Maryland Green Building Council

Annual Report 2023

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MESSAGE FROM THE SECRETARY

The Maryland Green Building Council and Maryland Department of General Services are pleased to submit this 2023 Annual Report of its activities to the Governor, Lieutenant Governor, General Assembly and citizens of Maryland. The report represents collective efforts and hard work of multiple Maryland agency participants and representatives of environmental, business and citizen interests who serve on the Maryland Green Building Council.

The council promotes use of technologies for State of Maryland facility design, construction and operation that increase efficient use of energy and conservation of natural resources.

The Maryland Green Building Council evaluates and promotes high performance building technologies and provides recommendations on those that are most cost-effective for use in design and construction of state facilities. The council provides recommendations on evaluation criteria for state facilities and means of expanding green building in the state.

These efforts align with efforts of other State of Maryland agencies to conserve the state's financial, natural and human resources.

In 2023, the Maryland Green Building Council made great strides by positively influencing the creation of hundreds of thousands of square feet of new, energy-efficient facilities for a broad array of uses: research, kindergarten through high school and higher education, state offices, health care and the judiciary.

Through the council's efforts, buildings constructed by the state directly contribute to the health of the state's citizens, and create positive impacts on the state's economy and the environment.

Sincerely,

Atif Chaudhry, JD, MBA., Secretary
Maryland Department of General Services

MESSAGE FROM THE ACTING 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 our recommendations for implementing the *Maryland High Performance Green Building Program* including progress that has been made in green building during the preceding year.

It is an exciting time to be involved in green building as our society moves to decarbonize the broader economy and high-performance building is key to that effort to respond to climate change through reducing greenhouse gas emissions. It is thrilling to be a participant in that effort in Maryland where our Governor has set the goal of making Maryland the greenest state in the country.

Secretary Atif Chaudhry, the professionals at DGS and I, are proud to report for 2022, Maryland ranks fifth among all states for LEED certified projects, moving up two places from its 2021 ranking. Maryland added 80 LEED certified projects in 2022, totaling 14,769,661 gross square feet of LEED certified space and 2.39 gross square feet per capita.

The true beneficiaries of all of that green building are the citizens of Maryland, including the students in those many school buildings.

Additionally, green building will continue whilst the Council moves to do its part implementing the building sector initiatives of the Maryland 2022 *Climate Solutions Now Act*.

We look forward to continuing to work with the Governor and General Assembly to repair the planet through green building.

Sincerely,

Stuart Kaplow, Acting Chair
Maryland Green Building Council

GREEN BUILDING

Green building, 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:

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 environmental 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 overall 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.

GREEN BUILDING TRENDS

Accelerated Transition to Renewable Energy: The United States is likely to continue its shift towards renewable energy sources, such as wind, solar, and hydropower. This transition may be driven by a combination of federal and state-level policies, technological advancements, and corporate commitments to reduce carbon emissions.

Stricter Climate Regulations: Expectations for stricter regulations on carbon emissions and climate-related disclosures for businesses could emerge. The Moore and Biden Administrations have shown a commitment to addressing climate change, and this trend may continue with a focus on carbon pricing, emissions reduction targets, and increased transparency.

Electrification of Transportation: The adoption of electric vehicles (EVs) and the expansion of EV infrastructure are likely to grow. Government incentives and policies to promote clean transportation may become more widespread.

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. Consumers' demand for transparency in food supply chains may lead to more sustainable practices.

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

Sustainable Finance and Investing: The integration of environmental, social, and governance (ESG) factors into investment decisions is expected to increase. Sustainable finance and impact investing may continue to grow in importance.

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 political developments, public awareness, technological advancements, and global events.

MARYLAND GREEN BUILDING COUNCIL'S ROLE

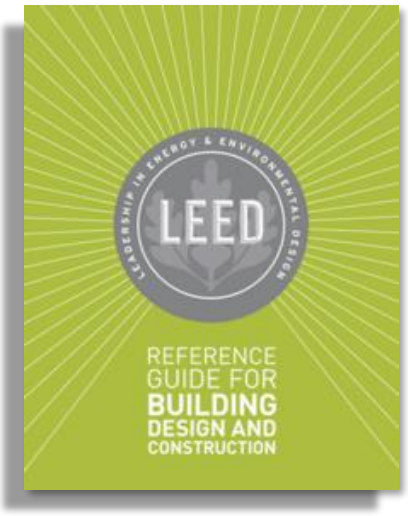
The State of Maryland has long sought to protect and conserve our state's resources. This mission is a focus of every agency in the state. With the Maryland Department of General Services' Maryland Green Building Council's efforts to promote the delivery of efficiently built and operated facilities, the department performs its role in advancing the state-wide conservation mission. 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 funds.



