

NOVEMBER 20TH 2024 - MEETING SUMMARY

Building Emissions Performance Standard (BEPS) Technical Rulemaking Working Group

Zoom Call 10AM-12PM

Present: Caroline Traube, Edmée Knight, Evan Cobb, Gabriella Henkels, Heather Brownlow, Luke Howard, Ian Brown, Irina Rasputnis, Joe Malaspino, Mark DiPaolo, Mel Knox, Nina Olivier, Rebecca Becker, Srin Pendikatla, Steve Schmidt.

Regrets: Alistair Jackson, Steve Abercrombie.

City of Seattle BEPS and Facilitation Staff: Gemma Holt and Nicole Ballinger (OSE), Anna Kelly, Catherine Ozols, and Faith DeBolt (SBW), Kirstin Pulles and Sepideh Rezania (Unrooz)

Additional City of Seattle Staff (Observing): Ashley McCulley (OSE), Charlie Rogers (OSE), Kelly MacAvaney (OSE), Kyle Berbel (OSE), and Mike Roos (OSE).

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

Agenda:

Topic	Time
Welcome + Introductions • Quick Recap of Meeting #4	10 mins
Discussion: Introduction to End Use Deductions	10 mins
Discussion: Fossil Fuel Cooking Equipment Deductions	20 mins
Break	5 mins
Discussion: Deductions with Proposed Standard Calculation Methods	10 mins
Discussion: Deductions with Other Proposed Calculation Methods	10 mins
Discussion: Deductions that are Typically Electric Loads	10 mins
Discussion: Potential to Add or Extend End Use Deductions	10 mins
Wrap-Up & Next Steps	10 mins

Working Group Discussions Summary:

1. Introduction to End Use Deductions

Topic: The ordinance says (SMC 22.925.120) “Building owners may deduct the sum of the annual GHG emissions from the following end uses from their compliance GHGI, for one or more compliance intervals”:

- Fossil fuel cooking equipment
- Fossil fuel high intensity process equipment used in hospitals and laboratories
- Fossil fuel high intensity laundry equipment used in hotels and healthcare
- Fossil fuel equipment located within an individually owned residential unit within a multifamily condominium building
- Fossil fuel generators used exclusively for emergency back-up power
- Fossil-fuel equipment used for back-up emergency heat in hospitals and laboratories
- District energy steam, hot water and/or chilled water provided by a private district energy provider
- Electric vehicle charging equipment
- Electric loads related to broadcast antennas, on-site cell phone towers or other communications equipment that is unrelated to the primary purpose of the building

Deductions are included in BEPS because they recognize additional variability in building types, account for uses that are challenging to replace before the compliance deadline, allow time for better or more low emissions market alternatives to be developed and for planning retrofits, and consider equity impacts, such as small businesses and condo owners.

For some end use deductions, OSE is proposing that building owners will be able to choose between submetering energy loads which will be deducted or using a standard calculation to determine the energy use. OSE shared an overview of options under consideration:

	Submeter	Standard Calculation	Metered Usage / Other (ESPM = ENERGY STAR Portfolio Manager)
Fossil Fuel Cooking Equipment	✓	✓	
Process Equipment in Hospitals/Labs	✓	✓	
Laundry Equipment	✓	✓	
Individually owned residential condo equipment	✓	✓	
Emergency Backup Power (Generators)			Delivered fuel (don't deduct if not benchmarked in ESPM)
Emergency Backup Heat	✓	✓	
District Energy Steam			Metered use in ESPM + attestation
Electric Vehicle Charging Equipment			ESPM calculation or metered use (electric)
Communications Equipment			ESPM metered use (electric)

The standard calculation estimate is helpful because it is a lower cost alternative to submetering, and costs are also an equity consideration.

Discussion: Working group members asked for clarity on what a 'compliance interval' refers to, and OSE explained that a compliance interval is a 5-year period and during each compliance interval buildings must comply with certain targets.

2. Fossil Fuel Cooking Equipment Deductions

Any covered building (nonresidential or multifamily) may deduct emissions from cooking equipment (e.g., gas stoves, grills) from their compliance GHGI. This deduction is allowed only in compliance cycles 2027-2030, 2031-2035, and 2036-2040. Fossil fuel cooking equipment is a deduction for which OSE thinks a standard calculation would benefit compliance, because it would reduce the costs of compliance for owners and support equitable BEPS implementation.

