

Seattle's Building Emissions Performance Standard (BEPS) Rulemaking District Campus Decarbonization Plans

February 27, 2025



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Welcome & Introductions



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Welcome!

- Icebreaker (in chat)
 - Name, role, organization
 - What's your favorite building in Seattle and why?



OSE and Consultant Team for Rulemaking



Rules of Engagement

- **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.

Agenda

- **Welcome + Introductions** (5 minutes)
 - Consent to record
- **Introduction to BEPS Rulemaking Process** (10 minutes)
- **Introduction to District Decarbonization Plans** (10 minutes)
- **Tell us about your district systems!** (15 minutes)
- **District Decarbonization Plan Requirements** (35 minutes)
 - Data Requirements
 - Reporting Requirements
- **Open Discussion** (10 minutes)
- **Wrap-up & Next Steps** (5 minutes)

Introduction to the BEPS Rulemaking Process



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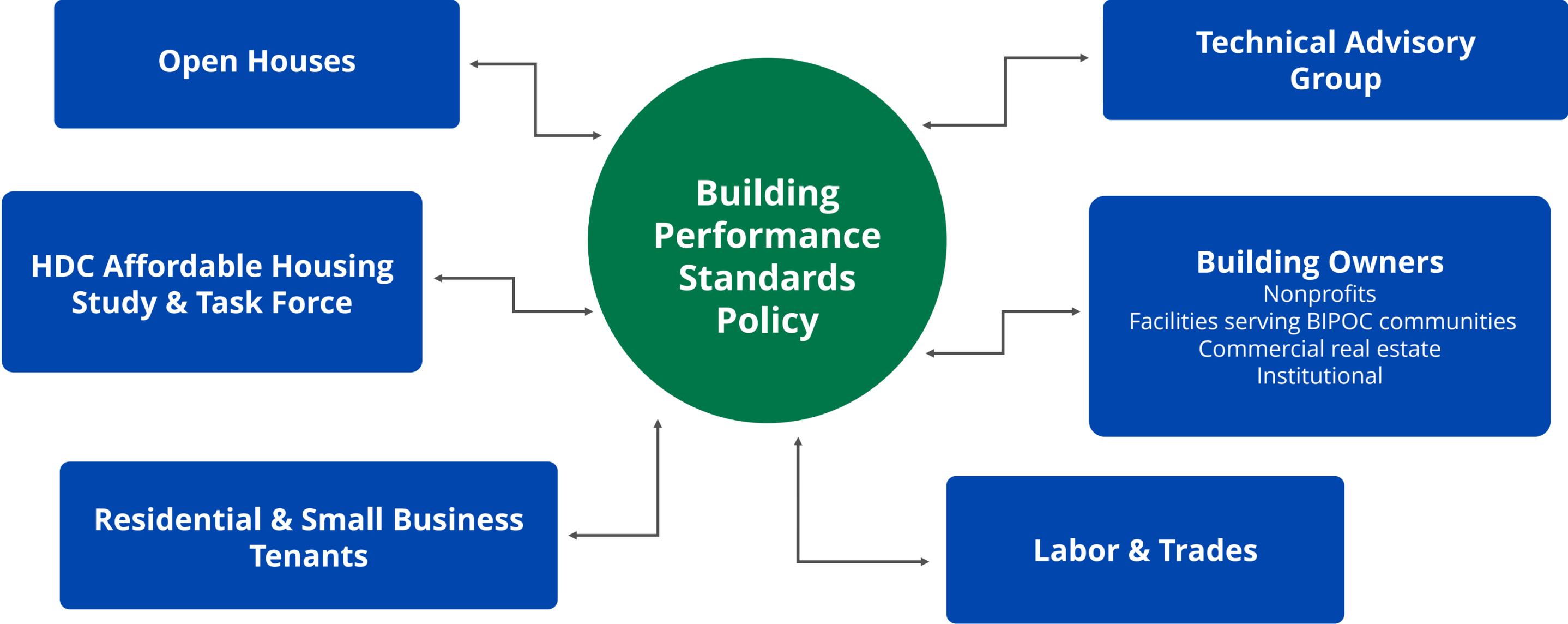


“The Building Emissions Performance Standards (BEPS) policy continues Seattle’s leadership on climate action and represents a milestone for our city’s efforts to reduce greenhouse gas emissions and build healthy communities,” said Mayor Bruce Harrell.

