero carbon buildings at scale in Washington. We support solutions that meet the urgency of the climate crisis and increase access to healthy buildings and communities.

Shift Zero members are in strong support of the city of Seattle's Building Emissions Performance Standards (BEPS) policy that the Office of Sustainability and Environment has been developing. We know that building retrofits require planning and investment, and a strong BEPS for the City's largest buildings is needed to support the transition to clean, efficient electric heating and hot water systems in our buildings.

In order to meet the City's goals to reduce polluting emissions and protect public health and safety, Seattle must rapidly transition its existing buildings off of fossil fuels and to clean, renewable electricity. The proposed BEPS policy will put in place a timeline to ensure that large commercial and multifamily buildings make the transition in the coming years to protect our climate, while expanding access to high efficiency heat pumps which provide life-saving cooling in the face of extreme heat events and wildfire smoke.

A strong BEPS is needed now to encourage Seattle building owners to access key funding for clean energy retrofits from the federal Inflation Reduction Act, which are only available this decade. Without a policy pathway and support, many building owners may not be aware of these investments, nor of the potential cost-savings associated with fuel-switching and retrofitting earlier rather than decades down the line.

Thank you, Mayor Harrell, for joining the National BPS Coalition, and to the Office of Sustainability for the robust stakeholder process to develop this policy. We encourage you to follow through on this commitment and pass a strong, equitable BEPS here in Seattle.

Thank you for your consideration, and for your continued work on impactful climate action policies.

Sincerely,

A handwritten signature in cursive script that reads "Rachel Koller".

Rachel Koller
Managing Director

[OSE Editorial Note: This is an example of one of the 325 letters shared with City of Seattle.]

-----Original Message-----

From: [email address redacted for privacy]

Sent: Tuesday, May 2, 2023 12:06 PM

To: Farrell, Jessyn <Jessyn.Farrell@seattle.gov>

Subject: Let's move Seattle's big buildings off fossil fuels this decade!

CAUTION: External Email

Dear Office of Sustainability & Environment Director Jessyn Farrell,

Dear Mayor Harrell, Deputy Mayor Greg Wong and OSE Director Jessyn Farrell,

I am writing today because I care about the health of my family, my community and our shared planet. Deadly heat waves, wildfire smoke and extreme winter weather are becoming Seattle's new normal, and it is just the tip of the iceberg of what we are in for if we don't get truly serious about the climate crisis.

I am glad to see your office working on a plan to move Seattle's big buildings off fossil fuels. A strong Building Emissions Performance Policy (BEPS) could tackle a major source of Seattle's climate pollution, create good green union jobs and bring life-saving cooling to homes across Seattle. This framework is an essential tool to end our city's climate pollution that should become law without delay.

However with too-little, too-late deadlines like 2050, pay to pollute schemes, and loopholes for false climate solutions like 'renewable natural gas', the current proposal is nowhere close to achieving our city's Green New Deal goals which are based on urgent warnings from the International Panel on Climate Change. Moreover, the current plan leaves millions of dollars in federal IRA funding (only available this decade) on the table - money that could create thousands of good green union jobs and kickstart Seattle's local clean energy economy.

I ask you to put the interests of ordinary Seattlites and the existential challenge of preventing catastrophic climate change before the financial interests of the wealthy corporations like Amazon who sit on the board of the Seattle Chamber of Commerce and Downtown Seattle Association and can afford to pay for necessary climate action.

I urge you to make the following changes in the proposed BEPS policy:

1. Align timelines with Seattle's Green New Deal goals: Require all buildings covered by the policy to achieve net-zero emissions by 2030, with targeted exemptions to meet the unique needs of hospitals and affordable housing.
2. No 'pay to pollute' incentives: Alternative Compliance Fees (ACPs) just encourage climate pollution. These should be removed from the Seattle BEPS. The non-compliance penalties should be increased from \$2.5/ft² to at least \$10/ft² (matching other cities that have passed building performance standards policies, like Washington D.C). Additionally, any revenue raised should be reinvested in programs directly supporting building decarbonization in environmental justice communities.
3. Reject false climate solutions like 'renewable natural gas': When burned in our homes and buildings, renewable natural gas releases the same amount of climate pollution as conventional natural gas. Moreover, the use of renewable natural gas in buildings puts public health at risk from associated indoor and outdoor air pollution. To meet our climate goals and protect the public, buildings must be powered and heated with clean energy and high-efficiency technology.

If your office cannot promptly make these changes, I urge you to send the policy to Seattle City Council with a broad SEPA checklist and without delay so they can improve it and pass it this summer.

Seattle can lead our region and the nation by passing a strong BEPS policy with timelines rooted in climate science and justice. Seattle can build out our local green economy while creating living-wage union jobs and economic opportunity for all. Seattle can protect the health of our communities and climate.

But only if our elected officials champion real climate action. Will you rise to the climate challenge and lead at the scale of the crisis?

I urge you to move a strong BEPS policy proposal to Seattle City Council without delay.

Sincerely,
[Name removed since representative
example]

May 9, 2023

Mayor Harrell
City of Seattle

Subject: Support for Building Emissions Performance Standards

Mayor Harrell,

PAE is writing to voice our support for the city of Seattle's Building Emissions Performance Standards (BEPS) policy that the Office of Sustainability and Environment has been developing. As members of the building industry, we know that building retrofits require planning and investment, and a strong BEPS for the City's largest buildings is needed to support the transition to clean, efficient electric heating and hot water systems in our buildings.

In order to meet the City's goals to reduce polluting emissions and protect public health and safety, Seattle must rapidly transition its existing buildings off of fossil fuels and to clean, renewable electricity. The proposed BEPS policy will put in place a timeline to ensure that large commercial and multifamily buildings make the transition in the coming years to protect our climate, while expanding access to high efficiency heat pumps which provide life-saving cooling in the face of extreme heat events and wildfire smoke.

A strong BEPS is needed now, to encourage Seattle building owners to access key funding for clean energy retrofits from the federal Inflation Reduction Act, which are only available this decade. Without a policy pathway and support, many building owners may not be aware of these investments, nor of the potential cost-savings associated with fuel-switching and retrofitting earlier rather than decades down the line.

Other major cities have already passed similar policies, including Washington D.C., New York City, and Boston. Let's ensure that Seattle maintains its position as a climate leader, and join other major cities in passing one of these policies to transition large buildings off of polluting fossil fuels.

Thank you, Mayor Harrell, for joining the National BPS Coalition, and we encourage you to follow through on this commitment and pass a strong, equitable BEPS here in Seattle. Thank you for your consideration, and for your continued work on impactful climate action policies.

Sincerely,

A handwritten signature in black ink, reading "Allan Montpellier" with a stylized flourish at the end.

Allan Montpellier, P.E.
PAE

A handwritten signature in black ink, reading "David Mead" in a cursive style.

David Mead, AIA
PAE

Date: May 25, 2023

Mayor Harrell
Seattle City Council
Director of the Office of Sustainability and Environment Jessyn Farrell

Re: Green New Deal Oversight Board Comments on the draft BEPS legislation

Dear Mayor Harrell, Council Members, and Director Jessyn Farrell

A part of the role of the Green New Deal Oversight Board is to weigh in on new and existing policies to identify gaps or misalignments with the priorities set out in the Green New Deal Resolution, we felt it urgent to respond to the Building Emissions Performance Standards (BEPS) policy currently under development by the Office of Sustainability and Environment.

