

**Office of Climate
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**Rules and Regulations
Governing
Energize Denver Building Energy
Performance Requirements**



Approvals

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Date of Final Signature / Effective Date: January 20, 2022

**City and County of Denver
Rules & Regulations Governing
Energize Denver Building Energy Performance Requirements**

SECTION 1 – INTRODUCTION

1.1 Authority

This rule is adopted by the City and County of Denver Office of Climate Action, Sustainability, and Resiliency in accordance with the authority in Article XIV of Chapter 10 of the Denver Revised Municipal Code (“D.R.M.C.”). This rule replaces the City and County of Denver Office of Climate Action, Sustainability, and Resiliency Rules Governing Energy Efficiency in Commercial and Multifamily Buildings dated June 8, 2021.

1.2 Scope and Purpose

The purpose of this rule is to implement the High-Performance Existing Building Program that requires Covered Building Owners to Benchmark building energy performance, and to make such energy performance information publicly available in order to raise awareness and drive action. The purpose of this rule is also to require Covered Building Owners to address existing building performance through energy efficiency, renewables, and/or renewable heating and cooling (electrification) to reduce greenhouse gas emissions from the built environment to help the City and County of Denver achieve its climate action goal of zero greenhouse gas emissions in existing buildings by 2040.

SECTION 2 – DEFINITIONS

Except as noted below, words and phrases shall have the meaning assigned by the Charter of the City and County of Denver and the D.R.M.C. As used in this rule, the terms listed below shall have the following meanings:

- 2.1** *“Benchmarking”* means measuring a Covered Building’s energy performance using the ENERGY STAR Portfolio Manager tool or other similar platforms as CASR may designate.
- 2.2** *“Benchmarking Submission”* means the data submitted each year via the ENERGY STAR Portfolio Manager tool, or other similar platforms as CASR may designate, using a template and submission link to be distributed and publicized by CASR. All information expressly denoted as mandatory by either ENERGY STAR Portfolio Manager or CASR shall be included in the submission.
- 2.3** *“CASR”* means the Office of Climate Action, Sustainability, and Resiliency.
- 2.4** *“Covered Building”*
- A.** For purposes of Benchmarking, means any commercial or multifamily individual building in the City and County of Denver except the following:
 - i.** A building that was not occupied and did not have a certificate of occupancy or temporary certificate of occupancy for all twelve (12) months of the calendar year for which Benchmarking is required;

- ii. A building that was not occupied, due to renovation, for all twelve (12) months of the calendar year for which Benchmarking is required;
 - iii. A building for which a demolition permit for the entire building has been issued and for which demolition work has commenced on or before the date the Benchmarking report is due;
 - iv. A building that is presently experiencing qualifying financial distress, as defined by any of the following: (1) the building is the subject of a qualified tax lien sale or public auction due to property tax arrearages; (2) the building is controlled by a court appointed receiver; or (3) the building has been acquired by a deed in lieu of foreclosure;
 - v. A building that is used primarily for manufacturing or agricultural processes; this exclusion applies only to a facility where the majority of energy is consumed for manufacturing, agriculture, or for other process loads. Process loads are energy consumed for bona fide purposes other than heating, cooling, ventilation, domestic hot water, cooking, lighting, appliances, office equipment, data centers, or other plug loads.
- B.** For purposes of Existing Building Performance requirements, means any commercial or multifamily individual building in the City and County of Denver except the following:
- i. A building for which a demolition permit for the entire building has been issued and for which demolition work has commenced on or before the particular compliance date.

2.5 ***“Covered Municipal Building”*** means a Covered Building that is owned and/or operated by the City and County of Denver.

2.6 ***“ENERGY STAR Portfolio Manager”*** means the online tool created by the US Environmental Protection Agency used to measure and track a building’s energy use, water consumption, and greenhouse gas emissions. For purposes of this rule “ENERGY STAR Portfolio Manager” may also mean another platform as CASR may designate.

2.7 ***“Executive Director”*** means the executive director of the Office of Climate Action, Sustainability, and Resiliency.

2.8 ***“Existing Building Performance”*** The energy efficiency and renewable energy of a Covered Building measured by site Energy Use Intensity (EUI), or EUI adjusted for renewable energy using data reported via the ENERGY STAR Portfolio Manager tool or other platforms as CASR may designate.