SBW developed the methodology for the proposed standard calculation for GHG reductions for various fossil fuel-powered equipment, which in kitchens is primarily natural gas. The calculations are based on Technical Reference Manuals (TRMs) from the Northwest Regional Technical Forum (NW RTF) and Pacific Gas and Electric. TRMs are the gold standard for these calculations because while individual studies exist, they don't represent the entire concept of a piece of equipment. TRMs are highly vetted throughout energy efficiency industry, regularly updated, and are a reasonable lower cost alternative to an investment grade audit. The equipment list and estimated GHG deductions are shown here:

Equipment	Building Activity Type	Annual Energy Consumption per unit (Therms)	Estimated GHG deduction (kgCO ₂ /yr)	Units
Fryer	Restaurant	1092	5,788	Per fryer
Range	Restaurant	129	683	Per Range
Steamer	Restaurant	701	3,717	Per Steamer
Grill or Griddle (<= 6 SF)	Restaurant	797	4,224	Per grill with less than or equal to 6 SF cook area
Grill or Griddle (>6 SF)	Restaurant	1927	10,213	Per grill with more than 6 SF cook area
Broiler	Restaurant	4706	24,944	Per Broiler
Combination Oven	Restaurant	595	3,154	Per Combination Oven
Oven & Range Combo	Residential	14	73	Per Oven & Range Combination
Standalone Gas Oven	Residential	8	43	Per Oven
Standalone Gas Range/Cooktop	Residential	6	30	Per Cooktop

SBW also demonstrated a prototype of the Fossil Fuel Cooking Equipment GHG Deductions Calculator.

Discussion: Using Mentimeter, working groups members were asked to rate their support for the methodology in the prototype calculator, the ease of use, the cost saving potential, and the selection of equipment included. Attendees indicated high level support for each item, with some hesitancy around the types of equipment due to a lack of familiarity with restaurant equipment for some members.

One member asked for clarity about the methodology being used to estimate the GHG reductions per unit when use will vary quite a bit between units. SBW explained that the GHG deductions per unit were calculated from the Technical Reference Manuals, which look at equipment like this across the Northwest and develop an average hours-of-use across a statistically representative sample. Another member voiced that heat pump water heaters may not meet the needs of commercial kitchens. OSE explained that they will look into this, but that the deductions named in the ordinance are specifically for cooking equipment. One member suggested checking with the commercial kitchen test lab at Southern California Edison (SCE) to learn more about types of equipment used.

3. Deductions with Proposed Standard Calculation Methods

Topic: Any covered hospital or laboratory may deduct emissions from fossil fuel high intensity process equipment used in hospitals and laboratories from their compliance GHGI. Discussions were held with hospitals/labs technical experts on 11/13/24 to learn more about key equipment. SBW is researching standardized calculation procedures. Buildings can also choose to submeter instead of using the standard calculation method. This deduction is allowed only in compliance cycles 2027-2030, 2031-2035, and 2036-2040.

Topic: Any covered hotel or healthcare-related building activity type (Including hospital, nursing home, rehabilitation centers, etc.) may deduct emissions from

fossil fuel high intensity laundry equipment used in hotels and healthcare from their compliance GHGI. Gas is the primary heating source to dry clothes and linens. Eligible models include any commercial gas dryer in a hotel or healthcare facility. To calculate the deduction, multiply the total number of dryers by the estimated GHG deduction to yield annual deduction. Dedicated boilers for laundry provide hot water to washing machines in a hotel or healthcare facility are also included. Buildings can also choose to submeter instead of using the standard calculation method. This deduction is allowed only in compliance cycles 2027-2030, 2031-2035, and 2036-2040. The equipment list and estimated GHG deductions are shown here:

Equipment	Building Activity Type	Annual Energy Consumption per unit (Therms)	Estimated GHG deduction (kgCO ₂ /yr)	Units
Dryer	Healthcare	8,100	43,200	Per Dryer
Dryer	Hotel	4,500	23,700	Per Dryer
Washer	Healthcare	74	391	Per ton of boiler / heater heating capacity dedicated to laundry
Washer	Hotel	80	427	Per ton of boiler / heater heating capacity dedicated to laundry

SBW explained their prototype of the Fossil Fuel High Intensity Laundry Equipment GHGI Deductions Calculator tool.

