

AIR QUALITY CONTROL ADVISORY COUNCIL AGENDA July 29, 2024

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9:00 a.m. Welcome and Introductions Ben Hobbs, Council Vice Chair

Chris Hoagland, Air Director

9:10 a.m. Approval of Meeting Minutes Ben Hobbs

Action Items:

9:15 a.m. Advanced Clean Trucks Amendment Justin Mabrey

9:30 a.m. Building Energy Performance Standards Allison Tjaden

Zach Berzolla

Briefings:

11:00 a.m. Adjourn

Next Meeting Dates:

September 16, December 9



Facts About ...

Adoption of COMAR 26.11.43

Advanced Clean Trucks Program

7/12/24

Adoption of California's Advanced Clean Trucks Rule.

Purpose

The purpose of this proposed action is to extend the lead-time manufacturers are eligible to earn credits under this program by an additional year. The amendment appears in Regulation .04 titled Applicability and Exemptions under COMAR 26.11.43 Advanced Clean Trucks Program.

Submission to EPA as Revision to Maryland's State Implementation Plan (SIP)

The Advanced Clean Trucks Program will be submitted to the U.S. Environmental Protection Agency (EPA) for approval as part of Maryland's State Implementation Plan (SIP).

Background

The Clean Air Act established the framework for controlling harmful emissions from mobile sources. At the time, California had already established its own emission standards for mobile sources, and so was granted the sole authority to continue adopting vehicle emission standards, so long as they were at least as protective as the standards set by EPA.

The harmful emissions from Medium- and Heavy-Duty Trucks (MHD) pose a serious threat to both public health and climate change. Recognizing this, California has adopted the Advanced Clean Trucks regulation that aims to reduce on-road emissions from the MHD Truck sector to a greater extent than the current EPA standards.

Section 177 of the Clean Air Act allows other states to adopt the California standards if they are identical. The Clean Trucks Act of 2023 requires the Maryland Department of the Environment (MDE) to exercise this authority and adopt regulations implementing the California Advanced Clean Truck Program in Maryland. MDE has adopted implementing regulations in COMAR 26.11.43 through incorporation by reference of the applicable California regulations.

The Clean Trucks Act of 2023 authorized MDE to adopt California's Advanced Clean Trucks Regulations beginning with the 2027 model year. When COMAR 26.11.43 was adopted in 2023, MDE included a provision allowing manufacturers of vehicles over 8,500 pounds to earn, bank, and trade credits earned pursuant to the program one year before the program went into effect. MDE received numerous comments expressing a desire to increase this timeframe to two years, to better match what California and other ACT states have done. MDE is proposing to increase the lead-time for earning credits under the program by an additional year, meaning vehicle manufacturers can begin earning credits with the 2025 model year.



Facts About ...

Adoption of COMAR 26.11.43

Advanced Clean Trucks Program

Sources Affected and Location

This regulatory program will apply to manufacturers that sell vehicles in Maryland that have a gross vehicle weight rating over 8,500 pounds.

Requirements

There are no specific requirements associated with this proposed amendment. In essence, manufacturers will have an additional year to earn and bank credits before the program begins, easing their burden under the program.

Projected Emission Reductions

There are no projected emission reductions associated with this proposed amendment. Adding an additional year for manufacturers to earn credits before the program begins will not reduce the number of credits needed once the program begins. If anything, this provides an incentive to manufacturers to place these vehicles in Maryland a year earlier than they would have otherwise, since they will now earn credits they can use to meet the program's requirements beginning in model year 2027.

Economic Impact on Affected Sources, the Department, other State Agencies, Local Government, other Industries or Trade Groups, the Public

The Department does not believe this minor amendment will have any economic impact.

Economic Impact on Small Businesses

The Department does not believe this minor amendment will have any economic impact.

Is there an Equivalent Federal Standard to this Proposed Regulatory Action?

No.

Documents to be Incorporated by Reference

None.

Download Date: 06/26/2024 Draft 07/10/2024

Title 26 DEPARTMENT OF THE ENVIRONMENT Subtitle 11 AIR QUALITY

Chapter 43 Advanced Clean Trucks Program

Authority: Environment Article, §§1-404, 2-102, 2-103, 2-301, 2-1102, and 2-1103, 2-1103.1, Annotated Code of Maryland

.04 Applicability and Exemptions.

- A. Applicability.
 - (1) (text unchanged)
- (2) Beginning with model year [2026] 2025, any manufacturer that produces on-road vehicles over 8,500 pounds GVWR may generate, bank, and trade ZEV and NZEV credits pursuant to 13 CCR §1963.2, as incorporated by reference in this chapter.
 - (3) (text unchanged)
 - B. (text unchanged)



Building Energy Performance Standards

What You Need to Know

July 1, 2024

Purpose

The purpose of this action is to create the Maryland Building Energy Performance Standards (BEPS) as required by the Climate Solutions Now Act (CSNA) of 2022. See, in relevant part, Title 2, Subtitle 16 of the Environment Article, Annotated Code of Maryland. The goal is to reduce direct greenhouse gas (GHG) emissions and improve overall energy efficiency from Maryland's building sector for certain buildings that are 35,000 square feet or larger. The regulation requires covered building owners to measure and report data to the Maryland Department of the Environment (MDE). The regulation further requires that covered building owners meet specific net direct GHG emissions. The regulation also contains record keeping and reporting requirements for electric and gas companies and district energy providers.

Additional regulatory actions on BEPS will be taken at a later date. Per language in the Budget Bill (Fiscal Year 2025), SB 360/Chp. 716 of 2024, MDE plans to adopt energy use intensity (EUI) standards in 2027 following the submission of a report to the General Assembly and calculation of EUI standards based on data reported to MDE in 2026. EUI standards are important for promoting efficient electrification to enable Maryland's clean energy transition, minimize electricity grid impacts, and achieve Maryland's goal of net-zero GHG emissions by 2045.

Submission to EPA as Revision to Maryland's State Implementation Plan (SIP)

This action will not be submitted to the U.S. Environmental Protection Agency (EPA) as part of Maryland's SIP.

