



# Seattle's Building Emissions Performance Standard (BEPS) Rulemaking

## Technical Rulemaking Workgroup – Meeting #7

January 15, 2025



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# Welcome & Recap



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# Agenda

- **Welcome + Recap** (10 minutes)
  - Permission to record
- **Overview of Decarbonization Plans** (20 minutes)
  - Review of definitions from Meeting #6
- **Eligibility criteria for net-zero and low emissions decarbonization plans** (35 minutes)
- **Break** (5 minutes)
- **Eligibility criteria for net-zero and low emissions decarbonization plans continued** (30 minutes)
- **Research Updates** (10 minutes)
- **Conclusion** (10 minutes)

# Charter Agreements

- **Mutual respect** - All working group participants and facilitators are respectful of each other. Members will value each other's time, listen when people are speaking, and speak kindly to each other.
- **Open-mindedness** - Members are open to new ideas and perspectives, and do not disregard ideas they disagree with.
- **Equity** - All members are treated fairly, both by the facilitation team and by one another. Efforts are made to eliminate any real or perceived barriers to participation.
- **Be present** - You reserved the time to be here. Avoid outside distractions as much as possible but take care of your personal needs.
- **Accountability for Accuracy** - When sharing data and information make sure it is accurate and be prepared to provide a credible reference.
- **Chatham House Rule** - Participants are free to use the information received in meetings but should not identify the speaker or their affiliation.

# Last meeting we discussed...

- **Exemptions in BEPS**

- Eligible buildings
- Timeline for applying for exemption

- **Extensions in BEPS**

- Eligible buildings
- Timeline for applying for extension
- Adding an extension for change of ownership

- **Introduction to Decarbonization Plans**

- Discussion of defining “low emissions” and two eligibility criteria

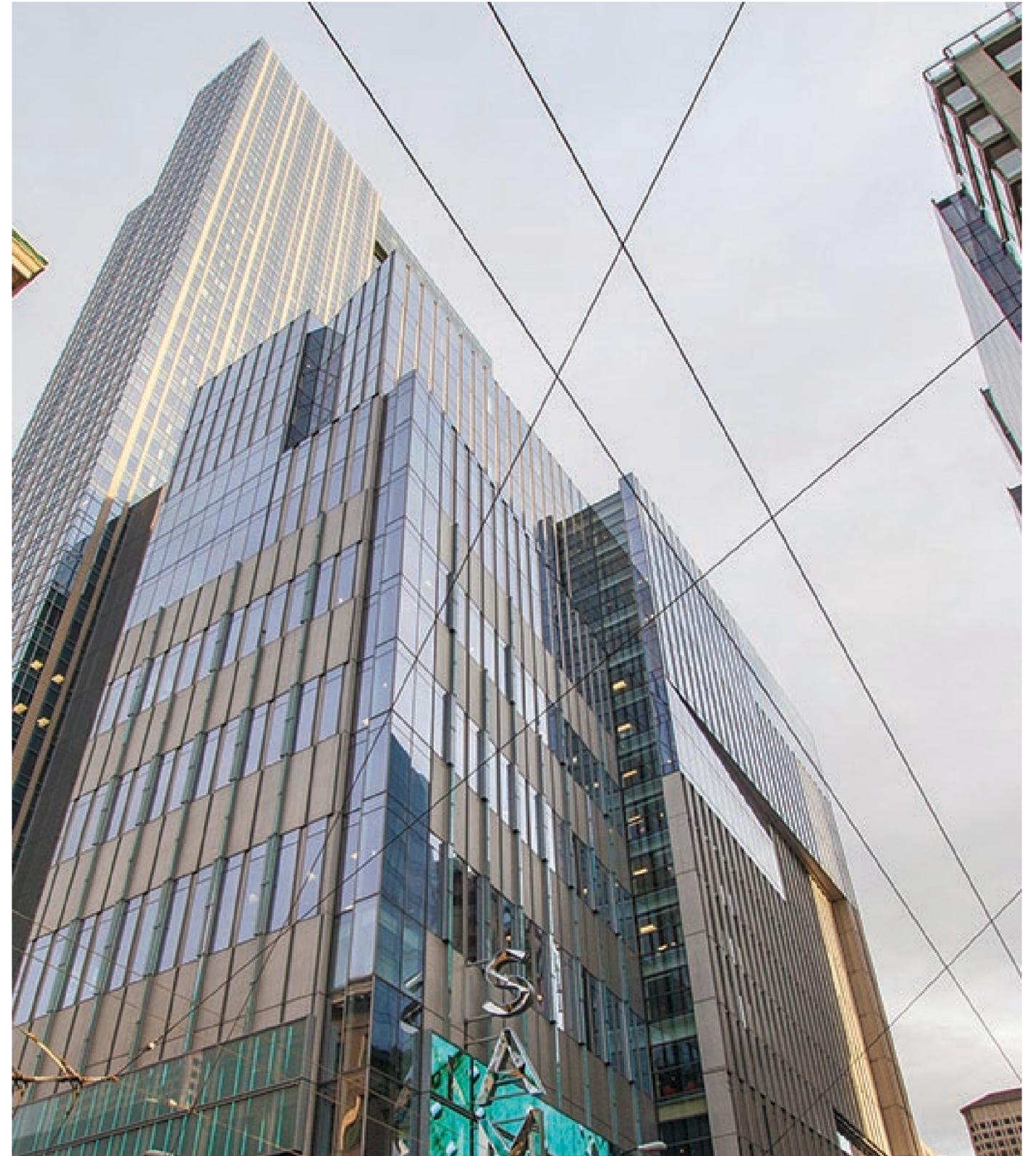
# Introduction to Decarbonization Plans & Definitions



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# What the BEPS ordinance says...

(SMC 22.925.100) "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."