The BEPS policy is a tremendous opportunity to advance Seattle's Green New Deal by addressing the city's fastest-growing source of emissions while creating thousands of green union jobs and expanding access to cooling for people across Seattle. **However, the current BEPS policy is insufficient to achieve these Green New Deal goals. We urge you to amend the policy in the following ways.**

Summary Recommendations from the Green New Deal Oversight Board:

- Require all publicly owned buildings covered by the policy to achieve net-zero emissions by 2030.
- Require all privately owned buildings covered by the policy to achieve net-zero emissions by 2035, with targeted exemptions to meet the unique needs of hospitals and affordable housing.
- Any alternative fuels considered within the scope of the BEPS policy should be consistent with the Green New Deal Resolution's commitments to environmental and social justice, and a data-driven approach to reducing climate pollution.
- Increase ACP to align with the social cost of carbon defined in the best peer-reviewed science available.
- Specify a minimum percentage of the revenues generated to be allocated to programs directly supporting building decarbonization in environmental justice communities.

Align Timelines with Seattle's Green New Deal Goals

Seattle's 2019 Green New Deal legislation sets a goal of eliminating emissions citywide by 2030, while addressing environmental injustice and creating thousands of green union jobs.

The timelines in the draft BEPS legislation, however, are 20 years behind our Green New Deal goals. 2030 is an aggressive goal, but it is also one guided by the best available science. When the resolution was passed in 2019, global climate scientists agreed that rapidly reducing emissions is the best chance to keep global warming from exceeding 1.5°C, beyond which every

fraction of a degree puts millions more at risk. But, a 2022 report showed that we're reaching climate tipping points sooner than expected.

Our recommendation:

- Require all publicly owned buildings covered by the policy to achieve net-zero emissions by 2030.
- Require all privately owned buildings covered by the policy to achieve net-zero emissions by 2035, with targeted exemptions to meet the unique needs of hospitals and affordable housing.

While not explicitly a recommendation, Board members were also interested to know more about how [embodied carbon](#) impacts the ability of policies like BEPS to meet GND goals. Embodied carbon is the climate pollution released during the lifecycle of building materials, including extraction, manufacturing, transport, construction, and disposal; and it is currently not considered in the City's GHG emissions tracking or analysis. In support of data-driven policies going forward, we would like to see more detailed analysis including embodied carbon impacts.

Take a Critical Look at the Use of Natural Gas

While the proposed BEPS policy allows for the use of renewable natural gas for emissions reduction, this technology does not present a true climate solution that can help the city meet its Green New Deal goals.

Natural gas — methane by another name — is [25 times more powerful](#) than carbon dioxide (CO2) as a greenhouse gas. To arrive in Seattle's buildings, natural gas travels through aging pipelines, where [leaks](#) are estimated to release enough methane to [make natural gas worse for the climate than coal](#). And, when burned in our homes and buildings, renewable natural gas releases [the same amount of climate pollution](#) as conventional natural gas. Moreover, the use of natural gas in buildings puts public health at risk from [associated indoor](#) and [outdoor air pollution](#).

Even when derived from supposedly renewable sources, natural gas does not represent a true climate solution. However, by OSE's own admissions, the majority of natural gas in Puget Sound Energy's pipeline, the main supplier of natural gas in Seattle, is not renewable natural gas. PSE's natural gas instead originates from British Columbia, Alberta, and the Rocky Mountain states, almost all of which is derived from fracking: a destructive process with tremendous consequences for the environment and surrounding communities.

Many fracking sites and the natural gas pipelines they feed, especially those in [British Columbia](#), are associated with violating the rights of Indigenous people and contributing to the crisis of [Missing and Murdered Indigenous Women](#). The City of Seattle cannot consider itself [committed to eliminating racial disparities](#) when it supports the use of an extractive energy source that directly contributes to injustice.

To meet our climate goals, protect the public, and promote justice inside and outside of the city, our buildings must be powered and heated with clean energy and high-efficiency technology. While we recognize a shift away from natural gas may contribute to a decline in one area of work for pipefitters, we believe that Green New Deal investments in equitable transitions for workers can keep people employed in good-paying green careers. Our Board is guided by [a Just](#)

[Transition framework](#) where no workers or communities are left behind, and we will continue to advocate for local policies, programs, and investments which expand opportunities for fossil fuel workers to move into well-paying green union jobs.

Our recommendation:

- Any alternative fuels considered within the scope of the BEPS policy should be consistent with the Green New Deal Resolution's commitments to environmental and social justice, and a data-driven approach to reducing climate pollution.

Align Alternative Compliance Payments with the True social Cost of Carbon

While we support the allocation of revenue from fines, penalties, and alternative compliance payments (ACP) to the Seattle Climate Investment Fund to support decarbonizing affordable housing, the ACP must account for the true social cost of carbon.

The proposed cost of \$94 and \$100 per metric ton during the 2027-2030 and 2031-2035 compliance periods, respectively, is on par with cost of carbon adopted by Governor Inslee, but this falls far short of the \$185 per metric ton cost determined by a 2022 [study published in Nature](#). By aligning the social cost of carbon with the best science available, Seattle can raise the standard for the way carbon emissions are treated.

Our recommendations:

- Increase ACP to align with the social cost of carbon defined in the best peer-reviewed science available.
- Specify a minimum percentage of the revenues generated to be allocated to programs directly supporting building decarbonization in environmental justice communities.

The world stands at a critical juncture for making substantive climate interventions. Seattle needs the strongest BEPS policy possible to protect the health of its residents and its environment, and we believe the amendments proposed here can help Seattle cement its position as a global climate leader. We are eager to support you in this effort, and we await your response.

Respectfully,

Debolina Banerjee
Co-Chair

Peter Hasegawa
Co-Chair

Nina Olivier
Seattle Citywide Member-At-Large

Seattle Race and Social Justice Initiative

Racial Equity Toolkit

to Assess Policies, Initiatives, Programs, and Budget Issues

The vision of the Seattle Race and Social Justice Initiative is to eliminate racial inequity in the community. To do this requires ending [individual racism](#), [institutional racism](#) and [structural racism](#). The Racial Equity Toolkit lays out a process and a set of questions to guide the development, implementation and evaluation of policies, initiatives, programs, and budget issues to address the impacts on racial equity.

When Do I Use This Toolkit?

Early. Apply the toolkit early for alignment with departmental racial equity goals and desired outcomes.

How Do I Use This Toolkit?

With Inclusion. The analysis should be completed by people with different racial perspectives.

Step by step. The Racial Equity Analysis is made up of six steps from beginning to completion:

Step 1. Set Outcomes.

Leadership communicates key community outcomes for racial equity to guide analysis.

Step 2. Involve Stakeholders + Analyze Data.

Gather information from community and staff on how the issue benefits or burdens the community in terms of racial equity.

Step 3. Determine Benefit and/or Burden.

Analyze issue for impacts and alignment with racial equity outcomes.

Step 4. Advance Opportunity or Minimize Harm.

Develop strategies to create greater racial equity or minimize unintended consequences.

Step 5. Evaluate. Raise Racial Awareness. Be Accountable.

Track impacts on communities of color overtime. Continue to communicate with and involve stakeholders. Document unresolved issues.

Step 6. Report Back.

Share information learned from analysis and unresolved issue with Department Leadership and Change Team.

Racial Equity Toolkit Assessment Worksheet

Title of policy, initiative, program, budget issue: Building Emissions Performance Standards for Existing Buildings

Description: Develop GHG emissions performance standards policy for existing commercial and multifamily buildings greater than 20,000 sq.ft.. The policy will contribute to the 2013 Climate Action Plan target to achieve a 40% reduction in building related emissions by 2030 to be net zero carbon by 2050. Per Executive Order 2021-09: Driving Accelerated Climate Action, "OSE shall develop carbon-based building performance standards for existing commercial and multifamily buildings 20,000 sq. ft. or larger. OSE shall immediately commence inclusive stakeholder engagement necessary to develop this legislation, with a draft ordinance due to the Mayor's Office by July 1, 2022."

