2025 Status of Programs, Annual State Agency Report - Greenhouse Gas Emission Reductions for CY 2024 Energy Efficiency for Affordable Housing

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Maryland Department of Housing & Community Development

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2025 Status of Programs, Annual State Agency Report
Greenhouse Gas Emission Reductions for CY 2024
Energy Efficiency for Affordable Housing

This report provides an estimate of reduced greenhouse gas (GHG) emissions as a result of the Maryland Department of Housing and Community Development's (Department) programs during calendar year (CY) 2024. This report is pursuant to State Government Article §2-1305, as defined in House Bill 514 Chapter 429, 2015.

Program Descriptions

The Maryland Department of Housing and Community Development ("DHCD") is a principal department within the Executive Branch of Maryland State Government. DHCD administers programs directed at a wide cross section of the Maryland economy. DHCD's financing products leverage public, private and nonprofit investments. Deployed projects create jobs, generate state and local tax revenue, and enable communities to address their affordable housing and redevelopment goals. DHCD provides solutions for renters looking to purchase their own home, for small businesses that are looking to expand, for energy efficiency efforts to reduce the energy burden of limited income families, to protect the environment, and for homeless services. DHCD's community development programs enhance existing neighborhood resources, support economic development, rebuild infrastructure, and improve the quality of life for all Marylanders.

Within the Department, the division of Housing and Building Energy programs manages a suite of loan and grant programs for Maryland homeowners, renters and other building owners. These programs reduce energy costs and address critical health and safety issues for Maryland residents and limited income families.

In CY 2024, the Department's energy programs installed upgrades that saved 3,062 metric tons of carbon dioxide equivalent ($MTCO2_2e$) in the first year of installation. Taking into account the estimated lifetime of energy measures, the Department's programs realized a reduction of 62,363 $MTCO2_2e$ in CY 2024 from projects completed from CY 2017 to CY 2024.

The Department is continuing to incorporate other programs that it administers into its calculation of greenhouse gas reductions. In this report the Department has in addition included the CY 2024 reductions for its Multifamily Rental Housing Finance.

The Department's Housing and Building Energy Programs division includes the following grant programs:

- **The Weatherization Assistance Program** installs energy conservation measures for eligible limited income households. These measures also reduce greenhouse gas emissions and the cost of maintenance for these homes. Funding is provided by the U.S. Department of Energy and the Strategic Energy Investment Fund. The Department works with Local Weatherization Agencies (nonprofits and local governments) to complete these projects.

- **The EmPOWER Low Income Energy Efficiency Program and the Multifamily Energy Efficiency and Housing Affordability Program** help limited income households and affordable housing managers with installation of energy conservation measures in their homes and buildings. Funding is provided by ratepayers of the five (5) participating EmPOWER Maryland utility companies. These funds are regulated by the Maryland Public Service Commission.

- **Maryland Energy Assistance Program (MEAP) Crisis Program** to resolve emergency heating, cooling, and water heater related crises faced by low income Marylanders.

The following grant programs are closed, but the energy conservation measures lifetime savings continue to be in effect.

- **The Targeted and Enhanced Weatherization Program** combined typical weatherization improvements with measures that reduced health and safety risks in the home. This program for limited income homeowners in the Baltimore Gas & Electric territory outside of Baltimore City was funded through the Customer Investment Fund created during the merger of Constellation and Exelon. This program was funded with a one-time grant and has been fully expended.

- **The Improved Efficiency for Affordable Multifamily Housing Program** was funded through the Customer Investment Fund and it covers the costs of energy conservation measures for affordable multifamily projects in the Baltimore Gas & Electric territory. This pilot program was funded with a one-time grant and has been fully spent. Construction completed in CY 2018.

The Department also offers a portfolio of energy loan products:

- **The BeSMART Home Energy Loan Program** offers financing to homeowners across the state for energy efficiency replacement and/or upgrade of appliances, heating, cooling and ventilation systems and whole house envelope improvements.

- **The Net Zero Construction Loan Program** funds the construction of new or existing single and multifamily housing in Maryland. The project must be Net Zero or Net Zero Ready (Home Energy Rating System score of 50). The Department deployed this program at the Perry Point Veterans Housing Project, using funding from the Strategic Energy Investment Fund and leveraged with the BeSMART loan program for efficiency measures. Construction finished in CY 2018. A new project started in CY 2024 and savings will begin again in CY2025.

The Department administers a number of construction programs outside of the Housing and Building Energy Programs that provide significant reductions in greenhouse gas emissions. DHCD is working to account for all of these programs in its greenhouse gas reduction calculations and will report on them in the future when adequate data is identified. Currently, the only non-energy program that is reporting GHG savings is:

- **Multifamily Housing** expands quality, affordable rental and transitional housing opportunities for Marylanders by financing the development, rehabilitation, and preservation of rental communities and transitional housing, and by administering rental assistance programs and the Federal Limited Income Housing Tax Credit program.

