



State of Maryland

# Greenhouse Gas Reduction Spending Analysis

2025 Annual Report





**Maryland**  
Department of  
the Environment

# State of Maryland Greenhouse Gas Reduction Spending Analysis

2025 ANNUAL REPORT

December 15, 2025

Cover Photo: © Sev Smith/TNC

# i. Table of Contents

i. Table of Contents	3
ii. Acronyms	4
iii. Acknowledgements	5
iv. Executive Summary	6
Background	6
Key Findings	6
1. Introduction	7
2. Analysis	8
Definitions	8
Reporting Agencies	11
Methodology	11
3. Greenhouse Gas Reduction Spending	13

## ii. Acronyms

Acronym	Long Form
CSNA	Climate Solutions Now Act of 2022
DAC	Disproportionately Affected Communities
MCCC	Maryland Commission on Climate Change
GHG	Greenhouse Gas
MDE	Maryland Department of the Environment
DBM	Department of Budget and Management
MDOT	Maryland Department of Transportation
DHCD	Maryland Department of Housing and Community Development
MDA	Maryland Department of Agriculture
MDP	Maryland Department of Planning
DGS	Maryland Department of General Services
DNR	Maryland Department of Natural Resources
MEA	Maryland Energy Administration
MDSE	Maryland State Department of Education
UMBC	University of Maryland Baltimore County
Morgan	Morgan State University
UMB	University of Maryland Baltimore
UB	University of Baltimore
UMES	University of Maryland Eastern Shore
UMD	University of Maryland College Park
UMCES	University of Maryland Center for Environmental Science
St. Mary's	St. Mary's College
FSU	Frostburg State University
Towson	Towson University

## iii. Acknowledgements

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- The Commission on Environmental Justice and Sustainable Communities
- The team at University of Maryland's Center for Global Sustainability

## iv. Executive Summary

### Background

As required by the Climate Solutions Now Act of 2022 (CSNA), the Maryland Department of the Environment (MDE) must annually produce a report that analyzes the total amount of state money spent on measures to reduce greenhouse gases during the previous fiscal year, including what percentage benefited disproportionately affected communities (DACs). This report is released as an attachment to the Maryland Commission on Climate Change's (MCCC) Annual Report.

This report for fiscal year 2025 is the third publication of State Spending on Greenhouse Gas Reduction since the requirement took effect on June 1, 2023. In addition to greenhouse gas reduction spending data, this year's report outlines the improved data collection process through the newly formed partnership between the Department of Budget and Management (DBM) and MDE, as well as the new methodology for determining benefits to DACs.

Given the new approach to data collection, certain key agencies (listed in Section 2) that do the vast majority of GHG reduction spending were included to report data for this year's analysis. Reporting agencies were asked to report GHG spending data at the program level. Since there is no central mechanism for tracking GHG reduction spending and state agencies are not currently required to track spending specific to GHG measures, these data are, in many cases, rough estimates. These data are, however, the most precise information about State GHG reduction spending that can be provided at present.

### Key Findings

- Combined, reporting agencies estimated spending \$3.58 billion on measures intended to reduce GHG emissions in fiscal year 2025.
- Due to the capital-intensive nature of transportation infrastructure and public transit, 88% of State spending on GHG reduction measures, totaling \$3.15 billion, was by the Maryland Department of Transportation (MDOT).
- MDOT, the Maryland Department of Agriculture (\$128.9 million), and the Department of Housing and Community Development (\$102 million) account for approximately 94% of the total spending in FY25.
- Across all entities, nearly half of the total spending is allocated to DACs, but individual entity spending ranges.
- The aggregate percentage of spending allocated to DACs is 41%, totaling approximately \$1.69 billion.

# 1. Introduction

The Climate Solutions Now Act of 2022 (CSNA), specifically Maryland Environmental Code § 2-1304, requires the Maryland Department of the Environment (MDE) to produce an annual report, due each December 15th, with an analysis of the following:

- (1) the total amount of State money spent on measures to reduce greenhouse gases (GHGs) and, to the extent practicable, co-pollutants, during the immediately preceding fiscal year; and
- (2) the percentage of that funding that benefited disproportionately affected communities identified according to the methodology adopted by the Department under § 1-702 of this article.