Background

In 2022, the Maryland General Assembly passed the CSNA that modified Maryland's GHG emissions reduction goals in response to the latest science indicating that more stringent goals are necessary to combat climate change. CSNA set new goals to reduce statewide GHG emissions by 60% below 2006 levels by 2031 and achieve net-zero emissions by 2045. Among the requirements outlined in the new law is that Maryland implement BEPS. CSNA requires MDE to develop BEPS for covered buildings that: achieve a 20% reduction in net direct GHG emissions on or before January 1, 2030, as compared with 2025 levels for average buildings of similar construction; attain net-zero direct GHG emissions on or before January 1, 2040; and include EUI targets by building type.



Building Energy Performance Standards

What You Need to Know

Covered buildings will be required to benchmark energy use utilizing the United States Environmental Protection Agency's (EPA) ENERGY STAR Portfolio Manager tool, which is a free, interactive resource management tool that enables the benchmarking of energy use of any type of building. Covered buildings are subject to interim performance standards beginning in 2030 and running through 2039, and to a final performance standard that must be achieved on an annual basis in 2040 and beyond. Covered buildings are those defined in the regulation and further elaborated in TM 24-01 A.1.2. Building owners who believe their buildings are exempt must follow the procedure for exemption laid out in TM 24-01 A.1.2.2.

In July 2023, Maryland joined the White House National Building Performance Standards Coalition,¹ which is a nationwide group of state and local governments that have committed to inclusively design and implement building performance policies and programs in their jurisdictions. Maryland's development of BEPS has been supported by federal agencies, labor, and non-governmental organizations that provided resources for workforce engagement, technical analysis, equity strategies, policy design, and stakeholder engagement.

Sources Affected and Location

The proposed regulation applies to buildings in Maryland that are 35,000 square feet or larger (excluding the parking garage area). Historic buildings, public and nonpublic elementary and secondary schools, manufacturing buildings, agricultural buildings, and federal buildings are exempt. There are approximately 9,000 covered buildings in Maryland located across all counties. Electric and gas companies and, in limited cases, tenants in covered buildings are required to maintain and provide energy consumption data for covered buildings.

Requirements

This regulation requires covered building owners to report data to MDE through the EPA ENERGY STAR Portfolio Manager tool. Benchmarking will begin in 2025 and compliance with direct GHG emissions will begin in 2030. Covered building owners may need to make improvements to their buildings to meet the net direct GHG emissions standards. Covered buildings must meet interim standards in 2030 through 2039 and final standards in 2040 and beyond or pay an alternative compliance fee. Interim and final standards are set in the regulation. Electric companies and gas companies are required to maintain and provide energy consumption data for all covered buildings and provide to the building owner accurate

¹ National BPS Coalition (July 2023), https://nationalbpscoalition.org/.



Building Energy Performance Standards

What You Need to Know

and timely information on the actual amount of electricity, gas, or fuel delivered to a covered building. District energy companies are required to provide information on the emissions intensity of their district energy system to their customers.

A tenant of a covered building is required to provide requested benchmarking information to a covered building owner that cannot otherwise be acquired from other sources.

Projected Emissions Reductions

According to Maryland's GHG Emissions Inventory, ² direct fuel use in buildings produced nearly 14 million metric tons of carbon dioxide equivalent (MMTCO2e) in 2020. Electricity consumption, almost all of which was consumed in buildings, generated approximately 18 MMTCO2e in 2020. Through their direct fuel use and electricity consumption combined, Maryland's buildings accounted for roughly a third of all statewide GHG emissions. Buildings covered by BEPS accounted for approximately 5 MMTCO2e in 2020. In combination with state and federal policies to achieve 100% clean power generation, BEPS is modeled to reduce emissions by approximately 8.8 MMTCO2e between 2025 and 2050 based on a 2024 study by the U.S. Department of Energy's Lawrence Berkeley and Pacific Northwest National Laboratories. According to a 2023 study by the U.S. Department of Energy's Lawrence Berkeley and Pacific Northwest National Laboratories, the inclusion of future site EUI standards are modeled to further reduce emissions by approximately an additional 10 MMTCO2e.

Planned Future Actions

MDE will conduct an updated analysis after the 2025 benchmarking data are submitted in 2026 to determine if the interim standards need to be modified based on actual 2025 benchmarked building energy performance. As part of this action, the Department will develop interim and final EUI standards for all property types. These standards will be included in a future update of the regulation. The combination of direct GHG and site EUI standards delivers efficient electrification, which will not only make it easier for the state to achieve its GHG reduction goals, but also enable the covered building stock to electrify at a sufficient scale to achieve the BEPS emissions goals by mitigating winter peak electricity demand.

A 2023 study by the U.S. Department of Energy's Lawrence Berkeley National Laboratory found that a sample including 87% of Maryland's covered buildings currently has a peak electricity demand of around

² Maryland Greenhouse Gas Emissions Inventory (September 26, 2022), https://mde.maryland.gov/programs/air/climatechange/pages/greenhousegasinventory.aspx.



Building Energy Performance Standards

What You Need to Know

2.74 gigawatts occurring on hot summer days. According to that study, the proposed BEPS regulation with only GHG emissions standards will lead to peak electricity demand shifting to the winter and increasing 24% to 3.4 gigawatts by 2040. With the future addition of site EUI standards to BEPS, peak electricity demand is expected to decrease 6% to 2.58 gigawatts by 2040. Reducing peak demand reduces the need for ratepayer funded grid improvements and helps Maryland efficiently use existing electric grid infrastructure. A copy of the Lawrence Berkeley National Laboratory's peak electricity demand study is included in the Technical Support Document.

Economic Impact on Affected Sources, the Department, other State Agencies, Local Government, other Industries or Trade Groups, the Public

Between 2025 and 2040, building owners whose buildings do not already meet the BEPS standards will be required to implement energy efficiency measures and/or electrification measures or pay alternative compliance fees in order to comply with BEPS. A BEPS regulation including EUI standards would lead to significant energy savings and returns on investment for building owners. MDE advises building owners that analysis has shown implementing energy efficiency measures will reduce energy costs. The current BEPS regulation, which establishes emissions standards but does not yet establish EUI standards, may lead to weaker returns on investment if electrification measures are pursued without consideration of reducing EUI as well.

