



MONTGOMERY COUNTY EXECUTIVE REGULATION

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

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

Montgomery County Regulation on:

BUILDING ENERGY PERFORMANCE STANDARDS

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Issued by: County Executive

Regulation No. 17-23

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 and Benchmarking Performance Standards, of Chapter 18A, Environmental Sustainability.

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MONTGOMERY COUNTY CODE CHAPTER 18A, SEC. 18A-43A BUILDING ENERGY PERFORMANCE STANDARDS - REGULATIONS

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

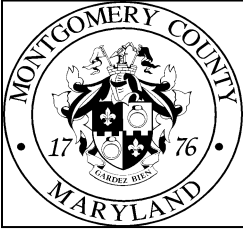
18A.43A.01.01 General Provisions

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.

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 the three largest building types within a covered building, as determined by the benchmarking tool.
- B. Communications means a use defined in the Montgomery County Zoning Ordinance, Article 59-3. Uses and Use Standards, Division 3.5. Commercial Uses, Section 3.5.2. Communication Facility.
- C. Energy improvement measure means any installation or modification of equipment, devices, or other materials intended to decrease energy consumption or improve energy performance.
- D. 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.
- E. Industrial use means a use defined in the Montgomery County Zoning Ordinance, Article 59-3.



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Uses and Use Standards, Division 3.6. Industrial Uses.

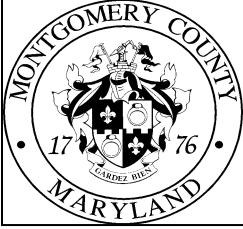
- F. Manufacturing means a use defined in the Montgomery County Zoning Ordinance, Article 59-3. Uses and Use Standards, Division 3.6. Industrial Uses, Section 3.6.4. Manufacturing and Production.
- G. Mixed-use building means a building that contains two or more property types.
- H. Onsite renewable energy system means a renewable energy system physically located on the covered building or covered building site that produces electricity for use in the building.
- I. Renewable energy allowance means all electricity generated from onsite renewable energy systems.
- J. Renewable energy system means a system generating electricity from a source that is not depleted when used.
- K. Transportation means a use defined in the Montgomery County Zoning Ordinance, Article 59-3. Uses and Use Standards, Division 3.6. Industrial Uses, Section 3.6.6. Transportation.
- L. Utility infrastructure means a use defined in the Montgomery County Zoning Ordinance, Article 59-3. Uses and Use Standards, Division 3.6. Industrial Uses, Section 3.6.7. Utilities.

18A.43A.01.03 Applicability

This regulation does not apply to a covered building for which more than 50% of the total gross floor area is used for a public assembly in a building without walls; industrial uses where the majority of energy is consumed for manufacturing, the generation of electric power or district thermal energy to be consumed offsite, or for other process loads; or transportation, communications, or utility infrastructure.

18A.43A.01.04 Establishment of Building Types

- A. Building types are defined by ENERGY STAR Portfolio Manager definitions of property types.
- 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 must assign the most accurate building type. The Department must reassign a building type that the



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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.01.05 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 targets for those buildings based on best available local and national data and update the building types and targets on the Department's Building Energy Performance Standards website.

<u>Building Type</u>	<u>Final Performance Standard (kBtu/sq.ft.)</u>
<u>Adult Education</u>	<u>46</u>
<u>Aquarium</u>	<u>145</u>
<u>Automobile/Vehicle Dealership</u>	<u>61</u>
<u>Bank Branch</u>	<u>85</u>
<u>Bar/Nightclub</u>	<u>220</u>
<u>Barracks</u>	<u>38</u>
<u>Bowling Alley</u>	<u>84</u>
<u>Casino</u>	<u>41</u>
<u>College/University</u>	<u>57</u>
<u>Convenience Store with Gas Station</u>	<u>137</u>
<u>Convenience Store without Gas Station</u>	<u>137</u>
<u>Convention Center</u>	<u>40</u>
<u>Courthouse</u>	<u>47</u>
<u>Data Center</u>	<u>145</u>
<u>Distribution Center</u>	<u>19</u>
<u>Enclosed Mall</u>	<u>44</u>
<u>Fast Food Restaurant</u>	<u>220</u>
<u>Financial Office</u>	<u>58</u>