# BEPS GHGI Target Options Comparison

## Path A Standard GHGIT

- **Targets:** Standardized by Building Activity Type (Table of Targets in law)
- **Timelines:** by building size cohort (Table of Deadlines in law)
- **Who:** Any Individual Building or Portfolio

## Path B Alternate GHGIT

- **Targets:** by building's own baseline in standard increments set by law (e.g., 25%, 50%, etc. reduction)
- **Timelines:** by building size cohort (Table of Deadlines in law)
- **Who:** Individual building that meets eligibility or Nonprofit/Public Portfolio

## Path C Decarb Compliance Plan

- **Targets:** by building's own baseline and must set "incremental targets" to net-zero or low emissions
- **Timelines:** by building's own plan with reporting on targets or actions every compliance interval
- **Who:** Individual building that meets eligibility\*



# Custom Decarbonization Compliance Plans

*Enables nine additional years from 2041 to meet net-zero or low emissions for largest commercial buildings.*

## **Customizable and flexible for individual buildings:**

- Building owners with extenuating circumstances
- Meeting the compliance schedule or meeting the GHGIs is a significant hardship
- Requires demonstration of eligibility, application to use, and an energy & emissions audit.

## Two plan options

- Net-Zero by 2050
- Low Emissions by 2050

# Can building portfolios use a decarbonization plan?

**\*No, except for no-cost public education portfolios...**

(SMC 22.925.100) “The **public owner of a building portfolio whose primary purpose is to provide education at no cost** and who is funded through state and local taxes may apply to use a decarbonization compliance plan covering multiple buildings within the owner's building portfolio.”

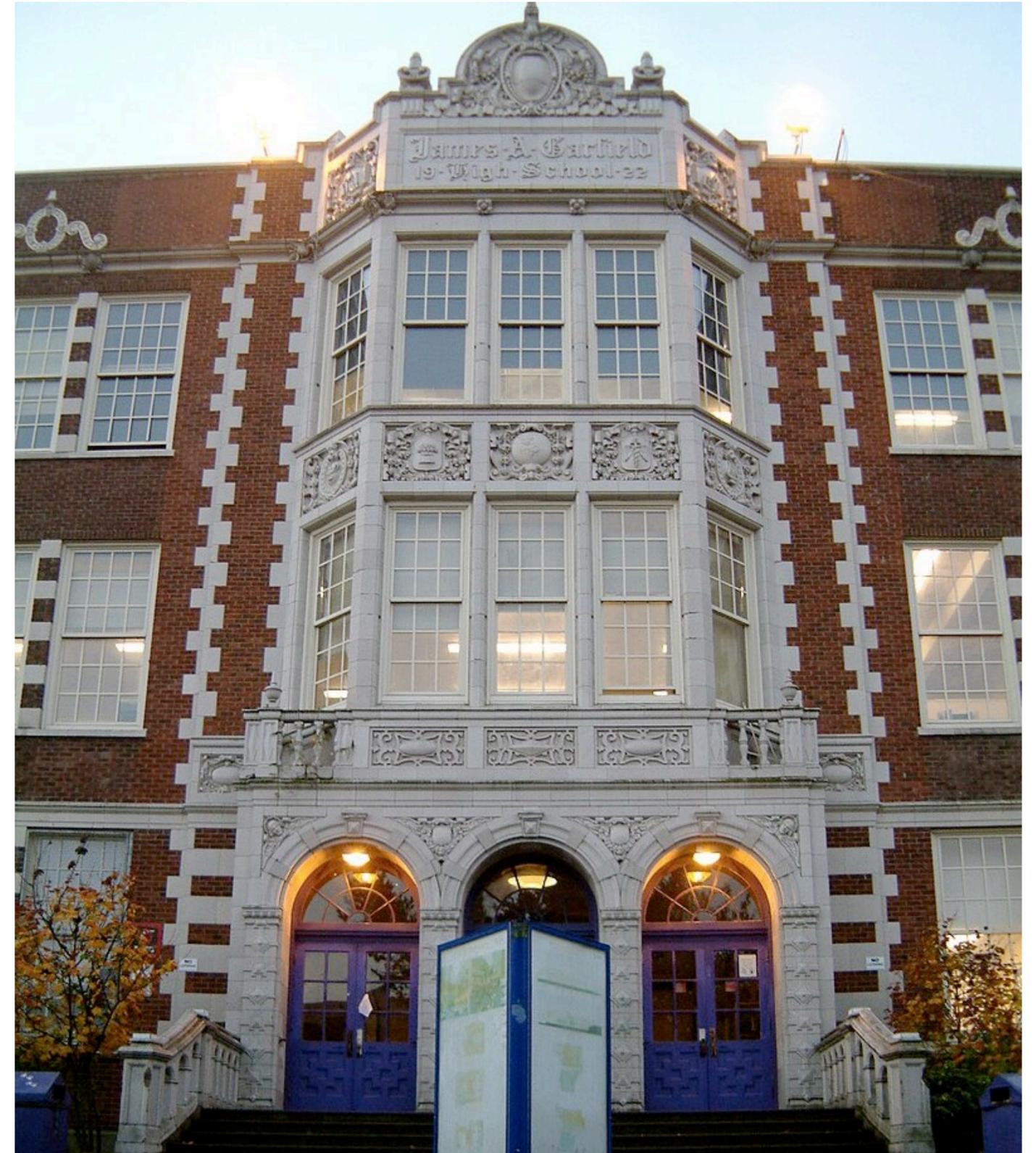


Image: Wikimedia Commons

# What about the District Campus Decarbonization plan?

(SMC 22.925.100) “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 GHGITs may submit a campus decarbonization compliance plan to OSE for approval.”



**We will discuss district campus decarb plans in a focused topical meeting!**

# Decarbonization plan content requirements from BEPS ordinance

Per BEPS (SMC 22.925.100), all plans must include:

- Building **energy** and greenhouse gas **emissions audit**
- Analysis of energy efficiency greenhouse gas **emissions reduction actions**
- **Incremental and final GHGIs and actions** at each compliance interval
- Any applicable content specified by decarbonization plan **provisions in the Seattle Energy Code**
- **Cost analysis** for achieving the incremental and final GHGIs for each compliance interval covered by the plan, including:
  - Incremental cost of any equipment or other upgrades needed to meet the GHGI 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

# Definitions: Discussed at Meeting 6

## “Net-Zero” is defined in ordinance:

“Net-zero emissions” means that **all energy sources used by a covered building have zero GHG emissions**, including any carbon offsets purchased and retired by a natural gas utility or district thermal energy provider in accordance with and as authorized under the Climate Commitment Act, chapter 70A.65 RCW; and including any renewable energy credits purchased and retired by an electric utility in accordance with and as authorized under the Clean Energy Transformation Act, chapter 19.405 RCW; and **except for certain emissions deductions** as may be allowed by rule under Section 22.925.120.