Department: OSE **Contact:** Sandra Mallory

Date Completed: January 10, 2022 - with updates 5/2/22 and 1/13/23

Policy Initiative Program Budget Issue

Step 1. Set Outcomes.

1a. What does your department define as the most important racially equitable community outcomes related to the issue? *(Response should be completed by department leadership in consultation with RSJI Executive Sponsor, Change Team Leads and Change Team. Resources on p.4)*

- include equity-focused support services for low-resource building owners, particularly alleviating cost impacts on affordable housing and small businesses;
- minimize the risk of displacement and ensure Seattle's Black, Indigenous, and people of color (BIPOC) communities benefit from healthier living and working spaces; and
- provide clean energy career initiatives to maximize the economic benefits and opportunities of the generated economic activity for BIPOC and women.

1b. Which racial equity opportunity area(s) will the issue primarily impact?

Education
Community Development
Health
Environment

Criminal Justice
Jobs
Housing

1c. Are there impacts on:

Contracting Equity
Workforce Equity

Immigrant and Refugee Access to Services
Inclusive Outreach and Public Engagement

Please describe:

- Previous building policy development processes have tended to rely on input from professional organizations, owners of larger buildings and portfolios of buildings, established engineering firms, and climate organizations. For this process to be more inclusive it will require focused engagement with a range of building owners such as, non-profits, buildings serving lower-income and/or BIPOC communities, and affordable housing (both subsidized and unsubsidized), as well as engagement with residential and small business tenants who would be impacted by the policy.
- The policy will create jobs in the clean energy economy, hence there will be a need to ensure the workforce is inclusive of women and BIPOC.

Step 2. Involve stakeholders. Analyze data.

2a. Are there impacts on geographic areas? Yes No

Check all neighborhoods that apply (see map on p.5):

- All Seattle neighborhoods
- Ballard
- North NE
- Central
- Lake Union
- Southwest
- Southeast
- Delridge
- Greater
- Duwamish
- East District
- King County (outside Seattle)
- Outside King County

Please describe: Primary impacts will be where the largest commercial and multifamily buildings are (greater than 20K SF), so in urban centers and urban villages, as well as certain buildings in industrial / manufacturing areas.

2b. What are the racial demographics of those living in the area or impacted by the issue?

(See Stakeholder and Data Resources p. 5 and 6)

Because the policy will impact buildings across the city, racial demographics will vary by location.

The policy would impact commercial and multifamily buildings greater than 20,000 sq.ft. These are buildings that are covered under the City's Energy Benchmarking program. Per 2019 data, this includes roughly 4,300 buildings total. Approximately 1,650 are commercial buildings and 1,800 multifamily, with the following estimated distribution by neighborhood (from: [Seattle Energy Benchmarking map](#)).

Downtown	605
Lake Union	285
Central	139
East	479
North	151
Northeast	318
Magnolia / Queen Anne	448
Ballard	144
Northwest	259
Greater Duwamish	376
Delridge	84

Per the Racial and Social Equity (RSE) Index, which is focused on residents of each area, corresponding areas with the highest and second highest disadvantage include downtown, SODO, South Park, Rainier Valley area, parts of the Central District and northern areas near Lake City.

Multifamily Buildings: Out of the approximately 1,800 multifamily buildings that would be subject to this policy, 55% use a combination of electric and gas; the remainder are all-electric. Multifamily buildings make up only 9% of total building emissions; with approx. 350 buildings that make up 80% of multifamily sector emissions. There are about 78 MF buildings that are categorized as medium or high risk of seismic damage due to unreinforced masonry (URM). There are 696 multifamily buildings that are located in highest or second-highest disadvantaged RSE Index areas.

2c. How have you involved community members and stakeholders? *(See p.5 for questions to ask community/staff at this point in the process to ensure their concerns and expertise are part of analysis.)*

In 2019, a series of equity focused conversations were held with an interdepartmental staff from OPCD, OED, OCR, SDCI, SCL. The goal of our internal meetings was to develop a draft set of racially equitable outcomes, draw up a list of stakeholders to be engaged, identify data available (and data gaps) to help with analysis, and incorporating racial impacts in discussions around policy scope. Engagement occurred in the form of one-on-one meetings, team meetings, and one workshop which included an equity mapping exercise.

External stakeholder engagement with by the City around a potential Building Emissions Performance Standard (BEPS) policy for existing buildings was put on hold during 2020-2021 due to COVID impacts on building owners and community generally. However, the Northwest Energy Coalition (NWECC), as part of their partnership with the City through the American Cities Climate Challenge, was able to conduct about 50 interviews of building owners, service providers and others to seek input on building

energy retrofits generally and specifically to seek input on the 2019 passage of the WA State Clean Buildings Standards, which requires that larger commercial buildings meet specific energy performance targets. NWECC's efforts included some owners of smaller buildings and nonprofits, and some limited discussions with small business owners.

Subsequently, after OSE had been given explicit direction in the Climate Executive Order to conduct inclusive stakeholder engagement, we set out to engage with a diverse set of building owners, energy professionals, tenants and labor representatives.

- Technical Advisory Group (6 meetings), with invitations to building owner representatives from affordable housing, non-profit community oriented and BIPOC serving facilities, environmental justice organizations, and labor
- Public Open Houses (2 meetings)
- Focused conversations with key organizations, including environmental justice and CBOs
- Focused engagement with priority owners, e.g. non-profit, those serving community / low-income / BIPOC, cultural anchors, class B&C office, unsubsidized affordable housing providers
- An affordable housing task force, led by the Housing Development Consortium
- Focused engagement with labor organizations including building trades; consulting with Emerald Cities on identifying inclusive workforce strategies.

From November 2021 through December 2022, OSE staff engaged in more than 100 meetings with stakeholders to discuss the Building Emissions Performance Standard policy. The stakeholder engagement was conducted in two phases: engagement prior to the legislation draft through June 2022 and focused engagement to refine draft legislation from July through December 2022. OSE also received more than 55 comments or questions emailed or conveyed by phone during 2022 that were in addition to correspondence related to the stakeholder meetings.

The first engagement phase, through June 2022, included OSE's two online open houses attended by more than 500 people in total, six technical advisory group meetings, and six meetings of the affordable housing task force. OSE also engaged in nearly 50 meetings with climate advocates, labor organizations, building owners, building professionals, government partners, and utilities. This included equity focused engagement with nonprofit owners, community-based organizations, and engaging with the Tenant.

The following themes emerged from these meetings:

- **Timing** – communicate targets now to provide long lead time for owners to plan and the labor workforce to grow and transition.
- **Flexibility** – create a streamlined but flexible policy to allow for diversity of compliance needs by ownership and building types.
- **Support** – increased financial incentives, lower interest financing and robust technical help are critical for all types of owners and buildings – and to successful BEPS policy implementation.

The second phase of engagement from July through December 2022, included an online webinar, attended by nearly 200 people that shared the draft greenhouse gas intensity targets and an overview of the proposed policy. OSE also reached out to stakeholders on specific aspects of the draft policy for feedback. This feedback led to several updates on first drafts that were incorporated in the final policy draft. This included alternative compliance options that are described in more detail in the Director's Report.

2d. What does data and your conversations with stakeholders tell you about existing racial inequities that influence people's lives and should be taken into consideration? (See Data Resources on p.6. *King County Opportunity Maps* are good resource for information based on geography, race, and income.)