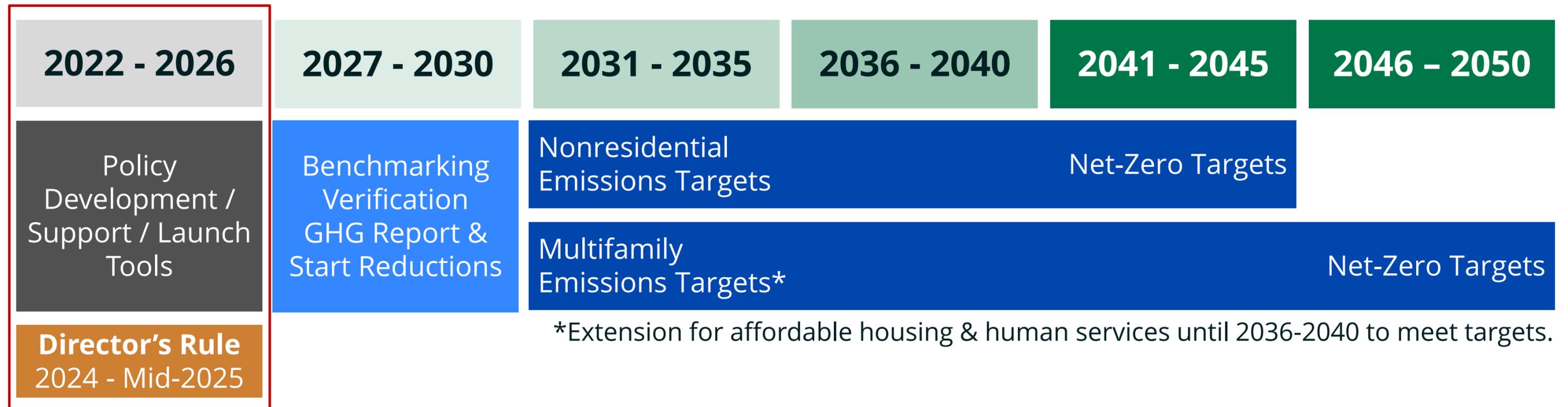
“This bold legislation will not only create cleaner buildings for people to live, work, and play in, but also hundreds of local jobs and build pathways to careers in the green economy...”

*Mayor Bruce Harrell,
BEPS Press Release, December 13, 2023*

Many voices helped shape the legislation



Next steps for 2024 -2025: Director's Rule or "Rulemaking" process



What does BEPS require of building owners?

Every five years:

-  **Energy Benchmarking Verification:** Verify previous year's building energy use and emissions. *By 2027-2030*
-  **GHG Report:** Document current GHGI/GHGIT and equipment, and plan actions to achieve targets. *By 2027-2030*
-  **Meet Greenhouse Gas Intensity Targets (GHGIT).** *By 2031-2035*
-  **Achieve** net-zero emissions with narrow exceptions. *By 2041-2050 (depending on building type and size)*

Existing **Building Tune-Ups** requirements will sunset after the 2023-2026 compliance cycle is done.

Three compliance pathways for greatest flexibility

PATH A:

Meet standard or building portfolio/campus GHGI Targets at all five-year compliance intervals

Compliance Includes:

- Benchmarking Verification
 - GHG Report
- Meet standard GHGI Targets
- Achieve Net Zero by 2041-2050

Emissions Deductions:

Emergency generators, district steam, and fossil fuel cooking, in-unit condo equipment, process loads & more.*

Exemptions: Electric only buildings exempt from GHGI Targets and building demolition (all requirements.)

PATH B:

Comply with extension or basic alternate compliance.

Extensions:

Extended timeline for low-income/rent housing to meet GHGIT, financial distress, new construction, high vacancy

Alternate Compliance:

- ACP payment in lieu of GHGIT 2031-2035
 - Multifamily prescriptive paths
 - Alternate GHGIT (a custom percent reduction target)

PATH C:

Custom timeline or targets due to hardship or unique circumstances.

Decarbonization Plans:

- Net-Zero by 2050
 - Low-Emissions by 2050
- Require audit & cost analysis.

Hardship Eligibility Criteria:

Conflicts with historic status, sub-alt, or seismic upgrade, infeasible for low-income multifamily or structural/electric upgrades & more.

District Campus Decarbonization Plan:

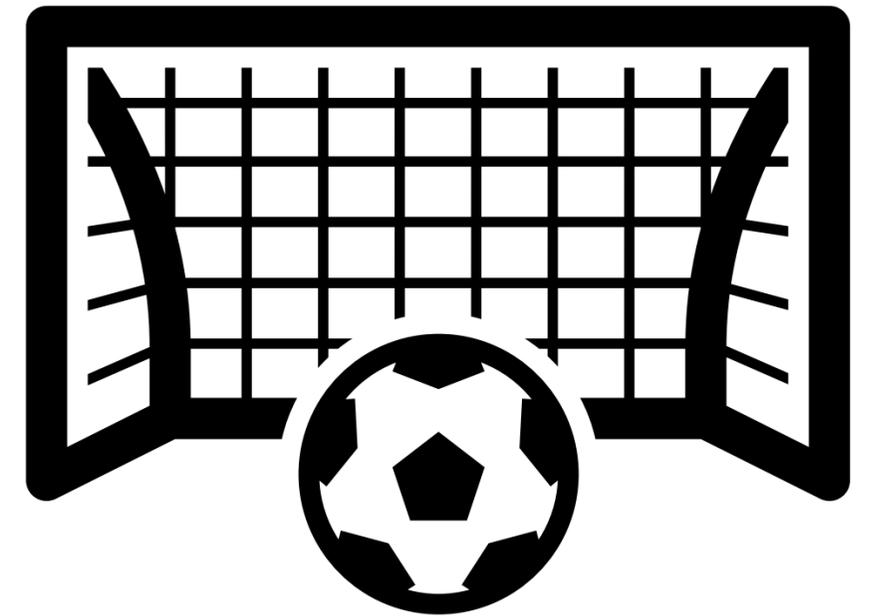
For campuses with district energy

*Some deductions are time limited. Can be used for paths B & C.

