Seattle
Office of Sustainability
& Environment

Seattle Building Emissions Performance Standard

Proposed GHGI Targets & Emissions Factors (01/17/23 DRAFT)

Seattle's proposed Building Emissions Performance Standard (BEPS) for larger existing buildings establishes carbon emissions targets that buildings must meet over the next two to three decades. This factsheet lists the draft greenhouse gas intensity targets (GHGITs) and proposed emissions factors for the requirements.

Draft Greenhouse Gas Intensity Targets (GHGITs)

Table A for 22.925.070: Standard greenhouse gas intensity targets (GHGITs)

	Standard GHGITs (kgCO2e/SF/yr) by compliance interval				
	Required Targets		*Provisional Targets*		
Building Activity Type	2027-2030	2031-2035	2036-2040	2041-2045[1]	2046-2050[2]
College/University	2.83	2.00	*1.17*	*0.00*	
Entertainment/Public Assembly	1.25	0.89	*0.52*	*0.00*	
Fire/Police Station	2.44	1.72	*1.00*	*0.00*	
Hospital	5.12	3.62	*2.11*	*0.00*	
Hotel	2.22	1.57	*0.91*	*0.00*	
K-12 School	0.98	0.69	*0.40*	*0.00*	
Laboratory	6.78	4.79	*2.79*	*0.00*	
Multifamily Housing[2]	(no target)	0.65	*0.46*	*0.27*	*0.00*
Non-Refrigerated Warehouse	0.65	0.46	*0.27*	*0.00*	
Office	0.63	0.44	*0.26*	*0.00*	
Other	2.13	1.51	*0.88*	*0.00*	
Recreation	3.25	2.29	*1.34*	*0.00*	
Refrigerated Warehouse	0.38	0.27	*0.16*	*0.00*	
Residence Hall/Dormitory	1.18	0.84	*0.49*	*0.00*	
Restaurant	5.85	4.13	*2.41*	*0.00*	
Retail Store	0.91	0.64	*0.38*	*0.00*	
Self-Storage Facility	0.25	0.17	*0.10*	*0.00*	
Senior Living Community	2.12	1.50	*0.87*	*0.00*	
Services	1.46	1.03	*0.60*	*0.00*	
Supermarket/Grocery Store	3.54	2.50	*1.46*	*0.00*	
Worship Facility	1.19	0.84	*0.49*	*0.00*	

1 - Net-zero emissions by 2041-2045 for nonresidential buildings.
2 - Net-zero emissions by 2046-2050 for multifamily buildings.
3 - Per section 22.925.110, affordable multifamily buildings or portfolios are exempt from meeting the GHGITs from 2031-2035 but are still required to meet all other reporting obligations for 2031-2035.

About Required and Provisional GHGITs

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 factor 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*** as follows:

- for nonresidential buildings for the 2027-2030 and 2031-2035 compliance intervals
- for multifamily buildings for the 2031-2035 compliance interval

Provisional Targets for 2036 and later, meaning targets that will be finalized by later rule, are listed in the legislation for planning purposes as follows:

- for nonresidential buildings for the 2036-2040 and 2041-2045 compliance intervals
- for multifamily buildings for the 2036-2040, 2041-2045, and 2045-2050 compliance intervals

In order for building owners to know the final, required targets well in advance of reporting, final required standard GHGITs will be established by rule:

- for the 2036-2040 and 2041-2045 compliance intervals by December 31, 2031.
- for multifamily covered buildings for the 2046-2050 compliance interval by December 31, 2036.

Targets Analysis Background

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 Clean Buildings energy use intensity targets (EUIt). 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 the WA CBPS and natural replacement of building assets 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. To learn more, review the recording or slides from the technical webinar, "Draft Emissions Targets for Seattle Building Performance Standards - October 25, 2022".

- View the slide deck
- View the recording

Proposed GHG Emissions Factors

Building owners calculate the greenhouse gas intensity (GHGI) of their individual building to determine if it meets 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 draft legislation proposes the factors listed in the table below.

Table B for 22.925.070: Greenhouse gas emissions factors		
Energy source	Emissions factors (kgCO2e/kBtu)	
	2019, 2022, 2023 and 2024	2026 – 2030
Seattle City Light electricity	.0055	.0026
Puget Sound Energy natural gas	.053	.053
CenTrio district thermal energy	.083	.083

Other fossil fuels: Emission factors for fuels such as heating oil, propane, etc. will reference the US EPA.[1]

[1] 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.