Mainly we hear and have found from prior programs that class B and C commercial buildings which

have lower rents and are generally outside of the downtown core have less staff (e.g. no sustainability managers) and financial capacity to comply. They also tend to have older buildings and older heating/cooling systems. As such they are the most affordable to smaller businesses and are more likely to be in environmental disparity areas. The same is generally true for buildings owned by nonprofits.

Multifamily buildings that are affordable and unsubsidized, tend to be older (pre 1990s), smaller apartment buildings that rent for less than market rate. These are already limited in supply for persons earning less than 80% AMI so there could be a risk for displacement¹ should the building owner increase rents to pay for building upgrades. Additionally, subsidized affordable housing (e.g. Seattle Housing Authority), may have some sustainability staff, but the high cost of upgrading buildings as well as the critical need to focus on creating more new housing leads to capacity challenges when retrofitting existing buildings in their portfolio.

Below is a breakdown of the multifamily building landscape of affordable and market rate. Just under 1/3 of buildings fall under the subsidized and unsubsidized affordable housing category.

	Buildings Percent	
Affordable - Subsidized	250	13.9%
Affordable - Unsubsidized	310	17.2%
Market Rate	1240	68.9%
Total	1800	

When electric buildings are removed from the totals, we are left with about 1,000 buildings that use gas with about 75% being market rate housing.

	Buildings Percent	
Affordable - Subsidized	148	14.8%
Affordable - Unsubsidized	109	10.9%
Market Rate	744	74.3%
Total	1001	

Through a variety of previous community engagement and community-led reports, multifamily tenants and community-based organizations have identified the following priorities:

- The need for rent stabilization
- Risk of displacement as a result of the increasing rents, and gentrification
- The need for better living conditions and renter protections
- Investments in energy-efficient upgrades, equitable distribution of community solar, and increase participation in the Utility Discount Program ² to reduce energy costs

¹ City of Seattle Office of Housing and Office of Planning & Community Development. 2016 Monitoring Report: Affordability of Unsubsidized Rental Housing in Seattle.

<https://www.seattle.gov/Documents/Departments/OPCD/Demographics/AboutSeattle/2016UnsubsidizedHousingMonitoringReport.pdf>

² Puget Sound Sage Powering the Transition. June 2020

https://www.pugetsoundsage.org/wp-content/uploads/2020/06/PugetSoundSage_PoweringTransition_June2020-1.pdf

The NWECE's engagement and OSE's own experience with benchmarking and building tune-up programs have found that owners of multifamily buildings are more likely to have challenges complying with the state's policy or a future Seattle BPS because they lack internal staff or the budget to pay for an energy service provider to:

- Understand the [WA State Clean building requirements](#), which are extremely complex, even for experienced facility managers
- Attend training opportunities about the requirements as they are offered
- Evaluate service providers and assess bids to do energy audits and make the required upgrades
- Access or enroll in utility incentives or the new State incentive that might help them offset the cost of upgrades
- Find financing that works for their organizations budget and capital plan. For example, some may need off balance sheet financing, which is not very common.

Labor:

Conversations with building trade unions daylight the potential likely impacts of this policy on workers – especially workers in the natural gas industry such as gas pipefitters and workers for Puget Sound Energy that bring gas piping to the buildings. The UA Local 32 recognizes the need for reskilling gas pipefitters to work on HVAC-refrigeration, given the increased demand for heat pump installers and technician, and the union has already started training new gas piping apprenticeship participants on HVAC-R. However, the process for existing gas pipefitter workers to gain this training requires a step down in pay and 1-2 years of training. Of the approximate 1,000 licensed pipefitters in Seattle (according to UA Local 32), it is estimated less than 20% are BIPOC³. Therefore, there is an opportunity to invest in reskilling programs and worker protections for existing gas pipefitters, and a need for expanding apprenticeships to BIPOC- to enter HVAC-refrigerant training given the expected demand for heat pump installers.

2e. What are the root causes or factors creating these racial inequities?

Examples: Bias in process; Lack of access or barriers; Lack of racially inclusive engagement

Longstanding systemic and structural racism have historically meant that BIPOC are far more likely than white persons to live in areas with environmental, economic, health, education, and other disparities. They are also more likely to have less generational wealth and be less able to afford leasing in buildings with higher rents (e.g. Class A commercial and market rate multifamily buildings). With Seattle's high rents, for both residential and commercial tenants, and with an affordable housing shortage, lower rent buildings are also at greatest risk for redevelopment which can further exacerbate inequities, displacement and create more shortage for housing.

At the end of the day, BIPOC tenants with lower incomes/lower wealth have less access to the benefits of energy-efficient, more comfortable and generally healthier, living spaces due to the costs of upgrades and capital needed for building owners to make these upgrades.

Step 3. Determine Benefit and/or Burden.

Given what you have learned from data and from stakeholder involvement...

3. How will the policy, initiative, program, or budget issue increase or decrease racial equity? What are potential unintended consequences? What benefits may result? Are the impacts aligned with your department's community outcomes that were defined in Step 1.?

³ Seattle's Energy Efficient Building Operations and Construction Industries Workforce Report, Seattle Jobs Initiative 2021

Our initial understanding based on data and stakeholder engagement is that housing and/or business facilities occupied by EEI and lower-income populations are older and less energy-efficient than average. And, the expected outcome is that those properties may face a larger financial burden to be brought up to standards, consequently increasing the cost burden of those owners and tenants. Conversely bringing these buildings up to higher energy standards, improving their operation, and transitioning to all electric buildings would decrease utility expenses and support healthier living/working conditions.

There is significant job creation component in the energy service provider space associated with this standard, which could benefit jobs access overall. We must ensure that EEI populations are well-positioned to have access to training and clean energy/trade jobs, through investments in apprenticeships and partnerships with organized labor organizations.

As part of our internal equity issue identification process, we identified the draft equity outcomes, which were then further refined for inclusion in the Climate Executive Order:

- include equity-focused support services for low-resource building owners, particularly alleviating cost impacts on affordable housing and small businesses;
- minimize the risk of displacement and ensure Seattle's Black, Indigenous, and people of color (BIPOC) communities benefit from healthier living and working spaces; and
- provide clean energy career initiatives to maximize the economic benefits and opportunities of the generated economic activity for BIPOC and women.

Step 4. Advance Opportunity or Minimize Harm.

4. How will you address the impacts (including unintended consequences) on racial equity? What strategies address immediate impacts? What strategies address root causes of inequity listed in Q.6? How will you partner with stakeholders for long-term positive change? If impacts are not aligned with desired community outcomes, how will you re-align your work?

Program Strategies? Develop a support program (see Seattle Clean Buildings Accelerator RET).

Policy Strategies? Provide extended compliance timelines for certain building types that are more likely to be challenged in complying, provide alternative compliance options to allow for flexibility, provide funding and technical assistance for nonprofits, affordable housing providers and other highly impacted stakeholders.

Partnership Strategies? Work with community partners to ensure an inclusive engagement strategy.

Step 5. Evaluate. Raise Racial Awareness. Be Accountable.

5a. How will you evaluate and be accountable? How will you evaluate and report impacts on racial equity over time? What is your goal and timeline for eliminating racial inequity? How will you retain stakeholder participation and ensure internal and public accountability? How will you raise awareness about racial inequity related to this issue?

OSE is committed to continuing stakeholder engagement throughout the policy development process and will continue to engage with stakeholders should the policy be enacted. OSE will engage with

impacted stakeholders in the rulemaking process and program development and implementation process.

5b. What is unresolved? What resources/partnerships do you still need to make changes?

Step 6. Report Back.

Share analysis and report responses from Q.5a. and Q.5b. with Department Leadership and Change Team Leads and members involved in Step 1.

