Comparison of U.S. Building Performance Standards

July 2021

IMT
INSTITUTE FOR MARKET TRANSFORMATION

	Chula Vista CA	Colorado	New York City NY	St. Louis MO	Washington State	Washington, DC
Policy Details						
Policy Information	Building Energy Saving Ordinance	HB21-1286	Buildings Mandate: Local Law 97 LL 97 is a part of NYC Climate Mobilization Act (2019), which in total includes Local Laws 92, 94, 96, and 97	Ordinance 71132: Building Energy Performance Standards	HB 1257: Energy Efficiency – The Clean Buildings Act	Building Energy Performance Standards and Benchmarking BEPS is under Title III of the DC Law 22– 257. CleanEnergy DC Omnibus Amendment Act of 2018
Year Enacted	2021	2021	2019	2020	2019	2018
Buildings Included						
Types of Real Estate and Sizes (Sq. Ft.)	Comm & MF ≥ 20,000 Public/Gov't ≥ 20,000	Comm & MF ≥ 50,000 Public/Gov't ≥ 50,000	Comm & MF > 25,000	Comm & MF ≥ 50,000 Public/Gov't ≥ 50,000	Comm ≥ 50,000	Jan 1., 2021: Privately owned bldgs ≥ 50,000 + District-owned bldgs ≥ 10,000 Jan. 1, 2027: All privately owned bldgs ≥ 25,000 Jan. 1, 2033: All privately owned bldgs ≥ 10,000

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Description requirements						
Performance Metrics	ENERGY STAR score or Weather Normalized Site EUI	TBD in regulations by the Air Quality Control Commission	Annual greenhouse gas (GHG) emissions (tCO_2e/sq. ft.)	Site Energy Use Intensity (EUI)	Weather-normalized Energy Use Intensity	ENERGY STAR score or an equivalent metric (site EUI for bldgs ineligible for ENERGY STAR). Law directs department to assess a metric based on emissions by 2023.
Performance Targets/Standards	Buildings that qualify as High Performance Buildings (HPBs) are considered compliant and do not need to take further action. To qualify as a HPB a building must have a verified ENERGY STAR Score ≥ 80; or be ENERGY STAR certified; or be LEED Existing Building Certified for 3 of the 5 preceding years.	TBD by Air Quality Control Commission in consultation with a BPS task force. Standards must achieve a GHG emissions reduction of 7% from 2021 levels by 2026 and 20% from 2021 levels by 2030. The task force must also recommend to the Commission a process for determining standards for 2030 to 2050.	Targets change every five years to allow fewer bldg emissions. Bldg emissions limits are set for each bldg by multiplying the corresponding bldg type's bldg emissions intensity limit (in tCO_2e/sq. ft.) by the bldg's gross square floor area (in sq. ft.). Greenhouse gas emissions (bldg emissions) for a bldg are calculated by multiplying the total energy consumption of each fuel type consumed on the bldg's premise (utility electricity, natural gas, #2 and #4 fuel oils, district steam, other; all in kBtu) by the corresponding greenhouse gas coefficient for that fuel type (in tCO_2e/ kBtu) and totaling the resulting emissions.	Standards to be set no lower than the 65th percentile by property type, so that at least 65% of the bldgs of the property type have a higher EUI. The Office of Building Performance will issue new performance standards at the end of each compliance cycle.	EUI targets must be no greater than the average energy use intensity for the bldg's occupancy type with adjustments for unique energy-using features. EUI targets initially based on ASHRAE standard 100–2018. Proposed rules set first target at 15% below average EUI for bldg type.	For bldgs that are eligible for an ENERGY STAR score, the bldg energy performance standard shall be no lower than the District median ENERGY STAR score for bldgs of each property type. The District Department of Energy & Environment (DOEE) will issue new performance standards at the end of each compliance cycle. The law directs DOEE to set campus-wide standards for educational campuses and hospitals.
Compliance						
Compliance Cycle	Every five years beginning 2023 for buildings ≥ 50,000 sq. ft. and 2026 for buildings ≥ 20,000 sq. ft.	Every four years, beginning in 2026 and going through 2050.	Covered bldgs must comply annually beginning in 2024. Emissions limits become increasingly stringent every five years.	Every four years, beginning May 2021. Each compliance cycle followed by one year to set standards for next cycle.	Standard must be updated in 2029 and every five years thereafter.	Compliance cycles every five years with one year in between to recalculate the standard for the next cycle.

