



EMPOWER MARYLAND LIMITED-INCOME PROGRAM

2024-2026 PROGRAM PLAN

August 1, 2023

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1 EXECUTIVE SUMMARY

The Department of Housing and Community Development (DHCD), submits this 2024-2026 Plan for consideration by the Public Service Commission for the EmPOWER Limited-Income Programs for the 2024-2026 program cycle.

As a principal department of the State of Maryland and the State’s Housing Finance Agency, DHCD is uniquely-positioned to continue to successfully administer and ramp-up these Programs. DHCD’s mission is to work with partners to finance housing opportunities and revitalize great places for Maryland citizens to live, work, and prosper. Energy efficiency programs are a critical component of DHCD’s approach to providing safe and affordable housing, encouraging quality and good paying jobs, and reducing State-wide greenhouse gas emissions and their effects on climate change. As of March 31, 2023, DHCD has successfully delivered EmPOWER-funded energy saving benefits to over 53,900 of the State's most vulnerable families.

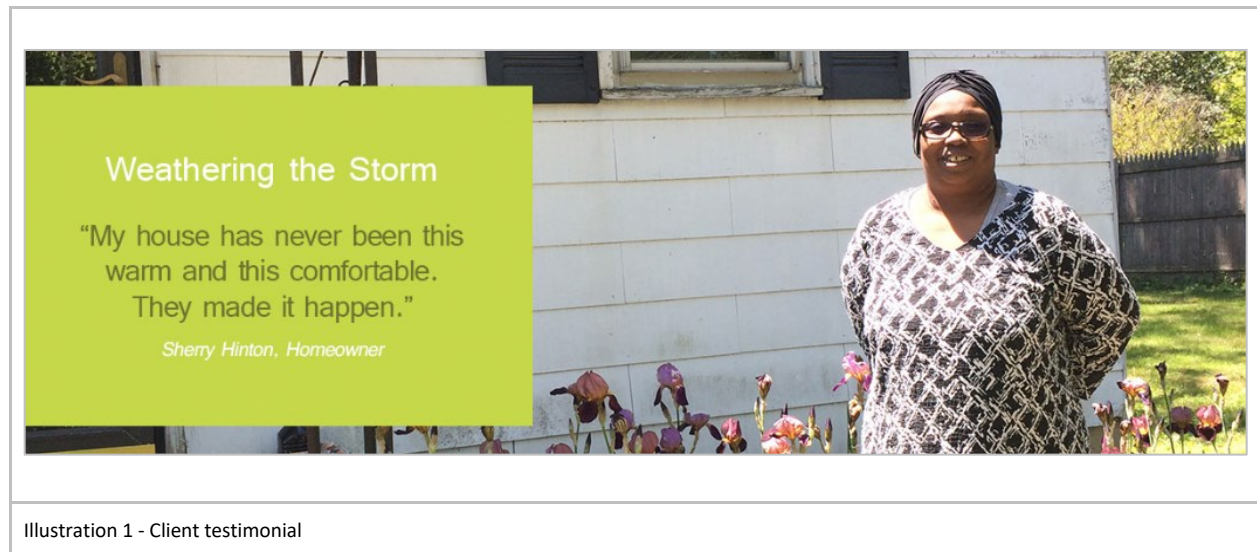
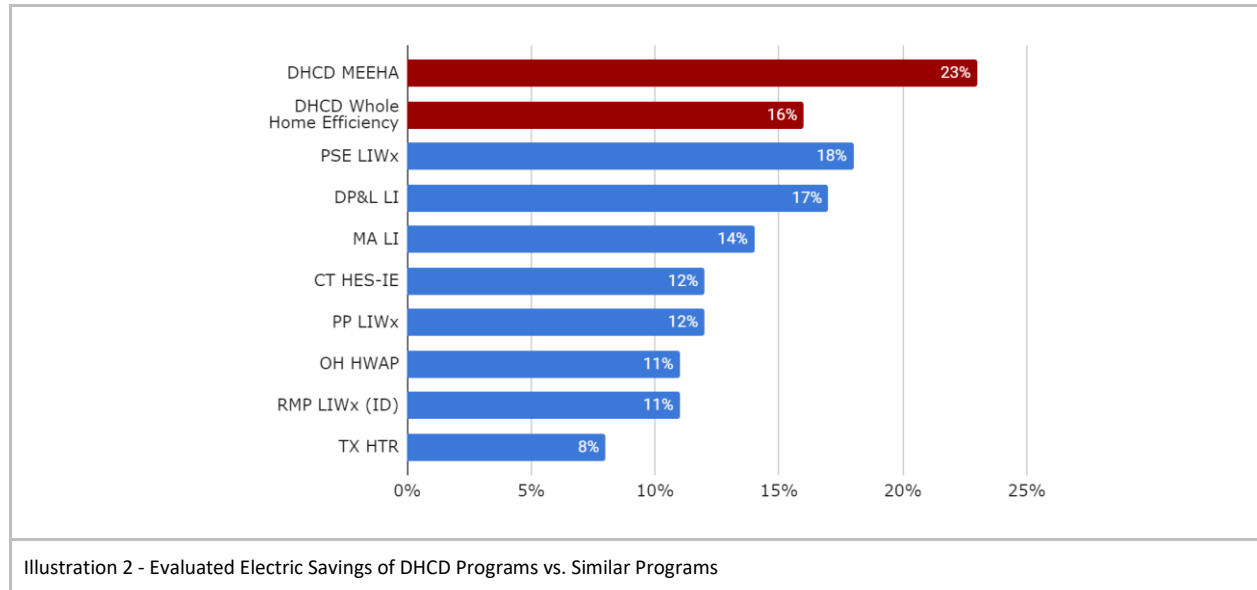


Illustration 1 - Client testimonial

DHCD has served the limited-income population with weatherization services for four decades. It currently administers ten energy efficiency programs through its Housing and Building Energy Programs (HBEP) division across the State. DHCD is the designated implementer for the Limited Income Programs and provides many benefits to EmPOWER Maryland benefits, including leveraging its applications, processes, and funding not only from its energy programs, but also from several different programs within DHCD’s Community Development Administration (CDA). DHCD has successfully achieved collaboration between the EmPOWER Programs and its other mainstream community development and

housing programs for energy efficiency retrofits, multifamily rehabilitation, multifamily new construction, and net zero projects.

The Programs have been recognized for their innovative processes and excellent energy savings results. The verified savings of the Programs, as administered by DHCD, exceed those of many similar programs, reducing each limited-income household’s energy usage between 16% and 23%.¹



This Plan is a culmination of ideas and feedback from program participants, stakeholders, program results, target market analysis, consideration of industry best practices, EM&V results, and expertise from DHCD’s consultant, Apprise. The existing core programs, Whole Home Efficiency, Base Efficiency, and Multifamily Energy Efficiency and Housing Affordability Program (MEEHA), will be continued and will employ a number of modifications to further improve program access, delivery, and performance. DHCD also proposes to refocus its follow-up service for equipment maintenance (the MEET program), and to continue its energy kit program.

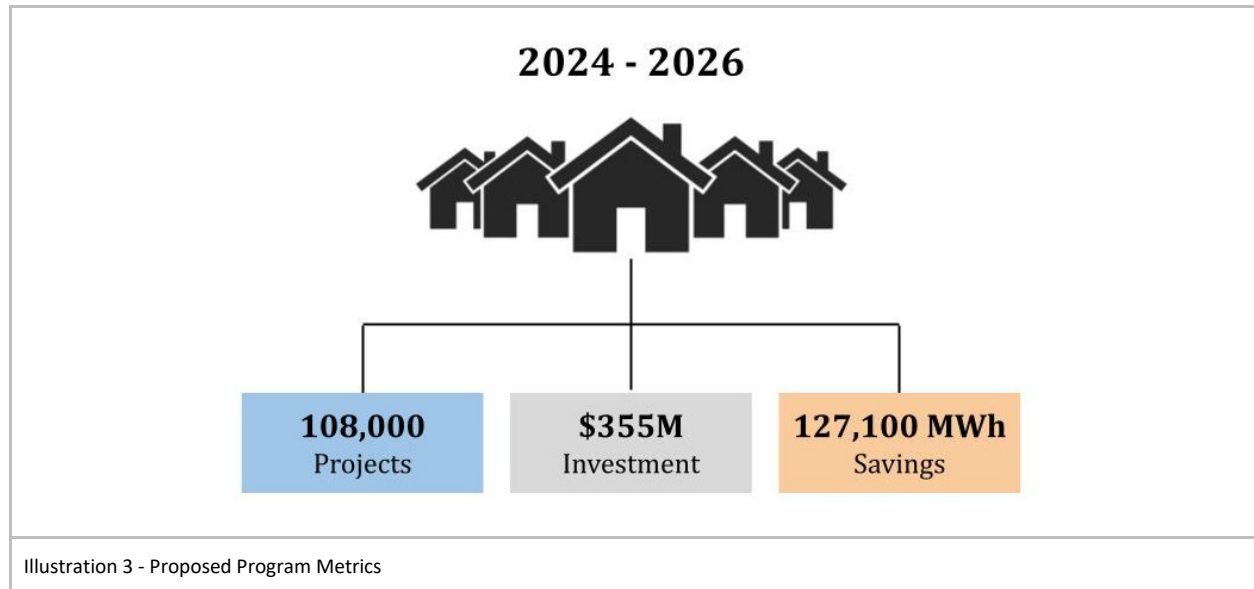
The 2024-2026 program cycle is the first EmPOWER cycle for which legislation requires DHCD to submit a plan to the Commission to implement the limited-income EmPOWER programs and to meet certain requirements. The “Energy Performance Targets and Low-Income Housing” legislation² sets statewide

¹ Most current, verified evaluated savings and benchmarking per Cadmus’ DHCD 2022 Evaluation Report

² 2023 House Bill 169, effective July 1, 2023, as codified at Md. Code Ann., Public Utilities, §§ 7-211, 7-211.1, and 7-211.2.

limited-income household electric savings goals to be met by DHCD. Those goals are to reduce limited-income electric retail sales by 0.53% in 2024, 0.72% in 2025, and 1% in 2026. This Plan defines the EmPOWER contribution towards the goals, and describes how DHCD will achieve the entire goals as required by the legislation.

The program design results in the following metrics for DHCD’s EmPOWER portfolio:



This Plan provides more benefits to the LI community than the community pays into the surcharge, to help correct prior inequitable distributions of EmPOWER funds. The electric savings equal approximately 94,350 tons CO2 in Greenhouse Gas savings³.

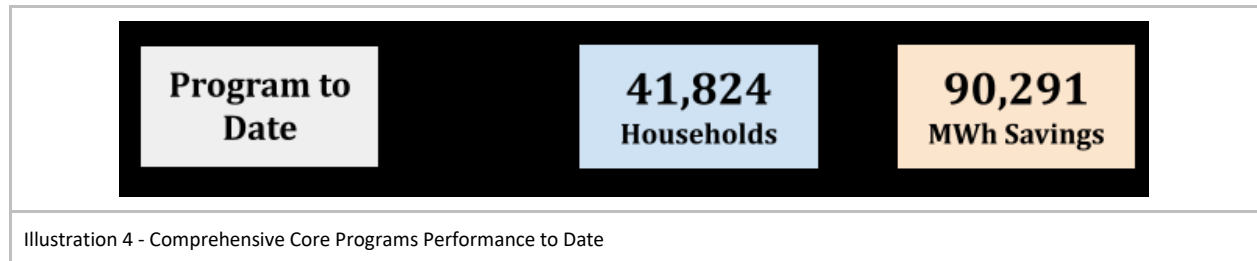
The following programs are included in DHCD’s EmPOWER portfolio.

Whole Home Efficiency and MEEHA - Comprehensive Core Programs

DHCD’s Whole Home Efficiency and MEEHA programs have been saving eligible limited-income households energy and money since 2012. Through these programs, benefits are delivered to participants by installing cost-effective energy efficiency improvements directly in participants’ homes

³ <https://www.epa.gov/avert/avert-web-edition>

through qualified contracted service providers or through the issuance of grants or loans directly to property owners. These programs require certified building science professionals to determine a comprehensive and cost-effective package of energy-efficient improvements to install in the home. The measures are intended to reduce the consumption of energy and maintenance costs for both rental and owner-occupied homes, as well as all types of multifamily properties.



This Plan proposes a number of procedural modifications to the comprehensive core programs to enable maximum efficiency and effectiveness in the delivery of energy efficiency services. An overview of modifications and improvements described in this Plan follows:

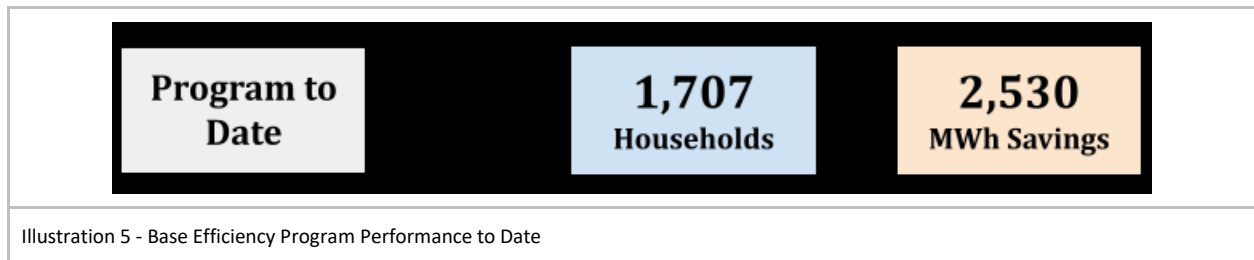
Table 1 - Overview of Program Modifications to Comprehensive Core Programs	
Whole Home Efficiency	MEEHA
<ul style="list-style-type: none"> ● Adjust job cost cap in alignment with inflation ● Issue direct grants to individual projects ● Reduce landlord contribution requirement 	<ul style="list-style-type: none"> ● Define measure incentives using a Measure Funding List ● High performance building design for new construction projects ● Active solar heating systems (solar thermal)
<ul style="list-style-type: none"> ● Reduce funding of gas appliances ● Allow fuel switching for beneficial electrification ● Get projects net-zero ready ● Roll unspent funds into the next cycle. 	

Details on the comprehensive core programs can be found in Sections 5.2 and 5.3.

Base Efficiency

Clients who are deferred from the Whole Home Efficiency program due to an existing condition of their home that precludes it from qualifying for Whole Home Efficiency measures, can receive energy savings through the Base Efficiency Program. This program offers a limited selection of energy efficiency measures to those households that do not qualify for comprehensive services and is delivered by the same Network Partner that already assessed the home. The scope of work excludes building shell measures, but allows measures such as lighting, appliances, water heaters, and HVAC.

Base Efficiency clients are connected with DHCD’s home rehabilitation programs and other resources, where they may qualify for programs to assist them in completing necessary repairs. After repairs are completed, the client can return to DHCD’s energy programs to receive any remaining comprehensive services.



