Maryland Energy Administration

# Report on the Status of Implementation of Residential-focused Rebate Programs Through Federal Stimulus Funding

Completed pursuant to the 2023 Joint Chairmen's Report, page 16
January 3, 2024

**Table of Contents**



# Introduction

As Maryland's state energy office, the Maryland Energy Administration (MEA) is the designated recipient for the U.S. Department of Energy (DOE) Home Efficiency Rebates Program and the Home Electrification and Appliance Rebates Program, collectively identified by DOE as the Home Energy Rebate programs. DOE additionally refers to the Home Efficiency Rebates Program as the Section 50121 program and the Home Electrification and Appliance Rebates Program as the Section 50122 program, referencing the respective section of the federal Inflation Reduction Act that established each program.

Both of the Home Energy Rebate programs are part of the federal Justice40 initiative that established a goal of having 40% of the overall benefits flow to disadvantaged communities. DOE defines a disadvantaged community using the federal definition that is based on the Climate and Economic Justice Screening Tool[1] developed by the federal Council on Environmental Quality. States additionally have the option to seek DOE approval to adopt an alternative definition for a disadvantaged community. For consistency among programs and initiatives in Maryland, MEA could seek DOE approval to instead define a disadvantaged community as a community that meets the Climate Solutions Now Act of 2022 definitions of either an overburdened or underserved community.

In addition to providing disadvantaged communities with widespread access to the Home Energy Rebate Programs, other overarching outcomes sought by DOE from the Home Energy Rebate Programs include market transformation and reduced pollution from buildings.

[1] Climate and Economic Justice Screening Tool, https://screeningtool.geoplatform.gov/en/#7.43/38.626/-77.334.

# Home Efficiency Rebates Program

Overview

The Home Efficiency Rebates Program will provide rebates to both single family and multifamily homes for eligible energy efficiency projects that achieve a minimum overall reduction in whole home energy usage. DOE provides two program paths, each with its own incentive structure, that state energy offices can use to implement the program and estimate the associated energy benefits: the modeled energy efficiency rebate program path and the measured home efficiency rebate program path.

- The modeled energy efficiency rebate program path will use home energy models complying with DOE's specified standards to estimate energy savings prior to the home energy efficiency upgrade, and will provide tiered incentives for projects with modeled energy savings of at least 20% of home energy usage. The variation in incentives by housing type, relative energy savings, and income level are shown below in the following charts from DOE's Home Energy Rebate Program Requirements & Application Instructions document.[2]

| Multifamily | | |
|---|---|---|
| **Modeled Energy Savings** | **Income Level** | **Rebate Amount** |
| 20%-34% | A building with at least 50% of households with incomes less than 80% AMI* | Lesser of $4,000 per dwelling unit or 80% of project cost |
| | A building with at least 50% of households with incomes 80% AMI and greater | $2,000 per dwelling unit up to $200,000 per building |
| 35% or greater | A building with at least 50% of households with incomes less than 80% AMI * | Lesser of $8,000 per dwelling unit or 80% of project cost |
| | A building with at least 50% of households with incomes 80% AMI and greater | $4,000 per dwelling unit up to $400,000 per building |

2 https://www.energy.gov/sites/default/files/2023-10/home-energy-rebate-programs-requirements-and-application-instructions_10-13-2023.pdf.

- In comparison, the measured energy efficiency rebate program path would instead use DOE-approved measurement and verification processes to measure energy savings post-installation of the upgrades. This path would provide incentives to eligible projects that achieve whole home energy savings of at least 15% as measured for at least nine months post-installation, either on a per home basis or across a portfolio of homes being upgraded by an aggregator.[3] Rebates would be provided to qualifying projects on a kWh payment rate equal to either $2000 or $4000 for a 20% reduction in energy usage for the average home or dwelling in a multifamily building depending on household income, up to a percentage of project costs that is also based on household income. DOE provides the incentives by housing type and income level in the following charts from the Home Energy Rebate Program Requirements & Application Instructions document.[4]

[3] DOE defines an aggregator as "an entity that engages with multiple single-family homes and/or multifamily buildings for the purpose of combining or streamlining projects as allowed by the State".