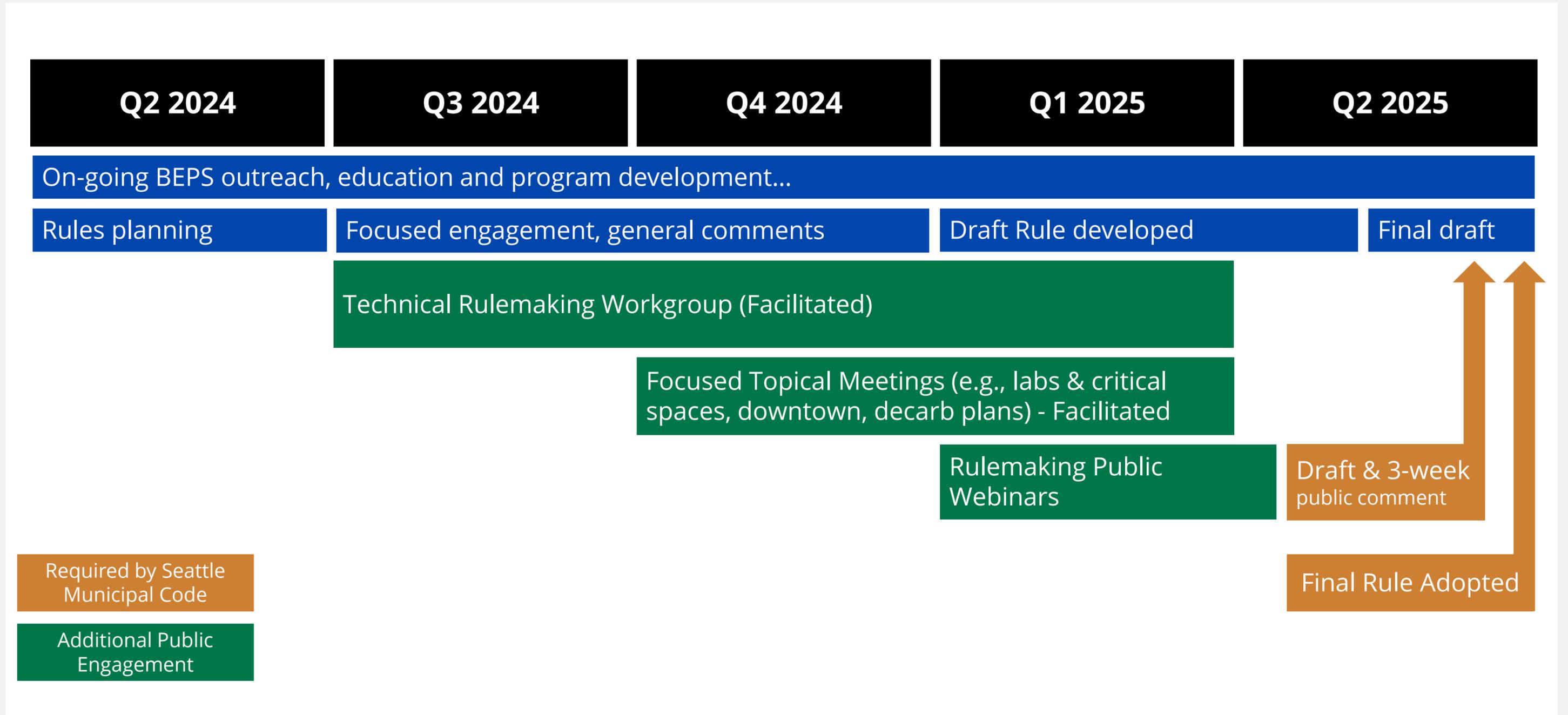
Rulemaking Goals for OSE

Per Seattle Municipal Code a Director's Rule is the required next step to clarify ordinance elements (e.g., timeline for exemptions requests, documentation required.)

- ✓ Engaged key stakeholders who have an opportunity to constructively contribute
- ✓ A rule that maintains the stringency of BEPS and explains how to use the flexibility
- ✓ A readable, approachable final Director's Rule document



Director's Rule Timeline Overview



Topics covered in technical rulemaking workgroup meetings

Meeting #	Topics	Date
1	Intro + Standard compliance with one building	July 11
2	Standard compliance with building portfolio and connected buildings	July 30
3	Review mtgs 1 & 2; Alternative Compliance: Alternate GHGIT, Multifamily Path	September 11
4	Energy benchmarking verification	October 9
5	End use deductions	November 20
6	Extensions + exemptions	December 18
7	Decarbonization plans (low emissions and net-zero)	January 15
8	<i>Review + Unfinished Business</i>	<i>TBD</i>

Meeting notes and slides at:

<https://www.seattle.gov/environment/climate-change/buildings-and-energy/building-emissions-performance-standard/beps-rulemaking>

2025 is the Foundational Rule - Updates to come!

Rulemaking Dates Listed in the Adopted Ordinance	By Dec 31st *By Oct 1st
1st Director's Rule Required (The Big Lift needed to launch program!)	Q2 2025
2031-35 Emissions Factors, Raise ACP cost for 2031-35, Final 2031-35 Laboratory GHGIT	2027
2036-40 GHGITS; Emissions Factors 2036-40	2031
Revised Penalty Amounts 2036-40	2034*
2041-45 GHGITS; Emissions Factors 2041-45	2036
Revised Penalty Amounts 2041-45	2039*
2046-50 GHGITS; Emissions Factors 2046-50	2041
Revised Penalty Amounts 2046-50	2044*

Questions?