This Plan proposes the following modification to the program:

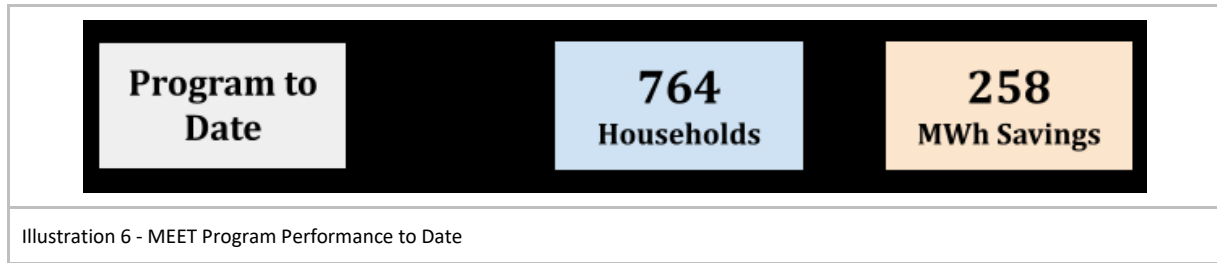
Table 2 - Overview of Program Modifications to Existing Program	
Base Efficiency	<ul style="list-style-type: none"> • Adjust job cost caps in alignment with inflation

Details on this Program are provided in section 5.4.

MEET

The Maryland Energy Efficiency Tune-up (MEET) program was implemented in 2019 to extend the life of installed energy measures for weatherization participants and increase long-term energy savings via ongoing client engagement and maintenance of installed equipment. The MEET program’s scope of work now focuses on the system maintenance component, which provides necessary repairs and prevents the deterioration of energy saving equipment through repeated upkeep. The MEET program is

available to clients who have received service through EmPOWER within 5 years prior to their MEET application.



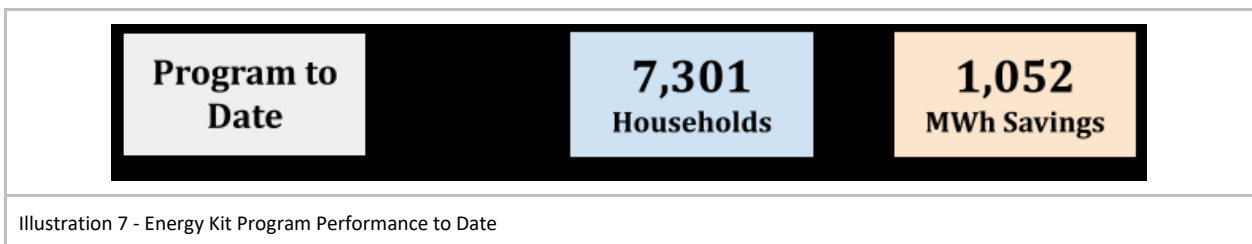
This Plan removes the behavioral component from the program to improve its cost-effectiveness. The program will now only provide onsite tune-up services for energy equipment. DHCD will include some of the behavioral components into its other programs and also expand its collaboration with utilities' behavior programs to provide more limited income messaging. An overview of modifications and improvements described in this Plan follows:

Table 3 - Overview of Program Modifications to Existing Program	
MEET	<ul style="list-style-type: none">• Convert program to HVAC maintenance offerings and focus on high electric savings measures• Reduce frequency to one site visit every 3 years

Details of the proposed change to the MEET Program are described in Section 5.5.

Energy Kits

In alignment with DHCD's objectives to maximize participation and to not leave any energy savings on the table, DHCD implemented a new energy kit program in 2022. The energy kit program is designed to engage applicants immediately, and to provide initial energy savings to every eligible household.



Through this program, DHCD sends an energy kit containing a small number of direct-install measures, resources with energy saving tips, and information regarding the Programs to each new individual applicant. The kit demonstrates the benefits of the program and provides immediate savings to clients. These energy kits have led to a 38% increase in conversion rates from application to onsite jobs, compared to prior program years.⁴

Table 4 - Overview of Program Modifications to Existing Program	
Energy Kits	
	<ul style="list-style-type: none"> ● Revise kit components to maximize savings ● Expand usage of kits to other customer groups

Details on this program are in Section 5.6.

2 IMPLEMENTATION OVERVIEW

Market Access

As the Housing Financing Agency for the State, DHCD has provided assistance to 124,731 households through its housing programs over the past 3 years. This Plan aims to fully utilize the existing stream of applicants for other DHCD housing programs, who may also need energy efficiency upgrades. The HBEP division is part of DHCD’s Community Development Administration (CDA) and as such not only receives leads from several programs that CDA administers, but can also take advantage of CDA’s network of housing developers, managers, and owners to issue its incentives.

DHCD has built close referral partnerships with other State agencies and organizations such as the Department of Human Services (DHS), the Maryland Environmental Service (MES), the Maryland Energy Administration (MEA), the Maryland Department of Health (MDH), and others. Through these partnerships, DHCD has access to services provided by other State agencies and receives client referrals

⁴ 2021 rate of conversion from referred OHEP application to on-site project: 21%; 2022 rate of conversion from referred OHEP application to on-site project: 29%

from them. The partner agencies mutually train each other's staff on intake best practices and the nature of available programs for their shared clients.

Utility Coordination and Stakeholder Involvement

DHCD continues its frequent dialogue with the utilities through quarterly implementer meetings and monthly-to-quarterly individual meetings with each utility. This allows the sharing of implementation strategies that effectively utilize resources to coordinate program delivery. Coordination topics include Smart thermostat installations, client referral strategies, coordinated marketing efforts, and mutual training on programs. Additionally, the utilities and DHCD coordinate the implementation of any programs that target LI participants or have high LI participation, such as the energy kits for food pantries or the Quick Home Energy Checkup (QHEC) program. All parties are committed to continuing this open exchange of information in the 2024 program cycle.

DHCD recognizes that the limited-income programs benefit tremendously from the feedback of the stakeholders that implement, manage, advocate for customers, or regulate the programs. DHCD has become the de-facto leader of the EmPOWER Limited Income Workgroup and convenes the group as needed to improve and develop its programs with substantial input from stakeholders. The workgroup includes several State agencies, non-profit organizations, the EmPOWER utilities, contractors, and other stakeholders, and meets on average every quarter.

DHCD is also an active participant in Energy Efficiency Working Groups across the State, such as the Maryland Commission on Climate Change Mitigation Work Group, the DOE Policy Advisory Committee, the MCEC Energy Advisory Committee, OHEP's Energy Assistance Workgroup, as well as the Building Energy Transition Implementation Taskforce.

Trade Ally Engagement

To perform work for the Programs, DHCD utilizes a highly qualified network of partners made up of Local Weatherization Agencies (LWAs), Statewide Weatherization Contractors (SWCs) (collectively, the "Network Partners"), and MEEHA Qualified Energy Auditors. Participating trade allies are held to high performance standards and must possess industry certifications.

Selection criteria for new trade allies include proof of relevant industry certifications, description of skills, and verified past performance. Additional requirements, such as demonstrating production capacity, staff structure, continuing education, and minority business participation are required of the Network Partners. Some examples of professional standards required by the program include but are

not limited to: Building Performance Institute Certified Quality Control Inspector, Energy Auditor, and Crew Leader.

The Network Partners' work product is continually evaluated and they receive a scorecard on a semi-annual basis indicating their performance regarding production quality, quantity, leveraging funds, and customer service, amongst other factors. The score is taken into account for ranking Network Partners and assigning work accordingly.

DHCD is undertaking an increased effort to promote energy jobs and provide the necessary resources to train Network Partner staff. Over the years, DHCD has funded training and testing for relevant BPI certifications for staff working on its programs, as well as provided bi-annual training for its Network. Currently, DHCD is concluding its procurement for a dedicated training provider with a training center in Maryland to expand the learning opportunities for field staff. Future goals include marketing campaigns for energy job availability and pursuing additional funding for apprenticeship programs.

One-Stop Shop for Limited Income Whole Home Energy and Rehabilitation

As the provider of a variety of housing rehabilitation and energy retrofit programs, DHCD is playing the central role in Maryland to connect limited income households with the necessary resources for comprehensive rehabilitation to create livable, green, and healthy homes. DHCD has the expertise and infrastructure to provide upgrades inside of inhabited homes, and the connections with outside parties to provide a complete package of services.

Within DHCD, the Housing and Building Energy Programs and the housing rehabilitation division (a section of the SLP division) have been brought together under the leadership of one Director in order to advance the integration of rehabilitation and energy work. Current developments include increased client referrals, data sharing, cross-promotion, application integration, shared inspections and work scope coordination. The vision for full integration in the future includes a combined infrastructure with one and the same client services and intake team, one central application, comprehensive building assessments and work scope generation, and one project management system from finish to end.

DHCD is continually seeking access to additional rehabilitation funds since repairs are one of the biggest barriers to comprehensive energy retrofit projects. Recently, DHCD made \$4M of critical repair funds available to its LWAs and has restructured its HAF program to specifically treat weatherization barriers instead of unrelated repairs.

Data Management

DHCD is in the process of installing a new data management system called Hancock Cloud to track project implementation for EmPOWER and its other energy programs. The new system has enhanced capability to manage multiple funding sources with varying program requirements, integrate the reporting on multifamily projects, offers online applications and client logins for status updates, and allows for project monitoring from start to finish.

Internal Evaluation

The program Evaluation, Measurement & Verification (EM&V) process is a critically-important process for identifying program strengths, weaknesses, and impact. DHCD is committed to improving program delivery based on EM&V results such as updating/upgrading databases, program guidance, and factors to improve realization rates.

DHCD's program staff often identifies inefficiencies of program delivery before those inefficiencies are identified through the annual EM&V reporting process, and implements improvements proactively on an ongoing basis. DHCD has established a central tracking system to log external feedback and evaluation results, translate them into development projects, and implement the improvements as scheduled.

Internal performance is evaluated on an ongoing basis through key performance indicators. DHCD has established trackers for critical processes such as lead distribution, production goals and actual results, and invoicing timelines, which are updated in real time and monitored regularly. Overall program performance, including participation, savings, and expenditures, is monitored monthly through a dashboard that compares actual results to projections, total cycle goals, and prior reporting periods.

Quality Assurance

DHCD employs multi-step Quality Assurance / Quality Control processes for all of its programs to ensure that energy efficiency services are delivered to the highest standards and adhere to program guidelines. Depending on the program, one or multiple quality checks are performed, including:

1. Extensive review of recommended work scope.
2. Desk review of the performed work.
3. Quality Control Inspection of each completed job: performed by the contractor.
4. Quality Assurance Inspection of a sample of jobs: performed by DHCD's in-house inspectors.

When necessary, DHCD engages a multi-step process to increase performance, including heightened inspection rates and individualized training of participating contractors. DHCD inspectors have an extensive background in the practical aspects of construction and building science and are certified

Quality Control Inspectors. They remain closely connected to the Network Partners and trade allies to keep engaged in the project delivery and building industry trends.

3 PORTFOLIO ANALYSIS AND PROGRAM DESIGN

Stakeholder Process

After the success in the prior program cycle planning, DHCD continued its stakeholder process through the EmPOWER Limited Income Workgroup (LI Workgroup), which includes a variety of individuals and organizations with interest in the success of the Programs. The stakeholder process is intended to gather feedback regarding the current program performance and procedures, discuss ideas for modifications, and create consensus on steps to optimize the limited-income programs. After an initial workshop in September 2022, which resulted in six pages of ideas, the LI Workgroup further explored possible modifications and worked together to turn ideas into concrete procedures. Over the course of ten months, 7 additional sessions took place. They resulted in defined recommendations that DHCD took into account when designing the key program modifications proposed in this Plan.

Program Ideas	Program
Allow fuel switching and include electrification measures <ul style="list-style-type: none"> ● Concerns regarding the cost of electrical panel upgrades needed or updates to current wiring of home ● Partnership with utility to use meter data to target homes that would see bill savings from fuel switching ● Coordinate with IRA funds and programs ● Focus on fuel oil and propane first. For gas heat conversion, bills may go up at first. Need to find solutions to offset the initial increase in bills 	Whole Home Efficiency, Base Efficiency, MEEHA
Ability to issue grants to individual projects to leverage funding with SLP and other DHCD programs.	Whole Home Efficiency and Base Efficiency
Leveraging other funds benefits the work scope size, but imposes all DOE restrictions on the EmPOWER projects, which slows production down	Whole Home and Base Efficiency
Old Window AC unit focus	Whole Home and Base Efficiency
Renter: 50% cost to landlord makes it difficult to reach them	Whole Home and Base Efficiency

HVAC SEER 2 requirement from DOE <ul style="list-style-type: none"> Equipment change over all HVAC equipment is tested in the field instead of a lab -15% - 25% increase 	Whole Home and Base Efficiency
More forced air furnaces replaced with Heat Pumps in homes instead of in kind	Whole Home and Base Efficiency
Increase job cost caps due to inflation. The \$12,000 has been in place for over 6 years and barely covers comprehensive jobs anymore.	Whole Home and Base Efficiency
Make up lost savings from light bulbs with other measures (in process)	Energy Kits
Expand usage of kits to other customer groups.	Energy Kits
Concern with contractors installing kits items for free	Energy Kits
Improve cost to value ratio. Increase savings and/or reduce cost <ul style="list-style-type: none"> Maybe move to one virtual check-in + one HVAC tune-up per cycle? Split into two programs: A clean and tune, and a behavioral program. Automated follow-ups with customers, similar to behavioral programs, but not the same as utility programs. More focused on LI resources and potential additional services they qualify for. 	MEET
Community Solar	New
Adding Solar PV as a measure	MEEHA
Link subsidized housing with green certified housing that meet certain energy standards	Unspecified
Pre-WAP program to pay for repairs to prepare for Weatherization services	All
Workforce development	All
Direct Install Programs	New
Electrification	New
On bill financing for investments.	New

Windows	Whole Home and Base Efficiency
Co-offering of different programs with utilities	All
Expand funding for new construction projects	MEEHA
Funding to help low income homes meet the new Building Energy Performance Standard Regulation being released by MDE	MEEHA

The LI Workgroup intends to continue to meet quarterly over the course of the upcoming program cycle, or more frequently if needed for special program development projects.

Portfolio Objectives and Metrics

In January of 2023, House Bill 169 was introduced to the Maryland House of Delegates and cross-filed in the Senate. The bills set energy performance targets for the low income housing sector. House bill 169 was signed into law by Governor Wes Moore on May 8, 2023 and went into effect on July 1, 2023. The law, titled “Energy Performance Targets and Low-Income Housing,” is codified in Chapter Seven of the Public Utilities Article of the Maryland Code.

The aforementioned law requires that DHCD procure or provide energy efficiency programs for low income households for the 2024-2026 program cycle, that DHCD meet certain energy savings targets, and ensure that benefits primarily accrue to low income residents, among other requirements. Below is a summary of the requirements relevant to the EmPOWER program.