The report is delivered as an attachment to the 2025 MCCC Annual report to the Governor and General Assembly, in accordance with § 2-1257 of the State Government Article, on the status of the State's efforts to mitigate the causes of, prepare for, and adapt to the consequences of climate change, including future plans and recommendations for legislation, if any, to be considered by the General Assembly.

In addition to this reporting requirement, the CSNA provided MDE with a science-based directive to develop a plan to meet Maryland's climate targets of reducing greenhouse gas emissions by 60% from 2006 levels by 2031 and achieving net-zero emissions by 2045. MDE partnered with a multitude of stakeholder groups, other governing authorities, national science laboratories, and subject matter experts to analyze the lowest-cost, greatest-benefits pathway to achieve the State's GHG reduction requirements and, in December 2023, published [Maryland's Climate Pollution Reduction Plan](#).

Public investment is essential to implementing Maryland's Climate Plan and transforming the State's economy to achieve net-zero emissions. Systematically tracking State spending on greenhouse gas reduction measures is a critical tool for accountability, informed decision-making, and continued climate leadership. Since there is no centralized data source that tracks GHG reduction spending in the manner required for the report, MDE partnered with the Maryland Department of Budget and Management (DBM) to utilize a process that has been successful in capturing spending for the Governor's Chesapeake Bay Subcabinet.

While the transition to this approach to data collection and closer collaboration with the DBM represents a significant improvement, the data provided by individual agencies remain, in many cases, estimates. Nevertheless, the figures presented in this report reflect the most accurate information currently available, given existing data limitations and time constraints.

## 2. Analysis

### Definitions

#### Greenhouse Gas Reduction Spending

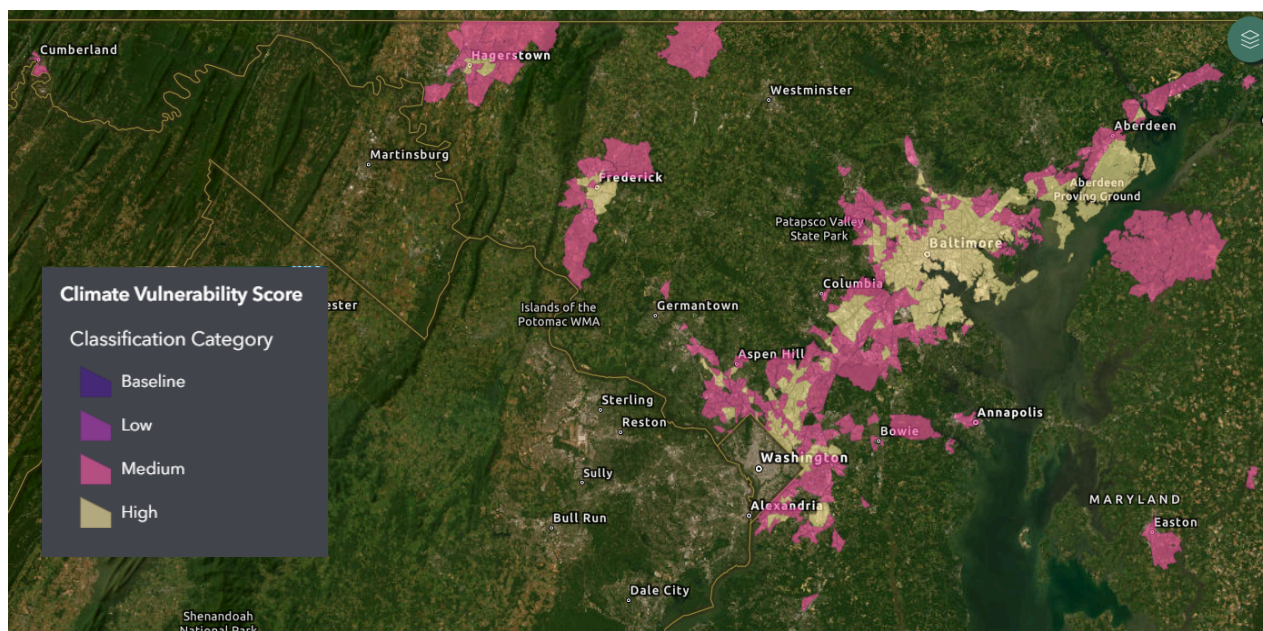
Greenhouse gas reduction spending is State spending intended to reduce, avoid, or remove greenhouse gas (GHG) emissions from the atmosphere. This includes, but is not limited to, operational expenses, capital expenses, programs, initiatives, planning or preparation related activities, and the procurement of goods and services. Funds from philanthropic sources, the federal government, or local jurisdictions are not included in this analysis.