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Compliance Pathways	Buildings that do not qualify as HPBs must complete conservation requirements to comply. Multifamily buildings must perform a minimum number of prescriptive measures within all tenant spaces where utility costs are borne by tenants. Non-residential buildings and and Multifamily buildings with significant owner-paid energy use must either (1) achieve a minimum EUI improvement or (2) complete an Energy Audit and Retrocommissioning and meet a smaller mandatory mimimum improvement by the end of the next compliance cycle.	Multifamily buildings with separately metered tenants that do not achieve HPB status must perform a minimum number of prescriptive ECMs.	Buildings must meet the standard annually, but buildings can use RECs and offsets to compensate for going over the emissions limits. Additionally, the City is studying a carbon trading system so buildings that do not meet the annual emissions limits could buy credits from buildings that are below the limits. Buildings not covered by LL 97's emissions limits (some affordable housing, multifamily with more than 35% of units subject to rent regulations, places of worship), must comply with a prescriptive list of energy conservation measures. The Office of Building Energy and Emissions Performance may grant an adjustment of annual emissions limit (for up to three years) for a building if: (i) capital improvements are necessary for compliance and it is not possible to make such improvement because of another law (e.g., historic preservation) or a physical condition of the building (e.g., lack of access to energy infastructure) (ii) cost of financing improvements would prevent owner from earning reasonable return or the building is subject to finacial hardship (iii) Buildings with 2018 emissions 40% higher than 2024– 2029 limits can have their standards adjusted if they meet certain conditions.	Bldgs that meet the standard at the end of each four-year cycle are compliant. Bldgs that "benefit from deep energy improvements and achieve energy performance well beyond the required performance standard" are in compliance for 15 years. If bldg owners believe they will be unable to meet the standards by the deadline or will be exceptionally burdened by doing so, they may propose an alternative compliance plan for consideration by the Building Energy Improvement Board.	The law directs the Department of Commerce to create a "conditional compliance method" for bldgs that do not meet the performance target. Method requires owners to complete energy audits and invest in measures that meet savings-to-investment ratio of 1.0 or greater.	Bldgs that meet the performance standard at the beginning of a compliance cycle are in compliance for that period. Bldgs that do not meet the standard at the beginning of the compliance cycle must either 1) reduce site EUI by 20% before the end of the compliance cycle; 2) comply presciptively (see below); or 3) if the standard for their property type is better than the national median, then bldgs have the additional option to comply by improving their performance to the standard by the end of the compliance cycle. The law requires DOEE to create a prescriptive compliance pathway that is comparable to the 20% energy savings required by the "performance pathway." Prescriptive compliance paths will be determined in the rulemaking process.
Data Verification and Reporting Process						
	To qualify as a High Performing Building, a property's benchmarking data must be verified by a Professional Engineer or Registered Architect.	TBD in rulemaking by the Air Quality Control Commission	May 1, 2025 and every year thereafter: Owner files a report with the department, certified by a registered design professional, for the previous year to show that they're either in compliance or not in compliance and including the amount by which they exceed the limit.	The Building Division shall establish data verification requirements for each four-year compliance cycle.	Reporting must be done by a "Qualified Person" who determines whether the bldg has met its energy use intensity target. Qualified Person is someone who holds an approved certification as identified in the program rules.	Every three years the owner shall secure third-party verification of its benchmark and ENERGY STAR statements in accordance with requirements specified by the Department.

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Hub or Technical Assistance						
	Not addressed in ordinance.	TBD in rulemaking by the Air Quality Control Commission	Yes; the Office of Building Energy and Emissions Performance must establish and maintain a program to help owners comply with the law, and expand existing energy efficiency and renewable energy programs for owners without adequate financial resources or technical expertise.			Yes; the District created the **Building Innovation Hub**, which will help owners comply with the law.
Affordable Housing Provisions						
	See Other Notable Measures in Policy.	TBD in rulemaking by the Air Quality Control Commission	Buildings with 35 percent or fewer rent-regulated units must meet the emissions limits starting in 2026. Buildings with a greater percentage of rent-regulated units may choose the prescriptive path to comply rather than meet emissions limits. For buildings it owns, manages, or that are built on authority-owned land, the NYC Housing Authority shall make efforts to reduce aggregate GHG emissions by 40% by the year 2030 and 80% by the 2050 relative to a 2005 baseline.	Qualified affordable housing bldgs and houses of worship will operate on a six-year compliance cycle (versus a four-year cycle) to allow adequate time for owners' financing and capacity restraints.		DOEE may establish an exemption criterion for qualifying affordable housing bldgs to delay compliance with the bldg energy performance requirements without restriction, provided that the owner demonstrates financial distress, change of ownership, vacancy, major renovation, pending demolition, or other acceptable circumstances as determined by regulation. DOEE shall coordinate with the DC Sustainable Energy Utility (DCSEU) and the Green Finance Authority (DC Green Bank) to establish an incentive and financial assistance program to help qualifying bldg owners and affordable housing providers to meet bldg energy performance requirements.