Table 6 - Summary of Requirements in Low Income Energy Performance Target Legislation
DHCD Requirements
<ul style="list-style-type: none"> ● Procure or provide energy efficiency and conservation programs for electricity customers ● Achieve annual energy savings targets ● Adopt regulations that ensure that benefits primarily accrue to low-income tenants and tenants are not evicted as a result of the improvements ● Restrict the use of certain insulation materials

- Approve contractors that meet certain job requirements
- Submit a program plan to the Commission that details how targets and other requirements of the law are met
- Provide updates regarding results in its semi-annual reports
- Identify all applicable funding sources for comprehensive energy retrofits and rehab work
- Create and lead a “Green and Healthy Task Force” to guide DHCD’s efforts and fulfill certain requirements

Although the low income energy performance targets legislation is related to the EmPOWER program cycle and incorporates some reporting requirements into the EmPOWER semi-annual reports, it is a state-wide savings goal and the law allows DHCD to count energy savings from all funding sources, not just EmPOWER. The Commission therefore tasked the LI Workgroup to determine what portion of the targets should be fulfilled by the EmPOWER program⁵.

DHCD convened the LI Workgroup on June 8, 2023, to discuss the Commission’s task, along with other matters necessary to design its program plan. A report with detailed discussion points was filed with the Commission on June 30, 2023. A summary is provided in Table 7.

Table 7 - Summary of LI Workgroup Consensus regarding Energy Performance Targets

Consensus Items

- Majority consensus: Non-DHCD savings can be counted towards DHCD’s limited income legislative goal as far as they are aligned with the law’s intent to serve a limited-income population and provide long-lived energy savings. OPC abstained from consensus.
- EmPOWER Utility Behavioral program savings cannot contribute to the limited income legislative goal due to their short estimated useful lifetime that is not in line with the law’s intent.
- The gap between the energy savings targets and contributions from non-EmPOWER programs, should be generated through DHCD’s Limited-Income EmPOWER programs.
- DOE savings must be removed from EmPOWER savings before counting their contribution in order to avoid double counting.
- Estimated Useful Life of programs should be calculated and evaluated at the portfolio level.
- DHCD can adjust its budget based on additional funding for limited income programs provided to the State at later times.

⁵ Order no. 90546, page 23

Based on its interpretation of the law and the Workgroup’s input, DHCD calculated its performance targets as follows:

Table 8 - Performance Target Determination			
1. Calculate Baseline			
The baseline is determined by multiplying the 2016 weather-normalized average residential households electricity usage for all electric companies by the number of low-income households.			
<ul style="list-style-type: none"> • Average residential households electricity usage: 11,912 kWh⁶ • Number of households at or below 250% of FPL: 587,768⁷ 			
= 7,001,492 MWh			
2. Determine legislative targets			
The performance targets are determined by applying the legislatively required reduction percentages to the baseline.			
<ul style="list-style-type: none"> • 2024: 0.53% of the baseline = 37,108 MWh • 2025: 0.72% of the baseline = 50,411 MWh • 2026: 1.00% of the baseline = 70,015 MWh 			
= 157,534 MWh energy saving target for the 3 year cycle			
3. Determine other energy program’s contribution towards the targets			
Based on the law allowing to “include savings achieved through all funding sources to the extent consistent with federal law or regulations governing those funding sources”, DHCD gathered data from its non-EmPOWER programs, as well as input from other state agencies, local governments, and the utilities on what savings their limited income programs achieve. The following savings estimates are considered as contributing towards the legislative savings targets.			
<ul style="list-style-type: none"> • Non-EmPOWER DHCD programs: 9,954 MWh for the 3 year cycle 			
Program Name	2024 MWh	2025 MWh	2026 MWh

⁶ 2016 EIA data for residential energy usage, weather-normalized

⁷ APPRISE Maryland Energy Affordability Study

DOE WAP ⁸	1,090	1,090	1,090
MEAP ⁹	228	228	228
GHGRP	1,000	1,000	1,000
Other non-energy programs ¹⁰	1,000	1,000	1,000
TOTAL:	3,318	3,318	3,318

- **Non-DCHD Programs: 21,733.2 MWh for the 3 year cycle**

Program Name	2024 MWh	2025 MWh	2026 MWh
MEA LMI Energy Efficiency Grant ¹¹	5,000	5,000	5,000
BGE Appliance Rebates ¹²	6.5	6.5	6.5
BGE Appliance Recycling	97.5	97.5	97.5
BGE QHEC	795	795	795
BGE HPWES	54	54	54

⁸ Includes both the regular annual grant as well as the additional BIL funding. The savings estimates were reduced by the amount of DOE work leveraged and accounted for in EmPOWER projects. Only 20% of DOE projects are not leveraged with EmPOWER and reflected in these numbers.

⁹ Includes MEAP-crisis work only. MEAP-crisis jobs replace existing non-functioning units, therefore the savings reported here are only incremental savings above base code. All MEAP-weatherization work is leveraged with EmPOWER and therefore not included here.

¹⁰ Includes Multi-family Rental Lending and other DHCD construction programs.

¹¹ MEA provided a 5,000 MWh savings estimate for 2024 only, due to uncertain funding amounts for the following program years. DCHD feels comfortable estimating the same amount of savings for the following years, as other federal funding is expected to become available that can make up for any potential reduction in LMI grant funding.

¹² All utility estimates are for the portion of the utility programs provided to Limited Income customers only. The utilities will continue to report these as their EmPOWER savings, DHCD will only aggregate them towards the legislative targets.

BGE HVAC	18.9	18.9	18.9
BGE Smart Thermostats	26.4	26.4	26.4
BGE New Construction	30.1	30.1	30.1
Delmarva Appliance Recycling	33	38	38
Delmarva QHEC	93	104	104
Delmarva HPwES	41	46	46
Delmarva Energy Kits	192	215	215
Pepco Appliance Recycling	51	58	58
Pepco QHEC	147	166	166
Pepco HPwES	40	45	45
Pepco Energy Kits	63	71	71
PE Appliance Recycling	265	265	265
PE QHEC	100	75	50
SMECO Appliance Recycling	20	22	22
SMECO HEIP	63	71	71
SMECO Kits	65	74	74

TOTAL	7,201.4	7,278.4	7,253.4
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- **Total contribution from non-EmPOWER DHCD and non-DHCD programs: 31,687.2 MWh for the 3 year cycle**

	2024 MWh	2025 MWh	2026 MWh
Non-EmPOWER DHCD programs	3,318	3,318	3,318
Non-DCHD Programs	7,201.4	7,278.4	7,253.4
TOTAL	10,519.4	10,596.4	10,571.4

4. Remainder of targets to be produced through DHCD's EmPOWER Programs

The amount of savings other programs can contribute was deducted from the energy savings target. The difference constitutes the amount of savings required to be achieved by DHCD's EmPOWER programs.

157,534 MWh - 31,687.2 MWh = 125,846.8 MWh over the 3 year cycle.

The DHCD-EmPOWER target constitutes 79% of the legislative target.

- **Split by year:**

	2024 MWh	2025 MWh	2026 MWh
Annual Legislative Targets	37,108	50,411	70,015
Minus Other Program Contributions	10,519.4	10,596.4	10,571.4
Equals DHCD Annual EmPOWER Targets	26,588.6	39,814.6	59,443.6

DHCD designed its Plan to achieve the DHCD EmPOWER targets.

The Commission requires cost-effectiveness screening for the limited-income programs, but affirmed that the programs may still be implemented without satisfying the test.

Regulatory Requirements

House Bill 169 requires DHCD to include in its Plan a proposed average lifetime measure threshold that encourages the delivery of insulation and weatherization measures, developed through a stakeholder engagement process. DHCD discussed this item with the LI Workgroup.

As detailed in the Workgroup report filed on June 30, 2023, the stakeholders advised that an ideal estimated useful life (EUL) threshold should be determined at the portfolio level. This will enable the inclusion of lower EUL programs in DHCD’s portfolio that can provide complementing benefits and support program achievements. Furthermore, stakeholders could not agree on a set EUL threshold at the time, and rather preferred that DHCD develop a portfolio meeting the targets. Stakeholders will then comment on whether the portfolio-wide EUL is appropriate after the Plan is submitted.

The law also requires DHCD to document in this Plan how the implementation of the insulation specifications in the law is ensured. DHCD fulfills this requirement by passing the requirements through to its Network Partners through the procurement documents, and by incorporating them into the MEEHA grant agreements.

Portfolio Design

For the development of this Plan, DHCD considered all stakeholder ideas and reviewed their impacts and benefits regarding the objectives stated above to determine which ideas will most likely aid in achieving those objectives and are feasible within program constraints.

To aid with designing its Plan towards the required program metrics and targets, DHCD engaged the services of the nationally renowned consulting firm APPRISE. APPRISE worked closely with DHCD to analyze the existing programs, recommended modifications based on past performance and national best practices, and provided energy savings assumptions.

Table 9 - Portfolio Design Process	
1. Determine performance metrics for each program	
	<ul style="list-style-type: none">DHCD and APPRISE used past program performance data from Cadmus’ evaluation of its programs to establish average performance metrics for each program. This includes evaluated average savings,

reported average cost, and weighted EULs based on actual measure mix.

- DHCD and APPRISE then revised the performance metrics for programs where applicable, based on proposed modifications, new measures, or other factors that will cause past performance metrics to change in the new cycle. This included updating average costs per unit based on most current price data.
- The resulting metrics are described in section 8.2, Assumptions

2. Set parameters for program portfolio

- DHCD then determined the ratios at which each of the programs will contribute towards the overall savings targets.
- This includes factoring in the distribution of SF vs. MF housing per utility (see [section 4.1](#)), deferral rates, and the cost per MWh for each program to achieve the best savings scenario.

3. Run calculations

- DHCD created a workbook that includes all program metrics as well as the parameters for program distribution
- DHCD ran iterations of the workbook to determine the best scenario that balances the following objectives:
 - equitably serving the limited income market
 - achieving the savings targets
 - conserving ratepayer costs

4. Adjust parameters

- When determining the final portfolio composition, DHCD made the following decisions:
 - The main focus of the portfolio is to provide comprehensive retrofits.
 - DHCD divided savings equitably across utility territories and housing types based on the target market analysis. Based on previous stakeholder feedback, DHCD will not prioritize electric households that could produce higher savings, but will continue to provide services to all households that it can reach.
 - The Base Efficiency program remains a secondary choice for deferrals only. Deferrals are currently 50% of all single-family jobs. DHCD assumed that this ratio will continue into the new cycle initially, although it is taking steps to reduce deferral rates in the future. Reducing the

deferral rate will increase the cost of the program portfolio over time.

- The MEET and Energy Kit program are supporting programs that serve customers at the same ratios as the current cycle.
- The MEET program will only be provided to electric households to reduce the cost impact of the program while contributing to savings targets.
- The programs will still serve BGE and WGL gas customers, but prioritize the use of funds for building shell measures and to service existing gas appliances. Replacements of gas appliances will be reduced to conserve funds that do not contribute to the electric savings target.
- Electrification provides only minimal incremental electric savings at high costs. Due to its savings target being electric, and being sensitive about ratepayer costs, DHCD is not planning to perform widespread electrification at this point.

Modification 3.A

Reduce funding for gas appliances

DHCD will still serve BGE gas and WGL customers. However, DHCD plans to reduce the funding of gas appliance replacements to conserve funds that do not contribute to the electric savings target. This would result in a reduced number of replacements of:

- Gas water heaters
- Gas heatings systems not tied to AC system replacements

Instead, DHCD will prioritize the use of gas funds for measures that also produce electric savings, such as:

- Building shell improvements including insulation and air sealing
- Tune-ups for forced air systems connected to a central air conditioner
- Gas furnace replacements only where necessary to replace a central air conditioner

DHCD will record the households that contain unreplaced gas appliances, pre-assess for electrification potential, and electrify these households in the future when electrification becomes supported by program targets, or refer them to electrification programs.

Modification 3.B

Allow fuel switching towards electrification on case-by-case basis

In accordance with the EmPOWER program targets, which are focused on electric savings, DHCD is not planning to implement widespread electrification efforts or provide specific electrification benefits at this time. Electrification only provides minimal incremental electric savings at a comparatively high cost, especially where a lot of electrical repairs will be needed.

However, in some cases, electrification measures could be necessary or appropriate and could be performed under the existing incentive structure. The electric energy measures are already approved measures for electric homes and include heat pumps, heat pump water heaters, etc. Electrification readiness repairs can be performed if they fit within the budget for accompanying repairs.

Therefore DHCD is requesting the ability to perform fuel switching on a case by case basis. For Whole Home Efficiency projects, DHCD will consider fuel switching in cases when the electrification is cost-effective based on a modeled SIR, and if it can be performed within the existing incentive structure. For MEEHA projects, DHCD will consider funding electrification measures at a reduced incentive.

This Plan is based on the best information available at the time of developing it. DHCD expects that new circumstances, funding sources, outside savings data, legislation, etc. will arise between the time this Plan is submitted and during the course of implementation of the program. When new, significant changes arise, DHCD will submit a revised plan with necessary modifications, updated budgets, and forecasts.

4 TARGET MARKET AND CLIENT ENGAGEMENT

4.1 Target Market Analysis and Trends

In preparation for this Plan, DHCD reviewed the most recent research and studies on the distribution of limited-income customers in the state that were produced by APPRISE and Cadmus. These distributions influenced how DHCD designed the programs described herein and determined the most equitable distribution of funds across utility territories and housing types to reach the most customers, while accounting for the program that would best serve them.

In the study completed by APPRISE, titled “Maryland’s Low-Income Market Characterization Report”, nearly 450,000 households are identified as limited-income households in Maryland, which is approximately 21 percent of the population.

Market by Housing Type

In an effort to best serve the limited income population, DHCD analyzed the existing housing types in each utility territory to determine the distribution of funding for each of its core programs. This analysis found there to be a higher overall percentage of limited income households that live in single-family style housing, however the difference between housing types varied greatly across utility territories.

The analyzed data shows that, although more than half of limited-income households live in single-family homes, multifamily buildings are more likely to house limited-income households than non-limited-income households.

Of the total statewide limited-income households, 39 percent live in multifamily buildings vs. 61 percent in single-family buildings (including mobile homes). The distribution of single family vs. multifamily varies significantly across different utility service territories with the larger share of multifamily buildings found in more urban centric areas. DHCD used these insights to distribute the funding accordingly between the single and multifamily programs to best serve each Utility territory's customers. The following table breaks down the housing type at the territory level.

Territory	Single-Family	Multi-Family
BGE	62%	38%
Delmarva	72%	28%
PE	70%	30%
PEPCO	47%	53%
SMECO	83%	17%
All Territories	61%	39%

¹³ Data based on Cadmus’ Maryland Statewide Low-Income Top-Down Potential Analysis that was provided for the EmPOWER Goal Workgroup sessions

Market by Region

Based on the APPRISE Affordability study¹⁴, at least 20 percent of households in each utility territory are limited-income. Of the limited-income households across the State, the largest number of limited-income households exist in the Washington D.C./Baltimore metropolitan corridor (Capital and Central regions). Half of the Maryland limited-income population is concentrated in the Central region of the State, and an additional 21% reside in the Capital region.

By focusing its review of the distribution of limited income households to utility territories, DHCD was able to identify a distribution that would better fit the actual landscape of low income housing in the state. This allows for a more targeted distribution of funds for the programs to ensure equitable delivery of the EmPOWER program.

The following two charts show the distribution of limited income households across each territory (Table 11) and the number of limited income households compared to the overall population of each territory (Table 12).