Discussion: One member voiced that ironers in hospitals use steam generated by gas fired boilers and should be considered for deductions. OSE will ask SBW to research this. Another asked whether the dryer end-use deduction is available for multifamily buildings or just for hotels and healthcare. OSE explained that the intent of the ordinance is for this deduction to be available for hotels and healthcare, but they can explore whether an additional exemption needs to be added for multifamily laundry rooms. An attendee asked whether these calculators offer cost-savings over submetering. OSE shared that they have heard about a lot of challenges with sub-metering so wanted to offer an alternative.

On the topic of sub-metering, someone asked whether sub-metering would have to happen per piece of equipment or if it could be per use type, or series of boilers. OSE explained that the most accurate measurement is per piece of equipment and that submetering should be more accurate than the standard method. The working group then discussed the value of spot metering or temporary metering, especially since the calculator tools already use averages and since uses are fairly consistent month-to-month for some items. SBW agreed, sharing that spot metering for single loads is an accepted IPMVP measurement technique and a qualified person would know how to do it. There were some questions about how decisions would be made between calculation methods or when selecting items in the calculator. OSE noted that generally these

decisions would be made by a Qualified Person, which is one of the reasons for BEPS having a credentials requirement. OSE noted that they would work with SBW to list minimum requirements for submetering in the Rule.

A final question asked about how these deductions work with portfolio level compliance and voiced that it could be complicated to track these items individually across a portfolio. OSE explained that buildings are still tracked individually, and they could potentially develop an accompanying tool to help people gather the information needed to complete the calculator, but that owners would still need to get the information from each building to use the deduction.

Topic: A covered multifamily building that is a residential condo or co-op that has individually owned units may deduct emissions from equipment that is located in the condo owner's unit (e.g., in-unit gas water heaters, gas stoves, gas fireplaces) from compliance GHGI. This deduction is available in all compliance cycles. The same methodology used for standard calculations applies to this equipment, and building owners can also submeter the energy use. The equipment list and estimated GHG deductions are shown here:

Equipment	End Use	Building Activity Type	Annual Energy Consumption per unit (Therms)	Estimated GHG deduction (kgCO ₂ /yr)	Units
Water Heater	Water Heat	Any	125	665	Per Water Heater
Oven & Range Combo	Cooking	Any	14	74	Per Oven & Range Combination
Furnace	Heating	Any	136	723	Per Furnace
Fireplace	Heating	Any	128	679	Per Fireplace
Dryer	Dryer	Any	29	155	Per Dryer
Standalone Gas Oven	Cooking	Any	8	43	Per Oven
Standalone Gas Range/Cooktop	Cooking	Any	6	31	Per Cooktop
Patio Heater	Heating	In Unit	33	173	Per in Unit Patio Heater
Outdoor Grill	Cooking	In Unit	4	20	Per in Unit Outdoor Grill
Pizza Oven	Cooking	Any	6	29	Per Oven
Portable Gas Burner	Cooking	Any	138	731	Per Burner

SBW explained their prototype of the Residential Fossil Fuel Equipment GHGI Deductions Calculator tool.

Discussion: For fossil fuel equipment in individually owned residential units in a multifamily condominium building, working group members suggested adding hot-tubs, pools, and outdoor gas fireplaces to the list of exemptions. OSE voiced that some of these are equity issues because lower income multifamily buildings are unlikely to have pools and hot tubs. These would also not be included in the deductions for individually owned residential units but could be considered for addition otherwise. OSE noted that potential additional deductions would be covered at end of meeting.

4. Deductions with Other Proposed Calculation Methods

Topic: The ordinance says (SMC 22.925.120) “Fossil fuel generators used exclusively for emergency back-up power or fossil fuel equipment used for back-up emergency heat in hospitals and laboratories.”

OSE explained that the City will clarify in the rule that:

- Any covered building is eligible to take the back-up emergency generator power deduction.
- Only hospitals & labs are eligible to take the fossil fuel back-up emergency heat deduction.

Any covered building with emergency backup generators may deduct emissions from this equipment from compliance GHGI. This deduction is permitted in all compliance cycles. Delivered fuels (diesel and fuel oil) are often not reported in energy benchmarking. If the fuels are not reported, there’s no need to take a deduction. If a building is reporting these fuels for benchmarking for ESG reasons, they can deduct them from the total GHGI.