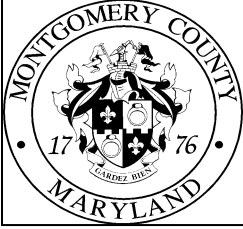


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<u>Fire Station</u>	<u>47</u>
<u>Fitness Center/Health Club/Gym</u>	<u>59</u>
<u>Food Sales</u>	<u>137</u>
<u>Food Service</u>	<u>220</u>
<u>Hospital (General Medical & Surgical)</u>	<u>144</u>
<u>Hotel</u>	<u>60</u>
<u>Ice/Curling Rink</u>	<u>84</u>
<u>Indoor Arena</u>	<u>41</u>
<u>K-12 School</u>	<u>36</u>
<u>Laboratory</u>	<u>144</u>
<u>Library</u>	<u>55</u>
<u>Lifestyle Center</u>	<u>58</u>
<u>Mailing Center/Post Office</u>	<u>48</u>
<u>Medical Office</u>	<u>70</u>
<u>Mixed Use Property</u>	<u>Area-weighted final performance standard, see Mixed-Use Buildings</u>
<u>Movie Theater</u>	<u>57</u>
<u>Multifamily Housing</u>	<u>37</u>
<u>Museum</u>	<u>29</u>
<u>Non-Refrigerated Warehouse</u>	<u>30</u>
<u>Office</u>	<u>55</u>
<u>Other - Education</u>	<u>45</u>
<u>Other - Entertainment/Public Assembly</u>	<u>48</u>
<u>Other - Lodging/Residential</u>	<u>37</u>
<u>Other - Office</u>	<u>55</u>
<u>Other - Other</u>	<u>54</u>
<u>Other - Public Service</u>	<u>61</u>
<u>Other - Recreation</u>	<u>78</u>
<u>Other - Restaurant/Bar</u>	<u>219</u>
<u>Other - Retail/Mall</u>	<u>81</u>

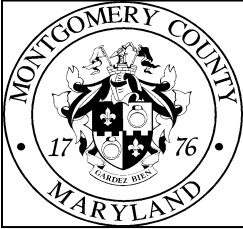


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<u>Other - Services</u>	<u>51</u>
<u>Other - Specialty Hospital</u>	<u>144</u>
<u>Other - Stadium</u>	<u>23</u>
<u>Other - Technology/Science</u>	<u>183</u>
<u>Outpatient Rehabilitation/Physical Therapy</u>	<u>46</u>
<u>Parking</u>	<u>6</u>
<u>Performing Arts</u>	<u>57</u>
<u>Personal Services (Health/Beauty, Dry Cleaning, etc)</u>	<u>47</u>
<u>Police Station</u>	<u>54</u>
<u>Pre-school/Daycare</u>	<u>48</u>
<u>Prison/Incarceration</u>	<u>38</u>
<u>Race Track</u>	<u>41</u>
<u>Refrigerated Warehouse</u>	<u>38</u>
<u>Repair Services (Vehicle, Shoe, Locksmith, etc)</u>	<u>52</u>
<u>Residence Hall/Dormitory</u>	<u>38</u>
<u>Residential Care Facility</u>	<u>50</u>
<u>Restaurant</u>	<u>219</u>
<u>Retail Store</u>	<u>48</u>
<u>Roller Rink</u>	<u>84</u>
<u>Self-Storage Facility</u>	<u>7</u>
<u>Senior Living Community</u>	<u>50</u>
<u>Social/Meeting Hall</u>	<u>39</u>
<u>Stadium (Closed)</u>	<u>23</u>
<u>Stadium (Open)</u>	<u>21</u>
<u>Strip Mall</u>	<u>58</u>
<u>Supermarket/Grocery Store</u>	<u>137</u>
<u>Swimming Pool</u>	<u>84</u>
<u>Transportation Terminal/Station</u>	<u>56</u>
<u>Urgent Care/Clinic/Other Outpatient</u>	<u>46</u>
<u>Veterinary Office</u>	<u>46</u>
<u>Vocational School</u>	<u>46</u>



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<u>Wholesale Club/Supercenter</u>	<u>48</u>
<u>Worship Facility</u>	<u>32</u>
<u>Zoo</u>	<u>41</u>

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.01.06 Mixed-Use Buildings

A. Mixed-use buildings have an area-weighted final performance standard based on the percentage of gross floor area assigned to each building type.

B. If a covered building consists of more than one building type, the Department will calculate an area-weighted final performance standard that averages final performance standards from the three largest building type groupings as calculated by the benchmarking tool, excluding parking, using the following formula:

$$EUI_{AW} = ((GFA_A / GFAS) \times EUI_A) + ((GFA_B / GFAS) \times EUI_B) + ((GFA_C / GFAS) \times EUI_C)$$

Key: EUI_{AW} is the area-weighted final site EUI standard

GFA_A is the gross floor area of the largest property type within the covered building

GFA_B is the gross floor area of the second largest property type within the covered building

GFA_C is the gross floor area of the third largest property type within the covered building

GFAS is the sum of the gross floor area of a GFA_A, GFA_B, and GFA_C

EUI_A is the final site EUI standard for the property type group corresponding to GFA_A

EUI_B is the final site EUI standard for the property type group corresponding to GFA_B

EUI_C is the final site EUI standard for the property type group corresponding to GFA_C¹

C. Final performance standards are calculated based on the covered building's most recent benchmarking submission. If a building's type changes from the prior benchmarking submission, then the Department will provide the owner with updated targets to align to the updated square footage breakdown.

18A.43A.01.07 Demonstration of Compliance

¹ Although final performance standards are established per building type in this regulation, the Department may not be able to provide a unique area-weighted final performance standard for a mixed-use building until the building owner submits the first benchmarking report for the mixed-use building.