Results from a 2024 study by the U.S. Department of Energy's Lawrence Berkeley and Pacific Northwest National Laboratories demonstrate that during BEPS implementation (2025-2040), under the current regulation that includes emissions standards but does not yet include EUI standards, all covered buildings combined will spend more on efficiency measures (\$205 million) and electrification measures (\$5.53B) than the energy cost savings accrued in this period (\$1.2B). On a longer time horizon (2025-2050), energy cost savings increase to \$4.6B. On average, over the 2025-2050 time horizon, covered buildings spend \$0.65 per square foot. However, there is significant variation with 25% of covered buildings modeled to save more than \$0.06 per square foot and 25% of covered buildings modeled to spend more than \$2.65 per square foot.

Modeling from the National Labs shows that future site EUI standards will lead most owners to cost savings. During BEPS implementation (2025-2040), under a future regulation that includes emissions and EUI standards, all covered buildings combined will spend more on efficiency measures (\$8.8B) and electrification measures (\$6.4B) than the energy cost savings accrued in this period (\$8.96B). However, on a longer time horizon (2025-2050), energy cost savings increase to \$22.3B, indicating a net savings for Maryland's covered buildings. On average, over the 2025-2050 time horizon, covered buildings save \$4.47 per square foot. However, there is significant variation with 25% of covered buildings modeled to



Building Energy Performance Standards

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save more than \$9.29 per square foot and 25% of covered buildings modeled to spend more than \$4.43 per square foot.

The Building Energy Transition Task Force, created by the CSNA, delivered a report to the Governor and the General Assembly in January 2024³ The report included recommendations relating to funding the retrofit of covered buildings to comply with BEPS. Additionally, through the efforts of various state agencies, significant funding from the federal Bipartisan Infrastructure Law and Inflation Reduction Act is expected to reduce costs of compliance with BEPS for Maryland's affected sources and speed their return on investments. For example, the federal Energy Efficient Commercial Building Deduction provides up to \$5 per square foot for projects that reduce energy use intensity, including electrification projects.

According to the Lawrence Berkeley National Lab study on peak demand impacts from BEPS, the GHG emissions standard alone will increase peak demand. This would require additional grid improvements paid for by electric ratepayers. With the future incorporation of site EUI standards, the public in Maryland could see economic benefits through reduced electricity rates due to the impact of BEPS on reducing strain on the electricity grid.

Economic Impact on Small Business

As described above, on average, over the 2025-2050 time horizon, covered buildings spend \$0.65 per square foot. With the inclusion of future site EUI standards, covered buildings save \$4.47 per square foot over that same timeframe. The savings and costs identified in the 2024 study from the U.S. Department of Energy's Lawrence Berkeley and Pacific Northwest National Laboratories will impact small businesses that are covered building owners and may also impact small businesses that are tenants in buildings covered by BEPS.

The Building Energy Transition Task Force report included recommendations for funding the retrofit of covered buildings to comply with BEPS. Additionally, significant funding from the federal Bipartisan Infrastructure Law and Inflation Reduction Act are expected to reduce costs of compliance with BEPS for Maryland's affected sources and small businesses.

³ https://mde.maryland.gov/programs/air/ClimateChange/Pages/BETITF.aspx



Building Energy Performance Standards

What You Need to Know

Is there an Equivalent Federal Standard to this Proposed Regulatory Action?

In December 2022, the U.S. Council on Environmental Quality (CEQ) issued a Federal Building Performance Standard (BPS).⁴ The Federal BPS was issued according to the requirements set by Executive Order (E.O.) 14057, *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability*.⁵ The Federal Government is considered the single largest energy consumer in the country, and the Federal BPS includes facilities owned by the Federal Government or covered facilities according to section 432 of EISA (42 U.S.C. § 8253(f)(2)(B)). The Federal BPS will deliver a net-zero emissions building portfolio by 2045, including a 50 percent GHG emissions reduction by 2032, prioritizing energy efficiency and electrification. To achieve these goals, section 205(b) of E.O. 14057 provides that agencies should use the Federal BPS to prioritize reductions in scope 1 GHG emissions. Scope 1 emissions cover standard building operational needs, including direct emissions from space heating and cooling, water heating, cooking, backup generators, and laundry.

Documents to be Incorporated by Reference

Maryland Department of the Environment Technical Memorandum 24-01, "Technical Guidance and Calculation Methodologies to Comply with Building Energy Performance Standards," July 2024.

⁴ The Federal Building Performance Standard, Council on Environmental Quality (December 2022), https://www.sustainability.gov/pdfs/federal-building-performance-standard.pdf.

⁵ 86 FR 70935 (December 13, 2021), https://www.whitehouse.gov/briefing-room/presidentialactions/2021/12/08/executive-order-on-catalyzing-clean-energy-industries-and-jobs-through-federal-sustainability/.

26.28.01 Definitions and Documents Incorporated by Reference

Authority: Environment Article, §§1-404, 2-301, 2-302, 2-1205, 2-1602, Annotated Code of Maryland

.01 Purpose.

The purpose of this chapter is to define the terms used in this subtitle and identify the documents that are incorporated by reference.

.02 Definitions.