# Definitions: Discussed at Meeting 6

## “Low Emissions ” is not defined in ordinance

*Input from Workgroup on a definition:*

1. Define specific percentage as the “last mile” for emissions reductions (e.g., 90% of emissions reduced; 10% left)
  - a) Clarify that low-emissions applies to HVAC and hot water, excluding allowed BEPS end use deductions – **YES!**
  - b) Might not account for future technological advancements (*Out of scope for rule*)
2. Consider future potential for buildings to connect to an adjacent decarbonized campus
3. Consider other industries for definitions of low/no emissions (e.g., vehicles)

# Next steps for defining “low emissions”

## 1. Clarify timeline for achieving this target

- a) Buildings must meet specified low emissions threshold by 2050
- b) Buildings are expected to meet interim custom targets in earlier compliance cycles

## 2. Align on a percentage as the “last mile” for emissions reductions (e.g., 90% reduction from baseline)

- a) Note potential exceptions to handle administratively

## 3. Validate percentage reduction against other definitions

- a) Are there other definitions that members of the working group are aware of? Do any of your organizations have relevant targets?

- **Example:** Federal blueprint calls for reductions in building emissions 90% by 2050\*

\*<https://www.energy.gov/eere/decarbonizing-us-economy-2050-national-blueprint-buildings-sector>



**What’s your  
take on  
these?  
Anything  
else?**

# Eligibility criteria for net-zero and low emissions decarbonization plans



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# Eligibility (Extenuating Circumstances) for decarbonization plans is specified in ordinance

- Some criteria have more potential for **straightforward ways to show eligibility** (e.g., documentation like permits or other references)
- Other eligibility criteria will require **more discussion in rulemaking** to determine what's needed to demonstrate eligibility

Eligibility Criteria	Net-Zero	Low Emissions
Concurrent substantial alteration	✓	
Concurrent seismic upgrades	✓	
Significant electrical infrastructure upgrades	✓	
Access to equipment prohibited by lease in place by 1/13/24 or earlier	✓	
Replacement of equipment prior to end-of-life	✓	
Non-interruptible operations in laboratory or healthcare	✓	
No practicable low and/or zero GHG emissions alternatives on market	✓	✓
Historic landmark building		✓
Structural or electrical capacity upgrade barrier		✓
Net-zero infeasible in low income multifamily		✓
Analysis demonstrates meeting net-zero would create financial distress		✓

# Decarbonization plans – a potential range of complexity to show eligibility

## MOST STRAIGHTFORWARD

Net-Zero	Low Emissions
<ul style="list-style-type: none"> <li>1. Concurrent substantial alteration</li> <li>2. Concurrent seismic upgrades</li> <li>3. Access to equipment prohibited by lease in place by 1/13/24 or earlier</li> </ul>	<ul style="list-style-type: none"> <li>4. Historic landmark building</li> </ul>

## MORE COMPLEX

Net-Zero	Low Emissions
<ul style="list-style-type: none"> <li>5. Replacement of equipment prior to end-of-life</li> <li>6. Significant electrical infrastructure upgrades</li> </ul>	<ul style="list-style-type: none"> <li>7. Structural or electrical capacity upgrade is infeasible due to distinct technical and/or physical limitations</li> </ul>

## MOST COMPLEX

Net-Zero	Low Emissions
<ul style="list-style-type: none"> <li>8. Non-interruptible operations in laboratory or healthcare</li> <li>10. <b>No practicable zero GHG emissions alternatives on market for a necessary function*</b></li> </ul>	<ul style="list-style-type: none"> <li>9. Analysis demonstrates meeting net-zero would create financial distress</li> <li>11. <b>No practicable low GHG emissions alternatives...*</b></li> <li>12. <b>Net-zero infeasible in low income multifamily*</b></li> </ul>

\* Initial discussion at December 18<sup>th</sup> meeting

# Most straightforward eligibility criteria



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# Most straightforward eligibility criteria