Program Objectives

Under the Housing and Building Energy Programs, the Division provides grants and low-cost loans with flexible terms for the purchase and installation of energy efficiency improvements in single family and affordable multifamily rental housing developments. The program is being undertaken as part of the State's efforts to:

1. Reduce the energy cost burden on Marylanders,
2. Increase energy efficiency,
3. Reduce greenhouse gas emissions,
4. Promote energy efficiency and renewable energy sources,
5. Provide a healthier environment in which to live,
6. Create and preserve affordable rental housing opportunities,
7. Create jobs, and
8. Foster business development and sustainable mortgages by reducing the energy burden on residents and property owners.

Implementation Milestones

The 2015 Greenhouse Gas Emissions Reduction Act Plan Update published October 2015 stated that the Department's programs could reduce 0.02 million metric tons of carbon dioxide equivalent ($MMTCO2_2e$) by 2020 (LIEEP, MEEHA, WAP).

In CY 2024, the Department's energy programs completed energy efficiency upgrades to 13,596 households. These improvements represent a first year reduction of 6,100 metric tons of carbon dioxide equivalent ($MTCO_2e$) - The average life of savings for each energy project is eight years. For the **77,720** households that received energy efficiency upgrades since CY 2017, in CY 2024 the realized savings over eight years were **478,124** MTCO2e.

Year	Households Served
CY2017	5,828
CY2018	4,569
CY2019	9,239
CY2020	8,905
CY 2021	8,474
CY 2022	7,864
CY 2023	19,245
CY 2024	13,596

Estimated Emission Reductions for CY 2024

In CY 2024, the Department's programs performed retrofits for single family households, renters, and multifamily tenants. The programs delivered **69,527** in MMBtu savings. Below is a table of savings by program.

CY 2024 SAVINGS IN THE INSTALLATION YEAR		
Program	MMBtu Saved	$MTCO2_2e$
EmPOWER - Single Family (Special)	26,522	2,383
EmPOWER - Multifamily (Special)	23,102	438.721
Other Programs (State, Federal)	0.00	0.00
DOE Weatherization Assistance Program (Federal)	11444	236
NetZero (Special) BeSmart	646	0.323
Multifamily Rental Housing (Federal, State, Special)	7,813	3.9
First Year Reductions: TOTAL	69,527	3,062

For the work installed in CY 2017 to 2024, the division estimates that the average life of its measures is eight years. For the projects installed in CY 2024, these projects will continue to reduce GHG emissions every year until 2032. Some measures will provide savings well into the future, beyond 2032, that this calculation does not capture.

In CY 2024, the savings from CY 2017 will exceed the useful life estimate and the savings will no longer be calculated for these projects in future years.

CY 2024 – SUSTAINED SAVINGS OVER LIFETIME OF EQUIPMENT		
Year	First Year $MTCO2_2e$	Sustained MT $CO2_2e$
CY 2017	7,971	60,366
CY 2018	6,128	65,334
CY 2019	11,237	56,582
CY 2020	9,038	62,908
CY 2021	7,335	54,802
CY 2022	6,580	59,905
CY 2023	7,440	63,891
CY 2024	3,062	62,363

Note: Emission factors change over time based on the efficiency of the electrical grid. This means that 1 kWh reduction in CY 2017 resulted in more GHG emissions avoided than 1 kwH in CY 2024

The Division's reduction in greenhouse gas emissions was calculated using project specific energy reductions estimated per measure. The Division used the 2024 emission factors provided by PJM, the Maryland region electric grid operator, the Department of Energy's eGRID sub-regional data and data from the U.S. Environmental Protection Agency's national greenhouse gas inventory.

Fuel	Value	Unit	Source	Link
Electricity				
CO_2	744.83	lbs/MWH	PJM	System Mix 2021, https://gats.pjm-eis.com/GATS2/PublicReports/PJMSystemMix/Filter
CH_4	0.061		DOE	2018 eGRID, https://www.epa.gov/egrid/power-profiler#/

N_2O	0.008			
Natural Gas				
CO_2	0.05444	kg/scf	EPA	https://www.epa.gov/sites/production/files/2015-07/documents/emission-factors_2014.pdf
CH_4	0.00103	g/scf		
N_2O	0.0001			
Oil				
CO_2	10.21	kg/gallon	EPA	https://www.epa.gov/sites/production/files/2015-07/documents/emission-factors_2014.pdf
CH_4	0.41	g/gallon		
N_2O	0.08	g/gallon		
Global Warming Potential				
CO_2	1	SAR, 100 Year	IPCC	https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html
CH_4	21			
N_2O	310			

	PJM Factor
Year	CO_2 (lbs/MWH)
CY2017	948
CY2018	924
CY2019	851
CY2020	791
CY2021	843
CY2022	811
CY2023	813
CY 2024	744

Enhancement Opportunities

In CY 2024, the Department continued to pursue opportunities to expand its assessment of greenhouse gas emission reductions. The Department sees an opportunity to expand its greenhouse gas emission reductions assessment into its rehabilitation programs. The department is currently working through how to accurately capture and report these reductions.