- A. In this subtitle, the following terms have the meanings indicated.
- B. Terms Defined.
- (1) "Affordable housing providers" means the owner of a covered building that primarily provides housing to limited income households, where a minimum of 51 percent of households living within the building are at or below 80 percent of the area median income, as defined in the Housing and Community Development Article, §4–1801, Annotated Code of Maryland, or a covered building that is restricted under the Low-Income Housing Tax Credit (LIHTC) program.
 - (2) Agricultural Building.
- (a) "Agricultural building" means a structure that is used primarily to cultivate, manufacture, process, or produce agricultural crops, raw materials, products, livestock, or commodities.
 - (b) "Agricultural building" includes a greenhouse.
- (3) "Alternative compliance fee" means a fee paid by the building owner to come into compliance with applicable net direct emissions standards, as specified in COMAR 26.28.04.01A.
- (4) "Area-weighted standard" means an interim or final performance standard that is calculated based on the floor area proportion of the property types within a covered building.
 - (5) Authorized Occupant.
- (a) "Authorized occupant" means a person that is approved by a building owner to be within a covered building.
 - (b) "Authorized occupant" does not include:
 - (i) Security guards:
 - (ii) Janitors;
 - (iii) Construction workers;
 - (iv) Landscapers; and
 - (v) Other maintenance personnel.
- (6) "Baseline performance" means the weather-normalized numeric values of net direct greenhouse gas emissions and site EUI of a covered building for the covered building's baseline year.
- (7) "Baseline year" means either calendar year 2025 for a covered building that was constructed and occupied prior to calendar year 2025 or the first full calendar year in which a newly constructed covered building was occupied.
- (8) "Benchmark" means to track and input a building's energy consumption data and other relevant building information on a monthly basis for at least 12 consecutive months, as required by the benchmarking tool, to quantify the building's energy use and greenhouse gas emissions.
 - (9) Benchmarking Information.
- (a) "Benchmarking information" means descriptive information about a building, its operating characteristics, and information generated by the benchmarking tool regarding the building's energy consumption, efficiency, and performance.
- (b) "Benchmarking information" includes but is not limited to the building identification number, address, gross floor area, and separate energy consumption totals for each fuel type.
- (10) "Benchmarking tool" means the website-based software, commonly known as ENERGY STAR Portfolio Manager, or any successor system, approved by the United States Environmental Protection Agency.
- (11) "Building" has the meaning set forth in the International Building Code, which is incorporated by reference under COMAR 09.12.51.04A and as modified in COMAR 09.12.51.04B.
- (12) "Building owner" means an individual or legal entity possessing title to a building including but not limited to a board of the owners' association, master association, board of directors, community association, cooperative housing corporation, or condominium.
- (13) "Campus" means a collection of two or more buildings, of any building type or size, that act as a single cohesive property with a single shared primary function and are owned and operated by the same party, such as, but not limited to, higher education or hospital campuses, as determined by the Department.
- (14) "Commercial building" means a commercial building as defined and subject to the commercial provisions of the International Energy Conservation Code, which is incorporated by reference in COMAR 09.12.51.04A and as modified in COMAR 09.12.51.04D, regardless of the nature of the entity or government that owns the building.
 - (15) Covered Building.

- (a) "Covered building" means a building that is a commercial or multifamily residential building in the State of Maryland or is owned by the State of Maryland and has a gross floor area of 35,000 square feet or more, excluding the parking garage area, and is:
 - (i) A single building;
- (ii) One or more buildings held in the condominium form of ownership with a combined gross floor area of 35,000 square feet or more, excluding the parking garage area, and governed by a single board of managers; or
- (iii) Two or more buildings with a combined gross floor area of 35,000 square feet or more, excluding the parking garage area, that are served in whole or in part by the same electric or gas meter or are served by the same heating or cooling system or systems, which is not a district energy system.
- (b) "Covered building" includes a building that meets the criteria for a covered building as described in this section and is located in a historic district but where the building is not individually designated as a historic property under federal, state, or local law.
 - (c) "Covered building" does not include:
- (i) A building, or space within a building, individually designated as a historic property under federal, State, or local law, separate and apart from a building's inclusion in a historic district;
 - (ii) A public or nonpublic elementary or secondary school building;
 - (iii) A manufacturing building;
 - (iv) An agricultural building; or
 - (v) A building owned by the federal government;
 - (16) "Department" means the Maryland Department of the Environment.
- (17) "Direct greenhouse gas emissions or direct emissions" means greenhouse gas emissions produced on-site by covered buildings, as calculated by the benchmarking tool unless otherwise specified by the Department.
- (18) "District energy system" means a system in which thermal energy generated at one or more central facilities provides heating or cooling through a network of insulated underground pipes to provide hot water, steam, space heating, air conditioning, or chilled water to nearby buildings.
- (19) "District energy provider" means an entity that provides thermal energy to customers through a district energy system.
- (20) "Electric company" has the meaning stated in Public Utilities Article, §1-101, Annotated Code of Maryland.
- (21) "Final performance standard or final standard" means the numeric values of net direct greenhouse gas emissions that each covered building shall ultimately achieve on an annual basis in 2040 and beyond.
 - (22) "Financial distress" means:
 - (a) A property that is the subject of a tax lien sale or public auction due to property tax arrearages;
 - (b) A property that is controlled by a court appointed receiver; or
 - (c) A property that was acquired by a deed in lieu of foreclosure in the last calendar year.
 - (23) "Food service facility" has the meaning stated in COMAR 10.15.03.02B.
 - (24) Full-Time-Equivalent Employee.
- (a) "Full-time-equivalent employee" means a person that occupies a covered building for no less than 40 hours per week throughout a calendar year.
 - (b) "Full-time-equivalent employee" excludes:
 - (i) Security guards;
 - (ii) Janitors;
 - (iii) Construction workers;
 - (iv) Landscapers; and
 - (v) Other maintenance personnel.
 - (25) "Gas company" has the meaning stated in Public Utilities Article, §1-101, Annotated Code of Maryland.
- (26) "Greenhouse gas emissions or emissions" means gasses released into the atmosphere that contribute to climate change, including but not limited to carbon dioxide (CO2), as calculated by the benchmarking tool unless otherwise specified by the Department.
 - (27) Gross Floor Area.
- (a) "Gross floor area" means the total building square footage measured between the principal exterior surfaces of the enclosing fixed walls of a building.
- (b) "Gross floor area" consists of all areas inside the building, including but not limited to lobbies, tenant areas, common areas, meeting rooms, break rooms, the base level of atriums, restrooms, elevator shafts, stairwells, mechanical equipment areas, basements, and storage rooms.
- (c) "Gross floor area" does not include exterior spaces, balconies, bays, patios, exterior loading docks, driveways, covered walkways, outdoor play courts (e.g., tennis, basketball), parking, the interstitial space between floors, which house pipes and ventilation, and crawl spaces.
- (d) "Gross floor area" is not the same as rentable space, but rather includes all areas inside the building or buildings.