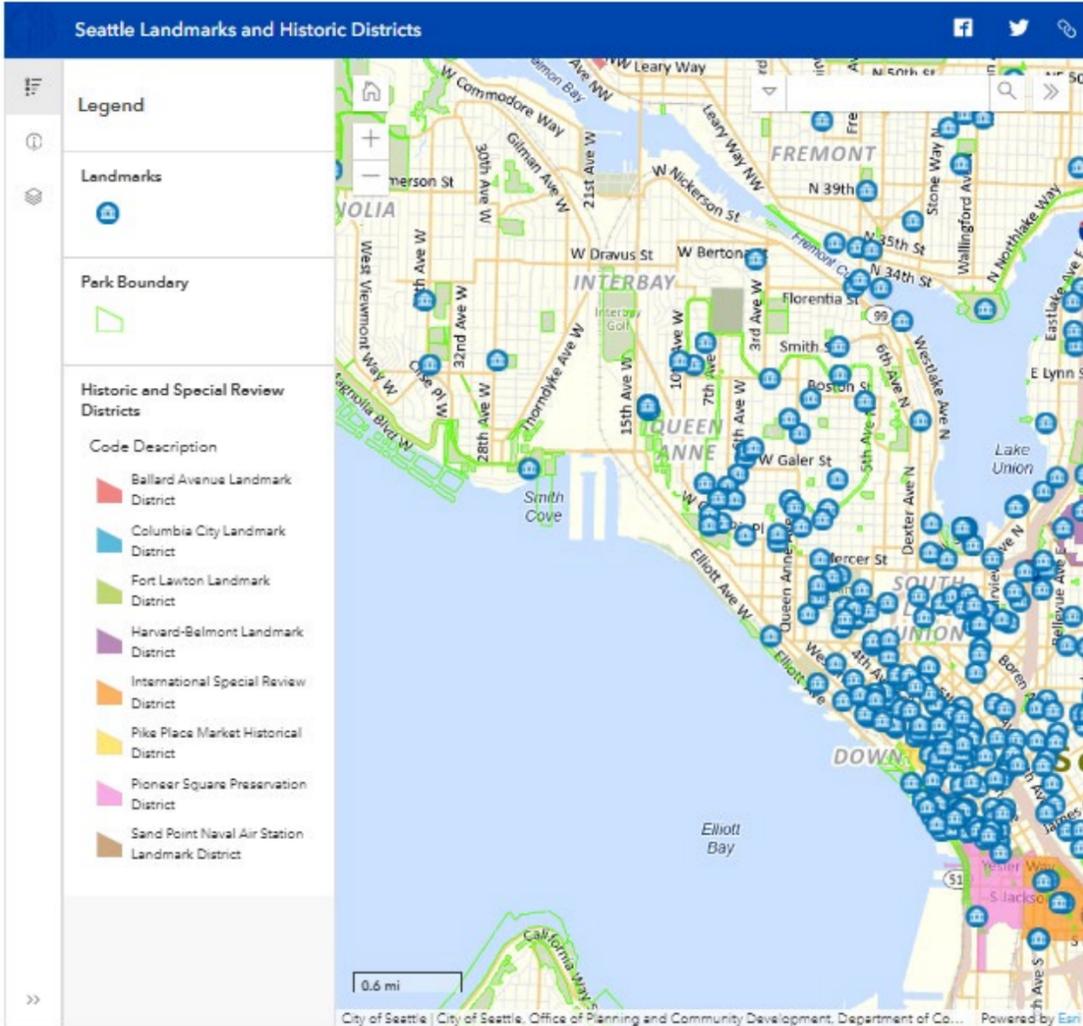
### Net-Zero

- 1. Concurrent substantial alteration
- 2. Concurrent seismic upgrades
- 3. Access to equipment prohibited by lease in place by 1/13/24 or earlier

### Low Emissions

- 4. Historic landmark building

Landmarks Map



Source: <https://www.seattle.gov/neighborhoods/historic-preservation/city-landmarks/landmarks-map>

# Net-zero plan eligibility requirements

Eligibility Criteria in BEPS Ordinance	Proposed Acceptable Documentation
<p><b>1. A <b>substantial alteration</b></b> under Section 307* of the Seattle Existing Building Code will be undertaken concurrently with building upgrades necessary to meet a covered building's GHGIT.</p> <p><i>Note: HVAC and/or lighting alone should not trigger sub-alt per SDCI. SDCI currently weighing other triggers.</i></p>	<p>If current, building permit that shows work meets code requirements.</p> <p>If pre-permit, an audit / feasibility study shows substantial alteration would be triggered by work to meet <u>current compliance interval target</u>.</p>
<p><b>2. <b>Seismic upgrades</b></b> for a covered building with unreinforced masonry will be undertaken concurrently with building upgrades necessary to meet the covered building's GHGIT.</p>	<p>If currently ongoing, building permit that shows seismic upgrades.</p> <p>If pre-permit, owner can attest by showing scope of work or plans that a seismic retrofit is planned within <u>current compliance interval</u>.</p>

\* Section # in 2018 version of SEBC. As of new code (2021) it is now in Section 311. This will be clarified in Rule.  
 See: <https://www.seattle.gov/documents/Departments/SDCI/Codes/ExistingBuildingCode/2021SEBCChapter3.pdf>

# Net-zero eligibility requirements cont.

Eligibility Criteria in BEPS Ordinance	Proposed Acceptable Documentation
<p><b>3.</b> When a covered building has a tenant lease in place by Jan 12, 2024* that specifically <b>precludes owner access to equipment</b> on which work would be required to meet the GHGIT. This extenuating circumstance is <b>only available for the 2031-2035 compliance</b> interval.</p>	<p>Copy of lease that was signed prior to 1/12/24 highlighting relevant clause in the lease that precludes owner access.</p> <p>A signed letter from the tenant verifying the lease.</p> <p><i>Note: any financial or confidential language in the lease may be redacted.</i></p>

\*Effective date of ordinance

# Low emissions eligibility requirements

Eligibility Criteria in BEPS Ordinance	Proposed Acceptable Documentation
<p>4. When building upgrades necessary to meet net-zero emissions would adversely affect the special features or characteristics of <b>a landmark identified in the designating ordinance or designation report</b> or would compromise the <b>historic integrity of a building within a historic district</b>, 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 upgrades.</p>	<ol style="list-style-type: none"> <li>1. Building must be listed as a landmark / in a district</li> <li>2. Audit / feasibility study shows work would compromise historic integrity (<i>majority likely cases this is just the exterior, so may not impact many buildings</i>)</li> <li>3. Signed letter from City’s Historic Preservation Officer attesting that the building upgrades required for BEPS compliance would be denied Certificate of Approval.</li> </ol>

# Discussion and Feedback

## *Questions for your consideration in Mentimeter:*

- Are these net-zero plan eligibility requirements clear, or do they require further discussion? (1 - Unclear, needs discussion to 5 - Very clear)
  1. Sub-alteration
  2. Seismic
  3. Tenant lease
  4. Landmark building

# More complex eligibility criteria



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# More complex eligibility criteria

## Net-Zero

- 5.Replacement of equipment prior to end-of-life
- 6.Significant electrical infrastructure upgrades

## Low Emissions

- 6.Structural or electrical capacity upgrade is infeasible due to distinct technical and/or physical limitations



Image: Seattle City Light

# 5. Net-Zero: Replacement of equipment prior to end-of-life

## What the ordinance says...

(SMC 22.925.100) “When building upgrades necessary to meet the GHGIT would require the **replacement of HVAC heating system equipment or service hot water equipment** already vested under the Seattle Energy Code by January 12, 2024\* and that equipment **has not yet reached a defined percentage of life expectancy**.”

 **Standardized equipment life expectancy** and **defined percentage of life expectancy** shall be established by rule.”

\* effective date of the BEPS Ordinance

# 5. Lawrence Berkeley National Laboratory (LBNL) Research

- LBNL used Building Tune-Ups and Energy Benchmarking data to assess the impact of equipment age on cumulative BEPS emission reductions. Findings:
  - Did not see a substantial savings in cumulative emissions by requiring replacement at 65-75% of ASHRAE expected life
  - Data showed a lot of equipment is already beyond 100% of expected life (using ASHRAE standards)
- OSE Takeaways
  - Criteria only applies to equipment vested prior to 1/12/24, so this provision will effectively age-out over time
  - OSE recommends standardizing to 100% versus encouraging building owners with newer equipment to replace it early (focus effort on least efficient, most likely to fail, etc.)



Abandoned coal-fired boiler in a Seattle building.  
Lots of old equipment, but nothing this old!