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- A. Covered buildings must demonstrate compliance with the interim and final performance standards by reporting building energy benchmarking data to the Department using the benchmarking tool.
- B. The Department must determine compliance by comparing the performance metric against the interim or final performance standard for each covered building.
- C. The performance metric is normalized net site EUI and accounts for the renewable energy allowance, using the following formula:

$$EUI_{NN} = (EU_N - REA) / GFA$$

Key: EUI_{NN} is the weather normalized net site EUI, expressed in kBtu per square foot

EU_N is weather normalized energy use, expressed in kBtu

REA is the renewable energy allowance, expressed in kBtu

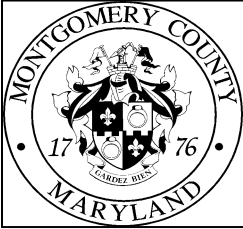
GFA is the covered building's gross floor area

18A.43A.01.08 Renewable Energy Allowance

- A. The renewable energy allowance will credit all electricity use generated from onsite renewable energy systems.
- B. Owners of covered buildings must follow the guidance of the benchmarking tool to report renewable energy. 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.01.09 Building Performance Improvement Plans

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.



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18A.43A.01.10 Building Performance Improvement Plan Submission

- A. The owner must submit a building performance improvement plan (BPIP) to the Department no later than 90 days before the deadline for submitting documentation of compliance with interim or final performance standards in a form prescribed by the Director.
- B. A BPIP must satisfy 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 target based on the following criteria:
 - (a) for economic infeasibility, building owners must be able to demonstrate definitively that they do not have the financial ability to implement the improvements needed to meet an interim or final performance standard after considering all possible incentives, financing, and cash flow resources available. The Director may also require third-party validation of economic infeasibility before BPIP approval.
 - (b) circumstances outside the owner's control may include characteristics inherent to the building or the building's operations, or involve timing events in the building's equipment lifecycles, occupancy, or financing cycles.
 2. The BPIP 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 cost-benefit 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 date; and
 - (d) replacement of existing equipment that is planned to be replaced before the final performance standard date.
 3. The plan must contain an assessment that evaluates the initial cost and annual energy savings of potential energy upgrades that include:

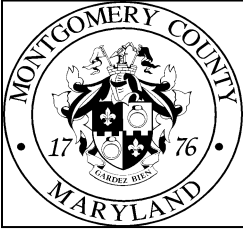


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- (a) replacement options of existing equipment that is planned to remain in service past the final performance standard date;
 - (b) electrification feasibility for replacement of fossil fuel combustion equipment; and
 - (c) onsite renewable energy 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 BPIP must contain a retrofit plan articulating which identified energy improvement measures will be made in the building, the calendar year 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 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; and
 - 3. detail energy improvement measures that include operational improvements, equipment retro-commissioning or recommissioning, and equipment replacement.
- D. The plan must acknowledge, on a form approved by the Director, that an accepted BPIP does not guarantee compliance with County or State building energy performance standards.
- 18A.43A.01.11 BPIP Evaluation by the Department**
- A. The Director must evaluate a BPIP based on the completeness of materials submitted and the resulting energy savings, taking into consideration the factors of economic infeasibility and circumstances beyond the owner's control documented in the BPIP.



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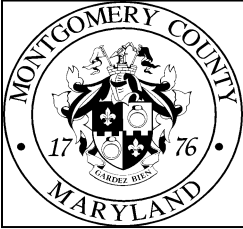
- B. The Director may require that additional measures be assessed, additional documentation be provided, or that additional energy performance improvements be included in the plan. The building owner may then submit an updated BPIP that addresses the Director's requirements for review.
- C. If, after 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 recorded plan to the Department.
- D. If the Director does not approve the plan, the covered building must satisfy the applicable interim or final standard or be considered noncompliant.

18A.43A.01.12 Demonstration of Compliance

- 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 within the timeline specified in the plan.
- B. Building owners must demonstrate fulfilment of the terms of the building performance improvement plan by reporting annually on June 1 of energy improvement measures implemented in the previous calendar year in a form approved by the Director.
- C. Annual BPIP reporting must also provide information on correcting any noncompliance or deviation from the plan.
- D. If, by the final performance target date, the building's EUI is below the EUI target, or the building has fulfilled all of the requirements of the approved BPIP, the building owner may apply to the Department for authorization to terminate the covenant recorded under Section 18A-42B(d) of the County Code.
- E. If the building owner has not fulfilled the terms of the approved BPIP, the BPIP will remain in the land use covenant and the owner must continue to submit annual BPIP reports.

18A.43A.01.13 Extensions and Adjustments

In addition to the extensions and adjustments criteria outlined in Section 18A-42C of the County Code,



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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 if any of the following conditions apply:

- A. on average, less than one full-time equivalent employee occupied the building during the calendar year being reported;
- B. a change of building ownership where the new building owner cannot obtain necessary benchmarking data for the interim or final performance standard year;
- C. affordable housing refinancing timelines that do not align with interim or final performance standard dates; or
- D. a building is subject to historic preservation requirements.

18A.43A.01.14 Severability

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

18A.43A.01.15 Effective Date

This regulation takes effect upon approval by the County Council.

Approved:



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Marc Elrich
County Executive

Date

APPROVED AS TO FORM AND LEGALITY
OFFICE OF THE COUNTY ATTORNEY:



Assistant County Attorney

10/9/23

Date