

Offices of the County Executive • 101 Monroe Street • Rockville, Maryland 20850

Subject BUILDING ENERGY PERFORMANCE STANDARDS	Number 17-23AM
Originating Department DEPARTMENT OF ENVIRONMENTAL PROTECTION	Effective Date

Montgomery County Regulation on:

#### **BUILDING ENERGY PERFORMANCE STANDARDS**

Issued by: County Executive Regulation No. 17-23AM COMCOR No. 18A.43A.01

Authority: Code Section 18A, Article 6

Council Review: Method (2) under Code Section 2A-15

Register Vol. 40 No. 11 Comment Deadline: 11/30/2023

Effective Date:

Sunset Date: None

Summary: This regulation implements Article 6, Building Energy Use Benchmarking and Performance

Standards, of Chapter 18A, Environmental Sustainability.

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### **COMCOR 18A.43A.01 Building Energy Performance Standards**

#### 18A.43A.01.01 General Provisions

Authority. In accordance with the authority conferred under Chapter 18A, Section 18A-43A, of the Montgomery County Code, 2014, as amended (hereinafter referred to as the "Code"), the County Executive hereby promulgates this regulation to implement County law pertaining to building energy performance standards for covered buildings.

#### 18A.43A.01.02 Definitions

Definitions of the terms used in the regulation are provided in Section 18A-38A of the County Code. For the purpose of this regulation, the following additional words and phrases will have the meaning respectively ascribed to them in this regulation:

- A. Area-weighted final performance standard means a final performance standard that is calculated based on the floor area proportion of each building type within a covered building, as reported in the benchmarking tool.
- B. *Cost-effective energy improvement measures* mean:
  - (1) circumstances in which the simple payback of the energy improvement measure is less than or equal to the effective useful life of the measure based on a broadly accepted industry standard approved by the Director, after considering all possible incentives and including avoided penalties for non-compliance with Article 6 of Chapter 18A at the time of building performance improvement plan submission; or
  - (2) for specially designated buildings, circumstances in which the simple payback of the energy improvement measure is less than or equal to the effective useful life of the measure based on a broadly accepted industry standard approved by the Director or is 10 years or less, whichever is less, after considering all possible incentives and including avoided penalties for non-compliance with Article 6 of Chapter 18A at the time of building performance improvement plan submission.



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- C. *Economic infeasibility* means circumstances in which the interim or final performance standard cannot be met by implementing a package of cost-effective energy improvement measures.
- D. Energy improvement measure means any installation or modification of equipment, devices, or other materials intended to decrease energy consumption or improve energy performance of a covered building.
- E. *Final performance standard deadline* means the end of the calendar year used to compare each covered building's performance metric to its final performance standard as defined in Section 18A-42(d)(3) of the County Code.
- F. Full-time equivalent employee means the sum of employees or occupants occupying the building for 40-person hours per week/2080-person hours per year, exclusive of security guards, janitors, construction workers, landscapers, and other maintenance personnel.
- F. *kBtu* means thousand British thermal units.
- G. Interim performance standard deadline means the end of the calendar year used to compare each covered building's performance metric to its interim performance standard as defined in Section 18A-42(d)(3) of the County Code.
- H. *Local small business* means local small business as defined in Section 11B-65 of the County Code.
- I. *Mixed-use building* means a building that contains two or more building types.
- J. Normalized site energy use means the site energy use by the covered building normalized for weather and other characteristics within the limits of the capabilities of the benchmarking tool and normalized for other factors as determined by the Department.
- K. *Onsite renewable energy system* means a renewable energy system physically located on the covered building or covered building site that produces renewable energy.
- L. *Renewable energy allowance* means all electricity generated from onsite renewable energy systems.



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- M. Renewable energy means electricity generated from a source that is not depleted when used.
- N. *Simple payback* means the estimated initial energy improvement measure cost divided by the energy improvement measure's calculated annual cost savings.
- O. Specially designated building means a qualified affordable housing building, a commonownership community, a multifamily building subject to rent stabilization under Section 29-58 of the Code, a non-profit owned building, or a local small business owned building.