# 5. Two key definitions for rulemaking:

## 1. Standardized equipment life expectancy

### Options proposed for rule:

1. Use ASHRAE standards
2. Use BOMA standards
3. Use unit energy savings (UES) standards from Regional Technical Forum

*Are there other options that we should consider?*

## 2. Defined percentage of life expectancy

### Proposal for rule:

1. Standardize to 100% of end of useful life (EUL)

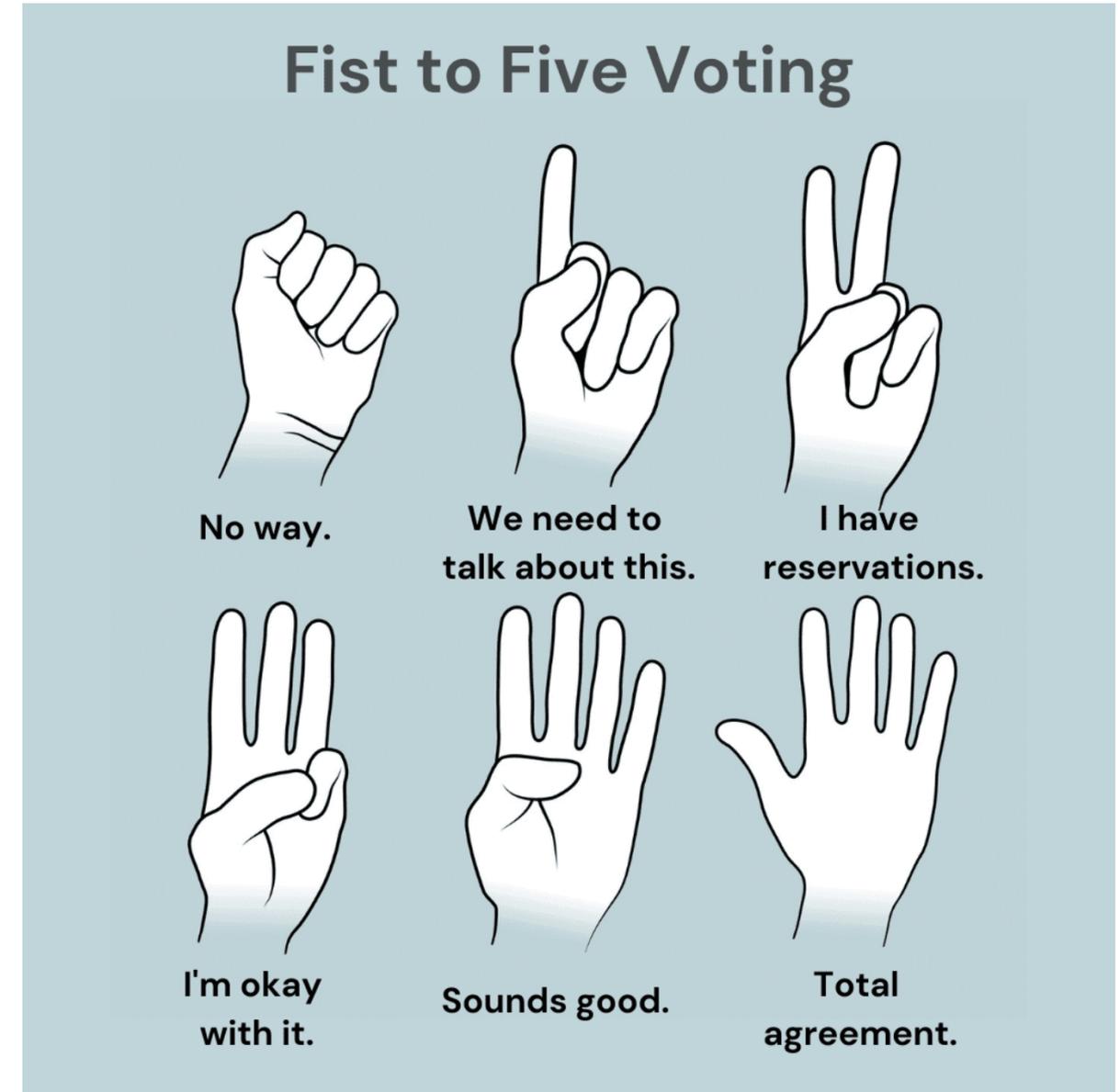
# 5. Discussion and Feedback

## Discussion

- Are there other options that we should consider besides ASHRAE, BOMA, RTF?

## Voting - Fist to Five

- Do you agree with 100% as the standard for life expectancy?



# 6. & 7. Net-zero & Low-Emissions - similar electrical capacity/structural issues

Eligibility Criteria in BEPS Ordinance	Proposed Acceptable Documentation
<p><b>6. NET-ZERO:</b> When building upgrades necessary to meet the GHGIT include the installation of <b>significant electrical infrastructure upgrades</b> to increase electric capacity in the building, such as adding a new transformer vault.</p>	<ul style="list-style-type: none"> <li>• Owners required to submit audit/feasibility study</li> <li>• Must follow same requirements as current Seattle Energy Code (Section 503.4.6; exception 4) to define a “<b>significant electrical infrastructure upgrade</b>”</li> </ul>
<p><b>7. LOW EMISSIONS:</b> When <b>structural or electrical capacity upgrades</b> necessary to meet net-zero emissions <b>are infeasible</b> due to <b>distinct technical and/or physical limitations</b> of the covered building.</p>	<ul style="list-style-type: none"> <li>• Owners required to submit audit/feasibility study demonstrating infeasibility (e.g., major space constraint in the building, roof can’t handle weight)</li> <li>• Follow #6 above for electrical capacity</li> </ul>

# 6. & 7. SEC Section 503.4.6; exception 4 (Seattle Electrical Code method)

4. Utility service upgrade. Compliance with Section C403.1.4 is not required where the requirements of Section C503.4.6.2 are met, and where such compliance would trigger an unplanned utility electrical service upgrade, based on the Seattle Electrical Code Section 220.87 method for determining existing loads, where one or more of the following is required:

- a. A new utility transformer vault located in the existing building or on the site, or an enlargement of the floor area of such a vault.
- b. Trenching across the vehicle lanes of a public way.
- c. The estimated construction cost for the required electrical service enlargement exceeds 50 percent of the project valuation for the remainder of the work, as determined in accordance with the *fee subtitle*. Construction cost shall be documented by an AACE Level 3 or equivalent cost estimate, including required demolition, construction, site work, and utility fees.