Utility Territory	Distribution ¹⁵
BGE	50.59%
Delmarva	10.67%
PE	12%
PEPCO	21.73%
SMECO	5.01%
TOTAL	100%

¹⁴ Department of Housing and Community Development (DHCD) - Maryland Energy Affordability Study Final Report. Case No. 9648 (ML 300518) - 12/15/2023

¹⁵ APPRISE Maryland Energy Affordability Study Table II-2 Limited-Income Households as a Percentages of All Residential Customers

Table 12 - Limited-Income Households as a Percentage of All Residential Customers¹⁶

Utility	Total Households	Limited-Income Households <=250% Federal Poverty Level	
	N	N	%
BGE	1,084,803	297,357	27%
Delmarva	186,940	62,718	34%
PE	535,636	127,738	24%
PEPCO	148,066	29,447	20%
SMECO	248,565	70,509	28%
TOTAL	2,204,011	587,768	27%

Technical Changes

A number of measure requirements will be adjusted in the 2024-2026 program cycle to increase the efficiency standards. Beginning in January of 2023, the HVAC industry switched to a new SEER2 rating as it relates to heat pumps and central air conditioners.

Table 13 – Changes in HVAC Standards

HVAC System Type	Existing Efficiency Requirements	NEW Efficiency Requirements
Central Air Conditioner Tier 1-Split System	≥16 SEER and ≥12.5 EER	≥15.2 SEER2 and ≥12.0 EER2
Central Air Conditioner Tier 1-Single Package	≥16 SEER and ≥ 12.5 EER	≥15.2 SEER2 and ≥11.5 EER2
Central Air Conditioner Tier 2-Split	≥18 SEER and ≥ 12.5 EER	≥16.9 SEER2 and ≥12.4 EER2 Tier 2

¹⁶ APPRISE Maryland Energy Affordability Study Table II-2 Limited-Income Households as a Percentages of All Residential Customers

System		
Central Air Conditioner Tier 2-Single Package	≥18 SEER and ≥ 12.5 EER	≥16.9 SEER2 and ≥11.5 EER2 Tier 2
ASHP + Ducted Mini Splits Tier 1-Split Package	≥16 SEER and ≥ 12.5 EER and ≥9.0 HSPF	≥15.2 SEER2 and ≥11.7 and ≥7.8 HSPF2 Tier 1
ASHP + Ducted Mini Splits Tier 1-Single Package	≥16 SEER and ≥ 12.5 EER and ≥9.0 HSPF	≥15.2 SEER2 and ≥10.6 and ≥7.2 HSPF2 Tier 2
ASHP + Ducted Mini Splits Tier 2-Split Package	≥18 SEER and ≥ 12.5 EER and ≥9.5 HSPF	≥16.9 SEER2 and ≥12.0 EER2 and ≥8.2 HSPF2 Tier 2
ASHP + Ducted Mini Splits Tier 2-Single Package	≥18 SEER and ≥ 12.5 EER and ≥9.5 HSPF	≥15.2 SEER2 and ≥11.5 and ≥7.2 HSPF2 Tier 2
Ductless HP Single Zone Unit	≥18 SEER and ≥ 12.5 EER and ≥9.0 HSPF	≥18 SEER and ≥12.5 EER and ≥8.1 HSPF2
Ductless HP Multi Zone Unit	≥15.5 SEER and ≥ 12.5 EER and ≥8.6 HSPF	≥15.5 SEER and ≥12.5 EER and ≥7.8 HSPF2
Geothermal Heat Pump (closed loop)	≥17.1 EER and ≥ 3.6 COP	No changes
Smart Thermostat	<i>ENERGY STAR® Certified Smart Thermostat</i>	No changes

In addition, the industry is phasing out the current R410a refrigerant used in heat pumps and central air conditioners. The new refrigerant is expected to have an increased cost as well as additional requirements for installing line sets using the new refrigerant.

DHCD has phased out incentives for LED bulbs where required, other than for its programs where the existing lighting technology can be verified through a trained installer.

4.2 Eligibility

The DHCD portfolio of programs is intended to assist the limited-income population and the housing they reside in. Eligibility for the entire program suite is described in this section. Aligning eligibility between the programs as much as possible allows an applicant to submit only one application, which could be transferred to any other program that is determined to be better suited for the unit’s needs. An application can be made either by the owner of a group of units / multifamily project, or by a single housing unit.

Each program may have additional qualifying criteria to direct an applicant to the most beneficial program, as described in the program sections 5.2 through 5.6. Current portfolio-wide eligibility is outlined in the following paragraphs.

Utility Account Eligibility

Participants that have an active utility account with BGE, Delmarva, PE, Pepco, Smeco, or WGL are eligible for residential benefits. Multifamily projects that have measures associated with the commercial electric meter (general service schedule) may be eligible for both residential and commercial benefits.

Prior Participation

Historically, the Limited-Income programs did not allow a household or property to again participate in another DHCD Limited-Income program if it did so within the prior 5-years. During the 2020-2023 program cycle, this rule was modified and the 5-year rule no longer applies to some interactions with other DHCD EMPOWER programs that provide different services. Some examples include:

- A household may receive an energy kit when first applying, then moves to a Whole Home Efficiency or Base Efficiency project, and finally receives MEET services as a follow-up.
- Base Efficiency clients are particularly encouraged to participate in Whole Home Efficiency services immediately after any deferral reasons are resolved.

DHCD also coordinates applicant lists with the utilities to avoid duplication of any prior participants in their similar programs. Particularly, DHCD does not send energy kits to customers who have received a kit or Quick-Checkup from the utilities within the past 5 years.

Modification 4.2 A	Remove the 5 year wait period for applicants to re-participate in DHCD's EmPOWER programs
<p>The Programs are sometimes limited in the incentives they are able to provide to projects:</p> <ul style="list-style-type: none">● All MEEHA projects share the cost of the energy efficiency measures with the program. Many projects cannot afford the cost-share for all the eligible measures recommended by the Qualified Energy Auditor at the time the project initially receives funding. This results in the scope of work being reduced to what the project can afford at the time. Other saving opportunities remain unresolved.● In the Whole Home Efficiency program, requirements for job funding have changed over the past cycles that would now make certain measures available to households that they were not eligible for before. For example, they may not have met the SIR threshold due to lower fuel cost in the past, but may now meet the cost-effective thresholds. Additionally, newer efficient	

technologies make some equipment replacements cost-effective now (e.g. electric water storage tanks to heat pump water heater) that were not cost-effective before.

Projects that cannot afford or are not eligible for all of the measures at the time of application subsequently miss out on measures causing the program to also miss out on saving opportunities.

Current legislation requires DHCD to achieve a specific savings goal. In its efforts to achieve the legislative savings goal, DHCD requests the Commission approve removing the “5-year rule” to allow DHCD to return to and consider providing additional funds for projects to capture prior missed savings opportunities.

DHCD recognizes that it is an inefficient use of resources for a single project to go through the funding process multiple times. All efforts will be made to maximize resources with each project that receives funding to minimize future opportunity and savings that a project may be eligible to return for. DHCD tracks previously installed measures and ensures that the same measure is never funded twice within its useful lifetime.

Income Eligibility

For individual households, the income threshold is set at 250% of Federal Poverty Level (FPL) or 80% Area Median Income (AMI), whichever is higher, or whichever guideline the applicant was already qualified through by an outside program. The current income thresholds are as follows, however these will continue to be adjusted twice per year, as the federal and area income levels change.

Household Size	250% FPL	80% AMI
1	\$36,450	\$66,250
2	\$49,300	\$75,750
3	\$62,150	\$85,200
4	\$75,000	\$94,650
5	\$87,850	\$102,250

6	\$100,700	\$109,800
7	\$113,550	\$117,400
8	\$126,400	\$124,950
+additional person	+\$12,850	+\$12,850

For a multifamily project, at least 20% of units must be at or below the 80% AMI threshold in order to be deemed “affordable housing” and qualify for the programs. All units within an eligible property are eligible to receive services.

Categorical Eligibility

Many limited-income residents apply to multiple income-based assistance programs across the State and have to undergo multiple application processes with income verification. DHCD has worked to alleviate the burden on eligible customers by waiving the income verification process for those applicants who have been income-certified by specific outside programs within the past year.

Currently, applicants from the following programs are deemed categorically eligible:

- SNAP / Food Assistance
- TCA / TANF
- Medicaid
- Maryland Fuel Fund
- Social Security
- EUSP
- DHCD Rehab Programs
- Baltimore Lead Hazard Control Program
- Healthy Homes for Healthy Kids
- MEA LMI Energy Efficiency Grant

Other programs or assistance meeting similar income eligibility requirements will be evaluated as DHCD is made aware of them and can be added to the list. DHCD will also continue to work with the agencies administering categorically eligible programs to establish direct referral routes for applicants, similar to its partnership with OHEP.

In the reverse, DHCD’s HBEP is also working with its own rehabilitation programs to accept energy clients as categorically eligible or with reduced requirements. Currently, this process is under way for the Homeowner Assistance Fund (HAF) Rehabilitation Grant and the Maryland Housing Rehabilitation Program. This will allow deferred energy customers to access repair funds and potentially become eligible for comprehensive energy upgrades.

Eligibility Changes

In order to enroll the large number of participants targeted in this Plan, DHCD is proposing a new way to be deemed categorically eligible. This modification will further ease barriers to entry.

Modification 4.2 B	Individual participants located in certain areas that are considered disadvantaged communities can self-attest their income.
<p>Certain areas in the state of Maryland contain a large proportion of Limited Income households. DHCD proposes to waive income documentation requirements for applicants from certain predetermined areas, allow those clients to self-attest their total household income, and if it falls within the program income limits, deem them categorically eligible.</p> <p>DHCD reviewed a number of income-relevant mapping tools and discussed this concept with the LI Workgroup. Based on stakeholder feedback, DHCD will be using the MDE Environmental Justice tool (MDE EJ Map) for geographical eligibility, and including households located in the geographic regions that are identified as having "MDE Underserved Socioeconomic / Demographic Populations - Socioeconomic Demographic Poverty 2020 Score (Percentile Score) on the MDE EJ Map" that fall within the 90th-100th percentile (the darkest purple areas of the map), combined with household self-attestation as to income. The self-attestation will be accompanied by a request for a signature and mention the risks associated with fraudulently obtaining state benefits.</p> <p>This will facilitate faster and easier applications for households in those most disadvantaged areas that have a high percentage of low income households. These areas can be strategically targeted and households can be enrolled on the spot. DHCD will monitor for fraudulent abuse by performing random spot checks.</p>	

The areas eligible for this method of eligibility house 444,478 people ¹⁷, which could translate to 169,648 geographically eligible households based on Maryland’s average household size¹⁸.

4.3 Marketing

The outreach and marketing plan for the 2024-2026 Program Cycle is focused on the following goals:

- Increase awareness for the EmPOWER LI Programs in general
- Increase awareness amongst clients without access to mainstream media
- Target historically underserved populations and areas
- Target disadvantaged communities

The following marketing plan is expected to generate the necessary applications for the program portfolio to meet its target participant rates.

Method	Frequency	Estimated Reach (# of Households)	Estimated Cost
Community Outreach	Ongoing, as public health situation allows	632 / month	\$1,000 / month
Social Media Campaigns	Annually	131,864 / 3 month campaign	\$12,000 / 3 month campaign
Transit Ads	Annually	20,116,640	\$13,000/ 3 month campaign
Radio Ads	Annually	1,331,400	\$10,000/ 3 month campaign

¹⁷ Population estimates were drawn mainly from the U.S. Census Bureau’s 2020 Demographic and Housing Characteristics dataset. Estimates for Census Tracts 1801 and 1802 in Baltimore City and 8034.01 and 8034.02 were drawn from the 2019 American Community Survey 5-Year Estimates Subject Tables.

¹⁸ <https://www.census.gov/quickfacts/fact/table/MD/BZA110221>

Referral Partner Network	Ongoing	10,000 / month	\$2,000 / month
Marketing Material Distribution	Ongoing	1,005 / month	\$860 / month
Inspector Car Wraps	Ongoing	3,600 /vehicle /month	\$500 /vehicle
Direct Mailing Campaign	Annual	38,610	\$26,700
Utility Bill Inserts or Messages	Semi-annual	10,000	\$0

Community outreach via attendance at local events that are frequented by limited-income customers has been the most successful way to attract new clients with a very high conversion rate. DHCD will hire additional dedicated staff to design and revise marketing activities, application process, and attend outreach events.





Illustration 8 - DHCD Outreach Events

The program will continue to run Social Media, transit, and radio ad campaigns to generate leads. First implemented in 2016, DHCD has since used seasonal Facebook campaigns at least once per year. Considering the relatively low cost and effectiveness of Facebook campaigns, the program will continue to run these ads throughout the next cycle on a bi-annual basis, timed with seasonal events such as an upcoming winter or summer season. Transit / bus ads are mainly focussed on the Baltimore and DC metro areas, while radio ads are played statewide.



Illustration 9 - Social media and transit campaign examples

DHCD has begun to establish a large referral network of organizations that assist limited-income families. Partnering organizations include churches, food banks, Salvation Army, community action agencies, and entities providing similar services. Creating stronger bonds with community-based organizations and coalitions will allow DHCD to better reach the underserved target markets and clients. Considering that these entities have already established trust within their respective communities, they will be able to advocate for DHCD and help to educate the clients about the benefits of the EmPOWER program. DHCD is planning to provide quarterly webinars and ongoing supplies of marketing materials to its referral partners, as well as pursuing referral lists on a monthly basis.

In 2019, DHCD established an online form through which partner organizations, such as utilities and Network Partners, can order marketing materials on an as-needed basis. DHCD orders its materials in bulk and ships them to partners when orders are received. Marketing materials, such as door hangers,

will be disbursed by DHCD's network of contractors while they are in the communities. Available marketing materials include, but are not limited to the following:

<h3 style="text-align: center;">EmPOWER LI Programs Palmcard</h3>  <p>The Maryland Department of Housing and Community Development (DHCD), assists eligible households by providing improvements to the home that can help lower utility bills and make the home more comfortable, at no additional cost. Both renters and homeowners are eligible to apply.</p> <p>Contact us today to find out more: 1-855-583-8976 dhcd.maryland.gov/empower</p> <p>Energy Bills too high? Call to learn about our energy efficiency programs: 855-583-8976</p> <p>DHCD EmPOWER MARYLAND Housing and Building Energy Programs MARYLAND DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT</p> <p>DHCD Housing and Building Energy Programs Maryland Department of Housing and Community Development 7800 Harkins Road • Lanham, MD 20706 1.800.756.0119 • dhcd.maryland.gov TTY/Relay: 711 (in Maryland) 1.800.735.2258</p> <p>Larry Hogan General Kenneth C. Holt Secretary</p> <p>Boyd K. Rutherford G. Counselor Tony Reed Deputy Secretary</p> <p>Energy-saving solutions brought to you by EmPOWER MARYLAND</p>	<h3 style="text-align: center;">EmPOWER MEET Palmcard</h3>  <p>MEET your Energy Efficiency Experts</p> <p>The Maryland Energy Efficiency Tune-up (MEET) Program assists eligible households by providing check-ups of your home at no additional cost. Services may include HVAC tune-ups, appliance maintenance, light bulbs, and energy saving tips for homes that previously received energy efficiency upgrades from the Department of Housing and Community Development.</p> <p>Maryland DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT Housing and Building Energy Programs</p> <p>7800 Harkins Road • Lanham, MD 20706 1.800.756.0119 • dhcd.maryland.gov TTY/Relay: 711 (in Maryland) 1.800.735.2258</p> <p>Energy-saving solutions brought to you by EmPOWER MARYLAND</p> <p>Your Energy Efficiency Expert Name: _____ Company: _____ Phone: _____ email: _____</p> <p>Maryland DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT EmPOWER MARYLAND Housing and Building Energy Programs</p> <p>Maryland DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT Housing and Building Energy Programs</p> <p style="text-align: right;">10/28/2022</p>
<h3 style="text-align: center;">HBEP Programs Overview - Spanish Brochure</h3>  <p>Programas de eficiencia energética</p> <p>¿Necesita ayuda para reducir sus facturas de electricidad?</p> <p>Programas de eficiencia energética</p> <p>Maryland DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT EmPOWER MARYLAND Housing and Building Energy Programs</p>	<h3 style="text-align: center;">Promo Sticker</h3>  <p>I'M SAVING ENERGY!</p> <p>HOW ABOUT YOU?</p> <p>Maryland DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT EmPOWER MARYLAND Housing and Building Energy Programs</p>

Illustration 10 - Examples of Marketing Collateral

Any new inspector car that is added to the fleet will be equipped with an improved version of the car wrap that was first implemented in 2019. The inspector fleet serves as rolling billboards and frequents the neighborhoods where limited-income participants live.