- (28) "Interim performance standard or interim standard" means the weather-normalized numeric values of net direct greenhouse gas emissions which covered buildings shall achieve by a specified calendar year that is prior to 2040.
- (29) "Manufacturing building" means a building involved in the process of substantially transforming, or a substantial step in the process of substantially transforming, tangible personal property into a new and different article of tangible personal property by the use of labor or machinery, or otherwise designated as a manufacturing building by the Department.
 - (30) "Mixed-use building" means a building that contains two or more property types.
 - (31) Net Direct Greenhouse Gas Emissions or net direct emissions.
 - (a) "Net direct greenhouse gas emissions or net direct emissions" means:
 - (i) The sum of all direct greenhouse gas emissions from a covered building; or
- (ii) For a covered building connected to a district energy system, direct greenhouse gas emissions plus the greenhouse gas emissions attributable to thermal energy inputs from the district energy system used by the covered building, as calculated using the methodology provided in this regulation.
- (b) "Net direct greenhouse gas emissions or net direct emissions" does not include direct greenhouse gas emissions from a food service facility located within a covered building.
- (32) "Newly constructed covered building" means a covered building that was constructed after 2024 and occupied by at least one full-time-equivalent employee or authorized occupant.
- (33) "Occupied" means a covered building with at least one full-time equivalent employee or authorized occupant.
- (34) "Property type" means the primary use of a building space as specified in ENERGY STAR Portfolio Manager.
 - (35) Site Energy Use.
- (a) "Site energy use" means all energy used on-site by a covered building to meet the energy loads of the building.
- (b) "Site energy use" includes electricity delivered to the building through the electric grid and/or generated on-site with renewable sources; thermal energy delivered to the building through a district energy system; and natural gas, diesel, propane, fuel oil, wood, coal, and other fuels used on-site.
- (c) "Site energy use" excludes electricity used for charging vehicles, a food service facility located within a covered building, and other electricity uses excluded from site energy use by the benchmarking tool.
- (36) "Site energy use intensity or site EUI" is calculated by the benchmarking tool by dividing the total energy consumed in one calendar year by the gross floor area of the building and reported as a value of a thousand British thermal units (kBTU) per square foot per year.
- (37) "Tenant" means a person or entity occupying or holding possession of a building, part of a building, or premises pursuant to a rental or lease agreement.
- (38) "Weather-normalized" means a method for modifying the measured building energy use in a specific calendar year to estimate energy use under normal weather conditions as calculated by the benchmarking tool.
 - (39) Web services application programming interface (API) or web services API.
- (a) "Web services API" means the free application for use by organizations to exchange building energy and other data between their own systems and the benchmarking tool.
- (b) "Web services API" may include the entry of data into the tool and/or the calculation and extraction of metrics and other information from the tool.
- (40) "Whole building energy consumption data" means energy data that has been summed for an entire building, which may include a single occupant or a group of separately metered tenants, representing the cumulative total of energy used in the covered building.

.03 Incorporation by Reference.

In this subtitle, the Maryland Department of the Environment Technical Memorandum (TM) 24-01, "Technical Guidance and Calculation Methodologies to Comply with Building Energy Performance Standards", July 2024 is incorporated by reference.

26.28. 02 Benchmarking and Reporting

Authority: Environment Article, §§1-404, 2-301, 2-302, 2-1205, 2-1602, Annotated Code of Maryland

.01 Purpose.

The purpose of this chapter is to establish reporting requirements for building owners, tenants, electric and gas companies, and district energy providers.

.02 Reporting Requirements of Building Owners.

A. Data Collection.

- (1) Each calendar year beginning in 2025 or in the first calendar year after which a newly constructed covered building is occupied, the covered building owner shall collect and enter all required benchmarking information for the previous calendar year into the benchmarking tool.
- (2) Nothing in this regulation shall be construed to permit a building owner to use tenant energy usage data for purposes other than evaluation of the performance of the building.
- (3) A building owner shall follow the exemption procedures under the TM 24-01, "Technical Guidance and Calculation Methodologies to Comply with Building Energy Performance Standards."
 - B. Benchmarking Report.
- (1) A building owner shall submit a benchmarking report to the Department by June 1st of each year, beginning in 2025, using the benchmarking tool.
- (2) Following the first full calendar year that energy data can be collected and the building was occupied, the owner of any newly constructed covered building shall benchmark the building and report to the Department no later than June 1st of the following year, and every June 1st thereafter.
- (3) The annual benchmarking report shall include, at a minimum, the benchmarking information spanning January 1st to December 31st of the previous calendar year.
- (4) The building owner shall enter data into the benchmarking tool such that the benchmarking report shall be based on an assessment of the energy consumed by the building for the entire calendar year being reported and demonstrate the net direct emissions and site EUI for the entire calendar year being reported.
- (5) The building owner shall exclude from the benchmarking report submetered and separately metered energy consumption data for:
 - (a) Food service facilities that engage in commercial cooking and water heating;
 - (b) Electric vehicle charging;
 - (c) Other electricity uses excluded from site energy use by the benchmarking tool; and
 - (d) Emissions from required combustion equipment under the following conditions:
- (i) Emissions from generators shall be excluded from the net direct emissions requirements if a federal or State regulation requires a covered building including a health care facility, laboratory, assisted living and nursing facility, military building, critical infrastructure, and a building used in life sciences to use a backup generator or other equipment that shall run on combustible fuels.
- (ii) A covered building is required to include emissions from a combustion generator/equipment if the relevant federal or State regulation is updated to allow battery storage and/or other types of systems that do not produce direct emissions.
- (6) Energy consumption for food service facilities can be excluded using a standard deduction formula in accordance with the Department's TM 24-01 "Technical Guidance and Calculation Methodologies to Comply with Building Energy Performance Standards," which is incorporated by reference in COMAR 26.28.01.03 when such energy consumption cannot be excluded using submetered or separately metered data.
- (7) Before submitting a benchmarking report, the building owner shall run all automated data quality checker functions available within the benchmarking tool and shall confirm that all data has been accurately entered into the tool. The building owner shall correct all missing or incorrect information as identified by the data quality checker prior to submitting the benchmarking report to the Department.
- (8) If a building owner is notified of an inaccuracy by the Department or other third party, then the building owner shall amend the information reported within the benchmarking tool, and shall provide the Department with an updated benchmarking submission within 30 days of learning of the inaccuracy.
- (9) The building owner of a mixed-use covered building shall use the benchmarking tool to report the gross floor area for all property types in the building.
- (10) The building owners of a covered building that is connected to district energy systems shall submit additional information to supplement the annual benchmarking report in accordance with the Department's TM 24-01,"Technical Guidance and Calculation Methodologies to Comply with Building Energy Performance Standards", which is incorporated by reference in COMAR 26.28.01.03.
 - C. Third Party Verification of Benchmarking Reports.
 - (1) The building owner shall have a third party verify the accuracy of benchmarking reports for calendar years:
 - (a) 2025 (benchmarking report due in 2026);
 - (b) 2030 (benchmarking report due in 2031);
 - (c) 2035 (benchmarking report due in 2036);
 - (d) 2040 (benchmarking report due in 2041); and
 - (e) Every 5 years thereafter.
- (2) The building owner of a newly constructed covered building shall have a third party verify the first required benchmarking report and then comply with the schedule in this chapter for verification of subsequent reports.
- (3) The building owner shall provide to the third party verifier all utility bills, delivered fuel receipts, and other documentation needed by the verifier for the calendar year covered by the benchmarking report.
- (4) The building owner shall submit a copy of a third party verification to the Department when submitting the associated benchmarking report in accordance with the Department's TM 24-01 "Technical Guidance and Calculation

