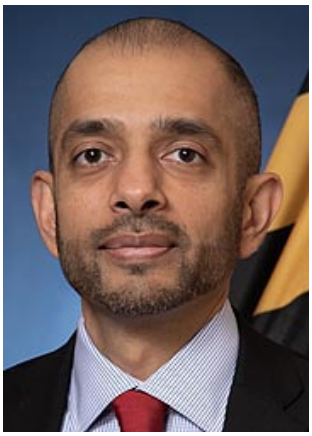
Maryland Green Building Council

Annual Report 2025

CONTENTS

View from Government House
Annapolis, Maryland

MESSAGE FROM THE SECRETARY



The Maryland Green Building Council and the Maryland Department of General Services are pleased to submit the 2025 Annual Report of the Council's activities to the Governor, Lieutenant Governor, General Assembly, and the citizens of Maryland.

This report reflects the collective dedication and contributions of numerous state agencies, as well as representatives from the environmental, business, and public sectors who serve on the Maryland Green Building Council.

Our shared vision with the Moore-Miller Administration is that making Maryland a greener state is a necessity, and we believe Maryland can lead the way.

Making Maryland a greener state means investing in green infrastructure. The Council is committed to advancing the use of innovative technologies in the design, construction, and operation of State of Maryland facilities—technologies that promote energy efficiency and conservation of natural resources.

As part of its mission, the Maryland Green Building Council evaluates and promotes high-performance building practices and provides guidance on the most cost-effective strategies for state facility design and construction. The Council also offers recommendations on evaluation criteria and strategies to further expand green building efforts across the state.

These initiatives support and complement the broader goals of Maryland state agencies to preserve the state's financial, natural, and human resources.

By investing in green construction and retrofitting existing buildings with sustainable materials and energy-efficient systems, Maryland can become a national leader in climate-smart development. We can reduce greenhouse gas emissions, support clean energy, and save taxpayers money—all while improving public health and safety.

We owe it to future generations to make Maryland a leader in sustainability—a state where economic growth and environmental responsibility go hand in hand.

Sincerely,

Atif Chaudhry,
Secretary, Maryland Department of General Services

MESSAGE FROM THE CHAIR

The Maryland Green Building Council is pleased to report to the Governor, Lieutenant Governor, members of the General Assembly, and the citizens of the State of Maryland the progress the State has made in the last year in green building.

First, a brief introduction, I'm a mechanical and fire protection engineer, and I've been working on sustainable and highly sustainable projects for the past 22 years. I was honored to be asked to chair the Green Building Council (GBC) last December (2024).

In March (2025) the Council released the first High Performance Green Building Program (HPGBP) that recognizes Building Energy Performance Standards (BEPS) and the need to discontinue the use of fossil fuels or pay additional fees based on fossil fuel use. The HPGBP requires all new state funded buildings to use heat pumps for space heating and domestic water heating. These measures are to address BEPS requirements and to minimize State energy utility costs for newly constructed buildings. The appendix material also now includes reasonable allowances for electric resistance use for systems where heat pumps do not currently function well or make financial sense, such as process systems or certain dwelling units.

I'm excited about the current work the GBC is doing to adopt LEED version 5 (LEED v5) changes into the program and to align the requirements of other green building pathways with the priorities of LEED v5. These priorities include a focus on resilient buildings built to address locally relevant natural disasters, and a strong focus on carbon analysis and reporting.

I'd like to close by thanking my fellow GBC members, staff, and the volunteers who have provided input for the revisions in the HPGBP. This work would not be possible without their help.

Sincerely,

Ben Roush, Pe, FPE Chair
Maryland Green Building Council

GREEN BUILDING

Green, sustainable or eco-friendly building refers to the practice of designing, constructing, and operating buildings in an environmentally responsible and resource-efficient manner. The goal of green building is to reduce the negative impact of buildings on the environment and human health while enhancing the well-being and comfort of occupants. Green buildings not only benefit the environment but can also result in lower operating costs, increased property values, and improved occupant well-being and productivity. Green building principles aim to address various aspects of sustainability, including:

Solar rooftop on Ellicott City MultiService Center

Energy Efficiency: Green buildings are designed to minimize energy consumption through better insulation, efficient heating, ventilation, and air conditioning (HVAC) systems, and the use of energy-efficient appliances and lighting. Renewable energy sources such as solar panels are often incorporated to further reduce energy demand.

Water Efficiency: Green buildings incorporate water-saving fixtures, efficient irrigation systems, and often implement rainwater harvesting or graywater reuse systems to reduce water consumption and minimize the strain on local water resources.