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 Initiative.

HOW GREEN BUILDING IN MARYLAND FITS WITH GLOBAL AND NATIONAL TRENDS

The U.S. Green Building Council (USGBC) announced the ranking of its annual top ten states for construction of LEED-certified buildings for 2022.

For the 12th year in a row, the state of Maryland has earned a place on USGBC's prestigious list of Top 10 States for LEED. For 2022, Maryland ranks fifth, moving up two places from its 2021 ranking. Maryland added 80 LEED-certified projects in 2022, totaling 14,769,661 gross square feet of LEED-certified space and 2.39 gross square feet per capita.

Home to the very first LEED Platinum project, the Chesapeake Bay Foundation Phillip Merrill Environmental Center, Maryland has long made sustainability a priority on both the state and local levels. In April 2022, the state adopted the historic Climate Solutions Now Act, which commits Maryland to reducing statewide greenhouse gas emissions by 60% from 2006 levels by 2031 and to achieve net zero greenhouse gas emissions by 2045. 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 small but growing cohort of jurisdictions to adopt a building energy performance standard into law.

Maryland is home to a number of LEED-certified cities and communities, including 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. [1]

The Dodge Data & Analytics and Carrier *2021 World Green Building Trends Study*[2] reveals global trends in a commitment to increasing green building. An increased level of growth is expected in the next three years. Findings demonstrate a compelling business case for building green:

- The average reduction in operating costs in the first 12 months for new green buildings is 10.5% and five-year operating costs savings is 16.9%.
- Green renovations and retrofits of existing buildings have even stronger performance globally at 11.5% and 17%, respectively.

[1] US Green Building Council https://www.usgbc.org/articles/maryland-ranks-fifth-top-10-states-leed-2022

[2] Dodge Data & Analytics and Carrier *World Green Building Trends 2021 https://proddrupalcontent.construction.com/s3fs-public/WorldGreen-2021-SMR-29Oct.pdf*

- Owners report that new green buildings and renovation/retrofit projects increase the asset value of buildings by more than 9%.

In its global trends for carbon reduction report of 2021, *Green Capex*, Goldman Sachs and McKinsey indicate that Net Zero by 2050 investment requirements (excluding fossil fuels) during the 2020s will be $3 trillion annually (rising to $4 trillion in 2030) vs. $1.2 trillion annually on average in 2016-20. The report estimates incremental infrastructure investment (before considering ongoing maintenance and other end use) of $1.3 trillion annually will be needed in the 2020s (en route to $56 trillion total by 2050) to be aligned with a 1.5-degree temperature reduction scenario. Meeting Net Zero objectives will likely require capex of about $11 trillion in the EU by 2050 and $16 trillion in China by 2060 (China is pursuing a Net Zero path by 2060, which would likely result in less spending in the 2020s than what is required for a Net Zero by 2050 pathway). [3]

GREEN BUILDING IN MARYLAND IS BECOMING THE NORMAL APPROACH

What was viewed as an anomaly for design and construction of State-owned facilities when the *Maryland High Performance Green Building Program* was initially introduced in 2007 has become accepted and normal practice in 2023. This is a product of an increased awareness of green building and sustainability trends in society and among DGS staff, design and construction managers, consultants, contractors and customer agencies.

INCREASING REQUIREMENTS FOR GREEN BUILDING IN MARYLAND

A challenge and benefit of sustainable design and construction is that building codes, rules and sustainability standards over the past decade 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.

[3] Source: Goldman Sachs Research 2021, IEA, McKinsey, OECD, Company data, Goldman Sachs Global Investment Research

Future sustainability evaluation programs may question the very idea of construction of new facilities: no matter how energy-efficient a new building is, and how sustainable its materials are, it may never be as good for the environment as building nothing at all.

EPDS IN MARYLAND: REDUCING ENVIRONMENTAL IMPACTS OF CONSTRUCTION

Requirements of legislation enacted in the most recent legislative session of the Maryland General Assembly require the Maryland Green Building Council to establish requirements for environmental product declarations (EPDs) which will assist in decision making to evaluate and use the lowest environmental cost materials and products for construction. 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 generation.
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.

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.

HIGHLIGHTS OF COUNCIL ACTIVITIES

Throughout the past year, 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.

We participated in discussions with the Maryland Green Purchasing Committee, to establish procurement requirements and standards for more energy efficient building systems.