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Introduction to District Campus Decarbonization Plans



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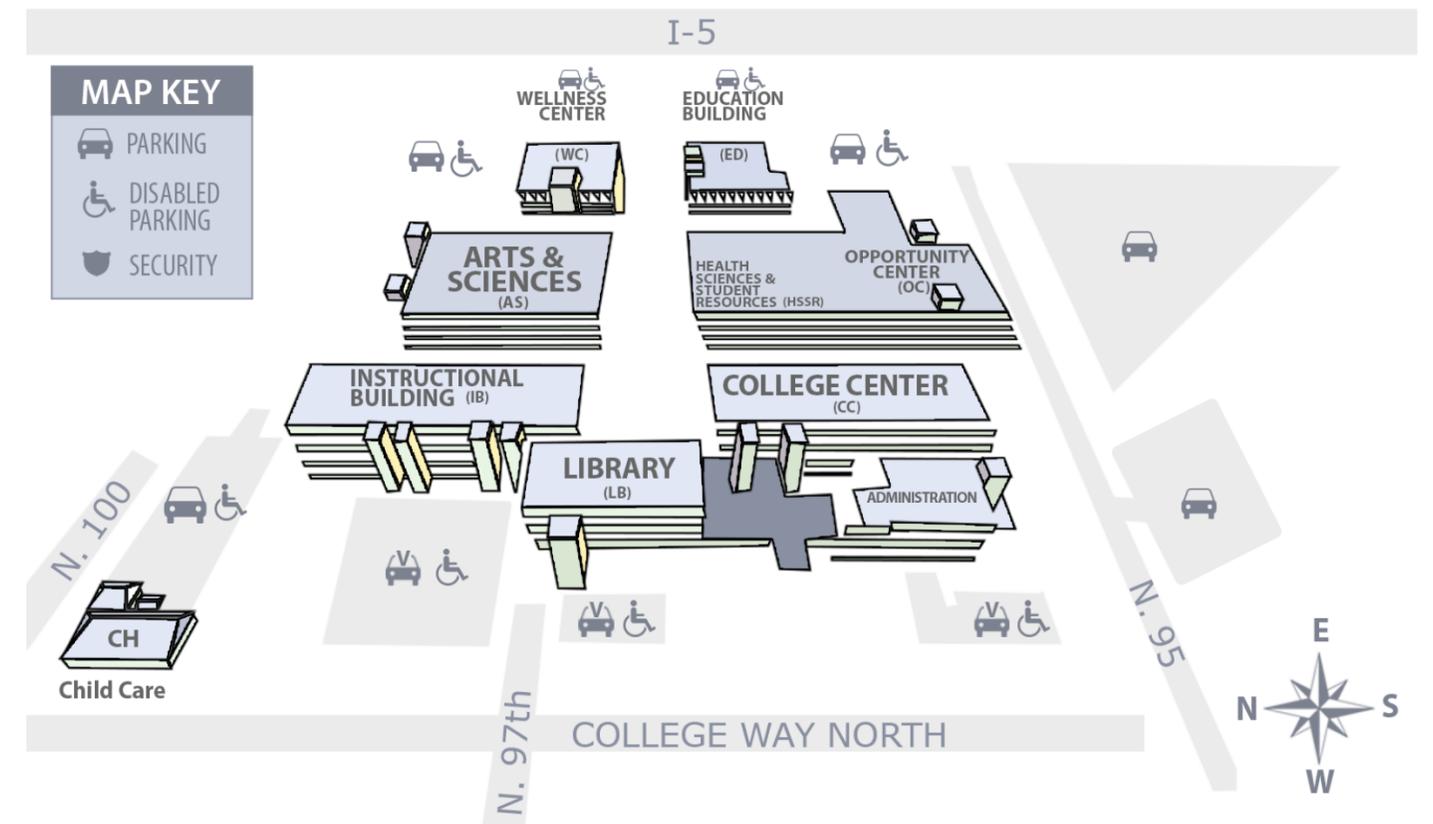
What the BEPS ordinance says...

(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 GHGIs** may submit a campus decarbonization compliance plan to OSE for approval."



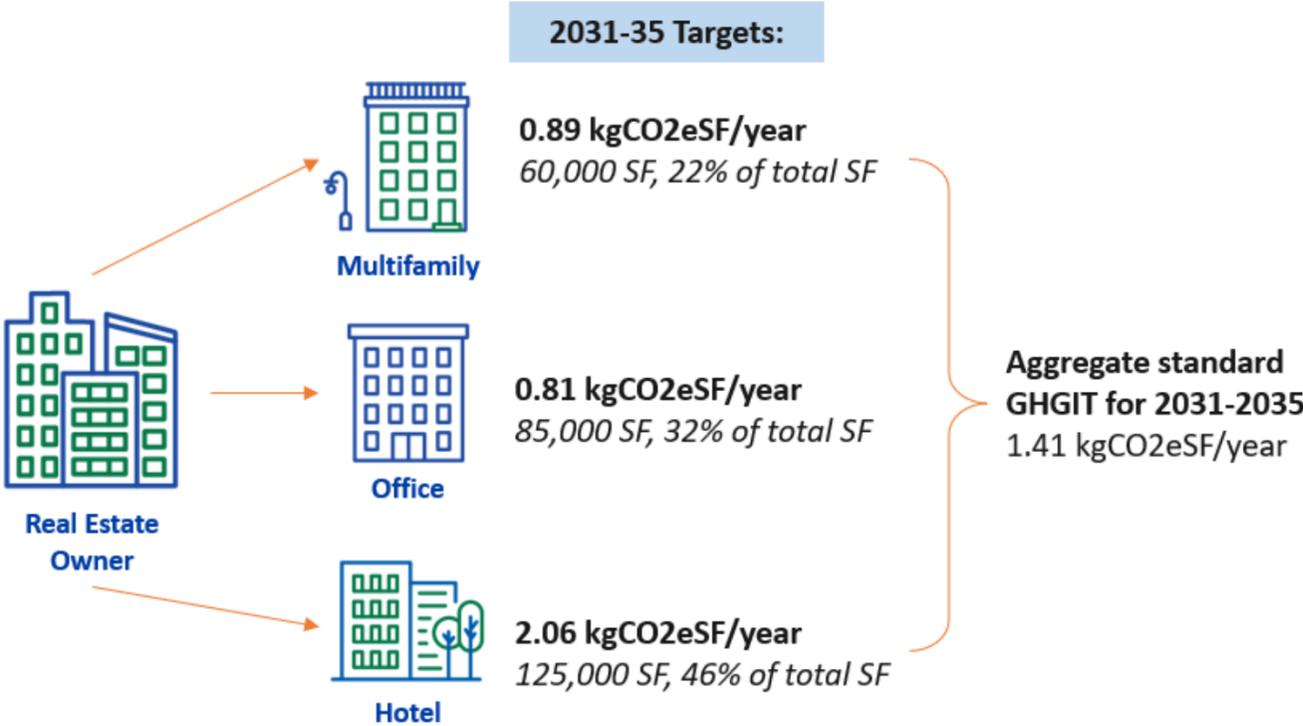
What is a district campus?