The replacement equipment shall comply with the minimum efficiency in Table C503.4.6.

<https://www.seattle.gov/documents/Departments/SDCI/Codes/SeattleEnergyCode/2021SECChapter5.pdf> (Page 10 of PDF)

## 6. & 7. Discussion and Feedback

### *Questions for discussion:*

1. Does anyone have experience with these situations? What has worked?
2. Does this acceptable documentation seem reasonable?

An aerial photograph of Seattle, Washington, showing the city skyline, the waterfront, and the Space Needle. The word "Break" is overlaid in the center. The image is taken from a high angle, looking down on the city. The sky is a mix of blue and orange, suggesting sunset or sunrise. The water is calm, and the city buildings are densely packed. The Space Needle is a prominent landmark on the right side of the image. The word "Break" is written in a large, bold, black font in the center of the image.

# Break



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# Most complicated eligibility criteria



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# Most complicated eligibility criteria

Net-Zero
8. Non-interruptible operations in laboratory or healthcare
10. <b>No practicable zero GHG emissions alternatives on market for a necessary function*</b>

Low Emissions
9. Analysis demonstrates meeting net-zero would create financial distress
11. <b>No practicable low GHG emissions alternatives...*</b>
12. <b>Net-zero infeasible in low income multifamily*</b>



Image: Seattle City Light

\* Initial discussion at December meeting

# 8. Net-Zero: Non-interruptible operations in laboratory or healthcare

## What the ordinance says...

(SMC 22.925.100) “Extenuating circumstances for which an owner can use a decarbonization compliance plan include... **when the building upgrades necessary to meet the GHGIT would require access to a laboratory, or an in-patient or emergency healthcare facility, that must maintain non-interruptible operations.**”

## Intent from stakeholder during policy development:

- Emergency rooms
- Vulnerable patients
- Longitudinal research studies

## For discussion in breakout groups:

1. How should non-interruptible be defined in rule?
2. How can it be documented?
3. Is there a threshold to ensure fairness?

# 9. Low Emissions: Business financial analysis can demonstrate meeting net-zero would create Financial Distress

## **Reminder: Financial Distress defined in ordinance**

1. Building has had **arrears of property taxes** or water or wastewater charges that resulted in the building's inclusion, within the prior two years, on a King County annual tax lien sale list;
2. Building has a **court-appointed receiver** in control of the asset;
3. Building is owned by a financial institution through **default by a borrower**;
4. Building has been acquired by a **deed in lieu of foreclosure** within the previous 24 months;
5. Building has a senior mortgage subject to a **notice of default**; or
6. Other conditions determined by rule.

## **For discussion in breakout groups:**

1. How can building owners demonstrate that meeting net zero would create Financial Distress?
2. Documentation?

# 10. & 11. Net-Zero & Low Emissions: Defining “no practicable low and/or zero GHG alternatives on market for a necessary function”

## Clarifications:

- “Practicable” refers to market availability (scale, options, cost, etc.) for a function, not necessarily feasibility in a particular building
- May overlap with certain End Use Deductions:
  - Specialized equipment in hospitals or labs (expires after 2040)
  - Backup heat deduction for healthcare or labs (never expires)



### Net-Zero:

The technology is not fully standard/ widely available now but will be by 2050 or sooner.

Example: “Saddle” or micro heat pumps?

### Low Emissions:

The technology is only in R&D now, or very new/untested.

Might not be standard/ widely available by 2041-2050

Example: High temp HPs for sanitation?

# Net-Zero & Low Emissions: Defining “no practicable low and/or zero GHG alternatives on market for a necessary function”

## Input from 12/18/24 Workgroup:

- Assess individual technologies with experts, stakeholders, commercial partnerships, etc. or via peer-reviewed research
  - List technologies which qualify and update
- Assess unreasonable costs: marginal abatement costs, comparison with the social cost of carbon, and defining a reasonable payback period



# 12. Low Emissions: Defining “infeasibility in low-income multifamily”

## Input from 12/18/24 Workgroup:

- Need for audits / feasibility studies
- Feasibility of relocating tenants
- Cost – should there be a fixed cost threshold?
- Technological immaturity

# Breakout Session #1

## Group A:

- 1) **Non-interruptible operations in laboratory or healthcare**
  - a. How should non-interruptible be defined in rule?
- 2) **No practicable low and/or zero GHG alternatives on market for a necessary function**
  - a. Additional feedback or comments

## Group B:

- 1) **Financial analysis shows meeting net-zero would create financial distress**
  - a. How can building owners demonstrate that meeting net zero would create financial distress?
- 2) **Net-zero infeasible in low income multifamily**
  - a. Additional feedback or comments