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Exemptions						
	The ordinance does not apply to county, state, and federal buildings, Metropolitan Transit Service buildings, or buildings owned by the Chula Vista and Sweetwater School Districts Properties meeting any of the following conditions are exempt from the performance standard requirements: • Properties that have been occupied less than 5 years • Properties in financial distress • Properties with a permit for demolition that have already commenced demolition work • Properties that have not been previously subject to the benchmarking requirement.	Storage facilities, stand-alone parking garages, or airplane hangars that lack heating and cooling. Buildings where more than half of gross floor area is used for manufacturing, industiral, or agricultural purposes Single family homes, duplexes, or triplexes	(i) Industrial facility used for generating electric power or steam (ii) Dwellings less than three stories consisting of attached, detached, or semi-detached housing for which owners are responsible for HVAC and hot water (iii) City bldgs (iv) NYC Housing Authority Buildings (v) Rent-regulated accommodation (vi) Real estate owned by religious corporations and used as a place of public worship (vii) Property owned by a housing development fund organized pursuant to article 11 of the Private Housing Finance Law	Demolition permit issued or demolition is planned during the compliance cycle; Financial hardship or if compliance would not be in public interest; Primary use of bldg is industrial; Property is communications infrastructure; Property is owned by the state or federal government	Historic bldgs do not need to meet any requirement that would compromise their historical integrity. Other exemptions: • No Certificate of Occupancy for all 12 months prior to compliance date • Average occupancy less than 50% • Primary use of bldg is industrial • Primary use of bldg is agricultural • Bldg meets conditions of financial hardship	DOEE shall establish exemption criteria for qualifying bldgs to delay compliance with the bldg energy performance requirements for up to three years if the owner demonstrates financial distress, change of ownership, vacancy, major renovation, pending demolition, or other acceptable circumstances determined per criteria set through regulation.
Penalties						
	Non-compliance may result in a fine ranging from \$750 - \$2500 depending on building size.	An owner that fails to comply may be subject to a civil penalty of up to \$2000 for a first violation and up to \$5,000 for each subsequent violation.	Exceeding annual bldg emissions limit: Civil penalty of not more than an amount equal to the difference between the bldg emissions limit for such year and the reported bldg emissions for such year, multiplied by \$268. Failure to file a report: Penalty no more than an amount equal to the gross floor area of such covered bldg, multiplied by \$0.50, for each month that the violation is not corrected within the 12 months following the reporting deadline; provided, however, that an owner shall not be liable for a penalty for a report demonstrating compliance with the requirements of this article if such report is filed within 60 days of the date such report is due. False statement: Fine of not more than \$500,000 or imprisonment of no more than 30 days, or both, in addition to a civil penalty of not more than \$500,000	If data is not reported and an alternative compliance plan is not presented within 60 days of the compliance date, a fine between \$1– \$500 is issued for each day beyond the 60 days.	The Department of Commerce may impose a penalty up to \$5,000 plus an amount based on the duration of any continuing violation. The additional amount for a continuing violation may not exceed a daily amount equal to \$1 per gross square foot of floor area. The Department may raise penalty rates to adjust for inflation. Administrative penalties collected must be deposited into the low-income weatherization and structural rehabilitation assistance account.	Bldgs failing to comply with the bldg energy performance requirements at the end of the five-year compliance period shall pay an alternative compliance penalty determined per rules established by the DOEE penalties collected pursuant to this provision shall be deposited into the Sustainable Energy Trust Fund.

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Notable Measures in Policy						
	The law states owners must amortize any compliance costs passed through to tenants. Costs of complying with the required audit shall be amortized over 5 years. The costs of implemented measures shall be amortized over the expected useful life of the measure.		LL 97 deducts RECs from annual Bldg emissions if RECs (i) were purchased from source within or directly deliverable to zone J load zone (NYC); (ii) are solely owned and retired by bldg owner; (iii) are from the same year as the reporting year; (iv) the bldg that hosts the system producing the energy does not receive a deduction for it. LL 97 allows up to 10% deduction for GHG offsets for calendar years 2024 – 2029 For calendar years 2024 – 2029, bldgs can deduct output of on-site clean distributed energy resources from annual emissions. City will issue rules for how to calculate deduction. Deduction applies to clean storage and generation systems Adjustments to the emissions limit are allowed in certain circumstances (dependent on time period, bldg type, financial status, past efforts, and other factors weighed by the commission).			