Spending on climate change adaptation and resiliency measures is also excluded from this analysis. Since capturing adaptation and resiliency efforts are equally important, the State of Maryland, led by the Comptroller's Office and the Maryland Office of Resilience, is working to collect and quantify these efforts.

While some State agencies may undertake expenditures that indirectly reduce greenhouse gas emissions, the enhanced methodology focuses specifically on State spending that is explicitly intended to reduce GHG emissions. The expenditures captured from the comprehensive set of agencies surveyed for this study are expected to represent the majority of funds budgeted for GHG emission reductions. However, these figures do not reflect the full scope of State climate-related spending, including investments aimed at climate resilience or adaptation to climate impacts.

## Percent of Disproportionately Affected Communities that Benefit from GHG Reduction Spending

The study included an estimate of the percentage of eligible spending that benefited disproportionately affected communities (DAC) in accordance with the methodology adopted by the Department under § 1-702. DACs were identified using the Climate Vulnerability Score (CVS), which is hosted on the most current version of MDEnviroScreen. The CVS is a metric that evaluates how susceptible communities are to climate-related hazards, inclusive of environmental justice data derived from the Environmental Justice score.



<https://experience.arcgis.com/experience/87b578c8e788467fa6442d78b119a637>

*Map of Climate Vulnerability Scores in the Medium and High Categories Using MDEnviroScreen*

### *Climate Vulnerability Score*

The Climate Vulnerability Score (CVS) determines the susceptibility of communities to climate impacts at the census tract level. The CVS integrates the existing Environmental Justice (EJ) Score with five additional climate variables (Tree Canopy Coverage, Urban Heat Island, Drought, Storm Surge, and Flooding), establishing climate vulnerability as a function of both climate exposure and community impact. The resulting percentile scores classify vulnerability into four categories: baseline, low, moderate, or high. The analysis considered only medium and high CVS classifications.

## Reporting Agencies

The agencies listed below reported greenhouse gas reduction spending for this report.

1. The Maryland Department of Agriculture
2. The Maryland State Department of Education
3. The Maryland Energy Administration
4. The Maryland Department of the Environment
5. The Maryland Department of General Services
6. The Maryland Department of Housing and Community Development
7. The Maryland Department of Natural Resources
8. The Maryland Department of Planning
9. The Maryland Department of Transportation
10. Higher Education
  - a. Frostburg State University
  - b. Morgan State University
  - c. Towson University
  - d. University of Baltimore
  - e. University of Maryland Baltimore County
  - f. University of Maryland Center for Environmental Science
  - g. University of Maryland College Park
  - h. University of Maryland Eastern Shore

## Methodology

### Greenhouse Gas Reduction Spending

Although standardized methodologies exist for tracking greenhouse gas emissions, including Maryland's State GHG inventory, approaches to tracking greenhouse gas-related spending vary widely. In response, MDE partnered with the Department of Budget and Management to collect expenditure data during the budget development process, with MDE serving as the climate change subject matter expert to support consistent interpretation and analysis.