# Facilitators shareout



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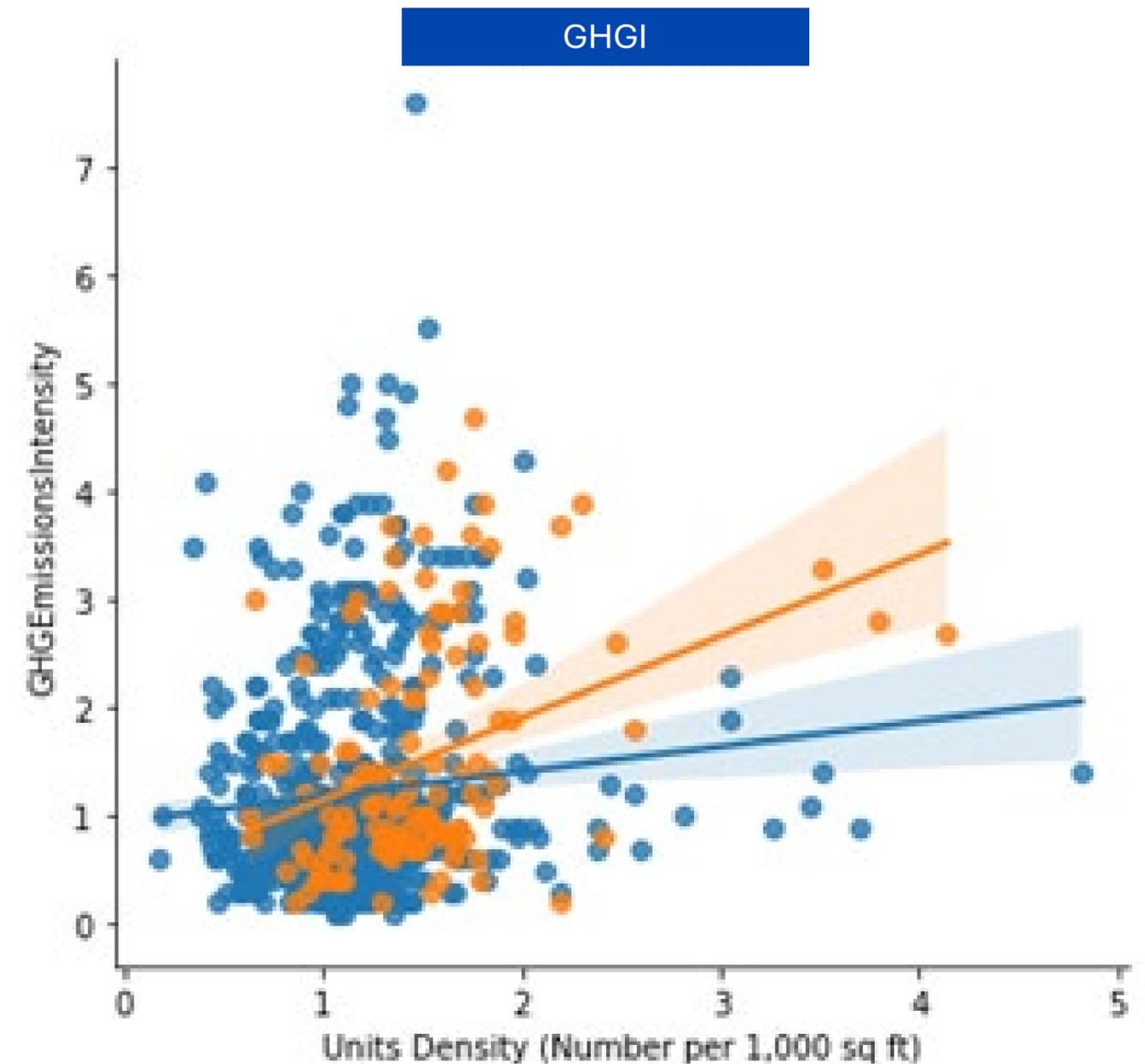
# Research Updates



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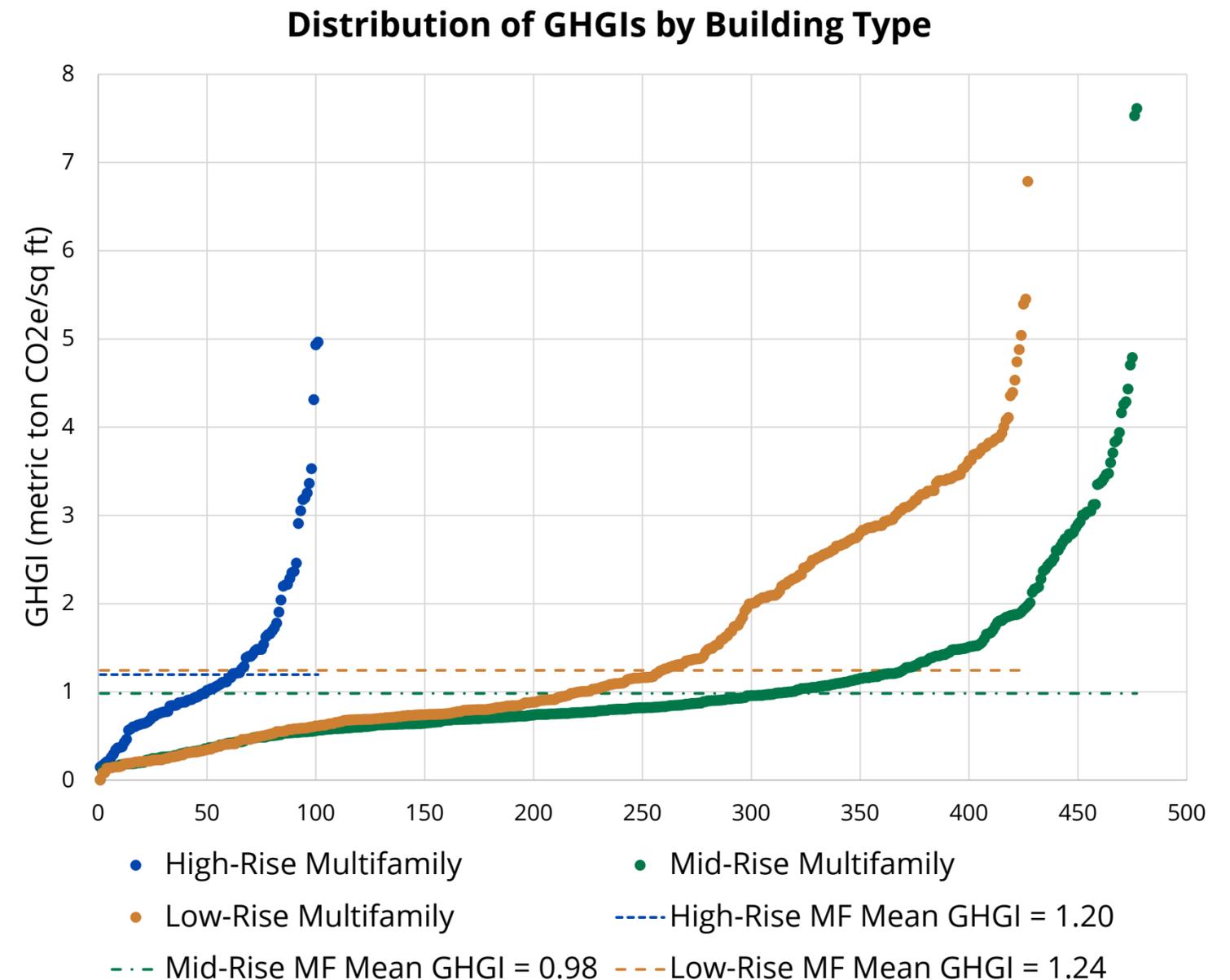
# Multifamily Normalization Factor – Reminder from Meeting #1