Sustainable Materials: Environmentally friendly building materials are used whenever possible, such as recycled materials, sustainably sourced wood, and low-emission paints and adhesives. The goal is to reduce the impact associated with the production and transportation of building materials.

Indoor Air Quality: Green buildings prioritize indoor air quality by using low-VOC (volatile organic compound) materials, proper ventilation systems, and strategies to minimize exposure to indoor pollutants. This promotes a healthier and more comfortable indoor environment.

Site Selection and Land Use: The choice of building location can have a significant impact on sustainability. Green building practices often favor sites that are well-

connected to public transportation, promote pedestrian-friendly environments, and avoid environmentally sensitive areas.

Waste Reduction: Construction and demolition waste are minimized through recycling and reuse of materials. Design strategies also aim to reduce the amount of waste generated during the building's operational phase.

Sustainable Design: The design of green buildings considers factors such as natural daylighting, passive solar heating, and efficient space utilization to reduce the need for artificial lighting and heating.

Resilience: Green building principles may also incorporate strategies to make buildings more resilient to climate change, extreme weather events, and other environmental challenges.

Decarbonization: Reducing the greenhouse gas (GHG) emissions produced by the combustion of fossil fuels can be achieved through efficiency and electrification.

GREEN BUILDING TRENDS

Transition to Renewable Energy: The United States is continuing to develop renewable energy sources, such as wind, solar, and hydropower, navigating an uncertain federal landscape. This clean transition may be driven by state-level policies, technological advancements, energy demand, and corporate commitments to reduce carbon emissions.

Building Energy Performance Standards (BEPS): States and municipalities, including Maryland, are increasingly setting expectations for energy benchmarking and efficiency for building owners and operators.

Climate Regulations: Expectations for stricter regulations on carbon emissions and climate-related disclosures for businesses could emerge with a focus on increased transparency and risk management. There is currently uncertainty at the federal level.

Electrification of Transportation: The adoption of electric vehicles (EVs) and the expansion of EV infrastructure are likely to grow as the industry becomes more standardized in charging infrastructure.

Circular Economy Initiatives: Efforts to reduce waste and promote circular economy practices are expected to expand. This may involve initiatives to encourage recycling, reuse, and waste reduction across industries.

Sustainable Agriculture and Food Systems: The interest in sustainable and locally sourced food products, as well as regenerative agriculture practices, is likely to continue.

Green Building and Infrastructure: Sustainable building practices and infrastructure projects, designed to improve energy efficiency and environmental performance, are likely to remain a focus, especially in urban areas.

Conservation and Biodiversity: Conservation efforts to protect biodiversity are gaining more attention, with a focus on preserving critical ecosystems and addressing habitat loss.

Sustainable Finance and Investing: Sustainable finance and impact investing may continue to grow in importance as new vehicles for financing efficiency projects emerge.

Environmental Justice: Efforts to address environmental justice disparities and ensure that vulnerable communities have equitable access to environmental benefits and protections may gain further prominence.

Resilience and Adaptation: Given the increasing frequency of extreme weather events and the impacts of climate change, there may be a heightened focus on building resilience and adaptation strategies at the federal, state, and local levels.

The trajectory of these trends will depend on various factors, including federal and state political developments, public awareness, technological advancements, and global events.

Maryland DGS Secretary Atif Chaudhry celebrates the 200th installation of electric fleet vehicle charging in Maryland

July 2024

MARYLAND GREEN BUILDING COUNCIL'S ROLE

The State of Maryland has long sought to protect and conserve our state's resources. With the Maryland Department of General Services' Maryland Green Building Council's efforts to promote the delivery of efficiently built and operated facilities, the department performs its role in advancing the statewide conservation mission and realizing cost efficiencies and co-benefits of green buildings. The efforts dovetail with other state agency programs such as the Maryland Department of Agriculture's conservation practices and programs to balance crop and livestock production with protection of natural resources, the Department of Planning's Water and Sewerage Plan Facilities to assure adequate water and sewerage facilities will be provided to support planned redevelopment and growth as outlined in the Comprehensive Land Use Plan; the numerous programs of the Maryland Department of Natural Resources to conserve and enhance open space; and the Maryland Department of the Environment's efforts to clean and protect the state's surface waters, air and indoor environments.

The Maryland Green Building Council (Council) was established with the passage of Senate Bill 332, Chapter 115, Laws of 2007, § 4-809 of the State Finance and Procurement Article. The Council is located within the Maryland Department of General Services (DGS). Membership consists of private-sector representatives appointed by the Governor, representatives from key state agencies, and staff support from DGS. The Council meets monthly and reports to the Governor and General Assembly annually.