Funding

In CY 2024 the department provided benefit dollars in the amount of $99,513,622 through its energy programs. This is largely supported by the EmPOWER funding which requires renewal every three years.

Challenges

During CY 2024 the Department continues to work to expand and refine the collaboration between its programs to provide a more complete picture of its greenhouse gas reduction.

Relevant Information

The portfolio of programs within the Department of Housing and Community Development has a direct impact on the economic vitality of the State.

The Housing and Building Energy Programs support residents and businesses in direct funding of energy efficiency projects that create or sustain jobs. Energy bill reductions free up funds that can be spent on family well-being or as investments. The programs improve health through reduced air and water pollution from power plants, but also directly remediate hazards such as mold, asbestos and lead in the house.

Through the Department's other programs it is indirectly supporting energy efficiency by providing funding for projects that are required to meet criteria that inherently promote energy efficient improvements. By enforcing these requirements these other programs are similarly able to provide meaningful energy savings for Maryland residents and reductions in pollution.

DHCD Climate Implementation Plan

In accordance with Governor Moore's Executive Order, DHCD affirms its commitment to the following: work to address climate change and ensure a just transition to a clean economy; advance environmental justice by working to address the disproportionate impacts of climate change for underserved and overburdened communities, including the application of Just Communities goals, initiatives, and funding; equitably implement all existing laws, regulations, and policies related to climate change, incorporating robust community and stakeholder engagement; and continue to maximize federal funding opportunities on climate

In November of 2024, DHCD published its Climate Implementation Plan that includes a number of proposed actions DHCD will take over the upcoming decades.

At this time, the Office of the Secretary has identified the following two actions as next steps for DHCD to begin implementing Department-wide:

1. Strengthen or establish partnerships with organizations that offer GHG reduction programs to collaborate with on construction projects; and
2. Reduce or eliminate funding of fossil fuel systems in new construction.

The strategies for implementation vary between different divisions and programs, as each program follows different statutes, regulations. The sections below outline what each division and program is doing towards these next steps today, and which additional steps will be taken in the near future.

CDA-Local Government Infrastructure Finance Program

The Local Government Infrastructure Finance Program does not utilize state or federal funds, which impacts reporting requirements for state fund allocation. The team will provide local governments with a list of contacts and resources, including those managed by DHCD, the Maryland Energy Administration, and utility companies, that provide funding for energy upgrades.

CDA-Single Family Loans/Maryland Mortgage Program

The Maryland Mortgage Program (MMP) does not perform construction work, however it can provide applicants with information about available energy saving programs if the Energy program staff provides MMP with a one pager informative flyer of the energy efficiency programs available in DHCD. MMP can include that flyer in the mortgage application package.

Division of Business Development

The Division of Business Development (DBD) is exploring strategies to integrate energy efficiency and renewable energy priorities into its small business financing programs. Currently, DBD loan programs prioritize projects that incorporate energy-efficient products within the loan narratives but lack defined financial incentives. For the immediate future, the program is considering the inclusion of an energy efficiency category component to its pricing tool to help small businesses qualify for a lower rate. Other solutions could include offering interest rate reductions or other favorable financial incentives, such as a 12-month interest-only period, for energy-efficient construction projects or the purchase of new energy-efficient manufacturing equipment. This would promote the implementation of renewable energy solutions, including solar panels and EV chargers, particularly for businesses that own their property. This can encourage small businesses to adopt energy-efficient practices, leading to more affordable financing options and furthering the advancement of the state's climate and clean energy objectives.

Collaboration with Maryland Energy Administration programs and the EmPOWER utilities for commercial projects may be a viable option. DBD will also incorporate information on statewide energy programs to ensure future applicants are aware of the available resources.

CDA-Whole Home (Energy & Special Loan Programs)
The energy programs are discussed in more detail in prior sections of this report. In addition to the energy programs, this division also includes a number of rehabilitation programs that address critical repairs in homes of low income households. These programs have recently been integrated into the application for the energy grant programs, and customers who are interested in repairs now automatically get access to energy saving opportunities as well. When critical repairs are performed that involve energy systems, Energy Star requirements apply.