Council members participated in the Maryland Department of the Environment's Commission on Climate Change's to advance policies adopted in the 2022 report '*Decarbonizing Buildings in Maryland*'. The report recommended policy goals of achieving carbon neutral facilities in Maryland and outlines a path for

achieving them. The report had a key, supporting role in CREATING the *Climate Solutions Now Act OF 2022*[4].

Council members participate in the United States Climate Alliance, a bipartisan coalition seeking to secure America's net-zero future by advancing state-led, high-impact climate action. The Alliance includes governors from 25 states and territories, representing approximately 55% of the U.S. population, and 60% of the U.S. economy.[5]

Through participation, members access and share resources to assist in advancing policies for sustainability in:

Building Design and Construction
Climate Finance
Electricity Generation
GHG Targets & Governance
Just Transition & Equity
Natural & Working Lands
Pricing Carbon & Valuing Damages
Resilience
Transportation

John Shaw House, Annapolis
National Register of Historic Places and one of the State of Maryland's oldest facility assets – view from the State House dome.

[4] Maryland General Assembly, https://mgaleg.maryland.gov/mgawebsite/Legislation/Details/sb0528?ys=2022RS

[5] US Climate Alliance, https://usclimatealliance.org/about/

OUTREACH

Outreach and education are integral to the Maryland Green Building Council's mission. The Council's Outreach Committee promotes green building principles among facility designers, builders, owners, investors, and managers. The stakeholders' awareness and acceptance of green building features begins with an understanding of how the features may benefit the projects. The Outreach Committee works to communicate these features impacts on facility comfort, productivity, return on investment, and containment of operating expense and risk.

Ongoing efforts include delivery of presentations on the role of the Council and application of green building programs and technologies in state-funded facilities projects. Once again in 2023, the presentation was delivered to the Maryland Community College Facilities Planners Council. Other presentations describing how government policy initiatives promoting energy efficiency directly affect new facility design and promote resource conservation, have been delivered to college students.

Maryland Concrete Manufacturers Association meet with Maryland Green Building Council members for discussion of defining global warming potential of concrete products used in Maryland

LEGISLATIVE REVIEW

Each year, proposed legislation with potential impacts to building energy efficiency or sustainability are brought forth in 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 the 2023 session, the Council reviewed several bills and provided recommendations to legislators.

2023 was a busy year for green building legislation. Most notably were laws to build on the requirements of the Climate Solutions Now Act of 2022 and its far-reaching implications for the Maryland Green Building Council.

The Climate Solutions Now Act of 2022 (Senate Bill 528, Chapter 38 Laws of 2022) sets some of the most aggressive greenhouse gas (GHG) reduction goals in the country. The Council has taken up specific tasks and detailed work required to implement these goals.

The Act requires actions by several state agencies to work toward reducing total GHG emissions by sixty (60) percent from 2006 levels by 2031 and reach economy-wide, net-zero emissions by 2045.

The legislation lays out specific requirements for the commercial building sector. All existing commercial and multi-family buildings of 35,000 square feet or larger must begin reporting their direct GHG emissions in 2025, lower those emissions twenty (20) percent by 2030 and reach net zero by 2040. Some buildings and use types – such as manufacturing facilities and commercial kitchens – are exempt from this requirement.[6] Specific requirements for state-owned facilities are being studied and recommendations will be made by Maryland Department of the Environment with DGS and Maryland Green Building Council input, to the governor and legislature by December 1, 2023.

[6] NAIOP Maryland: https://www.naiopmd.org/news/climate-solutions-bill-presents-bold-goals-big-challenges/