Highlights from this year's newly established process include:

- A new template for agencies to use to report GHG reduction spending data
- More precise criteria for what is included in GHG reduction spending
- A webinar on the new process and resources
- Connecting climate change staff and fiscal officers within each agency to increase

the accuracy of data collection

- MDE provided technical assistance to departments through office hours, and one-on-one direct support

### **Disproportionally Affected Communities**

To promote consistency and comparability across reported data, a standardized methodology was established using MDEnviroScreen to estimate the portion of State spending benefiting disadvantaged communities (DACs). Agencies reported the geographic location of each expenditure at the county level where available. County-level DAC population shares were then applied to proportionally allocate spending. For expenditures associated with statewide programs, the statewide DAC population share was used to apportion total spending.

### **Opportunities to Improve Future Reporting**

In only its third year, the annual report has already demonstrated meaningful improvements in the accuracy and consistency of data collection. Project leads across State agencies have strengthened internal capacity, built cross-agency partnerships, and remain committed to further refining the process over time. To continue improving the precision of future annual spending reports, the development of a budgetary tagging mechanism to track climate-related expenditures is strongly recommended. At present, the State's accounting system does not support tagging mechanisms that would enable systematic tracking of spending attributes.

MDE will continue to work in partnership with the Department of Budget and Management and the Comptroller's Office to ensure that future State accounting system upgrades can more comprehensively track spending attributes aligned with State priorities, including greenhouse gas reduction. Enhanced tracking capabilities would also improve visibility into projects that advance multiple State objectives—for example, investments intended to improve air quality while also reducing GHG emissions.

### 3. Greenhouse Gas Reduction Spending

A total of nine State agencies and nine State academic institutions provided data for this report. In total, those agencies reported an estimated \$3.585 billion in spending on GHG reduction measures throughout fiscal year 2025. In the context of this report, spending refers to the money spent, including funds initially appropriated in previous fiscal years, in FY 2025. The authors acknowledge that some variability existed in how agencies interpreted the definition of FY 2025 expenditures, which introduces a degree of uncertainty into the aggregate totals. However, this variability is not expected to materially affect the overall findings of the report. Notably, the largest source of reported spending—the Maryland Department of Transportation (MDOT)—applied the precise expenditure definition established by the authors. Accordingly, the reported totals reflect a high level of reliability for the most significant spending categories. Examples of measures submitted by reporting entities include:

- Staff salaries to implement climate action measures
- Climate planning software and services
- Agricultural land preservation
- Forest services and tree plantings
- Air quality monitoring and control/corrective measures
- Building efficiency retrofits, energy audits, and retrocommissioning
- Renewable energy deployment
- Purchase of renewable energy credits and carbon credits
- Electric vehicle supply equipment incentives
- Transportation infrastructure
- Measures to reduce vehicle miles traveled

Due to the capital-intensive nature of transportation infrastructure and public transit, 88% of State spending on GHG reduction measures, totalling \$3.15 billion, was by MDOT, as shown in Figure 1 below. MDOT spending can be divided into three categories: Consolidated Transportation Program (CTP) spending, capital costs for the Maryland Transit Authority (MTA) and Maryland’s portion of the Washington Metro Area Transit Authority (WMATA), and operational costs for MTA and WMATA. The projects that are always tagged as GHG-reducing, meaning their full share of funding is counted as “GHG-reducing” funding, comprise the following:

- MDOT programs that encourage alternative (and more carbon-efficient) modes of travel, such as the Transportation Alternatives Program, or support dense development around transit stations

- Congestion mitigation projects with the explicit purpose of reducing congestion and increasing the efficiency of travel, including intelligent transportation systems (ITS), system efficiency programs and projects such as traffic signal upgrades, and Coordinated Highway Action Response Team (CHART) initiatives
- Projects that strictly improve pedestrian and/or bicycle infrastructure, and do not include any component that improves or expands automobile infrastructure
- Multimodal improvements to facilitate or encourage shifting of freight movements to lower-emissions modes (e.g., truck to rail or marine)
- Electrification and/or transition of existing fleets (agency, passenger, and freight) to more fuel-efficient vehicles or alternative fuels
- All transit projects, since transit service can reduce vehicle trips
- Any other projects that reduce single-occupancy vehicle trip reduction (e.g., travel demand management, carpool, and vanpool)
- Any other projects that clearly possess GHG-mitigation potential because they either improve transportation technology to reduce fuel consumption, reduce vehicle miles traveled (VMT), mitigate congestion, or are a sustainable infrastructure design (subject to MDOT staff or consultant team's interpretation of its emissions reduction/environmental benefit)

MDOT projects that include capacity additions or reconfiguration of roadway geometry (including turn-lanes and approach configurations) are not counted towards GHG-reducing spending. Additionally, interchange or intersection projects with bicycle and pedestrian components are also generally not included in the sum of GHG-reducing.