CDA-Multifamily Production
The multifamily division promotes greenhouse gas (GHG) and energy savings through several initiatives. They incorporate design and energy standards, such as EnergyStar requirements, into their guides for all rental lending programs, with developers able to access additional funding for exceeding these baselines. They also consider LEED certification for points and incentivize rehab projects that result in 30% or more energy savings. Minimum thresholds include at least two electric car chargers. For renewable energy, two out of eight points in the energy efficiency section are for "alternative energy," which most developers already utilize and is part of standard financing, often leading to savings on operating expenses.

The program team is considering implementing additional guidance regarding operating efficiency standards. They also have a construction waste recycling plan as a threshold requirement and some sitework/MDE soil standards, with LEED certification's sustainability standards being considered for future adoption. The team is already working towards eliminating fossil fuel in its new construction programs.

CDA-Multifamily Rental Services Programs
The rental services programs work to connect renters with adequate housing. The program team has already provided information to its participants about energy programs that are available to them, and will continue to do so for future participants.

CDA-Single Family Production (UPLIFT)
CDA-Single Family Production has already integrated the use of Energy Star equipment into its UPLIFT program and all new construction projects are electrified.

Division of Credit Assurance (DCA)
The Division of Credit Assurance primarily monitors completed construction rather than engaging in new construction projects. DCA has been modifying its Reserve for Replacement policy on the multi-family side, particularly concerning capital needs for existing projects. The policy is becoming more flexible when MEEHA grants are involved, allowing the use of Reserve funds to support owner contributions for necessary replacements where reserves are sufficient to ensure ongoing capital needs, which aligns with green energy initiatives. Internal efforts are being undertaken in order to optimize business operations, such as organizing staff travel for inspections to reduce driving frequency, which indirectly supports climate goals.

Division of Homeless Solutions
The Division of Homeless Solutions does not directly engage in construction but works with other entities, like CDA, on projects such as permanent supportive housing, where construction funding is managed by other programs. There is potential to strengthen partnerships with organizations that offer greenhouse gas reduction programs, especially concerning existing shelters. The Division could recommend energy

efficient operating practices to shelters or connect them with resources for upgrades. There is also the possibility of exploring opportunities to raise habitability standards beyond base levels to include higher energy-efficient codes or building standards, and to connect projects with existing funding resources for such upgrades. For example, the Older Adults Home Modification Program (OAHMP), which the overarching goal is to enable low-income older adults to remain in their homes through low-cost, low-barrier, high impact modifications that improve accessibility and general safety, reduce the risk of falling, and improve the older adult's functional abilities in the home. This program could potentially be paired with DHCD's Energy and Special Loan Programs to fund upgrades such as windows or HVAC systems that are directly connected to emissions reductions.

Division of Neighborhood Revitalization
The Division of Neighborhood Revitalization's capital programs are inherently green due to their focus on adaptively reusing older buildings and their alignment with LEED standards. Additionally, Program staff offer information to help connect participants with greenhouse gas emission reduction assistance. Resources offered include those for different types of Program awardees, such as local governments and non-profit community development organizations.

Office of Operations & Administration
The office building of DHCD's primary location in Lanham is built to LEED Gold standards and is therefore operating rather efficiently and with lower carbon impact.
To enhance DHCD's commitment to sustainability and reduce the carbon footprint further, DHCD is committed to implementing a comprehensive strategy focused on clean energy and fleet electrification. This includes a commitment to purchase more clean energy for the building, ensuring that building operations are powered by renewable sources as much as possible. Furthermore, DHCD will fully electrify the vehicle fleet, transitioning away from fossil fuels and installing additional electric vehicle (EV) chargers to support this transition. Additionally, the team will work to optimize climate settings within the building, implementing smart thermostats and energy management systems to minimize energy consumption and improve overall efficiency. These measures collectively represent a significant step towards achieving our environmental goals and promoting a greener future.

Office of Statewide Broadband (OSB)
The broadband programs included information about the low income energy efficiency programs in their laptop distribution events in remote communities. The division will continue to provide information about energy efficiency programs to its participants whenever possible.

In addition, OSB plans to implement a broadband application scoring method that supports a reduction in greenhouse gas emissions by introducing criteria that prioritize projects committed to sustainable practices. This scoring could award additional points to applications that propose higher efficiency construction methods, use electric-powered equipment, and integrate renewable energy systems, such as solar or wind power, into their infrastructure. The scoring could also favor projects that demonstrate a significant reduction in embodied carbon through the use of low-emission materials or energy-efficient designs. By incorporating these criteria, OSB can incentivize applicants to adopt greener practices, aligning broadband expansion with the state's climate goals and reducing the overall carbon footprint of new infrastructure projects.

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