Any covered hospital or laboratory facility may deduct emissions from back-up fossil fuel emergency heat from their compliance GHGI. This deduction is permitted in all compliance cycles. The intent from stakeholders was to account for heating capacity during extreme cold or in event of power failure. Building owners can only take this deduction when the building has an electric system based on system design. OSE will clarify in rulemaking that this may apply to other healthcare facilities that have critical or vulnerable patients, such as rehabilitation centers.

Topic: Any 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 steam, hot water and/or chilled water from compliance GHGI. This deduction is allowed only in compliance cycles 2027-2030, and 2031-2035. To take the deduction, all buildings must demonstrate their current district energy use and evidence that the contract was established prior to June 1, 2024.

Discussion: An attendee asked for clarity about how a building owner would prove an existing contract with CenTrio. (Note: currently CenTrio is the only private district energy provider in Seattle.) OSE explained that this could be proven through either submitting bills from before June 1, 2024 or CenTrio has offered to provide affidavits if needed. Another member asked if there would be problems with OSE saying steam is not allowed after June 2024. OSE explained that steam is absolutely still permitted in buildings – the building just can’t use the BEPS deduction if the service contract started after June 1, 2024. Another attendee asked what would happen if CenTrio partially decarbonizes after 2035. OSE explained that as with other energy sources, the GHGs from steam use would be calculated by the energy consumed multiplied by the emissions factor for steam. Right now, CenTrio has the highest emissions factor of the existing energy sources, but they are working on a plan to decarbonize. One member voiced concern that the emissions factor for energy sources is determined ahead of the compliance cycle, so even if CenTrio were to decarbonize by 2035 it may not be

reflected in that compliance cycle. OSE explained that the emissions factors are set in advance so building owners are able to plan with relevant information. However, OSE could consider administratively updating CenTrio's emissions factor if this scenario occurs. Finally, the working group discussed scenarios where a campus with existing steam service contract added a new building which would also be using steam. For example, an autoclave for treating biohazardous waste in a hospital setting may use steam or steam could be used for heating. SBW clarified whether sanitizing equipment is using CenTrio steam, and an attendee confirmed that yes there is sterilization equipment using district steam. OSE noted they would consider this unique scenario and follow-up on any intersections with the Seattle Energy Code.

Discussion: Using a Mentimeter tool, the working group shared their level of support for OSE's proposed approach to fossil fuel back-up generators used for emergency back-up power, back-up fossil fuel emergency heat in hospitals and labs, and emissions from private district energy provided steam, hot water and/or chilled water. The workgroup generally expressed high levels of support for all three approaches.

5. Deductions that are Typically Electric Loads

Topic: Any covered building with EV charging may deduct emissions from this equipment from their compliance GHGI. This deduction is available for all compliance cycles. Building owners should follow ENERGY STAR Portfolio Manager guidelines for benchmarking EV Charging Stations/EV Chargers. OSE noted it would update Energy Benchmarking guidance to align with the new ESPM guidance.

Topic: Any covered building with communications equipment (e.g., antennas, cell towers, etc.) may deduct emissions from this equipment from their compliance GHGI. The equipment must be unrelated to the primary purpose of the building. These meters should not be included in benchmarking report. Data verification should confirm that these are not included.

Discussion: One member asked if a 24-hour radio station at a high school would be considered a use that is relevant to the building or a distinct use. OSE clarified whether it is a student run station, and that if so, it would likely not count for the deduction. However, since these are electric loads, the emissions factor is already quite low. Another member asked if the ESPM EV charger deduction affects GHGI calculation, because from their understanding, the Energy Star Score does not affect EUI. OSE confirmed that they were interpreting it correctly – it would not impact GHGI because EUI and GHGI are both derived from the same energy use consumption metrics in ESPM.

Using a Mentimeter tool, the working group shared their level of support for OSE's proposed approach to electric vehicle charging equipment and electric loads related to broadcast antennas, on-site cell phone towers or other communications equipment. The workgroup generally expressed high levels of support for all three approaches.

6. Potential to Add or Extend End Use Deductions

Topic: Potential to add or extend end use deductions. The Director by rule may add 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.

OSE explained that they will take the suggestions noted earlier in the meeting for deductions, but that they need to use the lens above as to whether the equipment is highly specialized. They welcomed the group to send any follow-up suggestions.

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