[4] https://www.energy.gov/sites/default/files/2023-10/home-energy-rebate-programs-requirements-and-application-instructions_10-13-2023.pdf.

| Single-Family | | |
|---|---|---|
| **Measured Energy Savings** | **Income Level** | **Rebate Amount** |
| 15% or greater | Less than 80% AMI | kWh, or kWh equivalent, payment rate equal to $4,000 for a 20% reduction of energy use for the average home in the State or 80% of project cost*† |
| | 80% AMI and greater | kWh, or kWh equivalent, payment rate equal to $2,000 for a 20% reduction of energy use for the average home in the State or 50% of project cost* |
| **Multifamily** | | |
| **Measured Energy Savings** | **Income Level** | **Rebate Amount** |
| 15% or greater | A building with at least 50% of households with incomes less than 80% AMI | kWh, or kWh equivalent, payment rate equal to $4,000 for a 20% reduction of energy use per dwelling for the average multifamily building in the State or 80% of project cost*† |
| | A building with at least 50% of households with incomes 80% AMI and greater | kWh, or kWh equivalent, payment rate equal to $2,000 for a 20% reduction of energy use per dwelling for the average multifamily building in the State or 50% of project cost |

MEA has not yet made a program design decision regarding whether it will select the modeled energy efficiency program path, the measured energy efficiency program path, or a combination of both. Of the two possible program paths, the modeled energy efficiency pathway is believed to be the more widely deployed pathway in use in existing residential energy efficiency programs at this time. While the measured energy efficiency program path will be considered in more detail during the program development process, initially the measured energy efficiency path appears to introduce additional complexities around timing and reimbursement, as DOE requires actual home energy savings to be calculated for at least nine months and one peak energy season after the project is installed in the home or portfolio of homes.

Additionally, the Home Efficiency Rebates Program will also include a second rebate stream, providing contractor and aggregator incentives of $200 per dwelling unit for each home efficiency rebate project completed in a disadvantaged community.

Finally, DOE has indicated that all heating, cooling, and water heating products being installed under the Home Efficiency Rebates Program must be ENERGY STAR certified to qualify for a rebate.

Program Formula

As determined by DOE's funding allocation formula, Maryland will receive $68.61 million through the Home Efficiency Rebates Program. Under the requirements established by DOE, a minimum of $22.24 million of the Home Efficiency Rebates Program funding must be allocated for projects benefitting low-income households, and another $5.49 million allocated for multifamily projects benefiting low-income households.[5]

Forecast of the number of rebates

It is challenging to estimate the number of rebates that will ultimately be awarded under this program as the size of the rebate will vary based on the program pathway (i.e., modeled versus measured), building type (i.e., single family versus multifamily), magnitude of the modeled energy savings, and the relative income level of the household or resident. With these caveats, MEA currently estimates that the Home Efficiency Rebates Program will be able to provide rebates for between 6,800 and 10,000 single-family homes or multifamily units, depending on the mix of project sizes and income-based incentive levels, but could ultimately result in more than 25,000 rebates over the life of the program if the majority of program participants are only eligible for smaller awards.

Additionally, this program also provides incentives to contractors successfully delivering whole home retrofits to homes in disadvantaged communities; this could result in several thousand additional rebates of $200 that will need to be processed and tracked through a separate rebate channel.

[5] MEA understands that DOE is defining a low-income household as a household below 80% area median income (80% AMI), as reported by the U.S. Department of Housing and Community Development.

# Home Electrification and Appliance Rebates Program

**Overview**

The Home Electrification and Appliance Rebates Program will provide incentives for qualifying appliance replacements, as well as some qualifying associated building improvements that enable electrification, for eligible households and multifamily buildings that meet the income requirements.