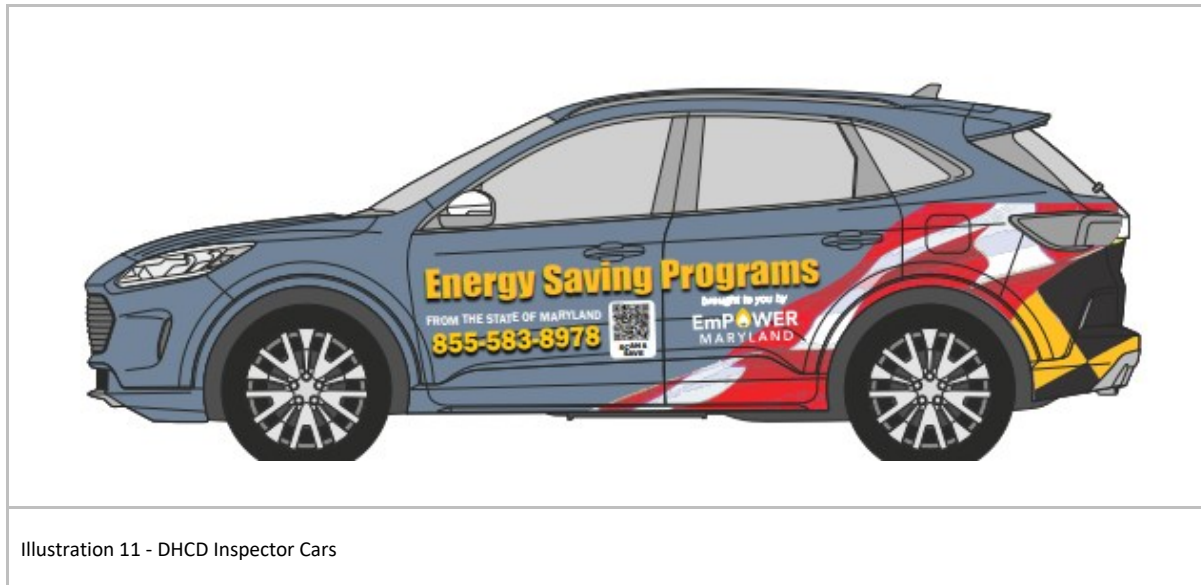


Illustration 11 - DHCD Inspector Cars

Traditional marketing methods such as mailers will continue on a smaller scale for regionally-focused outreach. DHCD will use the direct-mail medium to target specific underserved areas throughout the program cycle twice per year.

The utilities and DHCD have worked together to increase the frequency and volume of their joint marketing efforts and are meeting on a regular basis to coordinate. These include:

- Utilities send client referrals from call center and other utility programs that identify client need (QHEC, Home Performance) to DHCD
- Utilities provide lead lists of limited income customers with high energy use and reconnected service
- Utilities provide DHCD collateral in their limited income relevant outreach efforts
- DHCD attends utility outreach events where possible

- DHCD provides training to utility contractors on how to identify eligible clients and appropriately communicate available services.
- DHCD provides client lists, design assistance, and language review for utility sponsored special campaigns, such as no-cost smart thermostats.
- Joint content creation for limited income targeted campaigns through the utilities' behavior programs
- Utilities also provide bill messages and insert space in utility bills to help promote low income awareness and participation in programs
- Utilities promote BeSmart financing in relevant program materials.

Table 16 - 2021 -2023 Marketing Plan Multifamily			
Method	Frequency	Estimated Reach (# of Households)	Estimated Cost
Social Media Campaigns directed toward MF owners and property managers	Annually	50,000 / campaign	\$15,000
MF Housing Partner Referrals	Ongoing	10,000	\$0
Email Blasts to MF Owners	Semi-annually	7,000 / campaign	\$200
Presentations to MF Owners and residents	As needed	4,000	\$1,000

DHCD has not historically performed any marketing activities for its MEEHA-EmPOWER program. Given the significant savings goal that must be achieved moving forward, however, DHCD is developing a marketing strategy for the next cycle.

This includes deploying social media campaigns directed toward multifamily owners and property managers.

As Maryland's Housing Finance Agency, all applications submitted to DHCD's Multifamily Rental Lending Programs are also reviewed for eligibility for DHCD's energy programs. DHCD continues to rely on its long-standing relationships with the owners and managers of multifamily communities across the State to receive referrals. DHCD has an active lending relationship with the owners of over 50,000 units of affordable rental housing across the State. In addition, through trade groups and organizations such as

the Maryland Affordable Housing Coalition, Housing Association of Nonprofit Developers, National Association of Housing and Redevelopment Officials, Maryland Association of Housing and Redevelopment Agencies, and local municipal housing authorities, DHCD can connect to the owners and managers of many other properties.

DHCD will continue to foster its existing relationships by employing direct marketing to multifamily property owners and managers and email “blasts” to a mailing list with nearly 1,000 members. Other key means of distributing information to multifamily property owners and residents include presentations at industry events and property meetings.

The on-the-ground outreach efforts will also be expanded to the multifamily market to raise awareness of the program. This will include representation at multifamily community meetings and presentations to building owners and residents that have never participated in the EmPOWER program.

4.4 Client Engagement

While marketing efforts have significantly increased the number of individual applications to DHCD’s single-family energy programs tenfold over the past three years¹⁹ and are continuing along that trajectory, the conversion of applications to projects still has room to improve. Currently, an average of 22.3 % of approved applications convert to an energy efficiency project. Increasing the conversion rates of applications that are already in the program, will be one of the most effective ways to increase participation.

Conversion rates differ depending on how the client entered the program, and any efforts to increase conversion will need to take these specific differences into account.

Type of Applicant	Conversion rate
DHCD Direct Applicants	76%
LWA Direct Applicants	66%
OHEP New Applicants post-Energy Kit	29%

¹⁹ DHCD Q3Q4 2022 Semi-annual report, page 18

OHEP New Applicants pre-Energy Kit	21%
OHEP Repeat Applicants	8%

Based on preliminary findings from a study Cadmus performed for DHCD’s programs²⁰, clients drop out of the program process at the following stages:

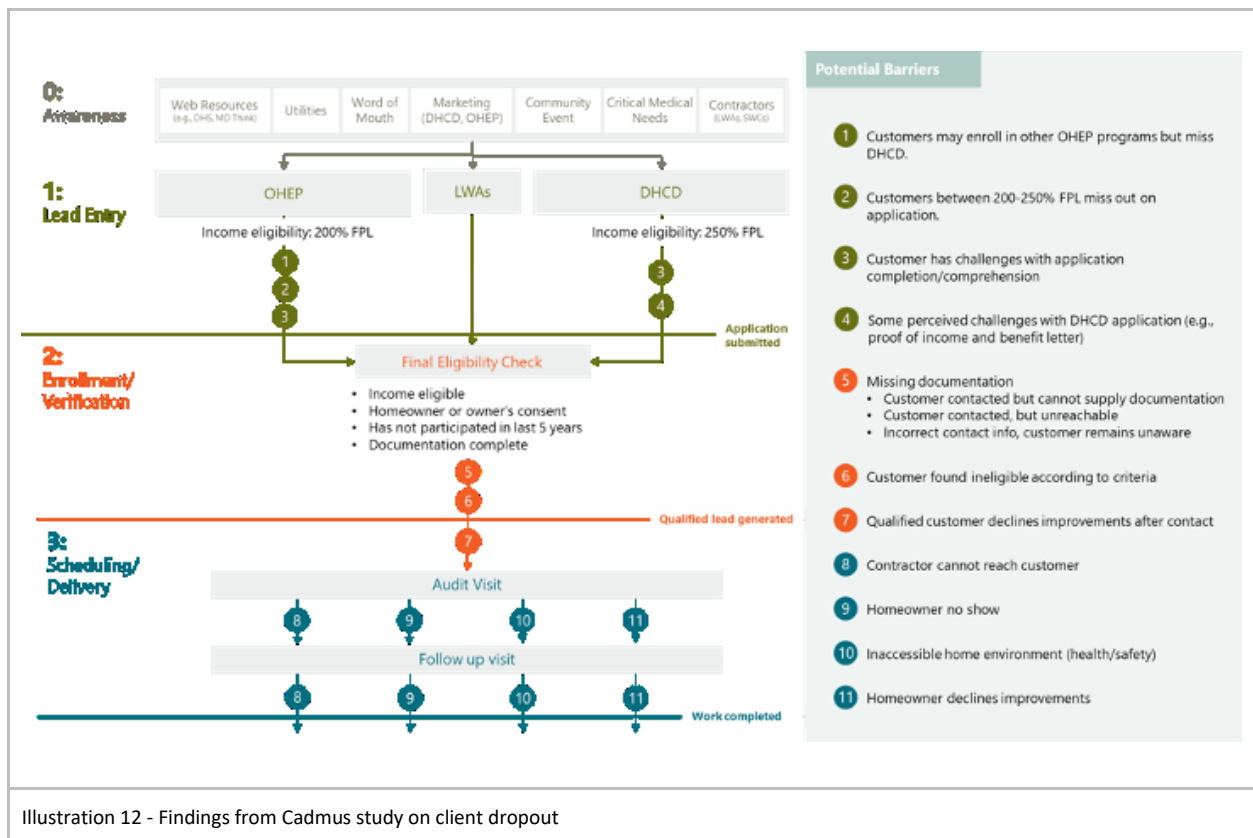


Illustration 12 - Findings from Cadmus study on client dropout

²⁰ The study is not yet final and will be shared with stakeholders as soon as it is available.

DHCD is committed to alleviating barriers to participation in the programs and has been working with the LI Workgroup to identify solutions, including:

- Increase communication and regular follow-up with pending applicants and client referrals
- Use automation and contractors to alleviate workload of follow-ups
- Provide more language options in applications
- Streamline application process and build up capacity to handle volume without delays
- Centralize all program information, including rehab programs
- Build up client call center / customer service capacity
- Provide sales and customer service training opportunities to Network Partners

DHCD will continue to work towards all these efforts throughout the current and future program cycles with the support of the LI Workgroup, and will continue to make modifications to the program as more funding, vendors, and technology become available.

At this point, DHCD is proposing the following specific modifications:

Modification 4.4.A	Allow contractors to certify customer’s eligibility
<p>In the existing program structure, SWCs are not authorized to perform income verification for applicants due to the nature of their contracts and the handling of sensitive personal identifiable information. While DHCD is in the process of modifying contracts as needed for income verification, DHCD is proposing that SWCs should be allowed to certify applications for categorically eligible clients.</p> <p>The verification of categorical eligibility does not involve the handling of sensitive income statements or social security numbers, but only reviewing the same information that is already provided to contractors in every project file. Such information includes total household income, number of household members, utility account number, and client contact information, among others. Currently, around 14% of DHCD applications use categorical eligibility and this number is expected to increase as DHCD deepens its referral partnerships.</p> <p>DHCD will need the help of all Network Partners in order to process the large volume of applications required to meet its targets.</p>	

5 PROGRAM PORTFOLIO

5.1 Portfolio Overview

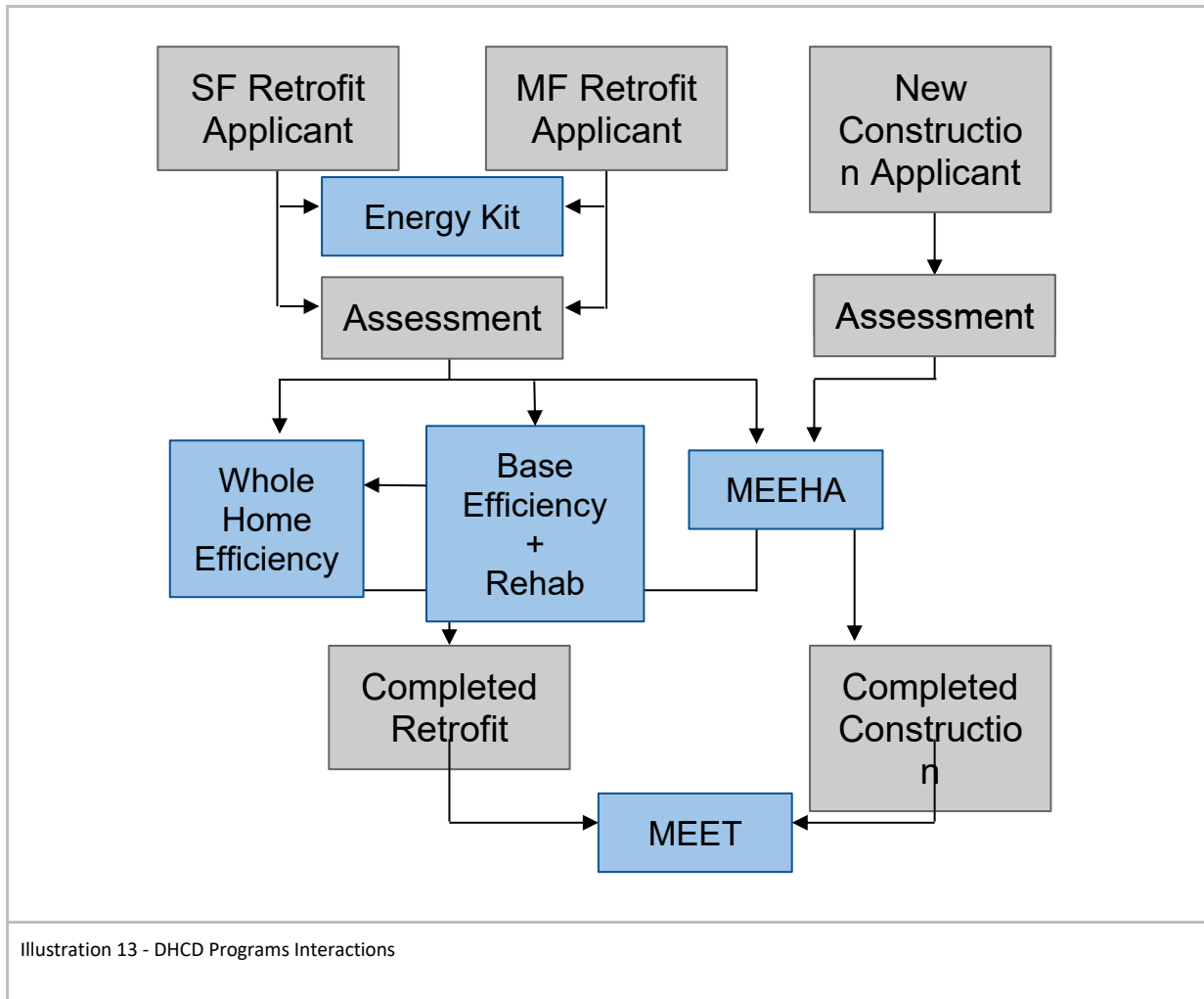
DHCD has implemented the EmPOWER Limited Income Programs for twelve years and is in a unique position to serve limited income families holistically through its various limited-income specific housing programs.