Creating Effective Community Outcomes

Outcome = the result that you seek to achieve through your actions.

***Racially equitable* community outcomes = the specific result you are seeking to achieve that advances racial equity in the community.**

When creating outcomes think about:

- What are the greatest opportunities for creating change in the next year?
- What strengths does the department have that it can build on?
- What challenges, if met, will help move the department closer to racial equity goals?

Keep in mind that the City is committed to creating racial equity in seven key opportunity areas: **Education, Community Development, Health, Criminal Justice, Jobs, Housing, and the Environment.**

Examples of community outcomes that increase racial equity:

OUTCOME	OPPORTUNITY AREA
Increase transit and pedestrian mobility options in communities of color.	Community Development
Decrease racial disparity in the unemployment rate.	Jobs
Ensure greater access to technology by communities of color.	Community Development, Education, Jobs
Improve access to community center programs for immigrants, refugees and communities of color.	Health, Community Development
Communities of color are represented in the City's outreach activities.	Education, Community Development, Health, Jobs, Housing, Criminal Justice, Environment
The racial diversity of the Seattle community is reflected in the City's workforce across positions.	Jobs
Access to City contracts for Minority Business Enterprises is increased.	Jobs
Decrease racial disparity in high school graduation rates	Education

Additional Resources:

- **RSJI Departmental Work Plan:** <http://inweb/rsji/departments.htm>
- **Department Performance Expectations:** <http://web1.seattle.gov/DPETS/DPETSWEbHome.aspx>
- **Mayoral Initiatives:** <http://www.seattle.gov/mayor/issues/>

Identifying Stakeholders + Listening to Communities of Color

Identify Stakeholders

Find out who are the **stakeholders** most affected by, concerned with, or have experience relating to the policy, program or initiative? Identify racial demographics of neighborhood or those impacted by issue. (See *District Profiles* in the [Inclusive Outreach and Public Engagement Guide](#) or refer to U.S. Census information on p.7)

Once you have identified your stakeholders

Involve them in the issue.

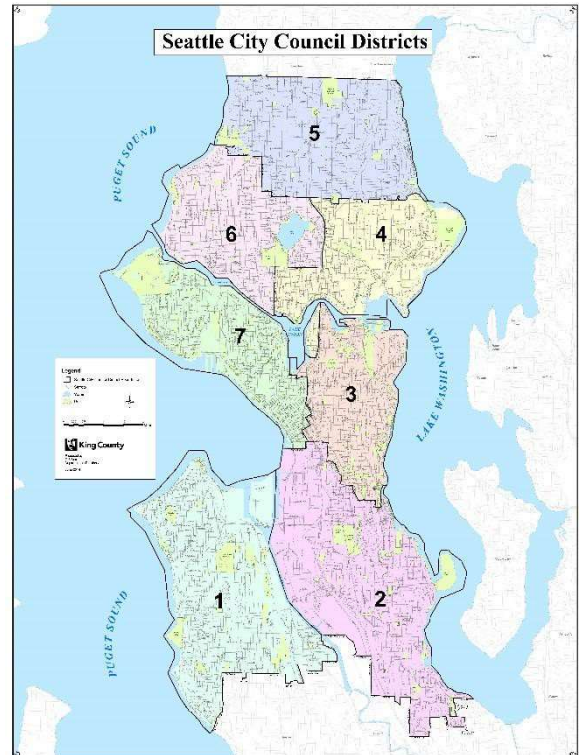
Describe how historically underrepresented community stakeholders can take a leadership role in this policy, program, initiative or budget issue.

Listen to the community. Ask:

1. What do we need to know about this issue? How will the policy, program, initiative or budget issue burden or benefit the community? (*concerns, facts, potential impacts*)
2. What factors produce or perpetuate racial inequity related to this issue?
3. What are ways to minimize any negative impacts (harm to communities of color, increased racial disparities, etc) that may result? What opportunities exist for increasing racial equity?

Tip: Gather Community Input Through...

- Community meetings
- Focus groups
- Consulting with City commissions and advisory boards
- Consulting with Change Team



Examples of what this step looks like in practice:

- A reduction of hours at a community center includes conversations with those who use the community center as well as staff who work there.
- Before implementing a new penalty fee, people from the demographic most represented in those fined are surveyed to learn the best ways to minimize negative impacts.

For resources on how to engage stakeholders in your work see the **Inclusive Outreach and Public Engagement Guide**: <http://inweb1/neighborhoods/outreachguide/>

Data Resources

City of Seattle Seattle's Population and Demographics at a Glance:

http://www.seattle.gov/dpd/Research/Population_Demographics/Overview/default.asp

Website updated by the City Demographer. **Includes: Housing** Quarterly Permit Report • **Employment data** • 2010 Census data • **2006-2010 American Community Survey** • 2010 Census: Demographic highlights from the 2010 Census; Basic Population and Housing Characteristics Change from 1990, 2000, and 2010 – PDF report of counts of population by race, ethnicity and over/under 18 years of age as well as a total, occupied and vacant housing unit count; Three-page subject report – PDF report of detailed population, household and housing data • American Community Survey: **2010 5-year estimates and 2009 5-year estimates** • Census 2000 • Permit Information: Comprehensive Plan Housing Target Growth Report for Urban Centers and Villages; Citywide Residential Permit Report • Employment Information: Comprehensive Plan Employment Target Growth Report for Urban Centers and Villages; Citywide Employment 1995-2010 • The Greater Seattle Datasheet: a report by the Office of Intergovernmental Relations on many aspects of Seattle and its region.

SDOT Census 2010 Demographic Maps (by census blocks): Race, Age (under 18 and over 65) and Median Income http://inweb/sdot/rsji_maps.htm

Seattle's Population & Demographics Related Links & Resources (From DPD website:

http://www.seattle.gov/dpd/Research/Population_Demographics/Related_Links/default.asp)

Federal

- [American FactFinder](#): The U.S. Census Bureau's main site for online access to population, housing, economic, and geographic data.
- [Census 2000 Gateway](#): The U.S. Census Bureau's gateway to Census 2000 information.

State

- [Washington Office of Financial Management](#): OFM is the official state agency that provides estimates, forecasts, and reports on the state's population, demographic characteristics, economy, and state revenues.

Regional

- [Puget Sound Regional Council](#): PSRC is the regional growth management and transportation planning agency for the central Puget Sound region in Washington State.

County

- [King County Census Viewer](#): A web-based application for viewing maps and tables of more than 100 community census data indicators for 77 defined places in King County.
- [King County Department of Development and Environmental Services](#): the growth management planning agency for King County.
- [Seattle & King County Public Health - Assessment, Policy Development, and Evaluation Unit](#): Provides health information and technical assistance, based on health assessment data
- [King County Opportunity Maps](#): A Study of the Region's Geography of Opportunity. Opportunity maps illustrate where opportunity rich communities exist, assess who has access to those neighborhoods, and help to understand what needs to be remedied in opportunity poor neighborhoods. Puget Sound Regional Council.

City

- [The Greater Seattle Datasheet](#): A Seattle fact sheet courtesy of the City of Seattle's Office of Intergovernmental Relations.

Other

- [Seattle Times Census 2000](#): articles, charts related to Census 2000 and the Seattle/Puget Sound region.

Glossary

Accountable- Responsive to the needs and concerns of those most impacted by the issues you are working on, particularly to communities of color and those historically underrepresented in the civic process.

Community outcomes- The specific result you are seeking to achieve that advances racial equity.

Contracting Equity- Efforts to achieve equitable racial outcomes in the way the City spends resources, including goods and services, consultants and contracting.