- It is MEA's understanding that the Home Electrification and Appliance Rebates Program can only provide rebates for qualifying appliances being installed as part of new construction (i.e., a newly constructed home or multifamily unit), a replacement for a non-electric appliance, or a first-time purchase of a heat pump for space conditioning in an existing home. Electric-to-electric replacements in existing homes are not eligible.
- DOE has additionally indicated that only ENERGY STAR certified appliances, systems, equipment, and components will qualify for a Home Electrification and Appliance Rebates Program rebate, if applicable.
- The Home Electrification and Appliance Rebates Program is only available to households with incomes not exceeding 150% of area median income (150% AMI), with the percentage of project costs being covered by a tiered system based on relative income level.
- Additionally, DOE has established a maximum incentive for each type of upgrade (e.g., heat pump water heater, heat pump for space heating and cooling, electric load service center), as well as a maximum combined rebate incentive of $14,000.

DOE provides the following chart of incentives by product and building type in the Home Energy Rebate Program Requirements & Application Instructions document.[6]

[6] https://www.energy.gov/sites/default/files/2023-10/home-energy-rebate-programs-requirements-and-application-instructions_10-13-2023.pdf

| Product Rebates | | |
|---|---|---|
| **Upgrade Type** | **Qualified Product** | **Rebate Amount Not to Exceed** |
| Appliance | Heat Pump Water Heater | $1,750 |
| | Heat Pump for Space Heating or Cooling | $8,000 |
| | Electric Stove, Cooktop, Range, Oven, or Heat Pump Clothes Dryer | $840 |
| Building Materials | Electric Load Service Center | $4,000 |
| | Insulation, Air Sealing, and Ventilation | $1,600 |
| | Electric Wiring | $2,500 |
| Maximum Rebate | | $14,000 |
| **Rebate Limitations** | | |
| **Eligible Rebate Recipient** | **Income Level** | **Rebate Amount Not to Exceed** |
| LMI Household or Eligible entity representative representing LMI household | Less than 80% AMI | 100% of qualified project cost |
| | 80%-150% AMI | 50% of qualified project cost |
| Owner of multifamily building or Eligible entity representative representing owner of multifamily building | At least 50% of residents with income less than 80% AMI | 100% of qualified project cost |
| | At least 50% of residents with income of 81%-150% AMI | 50% of qualified project cost |

Additionally, the Home Electrification and Appliance Rebates Program will also provide an incentive to installers not to exceed $500 per dwelling unit for certain qualifying installation activities, based on technology and whether or not the installation is located in a disadvantaged community.

Finally, DOE has indicated that generally all appliances, systems, equipment, infrastructure, and components must be ENERGY STAR certified, if applicable, to be eligible for a rebate through the Home Electrification and Appliance Rebates Program.

Program Formula

As determined by DOE's funding allocation formula, Maryland will be receiving $68.21 million through the Home Electrification and Appliance Rebates Program. Under the requirements established by DOE, a minimum of $22.11 million of the Home Electrification and Appliance Rebates Program funding must be allocated for projects benefitting low-income households, and another $5.46 million allocated for multifamily

projects benefiting low-income households.[7] Excluding funding that DOE allows for program administration, the remaining $27.01 million is available for either low- or moderate-income households, or installation incentives. Households with income levels exceeding 150% AMI are generally ineligible.

Forecast of the number of rebates

Under the Home Electrification and Appliance Rebates Program, rebates may range in size from $840 for a single eligible stove, range, oven, or heat pump clothes dryer upgrade to $14,000 for a multiple measure project (e.g., the replacement of a heat pump (for space heating or cooling), a heat pump water heater, range, and electric load service center). This wide range in incentive size results in uncertainty in the forecast of the number of rebates that MEA will eventually need to process under the Home Electrification and Appliance Rebates Program. For example, if all of the funds were to go towards heat pump replacements that additionally require an electrical panel upgrade, this program would be able to incentivize about 4,300 projects; in comparison, if program participation skews more towards the upgrades with lower incentive levels, MEA may need to process upwards of 60,000 rebates.