2.9 ***“Gross Floor Area”*** means the total building square footage, measured between the principal exterior surfaces of the enclosing fixed walls of a building, as defined in the ENERGY STAR Portfolio Manager definitions.

2.10 ***“High Performance Existing Buildings Program”*** means the administrative program implemented by CASR requiring the Benchmarking, reporting, and Existing Building Performance in commercial and multifamily buildings that are located within the City and County of Denver.

- 2.11** *“Owner”* means the person or entity having a legal or equitable interest in real property and its fixtures and appurtenances, which shall explicitly include but not be limited to a homeowner’s association.
- 2.12** *“Site Energy Use Intensity” or “EUI”* means a building’s weather normalized energy use expressed as energy per square foot per year as a function of its size, normalized for weather and other characteristics that are significant drivers of energy performance as feasible with the reporting platform used. A building’s EUI is calculated by dividing the total energy consumed by the building in one year (measured in kBtu) by the total Gross Floor Area of the building

SECTION 3 –BENCHMARKING AND REPORTING REQUIREMENTS

3.1 Compliance Dates

Owners of Covered Buildings shall Benchmark the building's energy usage annually using the ENERGY STAR Portfolio Manager tool, or other platform as CASR may designate, and by June 1 each year, shall accurately report energy performance information to CASR for the previous calendar year, as set forth in D.R.M.C. § 10-403.

3.2 Compliance Process

Owners of Covered Buildings must report each Covered Building’s energy use annually for the previous calendar year using the ENERGY STAR Portfolio Manager in accordance with the ENERGY STAR Portfolio Manager’s instructions (located at the following web address: <https://www.energystar.gov/buildings/benchmark>), unless otherwise specified by CASR. No later than June 1 of each year, Owners of Covered Buildings must complete the following steps in the ENERGY STAR Portfolio Manager for each such building, unless otherwise specified by CASR:

- A.** Create or update a building profile with all building details, including the Denver Building ID (DBID) supplied by CASR.
- B.** Enter all space types, with applicable Gross Floor Area, calculated in accordance with the ENERGY STAR Portfolio Manager’s definition of Gross Floor Area, and any further guidance that CASR may provide.
- C.** Enter energy use data for the whole building for the previous calendar year such that it encompasses January 1 to December 31 of that year.
 - i.** If whole-building data are unavailable from a utility for a given energy type, or if an Owner wishes to verify utility-supplied data, then for any tenant-occupied space that is separately metered for such energy type, Owners of Covered Buildings shall request such data from such tenants for the previous calendar year. Tenants shall be obligated to provide this data to Owners.
 - ii.** If an Owner required to request tenant data under this section receives notice that a tenant intends to vacate a building before the end of the calendar year, the Owner must request from said tenant any necessary energy use or space use data from January 1 of that year to the date the tenant vacates the space.
- D.** For multiple buildings on a single tax parcel and buildings on multiple tax parcels that share energy meters, Owners shall report energy use as follows:

3.3 Data Verification

Owners of Covered Buildings shall maintain the following records for a period of at least five (5) years, and shall make such records available for inspection during business hours upon reasonable notice from CASR:

- A. ENERGY STAR Portfolio Manager account data;
- B. Proof of tenant data requests for energy or space use attribute data from any separately-metered tenants; and
- C. Information substantiating the energy data and space use attribute information entered into the ENERGY STAR Portfolio Manager.

SECTION 4 –EXISTING BUILDING PERFORMANCE REQUIREMENTS FOR COVERED BUILDINGS WITH A GROSS FLOOR AREA EQUAL TO OR GREATER THAN 25,000 SQUARE FEET

4.1 In General

Owners of Covered Buildings with a Gross Floor Area equal to or greater than 25,000 square feet must meet energy performance targets in calendar years 2024, 2027 and 2030. Final 2030 targets will be set for every Covered Building type in Denver such that 30% total normalized site energy savings across all Covered Buildings is achieved. Buildings will be assigned a building type and final and interim targets as set forth below. If a building's type changes over time, then CASR shall update the established targets to align to the new building type.