*Table 1: Agency GHG Spending and % of funds spent in Disproportionately Affected Communities*

Agency	Total GHG Spending by Entity	Total Spent on DAC by Entity	% Spent on DAC
MDOT	\$3,150,000,000	\$1,486,431,777	47%
MDA	\$128,939,999	\$53,414,281	41%
DHCD	\$102,013,622	\$47,093,917	46%
DNR	\$40,162,064	\$18,951,799	47%
DGS	\$28,285,093	\$13,347,257	47%
MEA	\$27,492,794	\$13,195,448	48%
UMBC	\$24,011,227	\$15,220,192	63%
Morgan	\$17,688,190	\$6,695,205	38%
UMB	\$17,265,660	\$6,535,272	38%
MDP	\$15,348,447	\$8,808,727	57%
MDE	\$13,606,657	\$6,151,867	45%
Towson University	\$9,506,815	\$6,026,162	63%
UMCP	\$4,596,257	\$3,074,720	67%
St. Mary's	\$3,716,941	\$419,948	11%
FSU	\$1,227,224	\$156,315	13%
UMCES	\$935,684	\$119,180	13%
MSDE	\$433,188	\$204,414	47%
UMES	\$421,841	\$0	0%
UBalt	\$23,884	\$9,040	38%

\* A standardized formula was created to use in conjunction with MDEnviroScreen to determine what percentage of spending benefited DACs.