#### 18A.43A.01.03 Establishment of Building Types

- A. Building type categories mean property types as defined in the benchmarking tool.
- B. If a building type is designated as "Other" in the benchmarking tool or if evidence suggests that the incorrect building type was entered into the benchmarking tool, the Department will assign the most accurate building type. The Department must reassign a building type that the Department determines to be more accurate based on available data. The owner will have the opportunity to dispute the building type after the Director's decision on the building type.
- C. The Department has the final authority to assign a building type to a covered building.

#### 18A.43A.01.04 Establishment of Final Performance Standards by Building Type

A. The following table sets forth the building types and the final performance standard for each building type. If additional building types are created or changed in the benchmarking tool, the Department must set performance standards for those building types based on best available local and national data and update the building types and standards on the Department's Building Energy Performance Standards website.

Building Type	Final Performance Standard (kBtu/gross floor area)
Adult Education	46
Ambulatory Surgical Center	63
Aquarium	145
Automobile/Vehicle Dealership	61
Bank Branch	85



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Bar/Nightclub	220
Barracks	38
Bowling Alley	84
Casino	75
College/University	57
Convenience Store with Gas Station	137
Convenience Store without Gas Station	137
Convention Center	40
Courthouse	47
Data Center	206
Distribution Center	19
Enclosed Mall	44
Fast Food Restaurant	220
Financial Office	58
Fire Station	47
Fitness Center/Health Club/Gym	69
Food Sales	137
Food Service	220
Hospital (General Medical & Surgical)	173
Hotel	60
Ice/Curling Rink	84
Indoor Arena	75
K-12 School	38
Laboratory	212
Library	55
Lifestyle Center	121
Mailing Center/Post Office	48
Manufacturing/Industrial Plant	95
Medical Office	70
Mixed Use Property	Area-weighted final performance standard, see 18A.43A.01.05



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	Mixed-Use Buildings
Movie Theater	57
Multifamily Housing	37
Museum	40
Non-Refrigerated Warehouse	30
Office	55
Other - Education	45
Other - Entertainment/Public Assembly	48
Other - Lodging/Residential	37
Other - Office	55
Other - Public Service	61
Other - Recreation	78
Other - Restaurant/Bar	219
Other - Retail/Mall	81
Other - Services	51
Other - Specialty Hospital	165
Other - Stadium	23
Other - Technology/Science	183
Outpatient Rehabilitation/Physical Therapy	63
Performing Arts	90
Personal Services (Health/Beauty, Dry Cleaning, etc.)	47
Police Station	54
Pre-school/Daycare	48
Prison/Incarceration	38
Race Track	75
Refrigerated Warehouse	38
Repair Services (Vehicle, Shoe, Locksmith, etc.)	52
Residence Hall/Dormitory	38
Residential Care Facility	69
Restaurant	219



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Retail Store	48
Roller Rink	84
Self-Storage Facility	7
Senior Living Community	50
Social/Meeting Hall	39
Stadium (Closed)	23
Stadium (Open)	21
Strip Mall	58
Supermarket/Grocery Store	137
Transportation Terminal/Station	56
Urgent Care/Clinic/Other Outpatient	66
Veterinary Office	63
Vocational School	46
Wholesale Club/Supercenter	48
Worship Facility	32
Zoo	75

B. If a covered building consists of one building type, then its final performance standard is the final performance standard for the building type in which it belongs.

#### 18A.43A.01.05 Establishment of Final Performance Standards for Mixed-Use Covered Buildings

- A. Mixed-use covered buildings have an area-weighted final performance standard based on the gross floor area (GFA) assigned to each building type.
- B. The Department will calculate an area-weighted final performance standard for mixed-use covered buildings based on the gross floor area of each property type reported in the benchmarking tool, excluding parking, and each building type's final performance standard. The following formula illustrates this calculation:

$$EUI_{AW} = \frac{[(GFA_1 \times EUI_1) + (GFA_2 \times EUI_2) + ... + (GFA_n \times EUI_n)]}{GFA_S}$$

Where:



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EUI<sub>AW</sub> is the area-weighted final performance standard of the covered building n = The total number of building types within the covered building GFAs is the sum of the gross floor area of all building types in the building GFA<sub>1</sub> is the gross floor area of the largest building type within the covered building GFA<sub>2</sub> is the gross floor area of the second largest building type within the covered building GFA<sub>n</sub> is the gross floor area of the nth largest building type within the covered building EUI<sub>1</sub> is the final performance standard for the building type corresponding to GFA<sub>1</sub> EUI<sub>2</sub> is the final performance standard for the building type corresponding to GFA<sub>2</sub> EUI<sub>n</sub> is the final performance standard for the building type corresponding to GFA<sub>n</sub> <sup>1</sup>

C. The Department provides covered buildings with heated swimming pools with a pool adjustment based on current or successor benchmarking tool estimates of heated swimming pool site energy use using the following formula:

For covered buildings that consist of one building type:

Pool-adjusted final performance standard =  $\frac{[(Final\ performance\ standard\ x\ Building\ GFA) + (pool\ kBtu\ adjustment)]}{Building\ GFA}$ 

For mixed-use covered buildings that have an area-weighted final performance standard:

Pool-adjusted final performance standard =  $\frac{[(Area\ weighted\ final\ performance\ standard\ x\ Building\ GFA) + (pool\ kBtu\ adjustment)]}{Building\ GFA}$ 

- D. For any additional adjustments to final performance standards for covered buildings, the Department will follow current or successor benchmarking tool guidance and update the Department's Building Energy Performance Standards website.
- E. The Department calculates final performance standards based on the covered building's most recent annual energy use benchmarking report. If a building's type changes from the prior benchmarking report, then the Department will provide the owner with updated standards to align to the updated square footage breakdown following annual energy use benchmarking.

#### 18A.43A.01.06 Determination of the Final Performance Standard for a Covered Building

A. Except as described in subsection C, if a covered building consists of one building type, then its

<sup>&</sup>lt;sup>1</sup> Although final performance standards are established per building type in this regulation, the Department is not able to provide a unique area-weighted final performance standard for a mixed-use building until the building owner submits the first energy use benchmarking report for the mixed-use building.



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final performance standard is the final performance standard for the building type in which it belongs as described in Section 18A.43A.01.04.

- B. Except as described in subsection C, if a covered building is made up of a mix of building types, then its final performance standard is determined as described in Section 18A.43A.01.05.
- C. A covered building's final performance standard will not require a reduction of greater than 30% from the covered building's performance baseline.

### 18A.43A.01.07 Determination of the Interim Performance Standard for a Covered Building

- A. The Department calculates a covered building's interim performance standard as halfway between the covered building's performance baseline and its final performance standard.
- B. If a covered building's performance baseline is already below its final performance standard, the covered building's interim standard is equal to its final performance standard.

#### 18A.43A.01.08 Department Factors for Normalized Site Energy Use

- A. The Department will provide covered buildings with parking that is not sub-metered and included as part of the building energy use benchmarking report with a parking adjustment to the building's normalized site energy use by deducting current or successor benchmarking tool estimates of parking site energy use. The Department calculates parking adjusted normalized site energy use as normalized site energy use minus the benchmarking tool estimates of parking site energy use.
- B. The Department will provide buildings with electric vehicle (EV) charging stations that are not sub-metered and included as part of the building energy use benchmarking report with an electric vehicle charging station adjustment to the building's normalized site energy use by deducting current or successor benchmarking tool estimates of electric vehicle charging station energy use. The Department calculates EV charging station adjusted normalized site energy as normalized site energy use minus benchmarking tool estimates of electric vehicle charging station energy use.
- C. For any additional adjustments to normalized site energy use, the Department will follow current or successor benchmarking tool guidance and update the Department's Building Energy Performance Standards website.
- D. The Department will calculate normalized site energy use annually based on the covered



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building's energy use benchmarking report.

#### 18A.43A.01.09 Renewable Energy Allowance

- A. The renewable energy allowance will credit all electricity generated from onsite renewable energy systems, whether used onsite or exported back to the grid.
- B. Owners of covered buildings must follow the guidance of the benchmarking tool to report renewable energy produced by the onsite renewable energy system. To receive a renewable energy allowance, inputs must include:
  - 1. grid energy sent to the building;
  - 2. total renewable energy generated on site;
  - 3. renewable energy used on site; and
  - 4. any renewable energy generated on site and exported back to the grid.
- C. Entering net-grid delivered electricity alone is not sufficient for energy benchmarking or to calculate a renewable energy allowance.