Maryland State Finance and Procurement Article § 3-602.1 (2014) requires that the State employ green building technologies when constructing or renovating State-owned buildings that meet specific criteria. To promote the technologies, the council established the High Performance Green Building Program.

The High Performance Green Building Program applies to all State of Maryland agencies and local educational agencies (LEAs) that program, design and build facilities.

The High Performance Green Building Program also applies to capital projects funded solely with State of Maryland funds, state-funded new and replacement school construction, and community college capital projects receiving state funding.

The High Performance Green Building Program requires the use of one of three green building certification or rating programs in the design, construction and operation of facilities: LEAs must follow the Program but are exempt from certification requirements.

1. Leadership in Energy and Environmental Design (LEED), a program of the U.S. Green Building Council
2. International Green Construction Code (IgCC), one of the many codes of the International Code Council
3. The Green Globes protocol of the Green Building Initiatives.

HOW GREEN BUILDING IN MARYLAND FITS WITH GLOBAL AND NATIONAL TRENDS

Maryland has long made sustainability a priority on the state and local levels. In 2022, the Maryland General Assembly passed the Climate Solutions Now Act (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 shall implement Building Energy Performance Standards (BEPS). In 2024, the Maryland Department of the Environment (MDE) issued BEPS for covered buildings that: achieves 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. In 2022, the state adopted the historic Climate Solutions Now Act, which

commits Maryland to reducing statewide greenhouse gas emissions by 60% by 2031 from 2006 levels and achieve net zero greenhouse gas emissions by 2045. In service to those goals, owners of buildings 35,000 square feet and larger are required to report energy data to the Maryland Department of the Environment, beginning in 2025.

In 2014, Maryland's Montgomery County became the first county in the U.S. to adopt a benchmarking law, and in 2022 Montgomery County also became part of the growing cohort of jurisdictions and states to adopt a building energy performance standard (BEPS) into law.[1]

College Park City Hall in College Park, Maryland earned LEED Gold in 2024

For more than a decade, the state of Maryland has earned a place on USGBC's prestigious list of Top 10 States for LEED. For 2024, Maryland ranks fifth.[2] Maryland added 100 LEED-certified projects in 2024, totaling 17M gross square feet of LEED-certified space and reflecting 2.78 gross square feet per capita. The new College Park City Hall in College Park, Maryland, was one of the more notable projects in the state, earning LEED Gold certification in 2024.

Maryland is home to a number of LEED-certified cities and communities, including Baltimore City, which was recertified in 2023 under LEED v4.1 Cities: Existing, Howard County, which achieved LEED Platinum under LEED v4.1 for Cities and Communities in 2022, and Frederick County and the City of Frederick, which worked collaboratively to become a LEED Silver community and a LEED-certified city, respectively, in 2019.

In Spring 2025, USGBC released LEED v5, a new version of the green building rating system with an emphasis on decarbonization, quality of life, and ecological conservation and restoration, elements that also reflect Maryland's priorities in green and high-performance buildings.

In 2024, the U.S. Department of Education recognized two Maryland schools as "Green Ribbon Schools," for sustainability in curriculum and built environment. Maryland schools have been consistently recognized since the program's inception in 2012.

INCREASING REQUIREMENTS FOR GREEN BUILDING IN MARYLAND

A challenge and benefit of sustainable design and construction is that building codes, rules, and sustainability standards have become more stringent. Initially, the tally of emissions produced by building and construction tended to include only operational emissions and excluded emissions from construction and demolition at the beginning and end of a project, which minimized the environmental impact of the sector. Now, the focus is on adding the manufacture and delivery of the products used in construction and operational and construction emissions, providing a more accurate picture of the total environmental impact. Achieving targets that exceed basic building code and standard requirements may become more difficult in the future.

Shillman Building at 500 N Calvert St. Baltimore, Maryland in the process of certifying under LEED v4 BD+C: New Construction

EPDS IN MARYLAND: REDUCING ENVIRONMENTAL IMPACTS OF CONSTRUCTION

The Buy Clean Act of the Maryland General Assembly required the Department of General Services (DGS) to establish a maximum global warming potential (GWP) for cement and concrete mixtures used in any project subject to the MD Green Building Council's (GBC) High Performance Green Building Program (HPGBP), and to include in all solicitations for eligible projects the requirement for successful bidders to provide environmental product declarations (EPDs) for any cement or concrete mixes used in the project. EPDs are comprehensive documents that provide information about the environmental performance of a product. The factors included in an EPD can vary depending on the product and the specific standards or guidelines being used. However, there are common factors that are typically considered when creating an EPD. These factors are often related to the product's life cycle and its impact on the environment. Key factors included in an EPD:

Product Description: This section provides a detailed description of the product, including its name, manufacturer, and intended use.