4.2 Establishing Building Type

- A. Building types are defined by ENERGY STAR Portfolio Manager definitions of property types.
- B. If a building is designated as 'other' or if CASR suspects the incorrect type was selected, then CASR will assign the most accurate building type and the Owner will have the opportunity to verify the building type.
- C. CASR shall identify buildings that have been incorrectly designated a building type through methodologies that may include, but are not limited to, a reviewing a web-based street view platform or reviewing the distribution of energy consumption within a building type to find buildings whose energy performance is significantly different relative to other buildings within the building type. If CASR believes a building type is incorrect, CASR will reassign a building type that CASR determines to be more accurate based on available data. The Owner will have the opportunity to dispute the building type before CASR's final decision on building type.
- D. CASR has the final authority to assign a building type to a Covered Building.

4.3 Establishing 2030 Targets for Every Building Type

Final 2030 targets shall be established for every building type such that 30% total normalized site energy savings across all covered buildings is achieved.

- A. Table 1 set forth the EPA Portfolio Manager building types and the 2030 normalized target EUI for each building type. These are based upon 2019 Benchmarking data and

national CBECS data. Building types with insufficient Benchmarking and CBECS data will have a target that is 30% below their baseline EUI by 2030. If additional building types are found, or new buildings of types without specific EUI targets in Table 1 are built, then CASR will set targets for such buildings based on best available local and national data.

Normalized EUI targets are as follows for each building type.

Table 1.

EPA Portfolio Manager Building Type	Target site EUI (kBtu/sf/yr)
Adult Education	37.2
Ambulatory Surgical Center	60.7
Aquarium	30% EUI Reduction
Automobile Dealership	42.8
Bank Branch	63.6
Bar/Nightclub	86.6
Barracks	46.3
Bowling Alley	50.5
College/University	60.6
Convention Center	30% EUI Reduction
Courthouse	51.2
Data Center	30% EUI Reduction
Distribution Center	25.4
Drinking Water Treatment & Distribution	30% EUI Reduction
Enclosed Mall	45.6
Energy/Power Station	30% EUI Reduction
Fast Food Restaurant	311.3
Financial Office	48.3
Fire Station	45.6
Fitness Center/Health Club/Gym	50.5
Food Sales	144.3

Food Service	76.9
Hospital (General Medical & Surgical)	165.2
Hotel	61.1
Ice/Curling Rink	30% EUI Reduction
Indoor Arena	53.2
K-12 School	48.0
Laboratory	153.9
Library	52.9
Lifestyle Center	66.6
Mailing Center/Post Office	46.5
Medical Office	69.0
Movie Theater	53.2
Multifamily Housing	44.2
Museum	30% EUI Reduction
Non-Refrigerated Warehouse	27.2
Office	48.3
Other	49.2
Other - Education	37.2
Other - Entertainment/Public Assembly	53.2
Other - Lodging/Residential	51.3
Other - Mall	60.3
Other - Public Services	49.2
Other - Recreation	50.5
Other - Restaurant/Bar	194.1
Other - Services	34.6
Other - Specialty Hospital	165.2
Other - Technology/Science	49.2
Other - Utility	30% EUI Reduction

Outpatient Rehabilitation/Physical Therapy	60.7
Parking	30% EUI Reduction
Performing Arts	53.2
Personal Services (Health/Beauty, Dry Cleaning, etc.)	34.6
Police Station	45.6
Pre-school/Daycare	38.9
Prison/Incarceration	83.0
Refrigerated Warehouse	63.9
Repair Services (Vehicle, Shoe, Locksmith, etc.)	32.3
Residence Hall/Dormitory	46.3
Residential Care Facility	63.3
Restaurant	194.1
Retail Store	43.5
Roller Rink	50.5
Self-Storage Facility	7.7
Senior Care Community	63.3
Senior Living Community	63.3
Social/Meeting Hall	33.0
Stadium (Closed)	75.3
Stadium (Open)	75.3
Strip Mall	66.6
Supermarket/Grocery Store	164.4
Swimming Pool	30% EUI Reduction
Transportation Terminal/Station	75.3
Urgent Care/Clinic/Other Outpatient	60.7
Veterinary Office	60.7
Vocational School	37.2

Wastewater Treatment Plant	30% EUI Reduction
Wholesale Club/Supercenter	43.5
Worship Facility	42.1
Zoo	30% EUI Reduction

- B. Mixed-use buildings will have a blended target based on the percentage of Gross Floor Area assigned to each building type.
- C. Each Owner of a Covered Building shall maintain the interim targets each subsequent year and shall maintain the final energy performance target indefinitely.