(SMC.925.020) “Two or more covered buildings on the same or adjacent parcels owned by the same building owner that is **served by a campus district heating, cooling, water reuse, and/or power system**. Where more than one owner is part of a district campus under a joint agreement, one owner shall be deemed the building owner for the purposes of complying with this Chapter 22.925.”

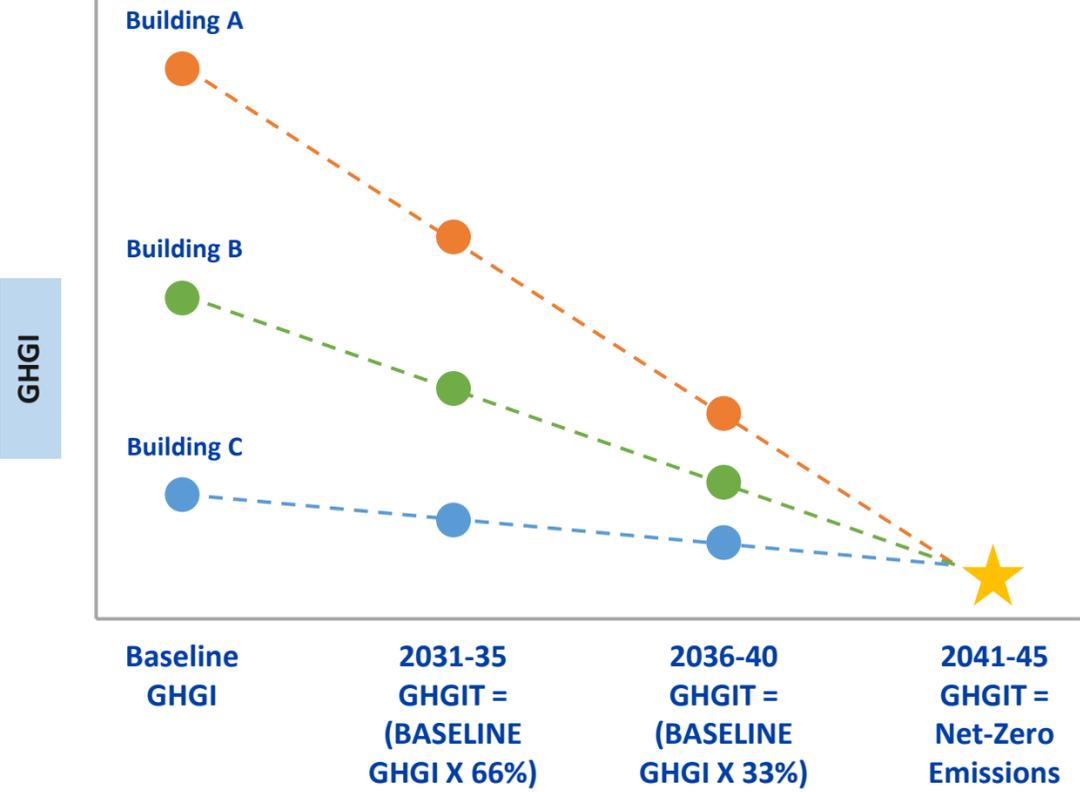


Standard Aggregate vs. Alternate GHGIT

Aggregate GHGIT - GHGIT based on a pro-rated mix of standard building activity type targets for all their buildings' square footage.



Alternate GHGIT - State at baseline and set interim targets from that baseline to net-zero, with incremental targets reducing 33% (or 25% for multifamily) for each compliance interval.



Nice definitions, but...

- There are often lots of exceptions and overlaps in district campus and connected building configurations.
 - A “campus” that has some connected buildings and some stand-alone (metered separately).
 - A district campus that has most buildings on the system, but some are not on the system.
 - There are buildings less than 20,000 SF on the campus.
 - Configurations change over time – buildings are demolished, expanded, sold, etc.
 - And so on...