Immigrant and Refugee Access to Services- Government services and resources are easily available and understandable to all Seattle residents, including non-native English speakers. Full and active participation of immigrant and refugee communities exists in Seattle's civic, economic and cultural life.

Inclusive Outreach and Public Engagement- Processes inclusive of people of diverse races, cultures, gender identities, sexual orientations and socio-economic status. Access to information, resources and civic processes so community members can effectively engage in the design and delivery of public services.

Individual racism- Pre-judgment, bias, stereotypes about an individual or group based on race. The impacts of racism on individuals including white people internalizing privilege and people of color internalizing oppression.

Institutional racism- Organizational programs, policies or procedures that work to the benefit of white people and to the detriment of people of color, usually unintentionally or inadvertently.

Opportunity areas- One of seven issue areas the City of Seattle is working on in partnership with the community to eliminate racial disparities and create racial equity. They include: Education, Health, Community Development, Criminal Justice, Jobs, Housing and the Environment.

Racial equity- When social, economic and political opportunities are not predicted based upon a person's race.

Racial inequity- When a person's race can predict their social, economic and political opportunities and outcomes.

Stakeholders- Those impacted by proposed policy, program or budget issue who have potential concerns or issue expertise. Examples might include: specific racial/ethnic groups, other institutions like Seattle Housing Authority, schools, community-based organizations, Change Teams, City employees, unions, etc.

Structural racism - The interplay of policies, practices and programs of multiple institutions which leads to adverse outcomes and conditions for communities of color compared to white communities that occurs within the context of racialized historical and cultural conditions.

Workforce Equity- Ensure the City's workforce diversity reflects the diversity of Seattle

May 30, 2023

Objective

A Fall 2021 Executive Order called for the City of Seattle to develop new carbon-based Building Performance Standards or a Building Emissions Performance Standard (BEPS) among other initiatives to address the climate crisis. This call was subsequently adopted by incoming Mayor Harrell in 2022 who then directed the Office of Sustainability and Environment (OSE) to develop carbon-based building performance standards for existing nonresidential commercial and multifamily buildings 20,000 sq. ft. or larger.

OSE contracted with SBW Consulting to develop draft emissions targets that will transition the Seattle stock of buildings 20,000 square feet or larger to net-zero carbon emissions by 2050 and analyze the impacts of those targets. The metric greenhouse gas intensity or GHGI ($\text{kgCO}_2\text{e/sq ft/yr}$) was selected by OSE for the targets, and then confirmed by Seattle's Building Performance Standards Technical Advisory Group.

Develop Targets

The SBW team used the following approach to develop the proposed GHGI targets or GHGITs.

- Starting with the 2019 energy benchmarking data, we grouped the benchmarked Seattle buildings into categories (“building type”) that align with OSE benchmarking reporting and Washington State Clean Building Performance Standards (CBPS) compliance reporting, have similar energy use intensity (EUI) characteristics, and have sufficient number of buildings in each building type to support using the mean GHGI of the group as the basis for the greenhouse gas intensity target or GHGIT.
 - Next, we converted 2019 energy use to GHG emissions for each building for each energy source (electricity, fossil gas, and steam) and calculated floor-area-weighted building type mean GHGI as sum of GHG emissions divided by sum of gross floor area for each building type.
 - Finally, we set the mean GHGI as the baseline starting point and interpolated to zero in the ending year for each building type, setting the target for each compliance interval as the point where the line crosses each 5 year increment from the starting year.
 - SBW then ran a draft targets scenario (discussed at the October 2022 draft targets webinar) for OSE to use in legislation drafts and to obtain stakeholder input on.
-

- This first scenario used the 2019 baseline mean projected out to a starting year of 2023 for nonresidential building types and ending year of 2045. For Multifamily, the 2019 baseline mean starting year was 2028 and the ending year was 2050.
- Based on substantial stakeholder feedback to OSE that nonresidential emissions targets starting in 2026-2030 were infeasible to comply with given both the timing and current state of the market, OSE then directed SBW to run other target scenarios and selected the following:
 - For all Nonresidential building types, the starting year is 2028 (using 2019 building type baseline means projected out) and the ending year is 2045 (three 5-year increments with GHGIT compliance starting in 2031-35 and ending in 2041-45). For Multifamily, the starting year is 2028 (using 2019 building type baseline means projected out) and the ending year is 2050 (four 5-year increments with GHGIT compliance starting in 2031-35 and ending in 2045-50).¹
- The building type level GHGI targets are mapped to the ENERGY STAR Portfolio Manager property types.

Additional details are provided below.

Data sources

- OSE benchmarking data which includes energy use by fuel, building type, space use types, and gross floor area for each benchmarked building (Seattle buildings 20,000 SF and larger)
- Emissions factors
 - Electric: Seattle City Light
 - Fossil Gas: Environmental Protection Agency (EPA)²
 - Steam: CenTrio

Assumptions

We used the 2019 benchmarking year as the source for baseline emissions. See next section for discussion of why 2020 and 2021 benchmarking data were not used. Benchmarking data from 2022 and later were not yet available.

Review of 2020 and 2021 Data

As part of SBW's first draft targets analysis, we looked at energy use and emissions characteristics

¹ SBW also ran several other target scenario variations that extended the targets timing and provided the results in a memo to OSE.

² From EPA Center for Corporate Climate Leadership GHG Emission Factors Hub. Follow this link to access the GHG Emission Factors Hub workbook, <https://www.epa.gov/sites/default/files/2020-04/ghg-emission-factors-hub.xlsx>

from 2020 and 2021 years. OSE, based on stakeholder feedback and market knowledge, ultimately decided the pandemic and other disruptions caused those years not to be reliable starting points for developing the targets. Specifically, we looked at building types with significant annual differences, particularly large increases in GHGI in 2020 and 2021 compared to 2019 and considered whether those increases were likely to continue or if emissions were more likely to return to be more similar to 2019 levels. The figure below shows the distribution of GHG emissions intensities by year for each building type – wider areas in the shapes indicate more buildings have GHG emissions intensities in that range. We observed the following:

- Hospital GHGIs continued upward trend in emissions through 2021
 - Fire/Police Stations continued downward trend
 - College/University rebounded much higher but this may be due to a change in reporting, e.g., starting to report steam, etc in 2021
 - Schools, Worship Facilities rebounded higher, likely due to increased ventilation; Labs have also rebounded higher
 - Hotels, Restaurants, Recreation, Grocery rebounding but still less than 2019
 - Office, MF, other building types of interest remain about the same
-