4.4 Establishing Interim Targets

CASR will establish each Covered Building’s required interim targets for 2024 and 2027 as set forth below.

- A. Establishing baseline EUI for each Covered Building
 - i. For existing Covered Buildings that reported for Benchmarking in 2019, the baseline shall be the EUI that was reported for the Covered Building that year.
 - ii. For existing Covered Buildings where no baseline data was received for 2019, CASR shall establish a reasonable baseline based on the building type and Benchmarking data from other years for that Covered Building if available.
 - iii. For new Covered Buildings, CASR shall establish a reasonable baseline based on the building type. CASR may set the baseline as the predicted EUI for that Covered Building if one was submitted as part of energy code compliance.
- B. CASR will establish each Covered Building’s required interim targets for 2024 and 2027 by drawing a straight line from that Covered Building’s baseline EUI to the final EUI target for that building type. Each Owner of a Covered Building must maintain the interim targets each subsequent year and must maintain the final energy performance target indefinitely.
- C. The timeline for establishing interim targets based on each Covered Building’s baseline and final target for the building type is as follows:
 - i. For existing Covered Buildings for which Benchmarking data for calendar year 2019 was properly reported, CASR will set required interim targets by May 1, 2022.
 - ii. For an existing Covered Building where no baseline data was received for 2019, CASR will set required interim targets by September 1, 2022.
 - iii. If CASR has determined a building type may be incorrect and has assigned a new building type, then CASR will set required interim targets for that building by September 1, 2022.
 - iv. For new Covered Buildings, CASR will set required interim targets within 6 months of receiving the first Benchmarking report for that building. If the baseline for a new

building is already below the target EUI for that building type, then the building must perform at or below the target EUI each year and must maintain the final energy performance target indefinitely.

4.5 Alternate Compliance Options

If a Covered Building Owner cannot reasonably meet one or more of the applicable interim or final energy performance targets, the Owner may apply for one of the following alternate compliance options. CASR will review and, subject to CASR's discretion, approve alternate compliance applications.

- A. Alternate compliance timeline option:** The Owner of a Covered Building may apply to change the compliance timeline where capital improvements will be most cost effective if the Owner waits until: end of system life, the time of a major renovation, or other similar reason. To apply for this alternate compliance option, the Owner of a Covered Building must submit a retrofit plan addressing each the following three components:
 - i. The timely completion of measures that have a typical pay back of five years, including but not limited to, LED lighting upgrades, variable frequency drives and motor upgrades, and controls upgrades, as appropriate given the building's timelines for planned major renovations and projects.
 - ii. One of the following:
 - a) Justification for why delaying efficiency measures provides a better total greenhouse gas savings than immediate installation of solar panels or purchase of off-site solar to achieve compliance; or
 - b) Proof that on-site solar is not feasible and that off-site solar is not feasible because it is not readily available for purchase.
 - iii. A clear plan articulating which improvements will be made in the building, when such improvements will be made, and how those improvements will result in the building reaching its final EUI target by 2030.
- B. Alternate compliance timeline for under-resourced buildings option.**
 - i. The determination of a Covered Building's status as under-resourced shall be at CASR's discretion. CASR's evaluation of a building's status shall include, but not be limited to, consideration of the following: presence of affordable housing; presence of non-profits and human service providers; and presence of building in area with high energy burden, asthma rates, low-income residents and other social equity indicators.
 - ii. The Owner of a Covered Building that is under-resourced with limited access to capital may apply to change the compliance timeline to make compliance more feasible by timing it to coincide with the refinancing of the building, or other similar reasons.
 - iii. To apply for this alternative compliance option, the Owner of a Covered Building must submit an application providing the basis for why the Owner believes the building is under-resourced and a clear plan articulating which improvements will be

made in the building, when such improvements will be made, and how those improvements will result in the building reaching its final EUI target by 2030.