2023 Maryland Legislative Activities Related to the Maryland Green Building Council				
Bill	***Name***	***Sponsor***	***Status***	***Maryland Green Building Council Response or Action***
HB 6 SB 92	Department of General Services - Energy-Conserving Standards	Hill, Lam	Approved by the Governor - Chapter 581	The legislation requires development of standards and regulations by the Maryland Green Building Council and M-DGS. The bill requires the Department of General Services to establish and update standards for State buildings to conserve energy and minimize adverse impacts on birds; requiring the Maryland Green Building Council to include the standards in any requirements established for participation in a higher-performance building program in the State; and defining "State building" as one acquired, constructed, or renovated by the State or one for which at least 50% of the money for acquisition, construction, or renovation came from State funds..
HB 169 SB 144	Energy Performance Targets and Low-Income Housing	Charkoudian, Feldman	Approved by the Governor - Chapter 572	The legislation does not have direct impacts on the MGBC but rather, addresses energy savings targets and annual reports from the PSC for low-income residences in the Empower program.
HB 261 SB 424	Public Projects – Procurement of Construction Materials (Buy Clean Maryland Act)	Kerr, Elfreth & Feldman	Approved by the Governor - Chapter 202 & 201	The legislation requires the Maryland Green Building Council conduct outreach to industry representatives to determine and set limits on the global warming potential (GWP) of concrete in construction of public buildings. Amended-Bill title changed, applies to high-performance green building program, creates a fund for producers, gives DGS a year to analyze data, set standards in 2026
SB 528(carryover from '22)	Climate Solutions Now Act of 2022	Pinsky	Enacted under Article II, Section 17(b) of the Maryland Constitution - Chapter 38	The bill requires, in part, the state to adopt a requirement that new buildings meet all water and space heating demands without the use of fossil fuels; requires that any new buildings be "solar ready"; requires that any new buildings are ready for the installation of electric vehicle charging equipment; requires that DGS procure at least 75% of its electricity from low-carbon renewable energy sources by 2030; requires DGS to install charging infrastructure to support the transition of the State's fleet to Zero Emission Vehicles; requires a 50% reduction in net GHG emissions in state-owned buildings over 25,000 GSF on or before 1/1/2030

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 secretary 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 Committee on Public 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: Steve.Lauria@Maryland.gov

Gubernatorial Appointees

Stuart Kaplow, Esquire
Acting Chair
Stuart D. Kaplow, P.A.
Sustainability & Green Real Estate Attorneys

Stuart represents a breadth of business interests in a varied law practice, concentrating in real estate and environmental law with focused experience in green building and sustainability.

Mr. Kaplow is a frequent speaker and lecturer on innovative solutions to the environmental issues of the day, including speaking to a wide variety of audiences on green building and sustainability. He has authored more than 700 articles centered on his philosophy of creating value.

Mr. Kaplow is a graduate of the University of Baltimore School of Law. He graduated with honors from the University of Maryland, Division of Behavioral & Social Sciences, with a Bachelor of Arts degree in land use planning.

Michael Daly, Managing Principal
Architectural Support Group

As an architecture, engineering, and construction consultant Michael helps build better buildings. Buildings that are built using healthful materials that can be reused and remanufactured, that are designed to produce more energy than consumed, that have green roofs that create habitat, produce food and restore landscapes, that reclaim and filter storm water, integrate natural light and ventilation, and provide for a safe and comfortable environment. We've been doing this for over thirty years and are committed to a program and process that fosters creativity that is integrative and collaborative in nature, and that effectively engages all stakeholders in a process that is designed to produce the best possible outcome.

Marisa Britton, AIA Assoc. LEED AP BD+C,
Project Manager
Sustainable Design Consulting, LLC

Marisa Britton has over fifteen years of expertise in several facets of the building and design industry. Over the past ten years, she has focused on sustainable project management, resiliency, and net zero facilities. Her goal is to continue to emerge as a leader and educator in the industry.

Marisa holds a Bachelor of Architecture from the University of Miami.

Gubernatorial Appointees

Ryan Schwabenbauer, MBA, LEED AP, Director of Sustainability
Saint John Properties

Ryan leads St. John Properties mission to implement sustainable business initiatives that positively impact 40+ ongoing new construction projects and 20 million square feet of existing commercial real estate under management. He oversees strategies resulting in operational cost reductions and assures all future projects are LEED Certified. Advocating for the health and wellness of our 2,200 clients, St. John Properties is the regional leader with over 65 LEED certified buildings. Ryan holds a BS in Finance from Penn State University, an MBA from University of Baltimore and is a LEED Accredited Professional.

Cindy Guo
University of Maryland
College Park, Maryland

Ms. Gou's experience with the Applications and Research Laboratory, Architectural Design Academy and Independent Research for a Green Architecture Research Project provided key expertise for her support of the Maryland Green Building Council.

In a summer internship with the Council, in 2022, she conducted research, direct outreach and organization of public participation for the Council on use of low-carbon concrete in the state. Her work is an important element of the *Maryland Green Building Council Finding and Recommendations on Section 13 of the Maryland Climate Solutions Now Act 2022* now under review by the governor and legislature.

Krystal O'Hara, Managing Principal
Lorax Partnerships

Ms. O'Hara has acquired many years of experience and expertise in the sustainability field and manages the process and quality of Lorax's business services. She has been instrumental in developing sustainability programs for corporate clients, sustainability programs for both public and private institutions, and has a knack for developing operating standards for both the company and clients with multiple building project portfolios. These programs have included general sustainability and LEED specific training to client, corporations, and contractors.