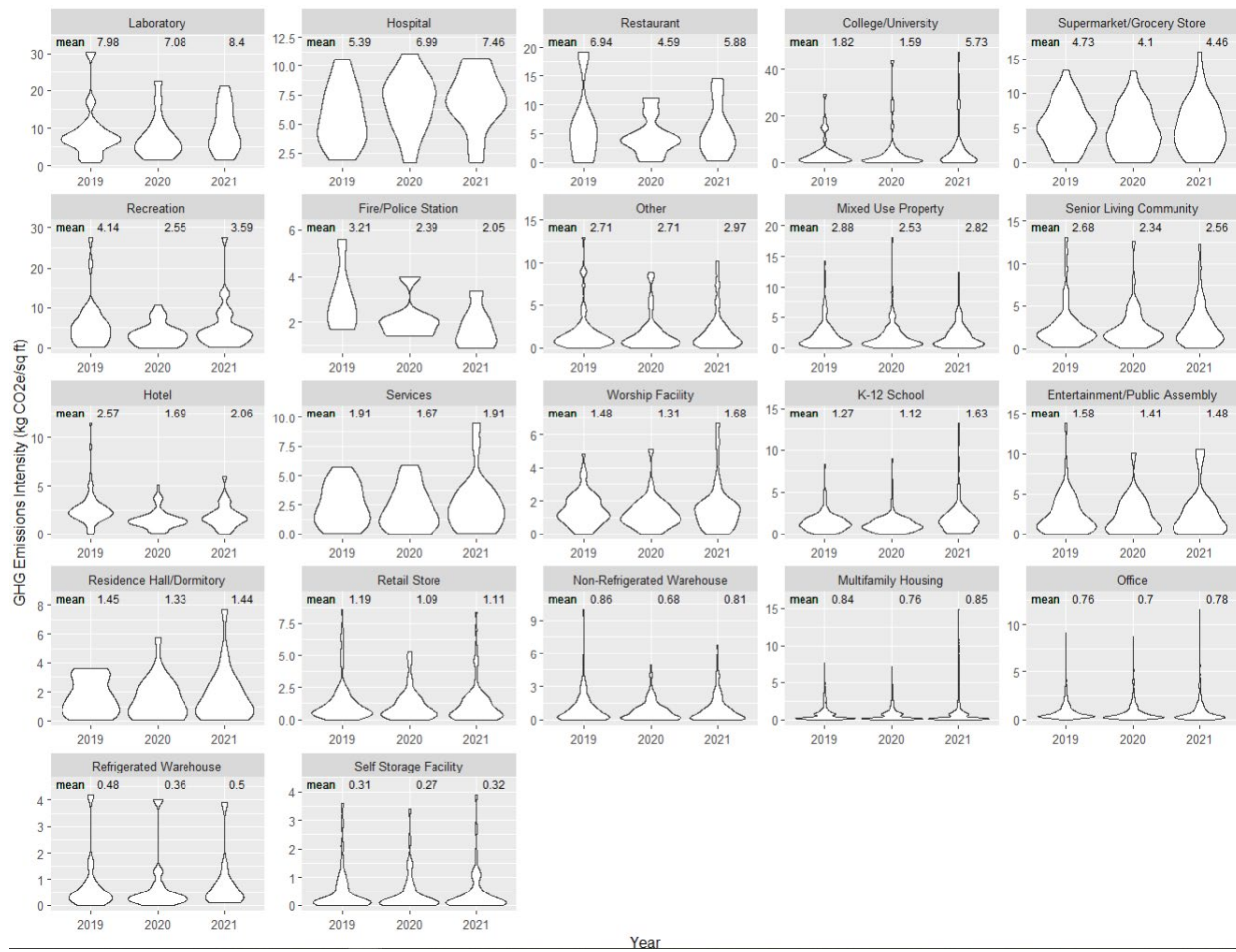


Figure 1: Distribution of GHG emissions intensities by year for each building type.

Establish GHGI Targets

We removed all-electric buildings (those with no reported gas or steam use) from the 2019 population then calculated the weighted average emissions for each building type.³ With 2019 emissions as a proxy for 2028 emissions, we used 2028 as the starting year for developing the GHGI targets. From the building type average emissions in 2028, we interpolated to zero emissions in the ending year – 2045 for Nonresidential buildings, 2050 for Multifamily buildings. Figure 2 depicts the interpolation to generate the targets with a dot indicating each building type and compliance period GHGI target from the midyear of the compliance cycle. The legend also shows the count of buildings contributing to the development of the GHGIT for each building type, e.g., “A-Laboratory, N=14” means there are 14 laboratory buildings.

³ All-electric buildings were removed because certain building types, like multifamily and non-refrigerated warehouse had a disproportionate number of all-electric buildings that, when included in the targets calculations, significantly drove down the average GHGI for these types relative to other building types like offices where most buildings have a mix of gas and electric.

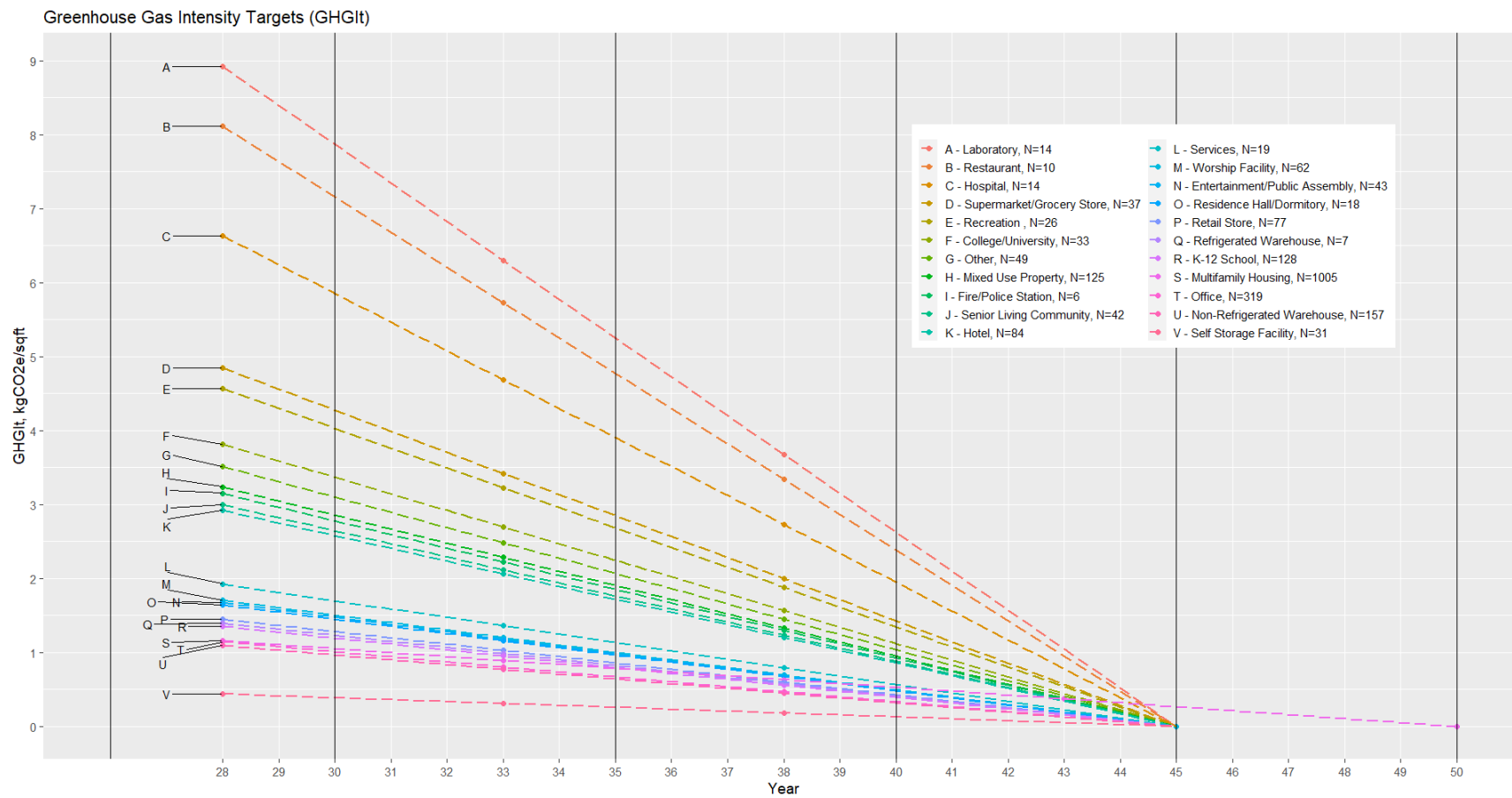


Figure 2 GHGI Target Development

Proposed GHGI targets

Table 1 shows the proposed GHGITs for each building type in each compliance period. Note that a single GHGIT for each building type for each compliance interval is assigned based on the midyear of the compliance interval (e.g., 2033 for 2031-2035, 2038 for 2036-2040, etc.). The year that any building must comply with the BEPS is based on its gross floor area (e.g., over 220,000 SF first compliance year is 2031, 90,000-220,000 SF first compliance year is 2032, and so forth). This table also shows how Portfolio Manager Types are mapped to the Building Types with GHGI targets. A companion workbook, “GHGI Targets Portfolio manager and CBPS.xlsx”, assigns the GHGIT for each Portfolio Manager type, which varies in level of granularity for different building types.