- C. Target Adjustment Option:** The Owner of a Covered Building may apply to adjust the final energy performance target of a Covered Building to account for significant variations in operations of the building or inherent characteristics of the building itself that make achieving the target exceptionally challenging. To apply for this alternative compliance option, the Owner of a Covered Building must submit an application that provides the following:

 - i. The proposed final energy performance target EUI based on an analysis or energy model from a professional engineer with details and narrative explaining why the building cannot meet the target assigned to its type and why the new target represents the maximum energy performance, from energy efficiency and solar on-site or off-site, possible for the building.
- D. Prescriptive Option:** An Owner of a Covered Building with a Gross Floor Area of 25,000-100,000 square feet may apply to comply with the 2024 and 2027 interim energy performance targets by demonstrating they have performed the two requirements set forth below. CASR may conduct on-site audits of Covered Buildings to verify compliance with this alternate compliance option:

 - i. Demonstrating that at least 70% of heating and water heating equipment capacity of the Covered Building has been electrified and provide the installation year for each piece of electric equipment, and
 - ii. Verifying that the Covered Building has at least 90% LED lights or that the Covered Building has achieved an equivalent lighting power density to what 90% LEDs would have resulted in by submitting the installation year and a receipt if recently installed, or by submitting a certificate from a lighting professional verifying at least 90% of lights are LEDs.
- E. Manufacturing/Agricultural Option:**

 - i. The Owner of a Covered Building the primary use of which is manufacturing or agricultural processes must apply for a Manufacturing/Agricultural designation. This designation applies only to a facility where the majority of energy is consumed for manufacturing, agriculture, or for other process loads. Process loads are energy consumed for bona fide purposes other than heating, cooling, ventilation, domestic hot water, cooking, lighting, appliances, office equipment, data centers, or other plug loads. Distribution centers and warehouses do not qualify unless the majority of the energy used in the building is consumed for manufacturing, agriculture or other process loads.
 - ii. By December 1, 2023, CASR shall publish rules regarding requirements for how Covered Buildings with a Manufacturing/Agricultural designation will reduce energy consumption 30% by 2030 with input from manufacturing and agricultural stakeholders.

4.6 Demonstration of Compliance

Compliance with targets shall be demonstrated through EUI via Benchmarking reports. Solar power generation capacity on-site or off-site by a dedicated renewable energy resource, as measured in kWh delivered to the grid by the system, will be fully credited towards energy use, lowering the EUI.

A. Reporting energy performance

- i. Owners of Covered Buildings with a Gross Floor Area equal or greater than twenty-five thousand (25,000) square feet shall use the ENERGY STAR Portfolio Manager tool, and report to CASR the following:
 - a) In the Benchmarking report due on June 1, 2025, a demonstration that the Covered Building has met the interim energy performance target for calendar year 2024.
 - b) In the Benchmarking report due on June 1, 2028, a demonstration that the Covered Building has met the interim energy performance target for calendar year 2027.
 - c) In the Benchmarking report due on June 1, 2031, a demonstration that the Covered Building has met the final energy performance target for calendar year 2030.
- ii. Each Owner of a Covered Building must maintain the interim targets once achieved and must maintain the final energy performance target indefinitely.
- iii. If a Covered Building is exempt from Benchmarking in a given compliance year, then the building must comply through an alternate compliance option.

B. Reporting Solar Capacity

Solar power generation capacity on-site or off-site, as measured in kWh delivered to the grid by the system, will be fully credited towards the electricity portion of total energy use, lowering the EUI. To report solar generation a Covered Building Owner shall submit one of the following:

- i. For on-site solar panels, the kWhs generated each year shall be reported along with proof that the solar panels are installed in the form of a bill from the solar developer or other means.
- ii. For off-site solar generation, Owners of Covered Buildings will self-certify and upload proof of an off-site solar capacity contract or of ownership of off-site solar panels.
 - a) For off-site solar owned by the Covered Building Owner, proof of ownership must be submitted in addition to the kWh delivered annually.
 - b) For off-site solar owned by a third party, the Covered Building Owner must provide evidence of a subscription, lease, or purchase of a share in either a voluntary renewable energy program offered by Xcel Energy or a community solar project for which a dedicated renewable energy resource located in Public Service Company of Colorado territory is built for that customer program, and which has dedicated customer capacity or energy to fulfill that customer's subscription. The term of purchase must be at least five (5) years and must be

renewed a minimum of every five (5) years for the life of the Covered Building for purposes of compliance with this rule. In addition to providing such evidence, the Owner shall also annually report to CASR the kWh delivered each year under the contract.