Agency Representatives

Alex Donahue, Executive Director
Interagency Committee on Public School Construction

Alex leads the Maryland IAC's field operations, coordinating the efforts of the IAC's regional facilities managers and school-facility assessment staff. Alex comes most recently from the National Council on School Facilities where he analyzed trends and best practices in school construction across the nation. He previously served as a principal and district administrator for a large public-school district.

Mark Beck, Director of Capital Planning and Sustainability
University System of Maryland

Mark coordinates capital budget, facilities and sustainability efforts of the System's twelve institutions.

Previously, Mark planned campus venues for the 2002 Winter Olympics at the University of Utah, and developed a capital facilities rebuilding program at Yale University. He has a master's degree in urban planning and was an adjunct professor of geography and urban economics.

Vacancies

Department of Labor
Department of Natural Resources
Maryland Department of Planning

Agency Representatives

Laura Armstrong, LEED AP O+M
Director, Sustainability Program
Maryland Department of the Environment

Laura promotes sustainable business practices through technical assistance programs, demonstration projects and recognition programs. Technical services include on-site energy, water and waste reduction assessments and Environmental Management System implementation. She also manages the Maryland Green Registry, a voluntary program of more than 500 organizations across the state, which encourages members to share their environmental best practices through online profiles that highlight their successes and inspire others.

Eddie Lukemire, Program Manager, The Secretary's Office
Maryland Department of Transportation

Eddie leads the environmental stewardship, sustainability, performance and energy policies and programs across all MDOT transportation business units and the Maryland Transportation Authority. He oversees and coordinates environmental management activities in transportation planning, design, construction, operations, and maintenance. Eddie received his bachelor's degree in Environmental Science and Policy from the University of Maryland, and his master's degree in Environmental Science and Policy from the John's Hopkins University.

Christopher Russell, Program Manager, State Buildings & Energy Codes
Maryland Energy Administration

Chris brings over 25 years of energy industry experience to the Maryland Energy Administration, where he is the program manager for State Buildings and Energy Codes. He holds an M.B.A. and a Master of Arts degree from the University of Maryland and a B.A. from McGill University.

Publications that Chris has authored include "Managing Energy from the Top Down" and "North American Energy Audit Program Best Practices."

Agency Representatives

Ted Walsh, Office of Capital Budgeting
Department of Budget and Management

Ted is a budget analyst in the Office of Capital Budgeting. Responsible for capital projects with the Maryland Department of General Services, Project types analyzed include Judiciary, Military, Department of IT and Maryland Public Television.

Past professional experience includes roles as Research Associate at Lockheed Martin and Finance and Operations Manager for National Immigration Forum. He holds a Master of Public Policy from the University of Maryland, College Park and a Bachelor of Arts in Political Science from the University of South Carolina, Columbia.

Stephen Lauria, Architect & Landscape Architect, LEEDap, Chief of Design,
Department of General Services
Maryland Green Building Council Staff
Maryland Hearing Accessibility Board

Steve integrates facilities and infrastructure with their sites and communities through environmentally sensitive and sustainable solutions. For over thirty-five years, he has led strategic, facility and land-use planning, design and construction projects for government, commercial mixed-use, higher education, water and wastewater, public works, power generation, biomedical and pharmaceutical research, military, and healthcare facilities.

Relevant board service includes a role on the Alexandria, Virginia Environmental Policy Commission in 1986, continued as president of a National Trust Historic District in Baltimore and chair of the advisory committee of the Baltimore Regional Transportation Board.

Key Participants

Martha Shrader, LEED AP-BD&C, Sustainability Manager
University System of Maryland
Facilities Management, P&C-Support

Ms. Shrader is a graduate of the University of Maryland College Park (UMD) with a BS in Natural Resource Management. She is currently the Sustainability Manager for the Facilities Management Planning and Construction Department at UMD where she provides technical support in the area of green design and construction. She has worked on multiple LEED certified projects in the University System of Maryland.

When not involved in green design and construction activities, Martha enjoys reading, walking, biking, yoga, and practicing and performing with Tagé on Steel, a steel drum band based in Hyattsville, MD.

Ellen Robertson, Legislative Liaison
Maryland Department of General Services,
Office of the Secretary

Ms. Robertson assists in identifying and reviewing legislation that may impact the work of the Green Building Council, as well as considering and implementing relevant policy. She provides invaluable guidance for content of the council comments on legislation or action the council should consider.