### 18A.43A.01.010 Demonstration of Compliance – Interim and Final Performance Standards

- A. Covered buildings must demonstrate compliance with the interim and final performance standards by reporting building energy use benchmarking data to the Department using the benchmarking tool.
- B. The Department will determine compliance by comparing the covered building's performance metric to the interim or final performance standard for each covered building.
- C. Each covered building's performance metric accounts for the renewable energy allowance, using the following formula:

$$EUI_{PM} = \frac{(EU_N - REA)}{Building\ GFA}$$

Where:

EUIPM is the performance metric, expressed in kBtu per square foot

EU<sub>N</sub> is normalized site energy use, expressed in kBtu, including any normalization as described in Section 18A.43A.01.08

REA is the renewable energy allowance, expressed in kBtu as described in Section 18A.43A.01.09

Building GFA is the covered building's gross floor area



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D. The Department will consider a covered building to be in compliance with this Section if the covered building's performance metric is at or below the covered building's interim or final performance standard at the covered building's interim or final performance standard deadline as applicable.

#### **18A.43A.01.11** Building Performance Improvement Plans

- A. If a covered building owner cannot reasonably meet one or more of the applicable interim or final performance standards due to economic infeasibility or other circumstances beyond the owner's control, the owner may submit a proposed building performance improvement plan to the Department.
- B. Circumstances outside the owner's control may include characteristics inherent to the building or the building's operations or may involve timing events in the building's equipment lifecycles, occupancy, or financing

### 18A.43A.01.12 Building Performance Improvement Plan Submission

- A. The owner must submit, on a form prescribed by the Director, a building performance improvement plan to the Department no later than 90 days before the deadline for submitting documentation of compliance with interim or final performance standards as applicable.
- B. A building performance improvement plan must satisfy all of the following the requirements:
  - 1. The plan must include supporting documentation that demonstrates economic infeasibility or circumstances outside of the owner's control preventing the building from reaching the interim or final standard.
  - 2. The building performance improvement plan must include the results of an energy audit that was performed not more than four years earlier that follows the Level 2 Procedures defined in the most current version of ASHRAE Standard 211, or a comparable standard as approved by the Director, and contains engineering calculations of energy savings and a simple payback analysis of each potential energy improvement measure covering, at a minimum:
    - (a) operational improvements;
    - (b) low and no-cost energy improvement measures;
    - (c) retro-commissioning or recommissioning of existing equipment that is planned to remain in service past the final performance standard deadline; and



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- (d) replacement of existing equipment that is planned to be replaced before the final performance standard deadline.
- 3. The plan must contain an assessment that evaluates the initial cost and annual energy savings of potential energy upgrades that include:
  - (a) replacement options of existing equipment that is planned to remain in service past the final performance standard deadline;
  - (b) electrification feasibility for replacement of fossil fuel combustion equipment; and
  - (c) onsite renewable energy systems.
- 4. The plan must be completed by a recognized energy auditor that possesses an active credential in good standing of one of the following:
  - (a) a credentialing program approved by the U.S. Department of Energy Better Buildings Workforce Guidelines for Building Energy Auditors or Energy Managers;
  - (b) a Professional Engineer license; or
  - (c) another professional license or building energy training program credential recognized by the Director.
- C. The building performance improvement plan must contain a retrofit plan identifying the cost-effective energy improvement measures to be implemented in the building, the calendar year or qualifying event during which such energy improvement measures will be made, and the predicted annual energy savings resulting from implementing the energy improvement measures. The retrofit plan must also:
  - 1. address all building systems, including, where applicable, envelope, heating, cooling, ventilation, domestic hot water, lighting and electrical, elevators, motors, and pumps;
  - 2. if applicable, address building systems located in tenant spaces owned and maintained by the owner;
  - 3. detail energy improvement measures that include operational improvements, equipment retro-commissioning or recommissioning, and equipment replacement; and
  - 4. consist of a package of cost-effective energy improvement measures that maximize energy savings.