- c) CASR may request copies of solar contracts to verify compliance at any time.

4.7 Disclosure upon sale.

The Owner of a Covered Building shall disclose the Covered Building's compliance status, including all performance targets, any approved alternate compliance pathways, and any penalties assessed, to a prospective buyer prior to the sale of the Covered Building. The Owner shall disclose to all prospective buyers the Covered Building's compliance status in all documentation or advertising concerning the sale of the Covered Building including, but not limited to, any listings, notices, advertisements of sale, term sheets, and contracts of sale.

SECTION 5 –EXISTING BUILDING PERFORMANCE REQUIREMENTS FOR COVERED BUILDINGS WITH A GROSS FLOOR AREA OF 5,000-24,999 SQUARE FEET

5.1 Small Building Requirements

Owners of Covered Buildings with a Gross Floor Area of 5,000-24,999 square feet shall either certify that they have installed all LED lights or that they have achieved an equivalent lighting power density to what all LEDs would have resulted in. Alternatively, Owners of Covered Buildings may install solar panels or purchase off-site solar that generates enough electricity to meet 20% of the building's annual site energy usage.

5.2 Compliance Schedule

Owners of Covered Buildings will be required to comply by the following schedule:

- A. December 31, 2025: buildings 15,001-24,999 square feet
- B. December 31, 2026: buildings 10,001-15,000 square feet
- C. December 31, 2027: buildings 5,000-10,000 square feet

5.3 Demonstration of Compliance

- A. **Lighting.** Owners of Covered Buildings must verify the building has at least 90% LED lights or that the building has achieved an equivalent lighting power density to what 90% LEDs would have resulted in by submitting the installation year and a receipt if recently installed, or by submitting a certificate from a lighting professional verifying at least 90% of lights are LEDs.
- B. **Solar.** To demonstrate that a building has installed solar panels or purchased off-site solar that generates enough electricity to meet 20% of the building's annual energy usage, the building Owner shall submit total energy use in the building for one calendar year, using ENERGY STAR Portfolio Manager or another mechanism specified by CASR, and demonstrate that solar generation has met 20% of that generation by submitting one of the following:
 - i. For on-site solar panels, the kWh designed to be generated annually shall be

reported along with proof that the solar panels were installed in the form of a bill from the solar developer or other means.

- ii. For off-site solar generation, Owners of Covered Buildings will self-certify and upload proof of an off-site solar capacity contract or of ownership of off-site solar panels.
 - a) For off-site solar owned by the Covered Building Owner, proof of ownership must be submitted in addition to the kWh delivered annually.
 - b) For off-site solar owned by a third party, the Covered Building Owner must provide evidence of a subscription, lease, or purchase of a share in either a voluntary renewable energy program offered by Xcel Energy or a community solar project for which a dedicated renewable energy resource located in Public Service Company of Colorado territory is built for that customer program, and which has dedicated customer capacity or energy to fulfill that customer's subscription. The term of purchase must be at least five (5) years and must be renewed a minimum of every five (5) years for the life of the Covered Building for purposes of compliance with this rule.

C. Verification. CASR may conduct on-site audits of buildings or request copies of solar contracts to verify compliance.

SECTION 6 – ENFORCEMENT AND PENALTIES

- 6.1** CASR will notify an Owner of errors in data the Owner has submitted to CASR, including but not limited to, energy use data, solar generation and capacity, use attributes, building information, calculations, or results. The Owner shall correct such errors, submit the updated report to CASR, and notify CASR of the updated submission. Failure to correct the errors or failure to submit a report shall be a violation of this rule.
- 6.2** It is unlawful for any person to violate any provision of this rule.
- 6.3** The executive director, or the executive director's designee, is empowered to enforce the provisions of this rule as provided in Article XIV of Chapter 10 of the D.R.M.C.