5.1.1 PORTFOLIO COMPOSITION

DHCD's core EmPOWER programs, Whole Home Efficiency and MEEHA, continue the tradition of a whole-home approach, providing limited-income families with all applicable energy upgrades, limited health and safety measures, and incidental repair measures at no additional cost to them. Affordable multifamily property owners are also able to receive assistance for improvements to the common areas of their properties using C&I funds, which provides a true whole building energy retrofit. DHCD's comprehensive model offers all improvements, such as the replacement of major appliances, lighting, hot water conservation measures, HVAC replacement or tune up, air sealing, and electrification measures, within one project. The core programs will continue to operate in the manner authorized by the Commission through prior orders, except where modifications are proposed through this Plan.

In recognition of a diverse market, DHCD includes additional programs into its portfolio that complement the whole home approach and address the needs of those households that do not fit the mold of the traditional programs. Hard-to-reach households can receive initial benefits through the Energy Kit Program. Homes in disrepair can receive individual measures through the Base Efficiency program and DHCD rehab programs. The MEET program extends savings beyond the initial retrofit through ongoing equipment maintenance and identifies additional opportunities.

The program portfolio offers opportunities for all eligible limited-income households that pay into the EmPOWER funds to receive some level of energy efficiency upgrades regardless of ownership status, building type, or building condition.



Modification 5.1.1.A	Prepare for Net-Zero Projects
<p>Commission order no. 90546 suggests that an income eligible Net-Zero Pilot program should be considered by DHCD. The title “Net Zero Energy” refers to projects that have little to no net electric grid energy demand over the course of a year. This means a building is built or retrofitted to use very little energy, then an alternative energy generating system is connected or installed to generate the small amount of energy needed resulting in zero net energy demand.</p>	

The MEEHA-EmPOWER program already funds comprehensive energy conservation projects, essentially completing the first half of this equation. The Whole Home Efficiency program on the single-family side provides less deep construction, but some projects see sufficient energy reduction and have adequate roofing structures that can accommodate solar panels.

To achieve Net Zero Energy, DHCD will need to add Solar Photovoltaic (PV) systems to projects that are built or retrofitted to a high level of energy conservation standard. In absence of a greenhouse gas savings goal and to prioritize funding for deep electric savings, DHCD is not able to offer a full Net Zero program at this time in the program. However, DHCD will continue to develop this concept in anticipation of future EmPOWER directives via the following tasks:

- Continue to provide retrofits to the highest efficiency levels possible
- Identify homes that can be considered net-zero ready and pre-assess them for solar panel capacity
- Apply for solar funding and/or partner with other agencies that can provide solar installations outside of EmPOWER for DHCD’s EmPOWER projects, such as MEA and MCEC.

Modification 5.1.1.B

Roll unspent funds into the following program cycle.

Historically, DHCD carried forward funds from one program cycle to the next, whenever projects encumbered program funds on or before December 31st of the final year of the program cycle. The projects were then completed and the funds were expended through the first year of the new program cycle.

The carried-over expenses and savings were reported separately from the new program cycle funds, but they were not counted nor recognized as new cycle achievements. Stakeholders also often did not include them in the results for the past cycle either. This often resulted in skewing and miscounting DHCD’s accomplishments.

There are also instances when A, budgets are not fully expended because there are not enough projects to commit the funds during the period the budget is available, and B, projects that committed to funding but completed during the carry-over period did not utilize the full funding approved for the project. Both of these scenarios leave funds “on-the-table” that could have been delivered as benefits to ratepayers.

In this new program cycle, DHCD is submitting a budget that excludes carryover funds and instead shows the expensing of all funds and reporting of all savings that occur within the 3-year program cycle. DHCD will have to work with the ERPI group to determine how DHCD should report and account for participation, expenses, and savings for the multifamily projects that can take as long as two years to complete construction.

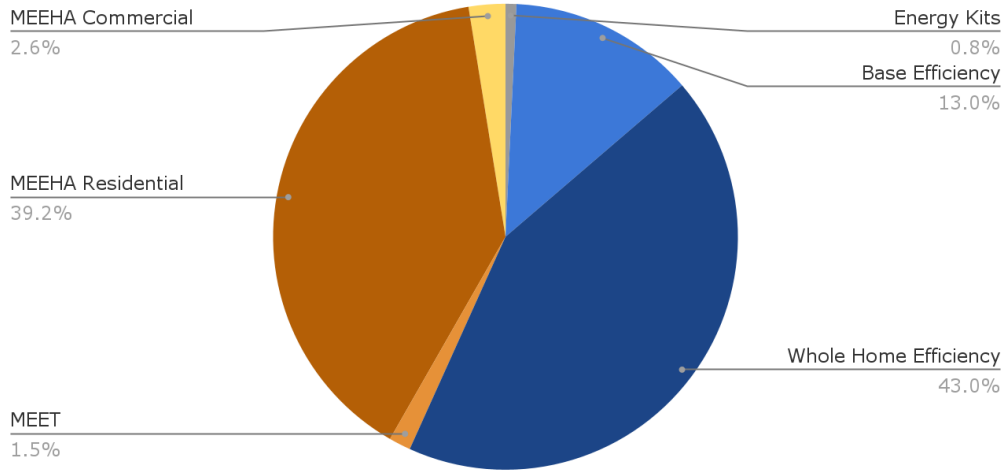
DHCD has two requests under this program modification:

1. Roll unspent committed project funds into the new cycle budget once the unspent funding amount is determined early in the new program cycle.
 - a. DHCD will require projects to submit requisitions for costs through December 31st. The amount of committed but unspent funds will be determined during Q1 of the new cycle and reported with revised budgets in the first semi-annual report.
2. Roll unspent budget funds by utility and budget category into the new cycle budget to fully utilize available and prior approved funds.
 - a. DHCD will determine the amount of unspent budgets in Q1 of the new cycle and report budget adjustments in the first semi-annual report.

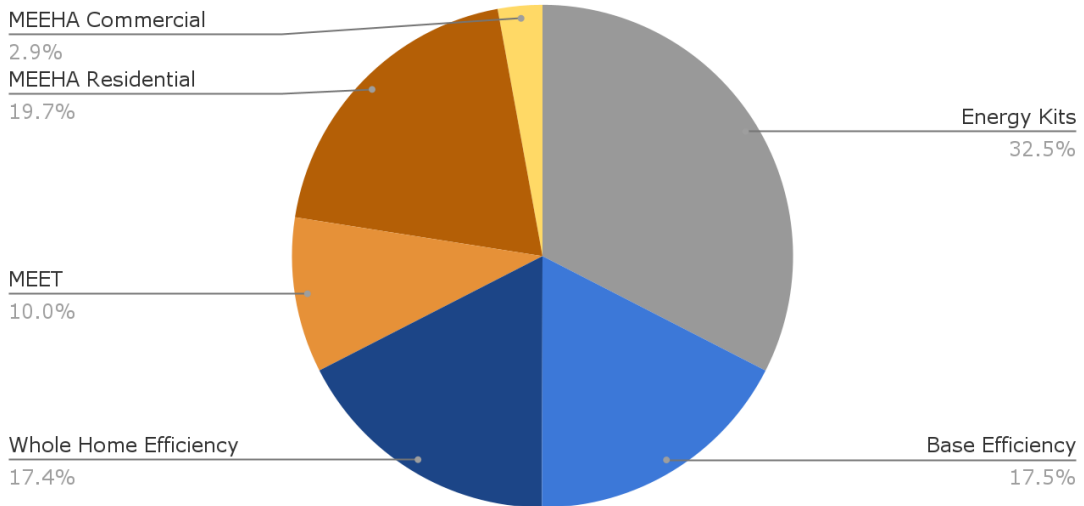
5.1.2 EXPECTED SAVINGS, COST, AND COST-EFFECTIVENESS

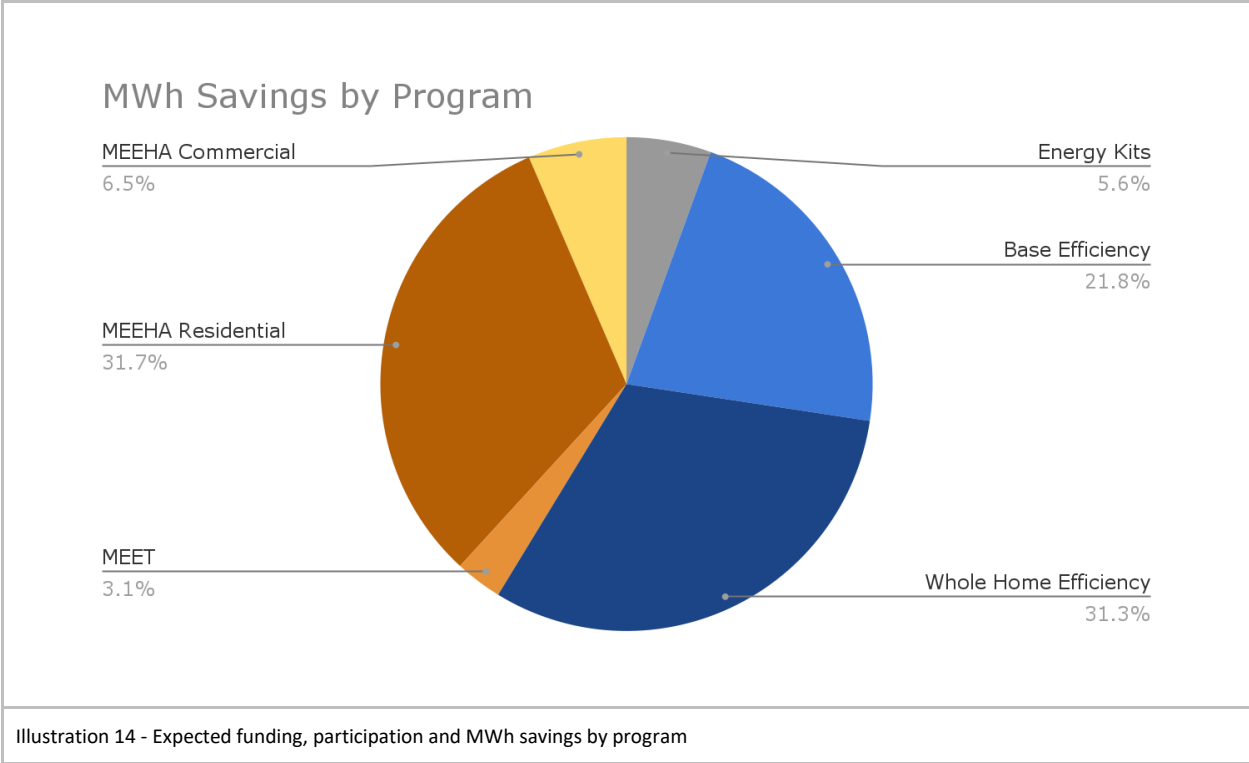
Based on prior experience and analysis of the current housing stock, DHCD expects the program composition to be as follows. Any unexpected variations in these ratios can be addressed with flexibility in program eligibility as well as budget transfers.

Funding by Program



Participation by Program





The program portfolio as a whole expects the following results over the course of the 2024-2026 program cycle:

Table 18 – Program Portfolio Forecast, Cost, and Cost-Effectiveness				
DHCD Total	2024	2025	2026	Total
Annual MWh Savings	26,855	40,211	60,039	127,105
Annual MW Savings	6.544	9.797	14.631	30.972
Participants	21,975	32,910	49,136	104,021
Admin Costs	6,741,260	10,272,395	15,087,582	32,101,237
Incentive Costs	63,501,970	95,089,833	141,970,081	300,561,884
Other Costs	1,826,671	2,783,499	4,088,273	8,698,443
Total Program Costs	72,069,901	108,145,727	161,145,936	341,361,564
Surcharge Impact	Refer to Individual Utility Surcharge Impacts			
TRC Ratio	N/A			
UCT Ratio	N/A			
PCT Ratio	N/A			

SCT Ratio	0.96
RIM Ratio	N/A

The portfolio-wide EUL for the plan as proposed is 14.04. This number represents the weighted EUL according to program EULs provided in the assumptions section.

The EmPOWER programs administered by DHCD not only provide energy savings, but other non-energy benefits that actively support the State’s goals. A few of the more easily quantifiable non-energy benefits that these programs provide are economic impact in the weatherization and energy efficiency industry, environmental impact reduction, and healthcare cost savings. Increasing DHCD’s budget for the upcoming cycle will not only increase the amount of energy savings it is able to achieve, but will have a major impact on the non-energy benefits provided. The implementation of the proposed budget will provide the following non-energy benefits:

1. **Job creation for Maryland small businesses**²¹ - This budget will have a direct impact of securing or creating nearly 2,600 jobs, while indirectly creating 5,800 jobs. This is an economic benefit to Maryland small businesses of nearly \$65 million over three (3) years.
2. **Environmental benefits**²² - The proposed Programs are expected to save 94,350 metric tons of CO2 equivalent emissions annually.
3. **Health benefits**²³ - DHCD of Energy’s Weatherization Assistance Program found that each limited-income weatherization project provided health-related benefits estimated to be \$14,148 per household, or \$3 for every program dollar spent. This will equate to a total of almost \$612 million of healthcare related savings realized through the implementation of the Programs.

The work performed by these Programs and the dollars invested in the housing stock and small businesses of Maryland has a lasting impact outside of the kWhs it saves through energy efficiency.