- Pacific Northwest National Laboratory (PNNL) analyzed benchmarking data to understand the influence of various building features that could impact GHGI
- PNNL's analysis results may support an increase in the building performance target for subsidized, low-income housing compared to the current target established for all multifamily buildings
- However, they could not identify a reliable factor for an adjustment based on unit density that worked across the multifamily buildings



# SBW research on multifamily normalization factor: low-, mid-, high-rise variations

- Identified differences in mean GHGI between low, mid, and high-rise buildings
- Possible explanations for why mid-rise GHGI is lower:
  - High rises include more luxury buildings with high gas loads (e.g., stoves, pools, fireplaces), central HVAC systems, and conveyance
  - Low rises tend to be older buildings and less energy efficient; mid rises tend to be newer and more efficient



# Normalization Factor Research for Multifamily

## Question for discussion:

1. Does it make sense to normalize targets for low- and high-rise buildings but not for mid-rise buildings?

Building Activity Type	Building Count	Floor Area (sq ft)	2019 GHGI (kgCO <sub>2</sub> e/sqft)
Low-Rise Multifamily	427	19,305,305	1.24
Mid-Rise Multifamily	477	44,603,459	.98
High-Rise Multifamily	101	23,444,616	1.20
<b>Multifamily</b>	<b>1,005</b>	<b>87,353,380</b>	<b>1.10</b>

# Next Steps

- Final meeting- later in Q1 to review rough draft
- What did we not cover that we need to cover / you expected us to cover
- Additional ad hoc meetings
- [End of meeting survey](#) – what would you like us to revisit in the final meeting?

# Conclusion

- We will share a meeting summary to ensure notes are accurate
- A scheduling email and further request for input on final meeting topics will come in the next few weeks
- Questions or comments? Email [cleanbuildings@seattle.gov](mailto:cleanbuildings@seattle.gov)

# THANK YOU!

# Summary Slides of Breakout Group Discussion

*See summary notes for further detail*



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## **Breakout 1A:**

Defining “non-interruptible operations” and “no practicable low and/or zero GHG alternatives on the market for a particular function”



# “Non-interruptible” in the ordinance

## What the ordinance says...

(SMC 22.925.100) “Extenuating circumstances for which an owner can use a decarbonization compliance plan include... **when the building upgrades necessary to meet the GHGIT would require access to a laboratory, or an in-patient or emergency healthcare facility, that must maintain non-interruptible operations.**”

## Intent from stakeholder during policy development:

- Emergency rooms
- Vulnerable patients
- Longitudinal research studies

# How should “non-interruptible” be defined in rule? How can it be documented? Are there any limits or boundaries to the definition?

- In commercial labs, usually archival equipment support: cryogenic storage systems. Biggest challenge is figuring out alternative energy sources if we have to do maintenance or upgrades. Very expensive to find alternative power sources. Doable - but takes time, and needs more time for planning. Case by case approach for managing this - requires a lot of planning. Power shutdowns are the things which trigger this challenge. Some things can stay on standby with generators, but sometimes not. Primarily electrical. (Other loads may also be on the standby power and be impacted.
- Precincts and 911 call centers, fire departments, are also non-interruptible but not healthcare. Do they qualify?
- No. Would the building portfolio path allow the needed flexibility?
- Community resiliency centers, heating and cooling centers
- More intermittent need than emergency services
- Agree - things can be done, you just need time to plan. Current Emergency Dept opened in 2013, so it used to be somewhere else. It was moved, so it's clearly possible.
- Concern about no decarb plan approach for non-schools. A full campus approach to decarbonization makes sense for hospitals
- For non interruptible: Time of year is a major feasibility consideration for executing upgrade work within commercial lab facilities. Spring/Fall are best windows to manage risk associated with disrupting normal lab operations or impacts to archived cold storage material.
- Planning for these is part of the 5 year capital planning cycle

# “No practicable low and/or zero GHG alternatives on the market” clarifications

- “Practicable” refers to **market availability**, not feasibility in a particular building
- Many equipment types overlap with available end use deductions (e.g., specialized equipment in hospitals/labs)

# What we heard:

- Assess individual technologies with experts, stakeholders, commercial partnerships, etc. or via peer-reviewed research
  - List technologies which qualify and update
- Assess unreasonable costs: marginal abatement costs, comparison with the social cost of carbon, and defining a reasonable payback period
- **Any feedback or comments?**

**Breakout 1B:**  
Demonstrating financial hardship  
and defining “infeasibility in low-  
income multifamily”



# How can building owners demonstrate Financial Distress? Documentation?

## Financial Distress defined in ordinance

1. Building has had **arrears of property taxes** or water or wastewater charges that resulted in the building's inclusion, within the prior two years, on a King County annual tax lien sale list;
2. Building has a **court-appointed receiver** in control of the asset;
3. Building is owned by a financial institution through **default by a borrower**;
4. Building has been acquired by a **deed in lieu of foreclosure** within the previous 24 months;
5. Building has a senior mortgage subject to a **notice of default**; or
6. Other conditions determined by rule.

## Discussion

1. Pre-existing financial distress is defined... but what are the "other conditions determined by rule"
2. You would already know if you're already in financial distress, so this pre-existing information doesn't help you know if you're going to end up in financial distress.
3. Example: Electrification Feasibility
  1. Based on tax records it seemed feasible
  2. But the cost to implement exceeded the value of the building
  3. Owner did not want this information to be public record to avoid disincentivizing future buyers

# How should “non-interruptible” be defined in rule? How can it be documented? Are there any limits or boundaries to the definition?

## Building Valuation

1. The cost of improvements will exceed the value of the building
2. *Involved **personnel**: Internal Financial Analysts or Brokers to make **Broker Estimation of Value***
3. Demonstrate (+/-) impact of upgrades on property value

## Fines for Non-Compliance

1. How does the upcoming fine impact valuation?
2. Fines included in **Broker Estimation of Value**
3. How to incorporate the fines into the balance sheet?

*Italics: Uncertain*

# What we heard about “Infeasible in low-income multifamily”

- Need for audits / feasibility studies
- Feasibility of relocating tenants
- Cost – should there be a fixed cost threshold?
- Technological immaturity
- **Any feedback or comments?**