BEPS Rule Goal: Clear and concise rules that support flexible compliance for district campuses. as opposed to solving for every unique scenario.



Decarbonization of District Energy Systems in the WA CBPS¹

	WA & Seattle Data	WA CBPS (EUI) Data	Seattle BEPS (GHGIT) Data
General Campus Requirements	ENERGY STAR Portfolio Manager data, GFA, energy use for 12 months, list of connected buildings.	Parcel numbers, WA-specific IDs, Form J (certifications).	Ownership docs, mechanical equipment inventory, GHGIT compliance details.
Benchmarking	WNEUI, measured EUI, energy source breakdown, emissions.	EUI calculation (Form B), compliance pathway selection.	Baseline GHGI, GHGIT compliance calculations, end-use deductions.
Decarbonization Plans	Existing system description, proposed upgrades, compliance schedule.	Detailed plan (Form K) to decarbonize district plant, fossil fuel replacement, O&M equipment inventory LCCA (if applicable).	Actions to meet GHGITs and decarbonize plant + building level, compliance documentation
Reporting Timelines	5-year progress updates starting 2025.	Final plan due June 30, 2025; reports every 5 years until 2040 or later.	Plan due date TBD; Reports every 5 years until 2050
Compliance Metrics	Aggregated grouped building's energy use data.	EUI or investment criteria compliance.	GHGIT compliance

¹See Washington State Department of Commerce [“Decarbonization of District Energy Systems”](#) for further detail

**Tell us about your
district systems!**



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In two minutes or fewer...

1. How many buildings are served by your district campus?
2. How many buildings on the district system are also served by utility metered gas?
3. Are you considering allowing adjacent buildings not under your ownership to hook into your newly decarbonized system (i.e. adding an ecodistrict)?
4. How are you currently tracking emissions?
5. Briefly describe your decarbonization timeline.
6. What is your final decarbonization goal (e.g. meet CBPS requirements, fully decarbonize, etc.)?



Summary of Survey Responses Received

Question	Survey Summary
1. Number of buildings served by district energy	3-18 per district, some expansion to serve more buildings anticipated
2. Number of buildings on district system also served by utility-gas	100% for most districts, but not all.
3. Considering an eco-district	Yes (n=2), Maybe, depends on design (n=2)
4. Emissions tracking method	ESPM, ISO 50001, Not tracking yet
5. Decarbonization Timeline	Varies. 1. TBD; 2. Site Assessment Complete; 3. In Progress; 4. Right-sizing system through building efficiency 1st
6. Decarbonization Goal	Varies. 1. Meet CBPS and BEPS; 2. Meet CBPS; 3. Decarbonize + Revenue; 4. Full Decarbonization of district system

District Campus Decarbonization Plan Requirements



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Ordinance decarbonization plan requirements

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

- Building [district campus level] **energy** and greenhouse gas **emissions audit**
- Analysis of energy efficiency greenhouse gas **emissions reduction actions** [at the plant level and in any buildings or collection of buildings that have a fossil fuel utility meter]
- **Incremental and final GHGIs and actions** at each compliance interval [for the district campus]
- 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
 - [The analysis should focus on the decarbonization of the system]

DRAFT Proposed BEPS Director Rule Requirements

The District Campus Decarbonization Compliance Plan must include:

1. District Campus **Energy and Emissions Benchmarking Data**
2. Documentation of **Baseline Energy Use**
3. Documentation of **Baseline Emissions** (GHG and GHGI) of the District Plant and Campus Buildings Served by the Plant
4. Demonstration of **Cumulative Emissions Reduction**
- pause for group discussion -
5. District Campus **Decarbonization Schedule**
6. Supporting **Documentation**
- pause for group discussion -

1. District Campus Energy and Emissions Benchmarking Data

DRAFT Proposed Requirements:

1. In ESPM, identify all buildings connected or planning to connect soon (e.g., new construction) to the district campus energy system and energy meters, including:
 - Each covered building > 20,000 SF (include >20,000 SF w/ BEPS Exemptions)
 - Central plant structures/buildings
 - Total GFA of buildings not covered or < 20,000 SF

The screenshot shows the top portion of a document from the ENERGY STAR Portfolio Manager 'How To' Series. The header includes the ENERGY STAR logo and 'PortfolioManager' branding. The title is 'How to Benchmark a Campus in Portfolio Manager'. The main text explains that the tool helps measure and track energy and water use, waste, and greenhouse gas emissions. It provides instructions on how to benchmark a campus, including defining campus-level and building-level terms. A sidebar titled 'Steps to Benchmark a Campus' lists: Create 'Parent' Property, Add 'Child' Properties, Add Meters, Confirm meter configurations, and Review campus. The first step, '1 Create a Parent Property', is detailed, explaining that the parent property represents the total number of buildings on the campus and providing instructions on how to add a property in the system.

2. Baseline Energy Use

DRAFT Proposed Requirements:

1. Calculate district campus **baseline energy use** (January 1 to December 31 for 2024 or later) **for all fuels** (electricity, natural gas, bulk fuels, & thermal imports). Note any:
 - Allocations for allowed end-use deductions
 - Energy exports (e.g., co-generation electricity sold to the grid)
 - Energy used by exempted buildings or structures not covered by BEPS

3. Baseline Emissions of the District Plant and Campus Buildings Served by the Plant

DRAFT Proposed Requirements:

1. Total District Campus Gross Floor Area (GFA) Measurement

- Sum of GFA of each building connected to the district system.