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- D. The building performance improvement plan must include an executive summary in a form approved by the Director.
- E. The plan must acknowledge, on a form approved by the Director, that to demonstrate ongoing compliance, the building owner must fulfill the requirements contained in Section 18A.43A.01.13 and that an accepted building performance improvement plan does not guarantee compliance with State building energy performance standards.

### 18A.43A.01.13 Building Performance Improvement Plan Evaluation

- A. The Director must evaluate a building performance improvement plan based on the completeness of materials submitted and the resulting energy savings, taking into consideration the factors of economic infeasibility or circumstances beyond the owner's control documented in the building performance improvement plan.
- B. The Director may require that additional systems and measures be assessed and included in the retrofit plan if determined to be cost effective or that additional documentation be provided. The building owner may then submit an updated building performance improvement plan that addresses the Director's requirements for review.
- C. If, after consulting with the Building Performance Improvement Board, the Director approves the building performance improvement plan, the owner must record the building performance improvement plan as a covenant in the County land records and deliver a certified copy of the building performance improvement plan to the Department. In accordance with Section 40-10B(a)(3)(C) of the County Code, before a buyer signs a contract for the sale of a covered building the seller must provide the building performance improvement plan to the prospective buyer.
- D. If the Director does not approve the plan, the Director must provide the applicant with a written summary of the grounds for denying the building performance improvement plan and the covered building owner must either submit a new building performance improvement plan that satisfies the Director's written conditions as described in subsection B or satisfy the applicable interim or final standard or be considered noncompliant.

#### 18A.43A.01.14 Demonstration of Compliance – Building Performance Improvement Plans

A. After the Director receives the certified copy of the recorded plan, the covered building will be deemed to be in compliance with the applicable interim or final performance standards as long as the owner fulfills the terms of the building performance improvement plan.



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- B. Building owners must demonstrate fulfillment of the terms of the building performance improvement plan by reporting annually on June 1, on a form prescribed by the Director, on energy improvement measures implemented and of the progress of the building improvement plan in the previous calendar year.
- C. Annual building performance improvement plan reporting must also provide information on correcting any noncompliance with or deviation from the plan.
- D. The owner must notify the Director if schedules or measures identified within the building performance improvement plan change. If there is a change, the Director may require revisions to the building performance improvement plan under the process described in Section 18A.43A.01.13.B and C.
- E. If the building owner has used a building performance improvement plan to comply with the interim performance standard, all energy improvement measures in the retrofit plan with a simple payback of 5 years or less must be implemented before the Department will approve a subsequent building performance improvement plan for compliance with the final standard.
- F. If, by the final performance standard deadline, the building's performance metric is below the final performance standard, or the building has fulfilled all of the requirements of the approved building performance improvement plan, the building owner may submit to the Department a request to terminate the covenant recorded under Section 18A-42B(d) of the County Code for review and approval. If approved by the Department, the County will release the covenant.
- G. If the covered building has not fulfilled the requirements of the approved building performance improvement plan by the final performance standard deadline, the owner must continue to submit annual building performance improvement plan reports as described in subsection B and C.

#### 18A.43A.01.15 Extensions and Adjustments

In addition to the extensions and adjustments criteria listed in Section 18A-42C of the County Code, the Department may grant an extension to an interim or final performance standard for a covered building whose owner submits a request along with documentation at least 90 days before the deadline for submitting documentation of compliance with an interim or final performance standard as applicable if any of the following conditions apply:

A. on average, less than one full-time equivalent employee occupied the building during the



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calendar year being reported;

- B. a change of building ownership where the new building owner cannot obtain necessary data to submit the energy use benchmarking report for the year culminating in the applicable interim or final performance standard deadline;
- C. affordable housing refinancing timelines or low-income housing tax credit availability timelines that do not align with interim or final performance standard deadlines as applicable; or
- D. a building is subject to historic preservation requirements.

### **18A.43A.01.16** Severability

If a court holds that part of this regulation is invalid, the invalidity does not affect other parts.

#### **18A.43A.01.17** Effective Date

This regulation takes effect upon approval by the County Council.

Approved:	
Marc Elrich County Executive	Date
APPROVED AS TO FORM AND LEGALITY OFFICE OF THE COUNTY ATTORNEY:	
Assistant County Attorney	Date