Table 1 Proposed GHGI Targets (kg CO₂e/sq ft/year)

Building Activity Types	Portfolio Manager Building / Space Types Included	2019 Baseline Average	2031 - 2035	2036 - 2040	2041 - 2045 ¹	2046 - 2050 ¹
College/University	College/University	3.81	2.69	1.57	0	0
Entertainment/Public Assembly	Pre-school/Daycare, Convention Center, Movie Theater, Museum, Performing Arts, Social/Meeting Hall, Indoor Arena, Race Track, Stadium (Closed), Stadium (Open), Other - Stadium, Aquarium, Casino, Zoo, Other - Entertainment/Public Assembly, Transportation Terminal/Station, Lifestyle Center	1.67	1.18	0.69	0	0
Fire/Police Station	Fire Station, Police Station	3.15	2.23	1.30	0	0
Hospital (General Medical & Surgical)	Ambulatory Surgical Center, Hospital (General Medical & Surgical), Other/Specialty Hospital	6.63	4.68	2.73	0	0
Hotel	Hotel, Other - Lodging/Residential	2.92	2.06	1.20	0	0
K-12 School	K-12 School	1.35	0.95	0.56	0	0
Laboratory	Laboratory	8.93	6.30	3.68	0	0
Multifamily Housing	Multifamily Housing	1.16	0.89	0.63	0.37	0
Non-Refrigerated Warehouse	Distribution Center, Non-Refrigerated Warehouse	1.09	0.77	0.45	0	0
Office	Financial Office, Medical Office, Office, Veterinary Office	1.14	0.81	0.47	0	0
Other ³	Adult Education, Vocational School, Other - Education, Outpatient Rehabilitation/Physical Therapy, Urgent Care/Clinic/Other Outpatient, Barracks, Prison/Incarceration, Courthouse, Other - Technology/Service, Energy/Power Station, Other - Utility, Other	3.51	2.48	1.45	0	0
Recreation	Bowling Alley, Fitness Center/Health Club/Gym, Ice/Curling Rink, Roller Rink, Swimming Pool, Other - Recreation	4.56	3.22	1.88	0	0

Building Activity Types	Portfolio Manager Building / Space Types Included	2019 Baseline Average	2031 - 2035	2036 - 2040	2041 - 2045 ¹	2046 - 2050 ¹
Refrigerated Warehouse	Refrigerated Warehouse	1.39	0.98	0.57	0	0
Residence Hall/Dormitory	Residence Hall/Dormitory	1.64	1.16	0.68	0	0
Restaurant	Fast Food Restaurant, Restaurant, Other - Restaurant/Bar, Food Service	8.12	5.73	3.34	0	0
Retail Store	Bank Branch, Automobile Dealership, Enclosed Mall, Strip Mall, Other - Mall, Retail Store	1.45	1.03	0.60	0	0
Self-Storage Facility	Self-Storage Facility	0.44	0.31	0.18	0	0
Senior Living Community	Residential Care Facility, Senior Living Community	2.99	2.11	1.23	0	0
Services	Library, Mailing Center/Post Office, Other - Public Services, Personal Services (Health/Beauty, Dry Cleaning, etc.), Repair Services (Vehicle, Shoe, Locksmith, etc.), Other - Services	1.93	1.36	0.79	0	0
Supermarket/Grocery Store	Convenience Store with Gas Station, Convenience Store without Gas Station, Supermarket/Grocery Store, Wholesale Club/Supercenter, Food Sales	4.85	3.42	2.00	0	0
Worship Facility	Worship Facility	1.70	1.20	0.70	0	0

¹ Net zero GHG emissions by compliance year

³ “Other” has a target based on the mean GHGI across the benchmarked buildings that were too few to warrant a category of their own and had EUI or GHGI characteristics that were too dissimilar from other related types. We recommend additional research to inform development of appropriate GHGI targets for the Portfolio Manager types assigned to “Other”.

Analyze impacts

Base case

We leveraged a recent analysis conducted in 2022 by Lawrence Berkeley National Lab (LBNL) that projected energy use reductions in the 2019 benchmarked buildings out to 2050 due to existing policies, which established the baseline of energy use that would happen without the Seattle BEPS. LBNL provided the following information about the data sources and assumptions they applied.

- Data sources
 - Seattle benchmarking data for 2019 (data: type, area, year built and energy use: electric, gas, steam) which is reported by all buildings over 20,000 sq ft
- If a record for a building had essential information that was ambiguous or incomplete, LBNL used the following methods to extrapolate data to fill in the gaps
 - Overall energy use and fuel splits
 - Fill in site EUI and ratio of electric energy to site energy (“electric/site ratio”) by sampling from other buildings with same building type
 - Compute electric and gas use from site EUI and electric/site ratio
 - Assume no steam use
- Baseline projection starts in 2024 (using 2019 energy data) and ends in 2050
 - One time Building Tune-Ups 4% reduction applied in 2025 for nonresidential buildings greater than 50k square feet

We then applied the Washington state Clean Buildings Performance Standard policy, as follows, assuming all subject buildings comply:

- For nonresidential buildings greater than 50k square feet
 - One target interval in: 2026-2028
 - Buildings with energy use exceeding target reduce energy use, proportionally by fuel, to target EUI in compliance year: >220k square feet in 2026, 90-220k square feet in 2027, 50-90k square feet in 2028

Distributions of Impacts

Table 2 shows the distribution of buildings projected to meet or exceed the first two proposed Seattle GHGIT compliance intervals. The all-electric buildings are assumed to meet the GHGI targets since Seattle City Light emissions from electricity generation are minimal and the policy proposal exempts buildings whose verified benchmarking data confirms only all electric sources

to the building. Keep in mind that the building counts are based on the 2019 building stock and the total number of buildings in the 2030s is expected to be greater. Furthermore, buildings in this impact analysis were assigned a GHGIT based on the primary Portfolio Manager use type. For actual compliance, buildings will be required to prorate the GHGIT based on the mix of spaces in the building and may take deductions for emissions from specified end uses during certain compliance periods (e.g., cooking in 2031-2040). Normalization factors for hours of operation and multifamily occupancy density will also be developed during program rulemaking and may be applied.

Table 2 Distribution of Buildings Meeting or Exceeding the GHGI Targets in First Two Compliance Intervals

	2031 - 2035	2036 - 2040
Non-Residential		
Meets Seattle GHGIT (<i>electric only buildings</i>)	23% (385)	23% (385)
Meets Seattle GHGIT (<i>buildings with mixed energy sources</i>)	34% (578)	16% (277)
Does not meet Seattle GHGIT (<i>buildings with mixed energy sources</i>)	43% (716)	61% (1,017)
Total	1,679	
Multifamily		
Meets Seattle GHGIT (<i>electric only buildings</i>)	43% (760)	43% (760)
Meets Seattle GHGIT (<i>buildings with mixed energy sources</i>)	30% (520)	15% (260)
Does not meet Seattle GHGIT (<i>building with mixed energy sources</i>)	27% (485)	42% (745)
Total	1,765	