Methodologies to Comply with Building Energy Performance Standards", which is incorporated by reference in COMAR 26.28.01.03.

- D. Maintenance of Historical Data.
- (1) The building owner shall maintain adequate records demonstrating compliance with this chapter, including but not limited to, energy bills, reports, forms, and records received from tenants or utilities and records.
 - (2) Such records shall be preserved for a period no less than 5 years.
- (3) At the request of the Department, such records shall be made available for inspection and audit by the Department.

.03 Reporting Requirements of Tenants.

A tenant of a covered building shall, within 30 days of a request by the building owner, provide all requested benchmarking information that cannot otherwise be acquired by the building owner from other sources.

.04 Reporting Requirements of Electric and Gas Companies and District Energy Providers.

- A. Electric and Gas Companies.
- (1) Electric and gas companies delivering energy to a covered building shall maintain whole-building energy consumption data for all buildings, for at least the most recent 5 years in an electronic format capable of being uploaded to the benchmarking tool.
- (2) On and after January 1, 2025, upon the request and authorization of a building owner an electric or gas company shall provide the building owner with at least the most recent 12 consecutive months of whole building energy consumption data by fuel type for the specified building for all the fuel types provided by the company.
 - (a) The electric or gas company shall provide data to the requestor as follows:
- (i) Data shall include whole building energy consumption, aggregating all utility meters that measure energy consumption at the building;
 - (ii) Data shall be provided to the requestor within 90 days of receiving a data request in 2025;
- (iii) Data shall be provided to the requestor within 30 days of receiving a data request in 2026 or later; and
 - (iv) Whole building energy consumption data shall be provided to the requestor in monthly intervals.
- (b) An electric or gas company may be exempt from $\S A(2)(a)$ of this regulation in accordance with $\S A(7)$ of this regulation.
- (3) Investor-owned electric and gas companies serving 40,000 or more customers shall use the benchmarking tool's web services API to deliver data to requesters on an ongoing basis.
- (4) Investor-owned electric and gas companies serving fewer than 40,000 customers, municipal electric and gas companies, or cooperatively owned electric and gas companies shall provide data in the spreadsheet template specified by the benchmarking tool, or through the benchmarking tool's web services API to requesters on an ongoing basis.
- (5) Electric and gas companies shall develop and maintain a process to identify and confirm with the building owner the list of meters that will be used to calculate the aggregated total as follows:
- (a) Electric and gas companies shall provide to the building owner a listing of all meters included in the whole building energy consumption data for verification purposes; and
- (b) If any correction or update takes place at a meter that is included in the whole building energy consumption data, then the affected value or values shall be proactively updated by the electric or gas company through the benchmarking tool's web services API or through an updated spreadsheet template with a notification provided to the building owner/data requestor.
- (6) For covered buildings with five or more tenants, electric and gas companies shall deliver to requestors the monthly whole building energy consumption data capturing total consumption by fuel type of all relevant fuel or fuels across all meters at the building.
- (a) The whole building energy consumption data shall not be deemed confidential information by the electric and gas companies for purposes of delivery to the building owner.
- (b) Electric and gas companies will not be required to acquire explicit authorization for data release by the individual tenants.
- (7) For covered buildings with fewer than five tenants, electric and gas companies shall deliver whole building energy consumption data to the building owner if the building tenants provide written or electronic consent for the delivery of the tenant's energy data to the building owner.
 - (a) The building tenant's consent may be provided in a lease agreement provision.
- (b) The building tenant's consent is not required if an electric or gas company customer vacates the covered building before explicitly denying consent for the delivery of the tenant's energy data to the building owner.
- (8) When providing whole-building consumption data to a property with onsite generation of renewable electricity (for example, solar or wind energy), electric and gas companies shall ensure that the consumption values delivered to the building owner capture total gross grid electricity consumption as metered by the electric or gas company, rather than net, or net-metered, consumption of grid electricity.
 - B. District Energy Providers.

- (1) Starting no later than January 1, 2025, district energy providers shall maintain all records that are necessary to comply with this regulation for a period of not less than 5 years. At the request of the Department, such records shall be made available for inspection and audit by the Department.
- (2) District energy providers shall provide greenhouse gas emissions factors per unit of district energy input (steam, hot water, chilled water, etc.) to the owners of covered buildings and to the Department for benchmarking and compliance purposes.
- (3) Emissions factors and a full and detailed accounting of their calculation shall be provided by the district energy provider by March 1st of each calendar year and cover the previous calendar year based on actual fuel consumption and system performance data. The Department may require a third party review of such calculations paid for by the district energy provider.
- (4) District energy providers shall use methodology for allocating emissions that will be based on the "Efficiency Method" in the World Resources Institute's "Calculation tool for direct emissions from stationary combustion:

 Allocation of GHG Emissions from a Combined Heat and Power (CHP) Plant."

.05 Disclosure of Covered Building Benchmarking and Performance Standards Information.

- A. Before a buyer signs a contract for the purchase of a covered building, the building owner selling the covered building shall:
 - (1) Disclose to the prospective buyer that the building is subject to requirements under this subtitle;
 - (2) Transfer the following records to the prospective buyer:
 - (a) A copy of the complete benchmarking record from the benchmarking tool;
 - (b) Documentation of data verification;
 - (c) Documentation of any alternative compliance fee made to the Department; and
 - (d) Any other records relevant to maintain compliance under this subtitle; and
 - (3) Provide to the prospective buyer the following information:
 - (a) Performance baseline; and
 - (b) Interim and final performance standards.