2. Baseline Emissions (GHG) Calculation

- District campus baseline emissions = sum of emissions from all fuel sources.
- Document end-use deductions that apply to the district energy.

3. Baseline GHGI Calculation

- $\text{GHGI} = \text{GHG} \text{ divided by total district campus GFA.}$

4. Fossil Fuel Utility Metered Consumption

- Any building(s) on district energy that also have a fossil fuel meter:
 - Include energy use as a subtotal (may exclude electric meters).
 - Apply allowed end-use deductions for each compliance period.

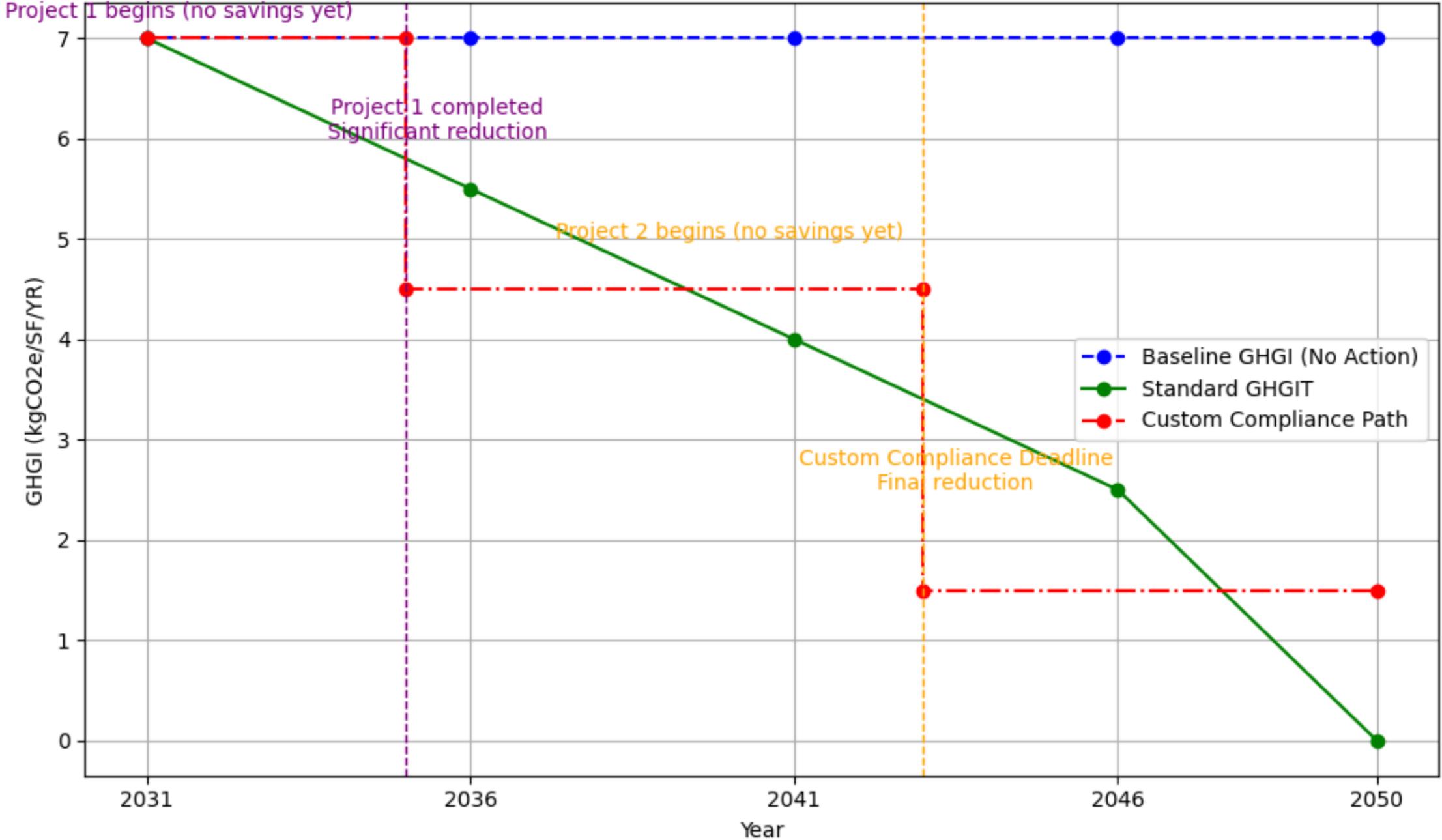
4. Demonstration of Cumulative Emissions Reduction

DRAFT Proposed Requirements:

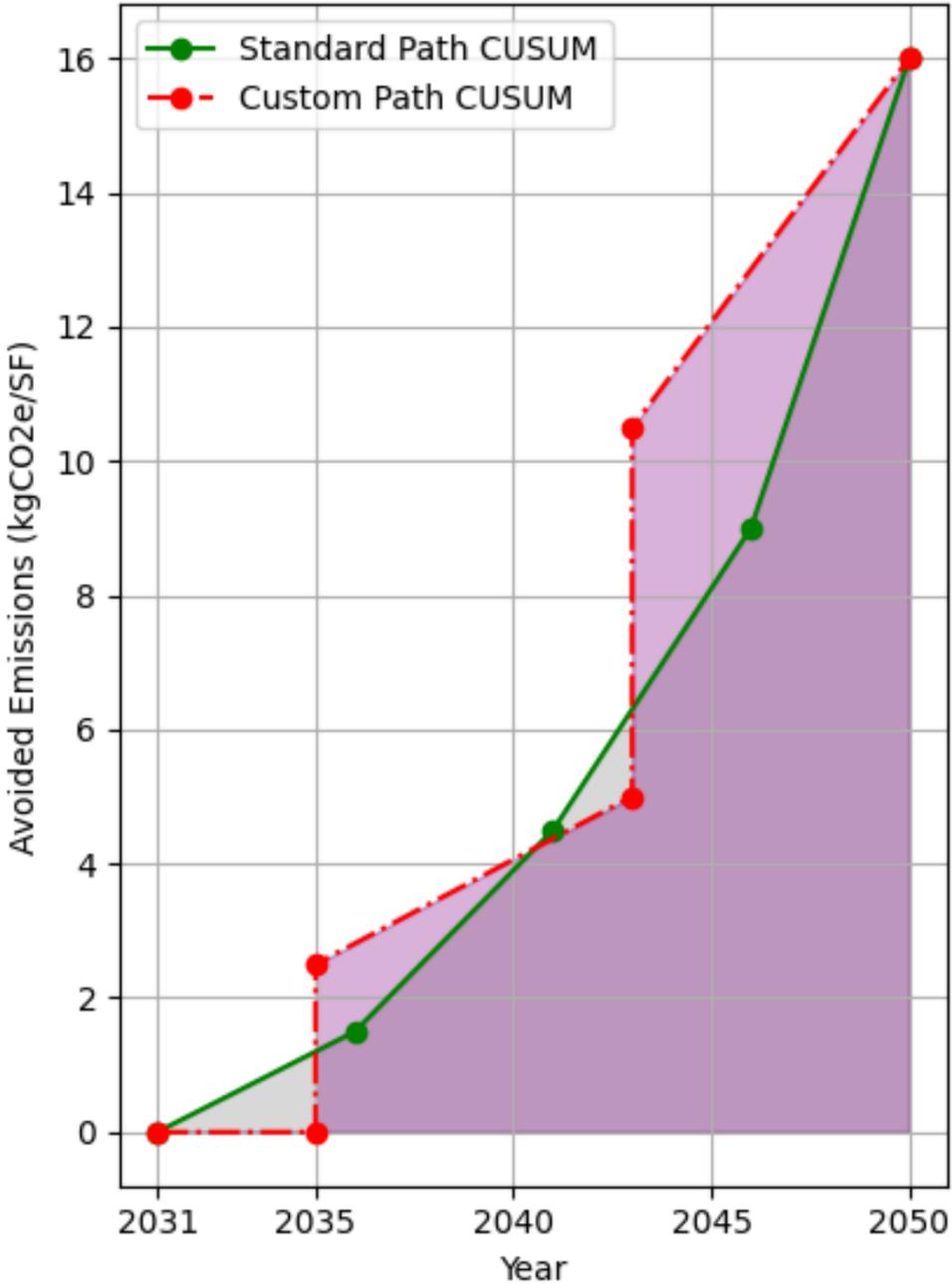
1. Establish compliance period targets using aggregate standard or **alternate GHGIs (baseline to target)**.
2. Calculate **cumulative compliant emissions** and estimate baseline emissions for each compliance period.
3. Demonstrate **cumulative reductions will be equal to or greater** than those achieved by meeting aggregate standard or alternate GHGIs.

Cumulative Emissions Reduction - Visualized

Compliance Targets and Custom Pathways for High-GHGI District Campus



Cumulative Avoided Emissions (CUSUM)



Discussion: Data Requirements

1. Is there data that we are requesting that you are not already collecting?
2. If so, is there data that you are collecting that would be a proxy for this request?



5. District Campus Decarbonization Schedule & Plan

DRAFT Proposed Requirements:

1. **Provide schedule** for decarbonizing the district energy system, including improvements made since baseline and planned work.
2. Include **timeline** & **projected emissions reductions** from planned improvements.
3. Include a summary of known **project risks and contingency plans**.

6. Supporting Documentation

DRAFT Proposed Requirements:

1. **Names, qualifications, and responsibilities** of key staff or contractors managing the plan.
2. **Results from audit(s)** conducted within five years of the baseline (or new audit).
3. **Map** of connected buildings & planned future connections.
4. **Reference key related plans** (e.g., WA CBPS Plan, campus sustainability plan, etc.)
5. **Seattle Energy Code** future decarbonization plan (if applicable)*

** 2021 SEC section C503.4.6 provision applies to building HVAC equipment replacements that receive an exemption. Likely not relevant to the plant.*

Progress Reporting Requirements

- **Per BEPS ordinance**, building owners that are reporting as a district campus and connected buildings **will be required to comply mid-cycle** (e.g., by Oct. 1 2028, 2033, 2038 and so on)
- Report on incremental **progress every five years**, including:
 - Key project milestones and emissions reduction achieved
 - Progress on cumulative emissions reductions
 - Document baseline emissions and actual emissions reductions achieved during each compliance period.

Discussion: Schedule, Documentation and Reporting Requirements

1. Do you have feedback on the proposed reporting requirements?
2. Are there other elements you would recommend we add?



Q&A



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Conclusion

- We will share a meeting summary to ensure notes are accurate
- Please complete this [short survey](#) to give your feedback
- Questions or comments? Email cleanbuildings@seattle.gov

THANK YOU!



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Appendix: Definitions

“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.