5.2 Whole Home Efficiency - CORE PROGRAM

²¹ Source: Network Partner Survey 1, and <https://www.epi.org/publication/updated-employment-multipliers-for-the-u-s-economy/>

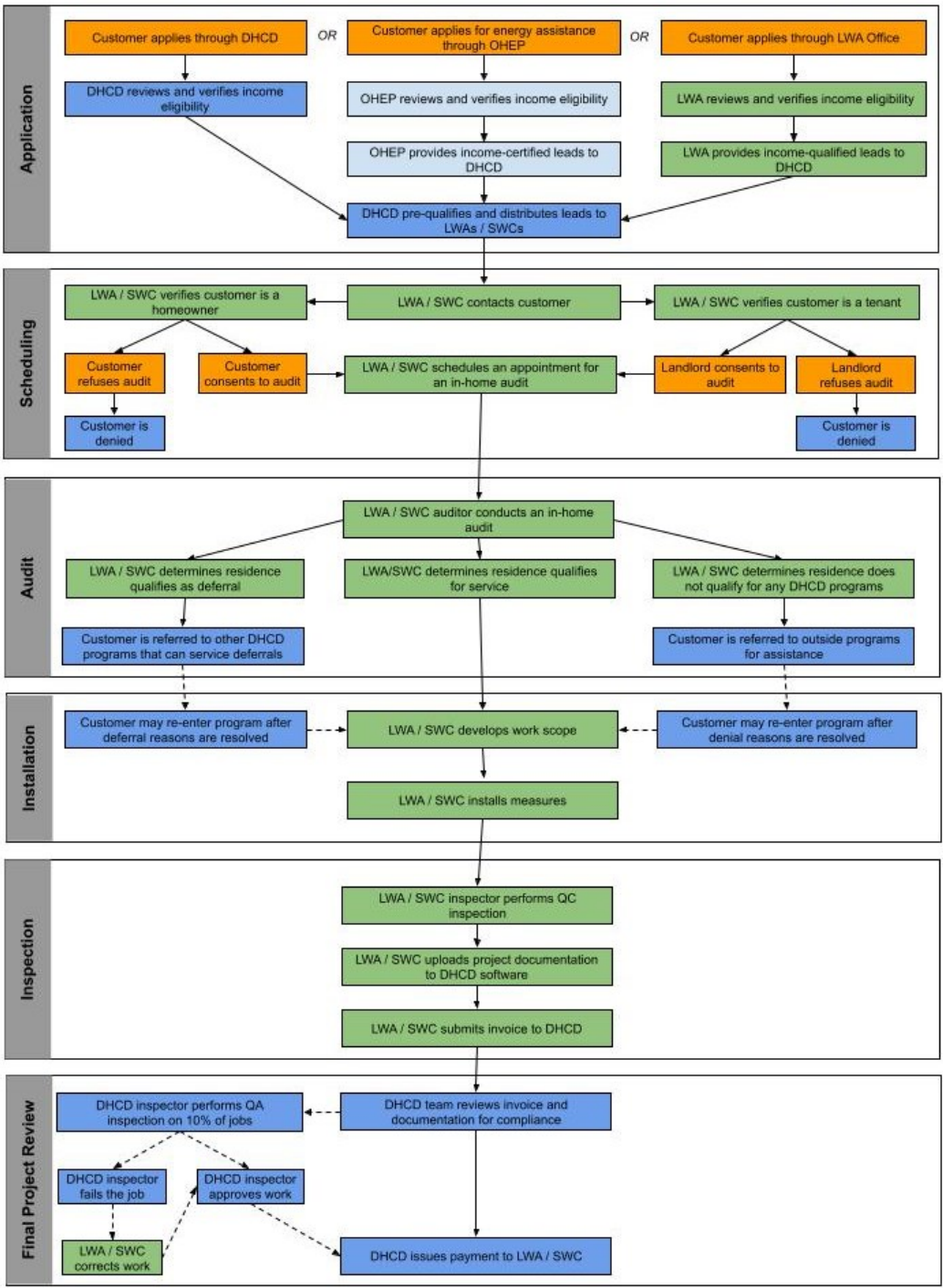
²² Source: <https://www.epa.gov/avert/avert-web-edition>

²³ Source: https://weatherization.ornl.gov/wp-content/uploads/pdf/WAPRetroEvalFinalReports/ORNL_TM-2014_345.pdf

5.2.1 PROGRAM OVERVIEW

The Whole Home Efficiency program originated as LIEEP in 2012 and has been DHCD's comprehensive energy program for individual households since then. Through this program, participants receive comprehensive energy retrofits directly from a pre-selected and qualified Network Partner. Network Partners can be private home improvement contractors as well as non-profits and local governments. They are selected through competitive bidding procedures that ensure high quality of services at the best prices. Network Partners receive extensive training from DHCD and have national credentials. They communicate with the clients, conduct comprehensive home energy audits, identify all eligible measures and programs, and install the eligible measures for each participant. This project management model is hassle-free for the participant and can typically be implemented more quickly than a grant can be issued to the property owner.

DHCD's HBEP division provides the contracting services, management, technical assistance and administrative support for its programs. Its staff plans forecasts and production rates, pre-qualifies applicants and connects them with a Network Partner, performs quality assurance of projects, manages funding distribution and spending levels, and pays Network Partners for accepted work. The following chart describes all steps involved in the process.



Objectives for this program in the 2024-2026 program cycle include:

- Increase participation
- Continue to provide comprehensive weatherization to those homes that are in good condition or able to be repaired
- Contribute to legislative savings goals
- Assess and prepare homes for future application of GHG saving measures

5.2.2 TARGET MARKET ANALYSIS AND ELIGIBILITY

Single-family Households

In the single-family market, many applicants have received some form of prior energy efficiency work. Applicants are typically the same clients who are aware of assistance programs, are good candidates, and keep re-applying. Applicants that have been turned away in the past due to their house being in bad shape, or otherwise not qualifying, are less likely to re-apply.

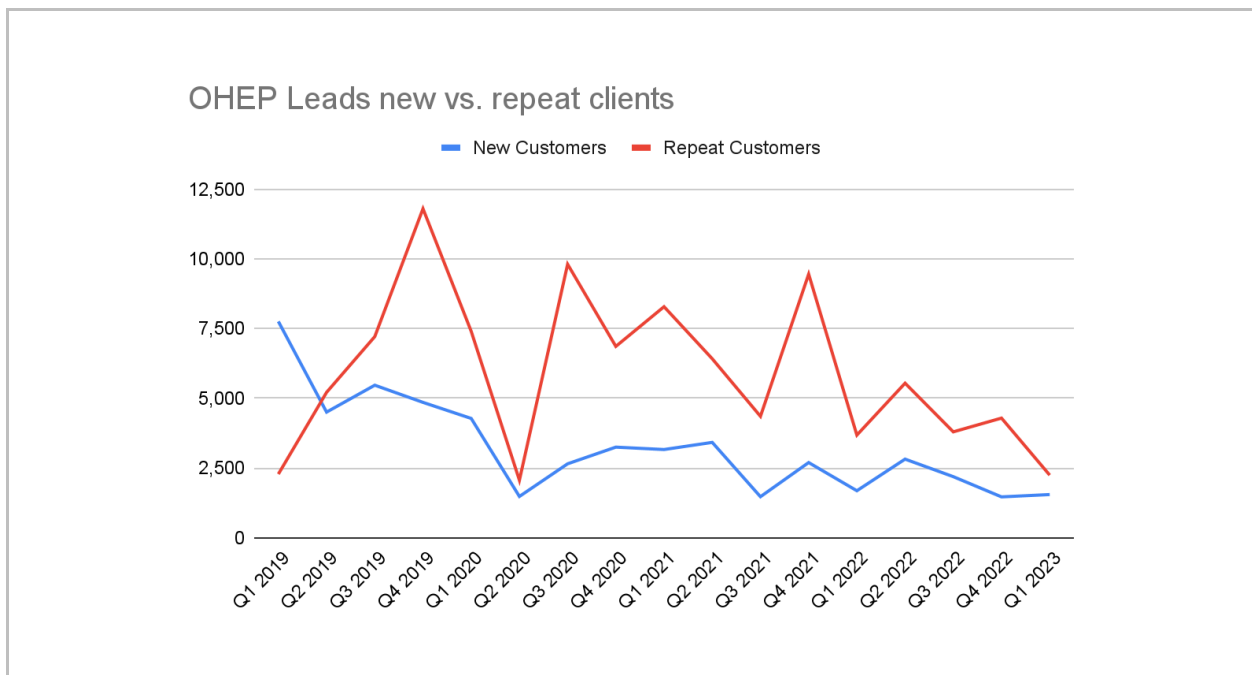


Illustration 16 - Number of OHEP leads that are new clients vs. repeat clients

Since 2020 DHCD has seen a greatly reduced number of applicants through the OHEP program. This change can be attributed to a number of factors including the redetermination process that does not require an application as well as a large payoff of utility bill arrears through covid relief funds. Customers feel less inclined to apply for utility assistance if they are not behind on payments. While our partners at OHEP are attempting to increase program participation, these trends have caused disruptions in the program operations. DHCD can no longer rely on the volume of referrals from OHEP and has shifted its focus on actively pursuing additional avenues.

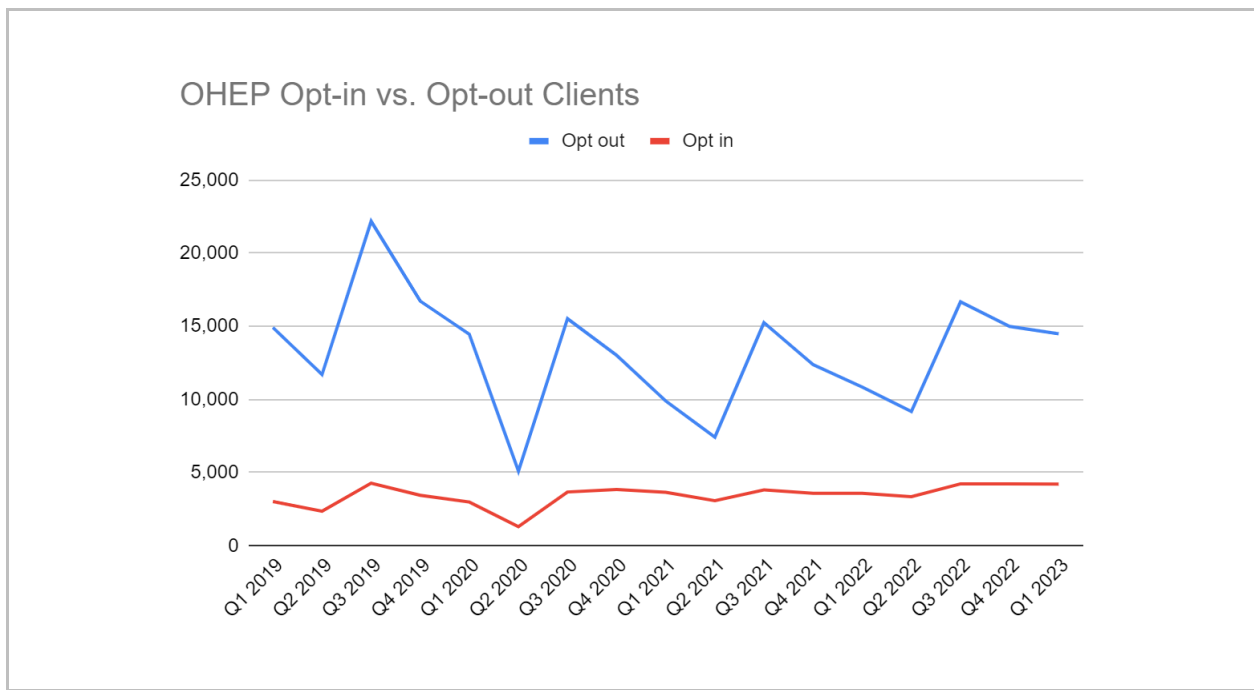
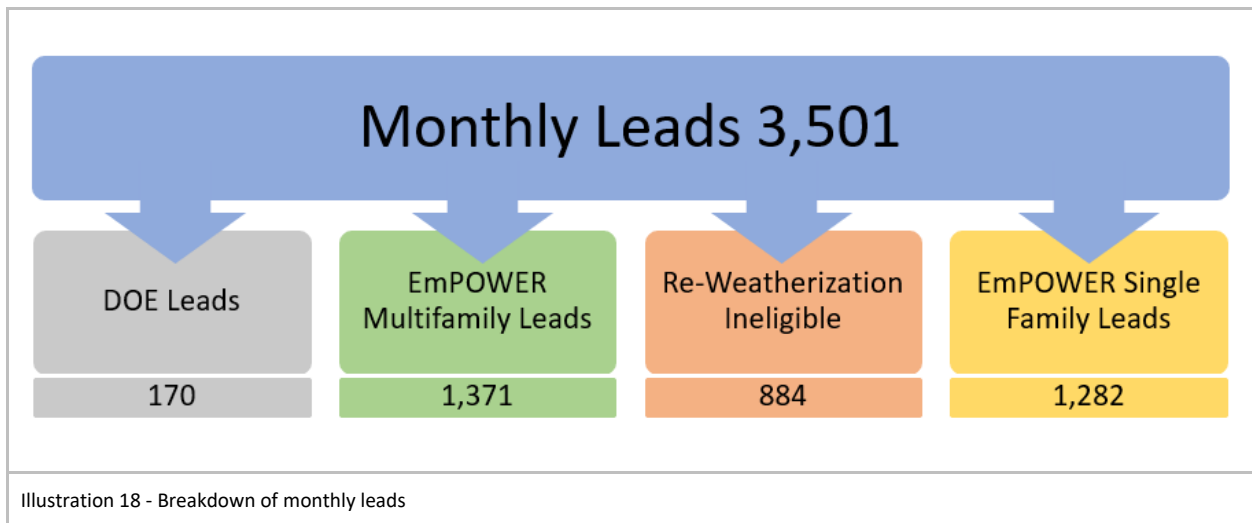


Illustration 17 - Number of opt-in vs. opt-out clients

Overall, delivering comprehensive single-family treatment is becoming less straight-forward. Repeat customers have already received some sort of treatment in the past, leaving only the opportunity to install additional LEDs and some appliances or HVAC that were not available in past programs. Around 50% of homes that have not received service yet are in a state of disrepair that cannot be treated within the health & safety / repair constraints of the energy focused programs. Previous attempts to expand

repair spending under the EmPOWER program have been denied, therefore, DHCD is focusing on expanding its offerings and access to rehab funds through non-EmPOWER sources.

DHCD currently receives an average of 3,501 income-certified individual applicants per month. 60% of the applicants live in single-family homes. Any multifamily applicants are split out from the single-family list and treated as leads for MEEHA or LIEEP's multi-unit track. On average, 170 of the qualified leads are assigned to the DOE Weatherization Assistance Program every month because they do not have a qualifying utility account. With the removal of any repeat applicants that are not eligible for re-weatherization (26% of all applicants), an average of 1,282 qualified leads are assigned to the Network Partners every month for access to the EmPOWER single-family program.



In the single-family market, the houses that are still left to weatherize are in worse condition than the early program participants. Many of the homeowners that are aware of program opportunities and focus on home improvement have already participated. The remaining homes are more neglected, and have a higher rate of rentals. Oftentimes these homes have already been deferred in the past and are continuing to deteriorate.