26.28.03 Performance Standards and Compliance Demonstration

Authority: Environment Article, §§1-404, 2-301, 2-302, 2-1205, 2-1602, Annotated Code of Maryland

.01 Purpose.

The purpose of this chapter is to establish performance standards for covered buildings.

.02 Performance Standards.

A. Interim and final net direct emissions standards are:

Table 1. Performance Standards.

	Net Direct Emissions Standards Kg CO2e per square foot		
Property Type	Interim Standard for 2030-2034	Interim Standard for 2035-2039	Final Standard for 2040 and beyond
Adult Education	2.34	1.17	0
Ambulatory Surgical Center	1.76	0.88	0
Aquarium	1.99	1.00	0
Bank Branch	1.01	0.50	0
Bar/Nightclub	1.70	0.85	0
Barracks	0.57	0.29	0
Bowling Alley	2.07	1.03	0
Casino	1.03	0.52	0
College/University	2.43	1.21	0
Convenience Store with Gas Station	2.25	1.13	0
Convenience Store without Gas Station	2.25	1.13	0
Convention Center	0.39	0.19	0
Courthouse	1.14	0.57	0
Data Center	1.26	0.63	0
Distribution Center	0.58	0.29	0
Drinking Water Treatment & Distribution	exempt	exempt	exempt

Enclosed Mall	0.24	0.12	0
Energy/Power Station	exempt	exempt	exempt
Fast Food Restaurant	exempt	exempt	exempt
Financial Office	0.32	0.16	0
Fire Station	1.70	0.85	0
Fitness Center/Health	2.87	1.43	0
Club/Gym			U
Food Sales	2.25	1.13	0
Food Service	exempt	exempt	exempt
Heated Swimming Pool	2.07	1.03	0
Hospital (General	6.10	3.05	0
Medical and Surgical)			0
Hotel Ice/Curling Rink	1.47 2.07	0.74 1.03	0 0
Indoor Arena	1.03	0.52	0
K-12 School			-
Laboratory Laboratory	<i>exempt</i> 5.35	2.68	exempt 0
Library	1.92	0.96	0
Lifestyle Center	0.91	0.46	0
Mailing Center/Post			
Office Office	0.92	0.46	0
Medical Office	0.18	0.09	0
Movie Theater	0.78	0.39	0
Multifamily Housing	0.82	0.41	0
Museum	0.75	0.38	0
Non-Refrigerated	0.09	0.05	0
Warehouse			U
Office	0.22	0.11	0
Other — Education	1.59	0.80	0
Other — Entertainment/Public Assembly	0.54	0.27	0
Other — Lodging/Residential	0.002	0.001	0
Other — Mall	1.40	0.70	0
Other — Other	1.60	0.80	0
Other — Public Services	2.12	1.06	0
Other — Recreation	0.70	0.35	0
Other — Restaurant/Bar	exempt	exempt	exempt
Other — Services	2.63	1.31	0
Other — Specialty Hospital	6.10	3.05	0
Other — Stadium	0.31	0.16	0
Other —			
Technology/Science	0.001	0.001	0
Other — Utility	exempt	exempt	exempt
Outpatient Rehabilitation/Physical Therapy	1.76	0.88	0
Parking	exempt	exempt	exempt
Performing Arts	2.38	1.19	0
Personal Services (Health/Beauty, Dry Cleaning, etc)	2.17	1.09	0
Police Station	1.52	0.76	0
Pre-school/Daycare	2.45	1.23	0
Prison/Incarceration	0.57	0.29	0
Race Track	1.03	0.52	0
Refrigerated Warehouse	1.37	0.69	0

Repair Services (Vehicle, Shoe, Locksmith, etc)	2.16	1.08	0
Residence Hall/Dormitory	0.70	0.35	0
Residential Care Facility	1.43	0.72	0
Restaurant	exempt	exempt	exempt
Retail Store	0.60	0.30	0
Roller Rink	2.07	1.03	0
Self-Storage Facility	0.19	0.10	0
Senior Living Community	1.43	0.72	0
Social/Meeting Hall	1.53	0.76	0
Stadium (Closed)	0.31	0.16	0
Stadium (Open)	0.32	0.16	0
Strip Mall	1.90	0.95	0
Supermarket/Grocery Store	2.25	1.13	0
Transportation Terminal/Station	2.22	1.11	0
Urgent Care/Clinic/Other Outpatient	1.76	0.88	0
Vehicle Dealership	2.23	1.12	0
Veterinary Office	1.76	0.88	0
Vocational School	2.34	1.17	0
Wastewater Treatment Plant	exempt	exempt	exempt
Wholesale Club/Supercenter	0.60	0.30	0
Worship Facility	0.87	0.44	0
Zoo	1.03	0.52	0

B. Reserved.

- C. Interim and Final Standards for Mixed-Use Covered Buildings. Area-weighted standards for net direct emissions for mixed-use buildings will be set by the compliance tool as specified in the Department's TM 24-01, "Technical Guidance and Calculation Methodologies to Comply with Building Energy Performance Standards", which is incorporated by reference in COMAR 26.28.01.03.
 - D. Achieving and Maintaining the Standards.
- (1) Each covered building shall not exceed the net direct emissions standards for 2030—2034 in each calendar year including 2030, 2031, 2032, 2033, and 2034, as determined on a yearly basis.
- (2) Each covered building shall not exceed the net direct emissions standards for 2035—2039 in each calendar year including 2035, 2036, 2037, 2038, and 2039, as determined on a yearly basis.
- (3) Each covered building shall not exceed the net direct emissions standards in calendar year 2040 and each calendar year thereafter, as determined on a yearly basis.

26.28. 04 Alternative Compliance and Special Provisions

Authority: Environment Article, §§1-404, 2-301, 2-302, 2-1205, 2-1602, Annotated Code of Maryland

.01 Alternative Compliance Pathway.