Life Cycle Assessment (LCA): An LCA is a systematic analysis of a product's environmental impact throughout its entire life cycle, from raw material extraction to production, transportation, use, and disposal. This assessment considers various environmental indicators, including:

1. **Raw Material Extraction:** Information about the extraction of raw materials used in the product, such as metals, minerals, and fossil fuels.
2. **Manufacturing:** Details about the manufacturing process, including energy consumption, emissions, and waste.
3. **Transportation:** Information about the transportation of raw materials, components, and the final product to various stages of the supply chain.
4. **Use Phase:** Data related to the environmental impact of the product during its intended use, such as energy consumption or emissions during operation.
5. **End of Life:** Information about the product's disposal or recycling, including recycling rates and waste management practices.

Environmental Impact Categories: EPDs typically assess a range of environmental impact categories, such as global warming potential, ozone depletion potential,

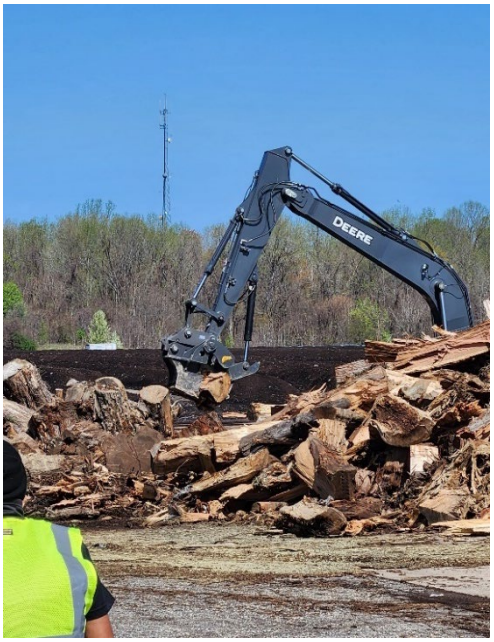
acidification potential, eutrophication potential, and more. These impact categories help quantify the environmental consequences of a product.

Resource Consumption: EPDs may include data on the consumption of natural resources, such as water, energy, and materials, throughout the product's life cycle.

Emissions and Pollution: Information about various emissions and pollutants generated during the product's life cycle, including greenhouse gas emissions, air pollutants, and water pollutants.

Energy Efficiency: Data on the energy efficiency of the product or its energy consumption during its life cycle.

Recycling and Reusability: Information on how easily the product can be recycled or reused, and the environmental benefits associated with these practices.



Materials at a Compost Facility in Prince George's County, Maryland

Hazardous Substances: Identification of any hazardous materials or substances used in the product, as well as information on their safe handling and disposal.

Social Aspects: Some EPDs may include information on the social aspects of a product's life cycle, such as labor conditions, health, and safety of workers.

Functional Unit: EPDs define a functional unit, which specifies the unit of the product being evaluated. This is important for comparing different products on an equal basis.

Data Sources and Assumptions: EPDs should transparently provide information about the data sources and assumptions used in the assessment to ensure the credibility and reliability of the results.

Specific factors and their level of detail can vary depending on the EPD program and the product category being assessed. EPDs are typically prepared in accordance with international standards and guidelines, such as ISO 14025 and the Product Category Rules (PCR) specific to the product type. These standards help ensure consistency and comparability of EPDs across different products.

COUNCIL ACTIVITIES AND OUTREACH

The Council worked to amplify our efforts and strengthen the relationships between the Maryland Green Building Council and other state agency committees engaged in complimentary efforts. Additionally, the Council's Outreach Committee promotes green building principles among facility designers, builders, owners, investors, and managers. Highlights included:

- Collaboration with the Maryland Green purchasing Committee on HVAC and lighting specifications
- Council members participated in the Maryland Department of the Environment's Commission on Climate Change effort and annual report
- Net Zero Schools visits demonstrated no notable increased cost in designing and constructing a net zero school vs. standard construction
- Union Bridge Plant cement factory visit in alignment with the Buy Clean Maryland act to discuss best practices to reduce embodied carbon for concrete
- LEED working group evaluation of the new LEED v5 rating system
- Ongoing efforts delivering presentations on the role of the Council and application of green building programs and technologies in state-funded facilities projects

Staff of the Maryland Department of General Services and Maryland Energy Administration tour the solar roof of the Ellicott City MultiService Center

LEGISLATIVE REVIEW

Each year, proposed legislation with potential impacts to building energy efficiency or sustainability are brought forth in the Maryland General Assembly. The DGS Legislative Liaison assists the Maryland Green Building Council in tracking proposed legislation, provides input on legislation to the Secretary of the Department of General Services and Governor, and provides testimony at legislative hearings or through informal communications. During each session, the Council reviews bills and provides recommendations to legislators.