Figure 1: FY 2025 spending by Agency and Percent DAC benefit

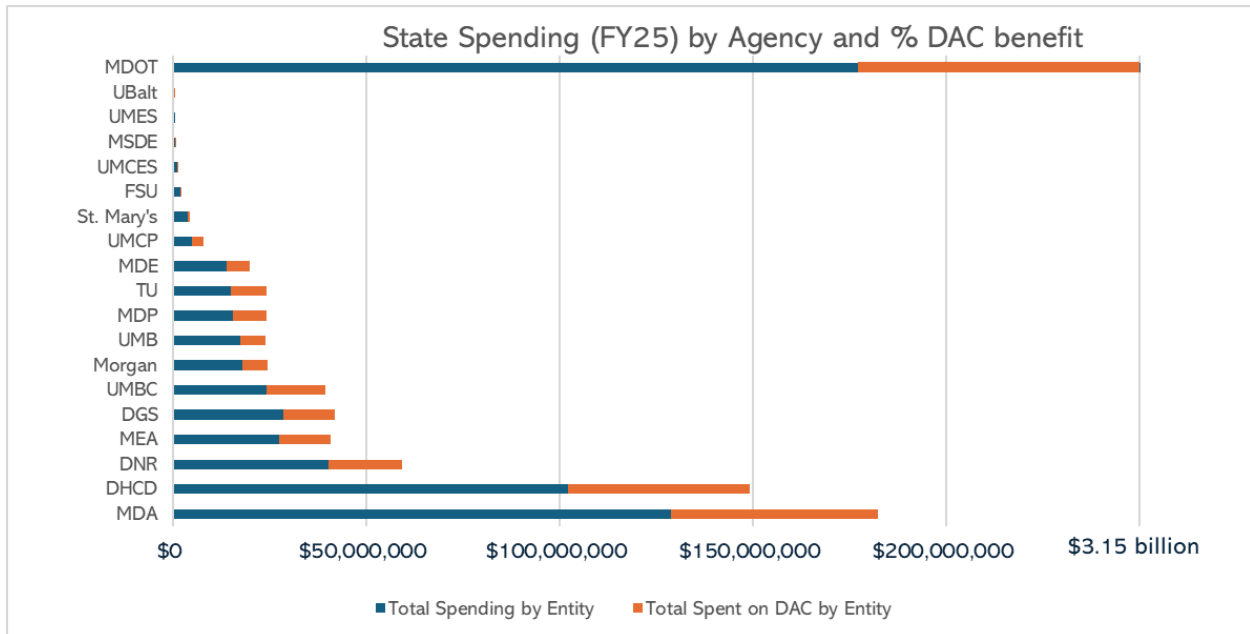
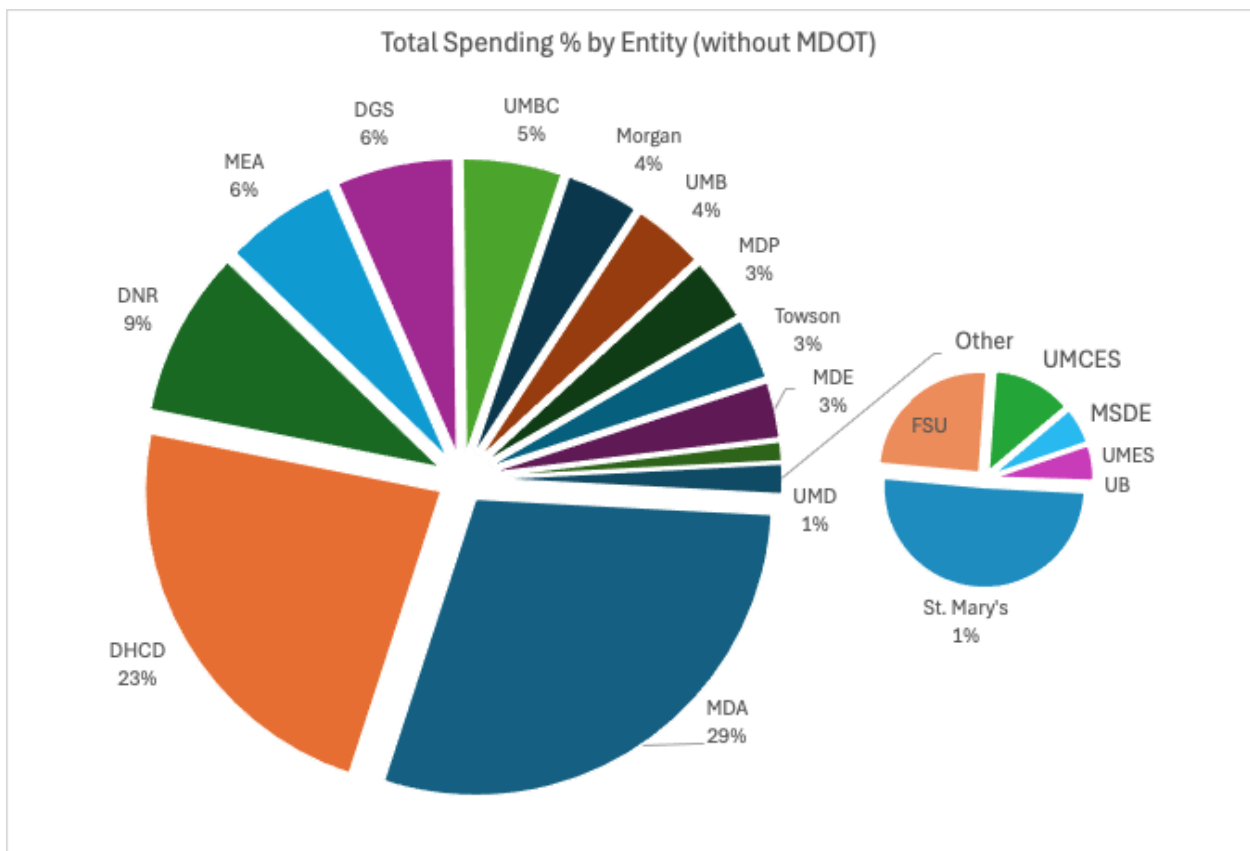


Figure 2: FY 2025 spending by Agency and Percent DAC benefit (not showing MDOT spending)



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