- A. Alternative Compliance Pathway for Net Direct Emissions Standards.
- (1) In lieu of meeting the net direct emissions standards in COMAR 26.28.03, the building owner shall come into compliance with the net direct emissions standards by paying an alternative compliance fee for the greenhouse gas emissions in excess of the net direct emissions standards.
- (2) An alternative compliance fee shall be paid for every metric ton of net direct emissions in excess of the net direct emissions standard in a given calendar year. The fee shall be:
 - (a) \$230 per metric ton of excess CO2e in 2020 dollars, adjusted for inflation, for 2030;
 - (b) \$234 per metric ton of excess CO2e in 2020 dollars, adjusted for inflation, for 2031;
 - (c) \$238 per metric ton of excess CO₂e in 2020 dollars, adjusted for inflation, for 2032;

- (d) \$242 per metric ton of excess CO2e in 2020 dollars, adjusted for inflation, for 2033;
- (e) \$246 per metric ton of excess CO2e in 2020 dollars, adjusted for inflation, for 2034;
- (f) \$250 per metric ton of excess CO₂e in 2020 dollars, adjusted for inflation, for 2035;
- (g) \$254 per metric ton of excess CO₂e in 2020 dollars, adjusted for inflation, for 2036;
- (h) \$258 per metric ton of excess CO2e in 2020 dollars, adjusted for inflation, for 2037;
- (i) \$262 per metric ton of excess CO2e in 2020 dollars, adjusted for inflation, for 2038;
- (j) \$266 per metric ton of excess CO2e in 2020 dollars, adjusted for inflation, for 2039;
- (k) \$270 per metric ton of excess CO2e in 2020 dollars, adjusted for inflation, for 2040; and
- (1) The fee rate increases by \$4 per metric ton of CO2e per calendar year in 2020 dollars, adjusted for inflation, in each calendar year following 2040.
- (3) The annual fee rate set forth in this chapter shall be increased each calendar year by the percentage, if any, by which the Consumer Price Index-U (All Urban Consumers) for the most recent calendar year exceeds the Consumer Price Index-U (All Urban Consumers) for the previous calendar year.
- B. Other Provisions. If covered building ownership changes in 2030 or any calendar year thereafter, then the owner of the building on December 31st is responsible for compliance with this regulation and paying alternative compliance fees or penalties for the calendar year ending on December 31st and every calendar year thereafter until that person is no longer the owner of the covered building.

.02 Exemptions.

- A. Exemptions from Benchmarking and Performance Standard Requirements. A building owner may apply for an exemption from the requirements of this regulation for one calendar year when the building owner can provide documentation showing that one of the following conditions are met:
 - (1) Financial distress;
 - (2) The covered building was not occupied for the entirety of the calendar year being reported; or
 - (3) The covered building was demolished during the calendar year for which benchmarking is required.
 - B. Exemption from Establishing Baseline Performance.
- (1) The Department may, in its sole discretion, grant an exemption from the requirement to establish baseline performance when, during the baseline year, less than 50 percent of the floor area of the covered building was occupied for at least 180 days and where the building owner applies for such exemption.
- (2) A covered building may not receive an exemption from the requirement to establish baseline performance for more than 3 years.
 - C. Exemptions for Affordable Housing Providers.
- (1) The Department may grant the application of reduced alternative compliance fees to an affordable housing provider when the building owner submits in writing such request by June 1st of each calendar year, beginning in 2031 which demonstrates to the Department that it has made a good faith effort, as demonstrated under §C(2) of this regulation.
- (2) A good faith effort may be demonstrated to the Department by submitting a copy of the application to a federal or Maryland administered program that would make the building or buildings more energy efficient and/or reduce greenhouse gas emissions. The submission shall also include the benchmark report, intended scope of work, and estimated greenhouse gas reductions expected from the intended scope of work to achieve at least the applicable interim or final standard.
- (3) An alternative compliance fee granted by the Department under C(1) of this regulation is good for one calendar year.
- (4) A project that has applied to a program under $\S{C}(2)$ of this regulation but has not yet completed the improvements, can submit a confirmation received from the program administrator to the Department, verifying the project's active participation status to satisfy the good faith effort for another year.
- (5) An alternative compliance fee granted by the Department under SC(1) of this regulation does not exempt the owner from complying with the benchmarking and reporting requirements in COMAR 26.28.02.
 - (6) An affordable housing provider may apply for the alternative compliance fee annually.

.03 Option for Campus-Level Compliance.

- A. The owner of a covered building may choose to meet net direct emissions standards, as specified under this regulation, at the campus level instead of the individual building level when two or more covered buildings are:
 - (1) Connected to a district energy system;
 - (2) Served by the same electric or gas meter; or
 - (3) Served by the same heating or cooling system or systems, which is not a district energy system.
- B. Campus-level reporting shall include energy consumption and greenhouse gas emissions for all buildings and stationary equipment located on the campus, including all central plants, except as provided in $\S B(1)$ of this regulation.
- (1) Campus-level reporting does not include energy consumption and greenhouse gas emissions from activities/sources that are excluded from the benchmarking report requirements in COMAR 26.28.02.
 - (2) The owner of a campus shall report to the Department annually by June 1st:

- (a) Any permits to build new buildings or change the footprint or usage of existing buildings on the campus; and
 - (b) Any buildings that have received new certificates of occupancy.
- (3) The Department shall, in consultation with the principal owner of a campus, determine whether the affected buildings will be included in campus-level compliance following the rules established in this chapter and whether and how to adjust the campus' interim and final performance standards.
 - C. Performance Standards for Campus-Level Compliance.
- (1) For a campus that consists of one property type, the interim and final net direct emissions standards are those that correspond with that property type.
- (2) For a campus that consists of more than one property type, the interim and final net direct emissions standards are based on area-weighted standards as specified in the Department's TM 24-01 "Technical Guidance and Calculation Methodologies to Comply with Building Energy Performance Standards", which is incorporated by reference in COMAR 26.28.01.03.
 - (3) Reserved.
 - (4) Achieving and Maintaining the Standards.
- (a) Campus-level energy use shall not exceed the net direct emissions standards for 2030—2034 in each calendar year including 2030, 2031, 2032, 2033, and 2034, as determined on a yearly basis.
- (b) Campus-level energy use shall not exceed the net direct emissions standards for 2035—2039 in each calendar year including 2035, 2036, 2037, 2038, and 2039, as determined on a yearly basis.
- (c) Campus-level energy use shall not exceed the final net direct emissions standards in calendar year 2040 and each calendar year thereafter, as determined on a yearly basis.