The historic Climate Solutions Now Act of 2022, which set some of the most aggressive greenhouse gas (GHG) reduction goals in the country, was significant in its far-reaching implications for the Maryland Green Building Council. As the sustainability and green landscape continues to evolve, significant new legislation continues to impact new construction and renovations.

Building Energy Performance Standards (BEPS), stemming from Climate Solutions Now Act, determine that 2025 is the first year of operational energy and GHG emissions data required from all existing commercial and multi- family buildings 35,000 square feet or larger. After benchmarking, owners and operators must lower those emissions twenty (20) percent by 2030 and reach net zero by 2040 with reporting every five years. Some buildings and use types – such as manufacturing facilities and commercial kitchens – are exempt from this requirement.

Senate Chamber, State House Annapolis, Maryland

Recent Maryland Legislative Activities Related to the Maryland Green Building Council				
Bill	***Name***	***Sponsor***	***Status***	***Maryland Green Building Council Response or Action***
SB0424	Eligible Projects – Procurement of Construction Materials (Buy Clean Maryland Act)	Feldman, Elfreth	Approved by the Governor - Chapter 201	Requiring producers of eligible materials to submit environmental product declarations to the Department of General Services by December 31, 2024; requiring the Department to assess and establish a maximum acceptable global warming potential for certain categories of eligible materials used in certain eligible projects; requiring a unit of State government to specify the eligible materials that will be used in an eligible project in the solicitation for an eligible project; etc.
HB0452	Outdoor Lighting - Guidance and Use of State Funds	Guyton, Wilkins, Kaiser, Lehman, Patterson, Ruth, Stonko, and Wolek	Approved by the Governor - Chapter 389	Requiring the Maryland Green Building Council, on or before October 1, 2026, to update or develop guidance for the purchase of outdoor lighting fixtures in consideration of certain recommendations; prohibiting State funds from being used to install or replace certain permanent outdoor luminaires for lighting unless certain requirements are met; altering the requirements for the use of State funds for the installation or replacement of certain permanent outdoor luminaires for lighting; applying the Act prospectively; etc.
HB0049	Environment - Building Energy Performance Standards - Alterations and Analysis	Chair, Environment and Transportation Committee (By Request - Departmental - Environment)	Enacted under Article II, Section 17(c) of the Maryland Constitution - Chapter 844	Altering the requirements for certain regulations adopted by the Department of the Environment relating to building energy performance standards to include certain exclusions and considerations and a certain annual reporting fee to cover certain costs; requiring the Department to certify a certain building energy performance standards program adopted by a county under certain circumstances; requiring the Department to conduct an analysis of the potential costs and benefits of certain building energy performance standards policy options; etc.

MARYLAND GREEN BUILDING COUNCIL MEMBERSHIP

The Council includes members with an exceptional array of talents and technical knowledge necessary to advance the state's mission of promoting efficient and responsible facility development and operation. The members are passionate about conservation of our state and global resources and translate that passion to actions that advantage Maryland. Composition of the council membership is mandated by statute. It consists of the secretaries of select State of Maryland agencies or their designee.

- General Services
- Budget and Management, Department of the Environment
- Housing and Community Development, Natural Resources
- Planning, Transportation
- Maryland Energy Administration
- Interagency Commission on School Construction
- Chancellor of the University System of Maryland

Six additional members of the council are appointed by the Governor to represent environmental, business, and citizen interests, one of whom has expertise in energy conservation or green building design standards. Terms of the governor- appointed members are two years each and are staggered, with half of the terms up for renewal every other year.

In addition to council members, several interested parties and individuals regularly attend meetings and provide essential and meaningful contributions.

Meetings are held monthly on the third Thursday at 10:30 AM. Meetings comply with the Maryland Open Meetings Act and are open to all. Most meetings are virtual. Occasionally, tours of high-performance facilities or conferences are substituted for the regular meeting venue. For information please contact: hannah.debelius@maryland.gov.

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For more information regarding the Maryland Green Building Council or to download past reports, go to https://dgs.maryland.gov/pages/greenbuilding/index.aspx. For questions or to get involved, email dgs.greenbuilidngcouncil@maryland.gov

[1]Institute for Market Transformation *Map: Building Performance Standards https://imt.org/resources/map-building-performance-standards/*

[2] US Green Building Council https://www.usgbc.org/top-10-leed-2024