Seattle
Office of Sustainability
& Environment

Seattle Building Emissions Performance Standard

GHGI Targets & Emissions Factors (JANUARY 2024)

Seattle's new Building Emissions Performance Standard (BEPS) policy, signed by Mayor Harrell on December 13, 2023, establishes carbon emissions targets that larger existing buildings must meet over the next two to three decades. This factsheet lists the greenhouse gas intensity targets and emissions factors for the requirements.

BEPS Greenhouse Gas Intensity Targets (GHGITs)

Table A for 22.925.070: Building activity type greenhouse gas intensity targets (GHGITs)				
	GHGITs (KGCO2e/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	*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 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.

Target Updates

The building stock and technology 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, the legislation sets *required* targets only for the 2031-2035 interval. The Director has the authority to revise the GHGITs for 2036-2040 and later by rule based on building performance data, evolving technology, new regulations, or other relevant factors.[1] Revising GHGITs would include stakeholder engagement via rulemaking.

Targets Analysis Background

To analyze Seattle's energy benchmarking data and develop the Standard GHGITs as well as the emissions reduction trajectory, Seattle worked with SBW Consulting, the same firm that helped the State establish the Washington Clean Buildings Performance Standard (WA CBPS) energy use intensity targets (EUIt). To inform the trajectory, SBW reviewed Seattle's baseline emissions, climate action goals and used an analysis from Lawrence Berkeley 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.[2]

GHG Emissions Factors

A qualified person[3], working on behalf of the building owner, would calculate the greenhouse gas intensity (GHGI) of a covered 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 footage of the building. The legislation includes emissions factors for the baseline GHGI, and provisional factors for 2031-2035, listed in the table below. As the emissions factors for energy sources may change over time, the 2031-2035 factors may be revised by December 31, 2027 by rule. Emissions factors for 2036 and later compliance intervals will also be determined by rule.

Table B for 22.925.070: Greenhouse gas emissions factors		
	Emissions factors (kgCO2e/kBtu)	
Energy source	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

Other fossil fuels: Emission factors for fuels such as heating oil, propane, etc. will reference the US EPA.[4]

Learn more about BEPS

Contact cleanbuildings@seattle.gov or visit seattle.gov/building-performance-standards.

[1] The laboratory GHGIT for 2031-2035 and later intervals shall be revised by rule based on further evaluation of the unique characteristics of laboratory spaces, evolving technology, and any relevant national standards.

[2] For more about target setting analysis, review the *Seattle BEPS Targets Analysis Memo* Appendix in the *BEPS Director's Report*.

[3] 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 definitions for details.

[4] 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.