Additionally, this program also provides incentives to contractors performing certain qualifying installation activities, based on technology and whether or not the installation is located in a disadvantaged community. In this way, there could be several thousand additional contractor incentive rebates that will need to be processed and tracked through a separate rebate channel.

# Public Input

In November 2023, MEA issued a request for information (RFI) seeking initial feedback from the contractor community that installs energy efficiency and electrification measures in residential homes and multifamily buildings, as well as training organizations, labor groups, community based organizations, and any other interested parties for both the Home Efficiency

[7] MEA understands that DOE is defining a low-income household as a household below 80% area median income (80% AMI), as reported by the U.S. Department of Housing and Community Development.

Rebates Program and the Home Electrification and Appliance Rebates Program, as well as the complementary State-Based Home Energy Efficiency Contractor Training Program. MEA will use the feedback received through the RFI process to inform the applications ultimately submitted to DOE for both the Home Efficiency Rebates Program and the Home Electrification and Appliance Rebates Program.

# Anticipated Timeline for Home Energy Rebate Programs

- Applications for Administrative Funds: In recognition that both the Homes Efficiency Rebates Program and the Home Electrification and Appliance Rebates Program are complex undertakings for which state energy offices will require resources to get started, DOE is allowing states to submit early applications to enable states to access up to 2.5% of administrative funds for program design and other critical tasks. **MEA anticipates submitting the applications for early access to administrative funds for both the Home Efficiency Rebates Program and the Home Electrification and Appliance Rebates Program by early January 2024.** Once DOE approves MEA's early administrative application, MEA will need to seek spending authority and begin bringing on federally-funded staff resources for the duration of the Home Energy Rebate programs.
- Program Design and Submission of the Full Program Applications: MEA will first bring on vendor support to help design Maryland's Home Efficiency Rebates Program and Home Electrification and Appliance Rebates Program. This vendor will help MEA with the design decisions that need to be made to help establish both of Maryland's Home Energy Rebate programs. Examples of possible design decisions include, but are not limited to, determining the energy savings methodologies, process and procedures for home assessments, rebate processing methodology, income verification processes, procedures and penalties to ensure renters are not subject to unjustified rent increases, and identifying how the federal programs can interact with other residential energy efficiency programs in the State.

  Based on the complexity of the DOE program requirements, MEA anticipates several months of program design will be needed before Maryland's full applications can be

submitted. **MEA anticipates that the full application for both the Home Efficiency Rebates Program and Home Electrification and Appliance Rebates Program will likely be submitted in the late spring of calendar year 2024.** Once DOE approves MEA's full application to both the Homes Efficiency Rebates Program and the Home Electrification and Appliance Rebates Program, MEA will need to seek additional spending authority.

Program Launch: Once MEA receives the full Home Efficiency Rebates Program and Home Electrification and Appliance Rebates Program awards from DOE, MEA will need additional contracting support to help implement these two high volume, complex rebate programs. DOE is also requiring states to submit an additional State Implementation Blueprint after the receipt of the awards and a minimum of sixty days prior to planned program launch. The State Implementation Blueprint requires the following components:

- Community Benefits Plan
- Education and Outreach Strategy
- Consumer Protection Plan, which includes the development and management of a qualified contractor list
- Utility Data Access Plan
- Privacy and Security Risk Assessments for State Systems
- Market Transformation Plan[8]

Recognizing that it will likely take several months to bring rebate processing and implementation support online and at least 60 days to receive approval to proceed from DOE after the submission of the State Implementation Blueprint, **MEA is striving for rebate activity beginning in the second half of calendar year 2024**, subject to getting the necessary and timely approvals by DOE as well as state funding authority.

[8] DOE indicates that the Market Transformation Plan can be submitted up to one year after the award date.