Deferral Reasons

H1 2022 Sample (408 Jobs)

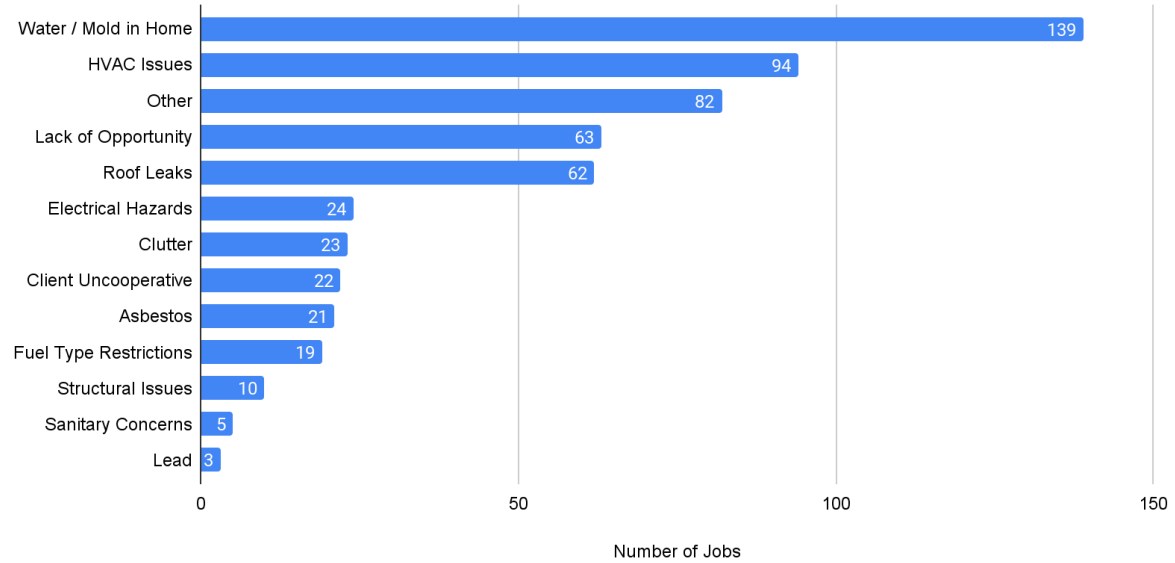


Illustration 19 - Reasons for home deferrals

Home deferrals are oftentimes due to multiple factors. The table represents the number of times a specific factor occurs.

Single-family Eligibility

In addition to being income qualified and eligible as described in section 4.2, households must currently meet the following criteria to be eligible for comprehensive service:

- The home must have an electric primary heating system, and / or central AC system, and /or summer or winter usage is at least 2,000kWh above base load. Alternatively, a home with Natural Gas as primary heating source must have BGE or WGL as its gas provider. Homes that do not meet this requirement are typically transferred to the DOE WAP program or can be serviced through the Base Efficiency Program.
- The home must provide sufficient opportunity for DHCD to perform full weatherization and meet program guidelines for all such measures. Homes that have previously received building

shell measures typically do not meet this requirement and would be deferred to the Base Efficiency Program.

- Any necessary non-energy repairs must be resolvable within the program’s allowable expenses for such items. Homes in severe disrepair may not meet this requirement and would be deferred to the Base Efficiency program as well as applicable rehabilitation programs.

5.2.3 PROGRAM MODIFICATIONS

DHCD has worked closely with the LI Workgroup to enhance program delivery and address the concerns of the various stakeholders. DHCD’s primary focus is to increase program participation and meet the legislative savings goals. This will be achieved through enhanced program delivery, as described in this section, and significant modifications in measures and incentive structure, as laid out in the following sections.

To increase production and achieve forecast goals, DCHD has to expand its Partner Network. DHCD is currently in the process of issuing a Request for Proposals (“RFP”) to procure additional contractors and weatherization agencies for the new program cycle. DHCD is seeking to nearly double the number of Network Partners available to perform work for this program from 18 to 30.

The Whole Home Efficiency program is well established and continuously improved throughout program cycles, therefore only a few modifications will be necessary to meet the program goals.

Modification 5.2.3.A	Adjust job cost caps to match inflation
<p>The expenditures for a comprehensive energy efficiency retrofit under this program have been capped at \$12,000 since 2015, while the cost of material and labor has steadily increased. The cost increases have made it increasingly difficult to provide comprehensive work scopes as measures that could yield good energy savings have to be skipped because they do not fit into the overall job cost cap.</p> <p>Based on the inflation calculator issued by the federal Bureau of Labor Statistics, \$12,000 in 2015 is equivalent to about \$15,361.29 in purchasing power in 2023, an increase of \$3,361.29 over 8 years. This figure only represents overall inflation and does not account for the even higher price increases in the construction market specifically, which amount to a 60% increase²⁴. In addition, the new savings</p>	

²⁴ <https://www.census.gov/construction/cpi/index.html>

targets law requires contractors to provide certain benefits and wages, which is also expected to increase project cost.

To account for the increased costs, DHCD proposes the hard cap for energy efficiency jobs to be set at \$16,000. This will allow the program to continue to install comprehensive work scopes. The hard cap is a not-to-exceed amount that only needs to be maxed out for homes requiring extensive work and where no other funding is available to leverage. The majority of jobs will cost less than the hard cap. In 2022, the average job cost was \$6,900.

Modification 5.2.3.B

Issue funds directly to individual projects as grants or loans

The benefit funds for this program have historically not been paid directly to participants. They are disbursed to DHCD’s Network Partners, who perform the work for the participants.

In order to reach more potential customers, DHCD asks to have the ability to issue funds directly to participants, where beneficial. This would enable DHCD to issue EmPOWER funds together with other programs, such as DHCD’s Rehab programs, HOW program, Broadband program, and other DHCD programs that issue funding to participants directly. The EmPOWER funds would be issued together with the other programs funds in the same transaction. This request aligns with the Energy Performance Targets and Low–Income Housing Law and allows DHCD to more efficiently and effectively leverage its other programs with EmPOWER funds.

By tapping into DHCD’s existing funding infrastructure, existing DHCD participants would not need to apply for the EmPOWER programs separately and could access energy saving measures through the same funding mechanism they were already approved for as grants or deferred loans. DHCD would offer this option to all program participants that are deemed categorically eligible. See section 4.2 for categorical eligibility.

This solution allows the program to scale up production with minimal administrative burden, reduces the customer’s burden to fill out multiple applications, DHCD will be able to complete more energy projects by providing upgrades to an existing customer base, and the program will promote the installation of higher efficiency equipment where base level equipment would likely be installed otherwise. This method of providing funding is already in place for the MEEHA program.

Instituting this change to the programs has the potential to provide an additional 325 units annually. This estimate is based on the program production of 9 DHCD programs focused on providing special loans.

In order to maintain work quality and price control, DHCD will require that projects using this funding method choose one of DHCD's prequalified contractors for completing the energy components of the scope of work.

Modification 5.2.3.C

Increase the installation rate of HVAC equipment

In past evaluation reports, Cadmus noted that the installation rates of HVAC equipment is relatively low in this program and HVAC equipment replacements, specifically heat pumps, could add high savings to a job. In analyzing job data, DHCD found that the landlord contribution requirement is a deterrent for HVAC system replacements. In 2022, 96% of HVAC and large appliance replacements were for homeowners that do not need to contribute to the cost. Only 4% of the replacements were for renters where landlords agreed to contribute. For comparison, in the DOE WAP that does not require a landlord contribution, replacements are provided to renters at a rate of 36%. Clients who cannot access DOE funds therefore miss out on crucial savings.

In the past, the stakeholders suggested that landlords should continue to contribute to the cost of a system that is their legal responsibility to maintain. Currently, the EmPOWER program pays for up to 50% of the system cost, up to 25% can be made up by leveraged funds, if available, and the remaining balance has to be contributed by the landlord. However, the current program numbers demonstrate that the contribution deterrent persists and renters lose out on valuable energy savings due to landlords refusing efficient HVAC equipment that they would have to contribute to, while the existing HVAC equipment is functional.

Therefore, DHCD proposes to remove the requirement that the 50% contribution of HVAC equipment cost come directly from the landlord. To align the benefit in this program with the benefit renters can receive from the MEEHA program, DHCD proposes that the EmPOWER contribution funds up to 85% of the project cost. The remainder can be made up through any other private or public funding.

5.2.4 ELIGIBLE MEASURES AND INCENTIVES

DHCD developed a cost-effective list of eligible measures that provides consistency in project delivery. Each measure is tied to technical criteria that specify minimum efficiency requirements to ensure cost-effectiveness. The measure list aligns with current market opportunities, program goals and the Mid-Atlantic TRM v.11 and is attached in the Appendix.

Per Commission order no. 89404, issued on December 20, 2019, DHCD was approved to update its measure prices based on the procurement of Network Partners using the States competitive bidding process. Therefore, measure prices remain unchanged from the current cycle pricing at this point, and will be updated per the required process when DHCD's next procurement concludes.

The incentives for this process are paid directly to the LWAs and SWCs that implement the services. Network partners are held responsible for implementing all eligible measures under the guidelines described in DHCD's Program Operation Manual.

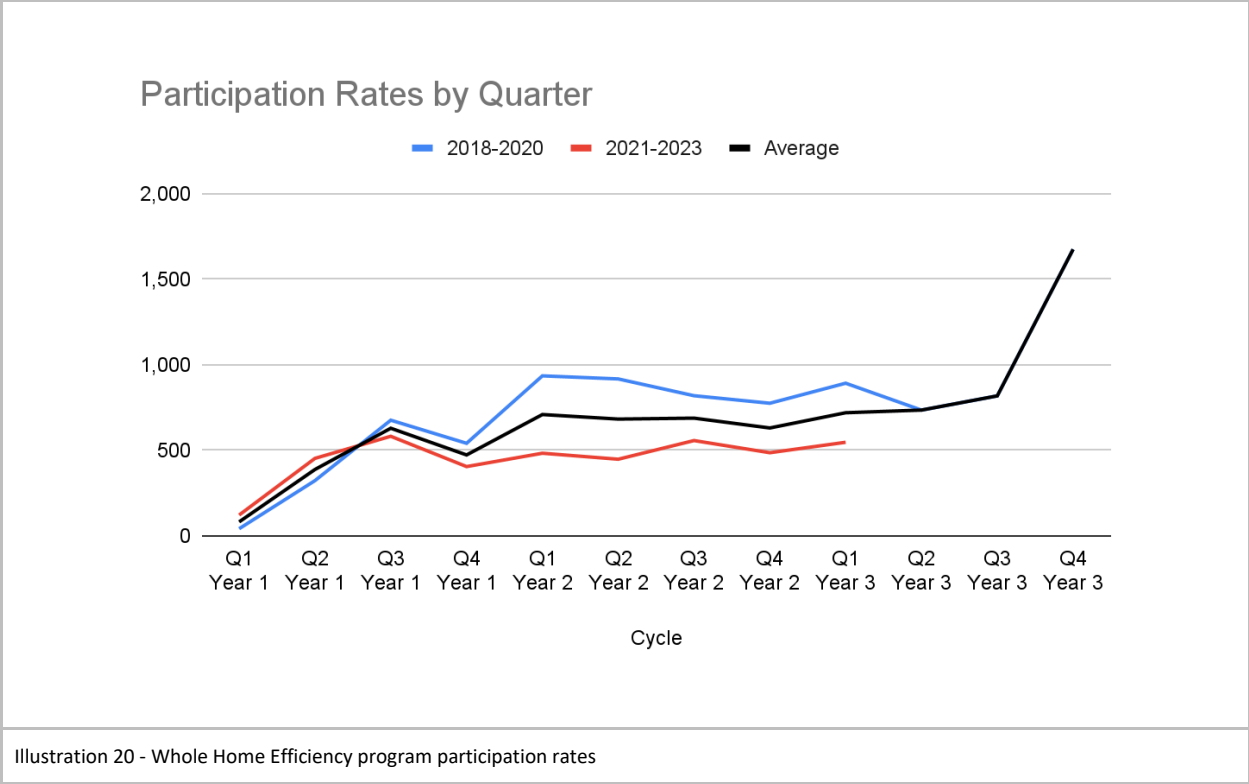
Total household incentives are capped at the following levels:

Measure Category	Cost Cap
Total Job Cost	\$16,000 per job (see modification 5.2.3.A)
Health and Safety	\$1,000
Incidental Repairs	<ul style="list-style-type: none">● Factored into the SIR for energy model jobs, limited by amount of energy savings● Up to 30% of total job cost for priority list jobs

5.2.5 EXPECTED SAVINGS, COSTS, AND COST-EFFECTIVENESS

Expenditure and savings forecasts for this program are based on the average cost per unit and verified savings delivered in each service territory during DHCD's administration of the 2021-2023 Whole Home Efficiency program. The forecast calculations are further described in the Assumptions section.

The full cycle forecast was spread over the three cycle years based on the average of the production rates achieved in the 2018-2020 and the 2021-2023 cycle.



Expected results are shown in the table below.

Table 20 - Residential Savings, Costs, and Cost-Effectiveness				
Whole Home Efficiency	2024	2025	2026	Total
Annual MWh Savings	8,418	12,604	18,818	39,840
Annual MW Savings	2.056	3.076	4.597	9.729
Participants	3,834	5,742	8,574	18,150
Admin Costs	3,470,040	5,287,681	7,766,280	16,524,001
Incentive Costs	26,577,525	39,798,016	59,418,840	125,794,381
Other Costs	1,156,679	1,762,559	2,588,759	5,507,997
Total Program Costs	31,204,244	46,848,256	69,773,879	147,826,379
Surcharge Impact	Refer to Individual Utility Surcharge Impacts			

TRC Ratio	N/A
UCT Ratio	N/A
PCT Ratio	N/A
SCT Ratio	0.67
RIM Ratio	N/A

5.3 MEEHA - CORE PROGRAM

5.3.1 PROGRAM OVERVIEW

The MEEHA - EmPOWER program issues program funds as grants and loans to affordable housing projects for energy efficiency improvements that have a direct impact on residential or C&I utility accounts. Providing energy efficiency funding to affordable housing projects helps to reduce occupant and property owner utility bills and therefore assists the targeted market of limited-income residents.

DHCD has procured Hancock Energy Software Inc. to develop an integrated database to be used by the program. This database will be the central point of communication for DHCD to implement the program in this new cycle. The database will have the capabilities to allow access for multifamily owners and developers to submit application information, energy conservation measure (ECM) information, and requests for payment. DHCD staff will be able to interact with program participants in a more centralized and efficient manner. The new database will also be able to calculate energy savings.

DHCD expects the use of the database to result in reduced application to construction timelines, increased transparency regarding project funding, more consistency in energy savings calculations, and will provide a better overall participant experience.

Qualified Energy Auditors will have access to the Hancock database when selected by a project owner. They will use it to enter energy conservation measure recommendations at which time the database will calculate energy savings. Previously, the program required Qualified Energy Auditors to calculate energy savings through the use of one of four building energy modeling softwares. DHCD will continue to accept energy savings calculations from the previously accepted building energy modeling softwares for projects that submit their applications and energy calculations prior to the beginning of this program cycle. DHCD will also accept energy savings calculations from the previously accepted energy modeling

softwares on a case by case basis when the Hancock database cannot perform the necessary energy savings calculation for measures that are not included in the database's library.

DHCD will continue to administer this program in accordance with the established existing procedures, with modifications as described in section 5.3.3. The funding process contains several stages to move a project from application to completion. These stages include Application, Project Review, Underwriting and Legal Review, Construction, and Complete.

The implementation process is described in greater detail in the following process chart.

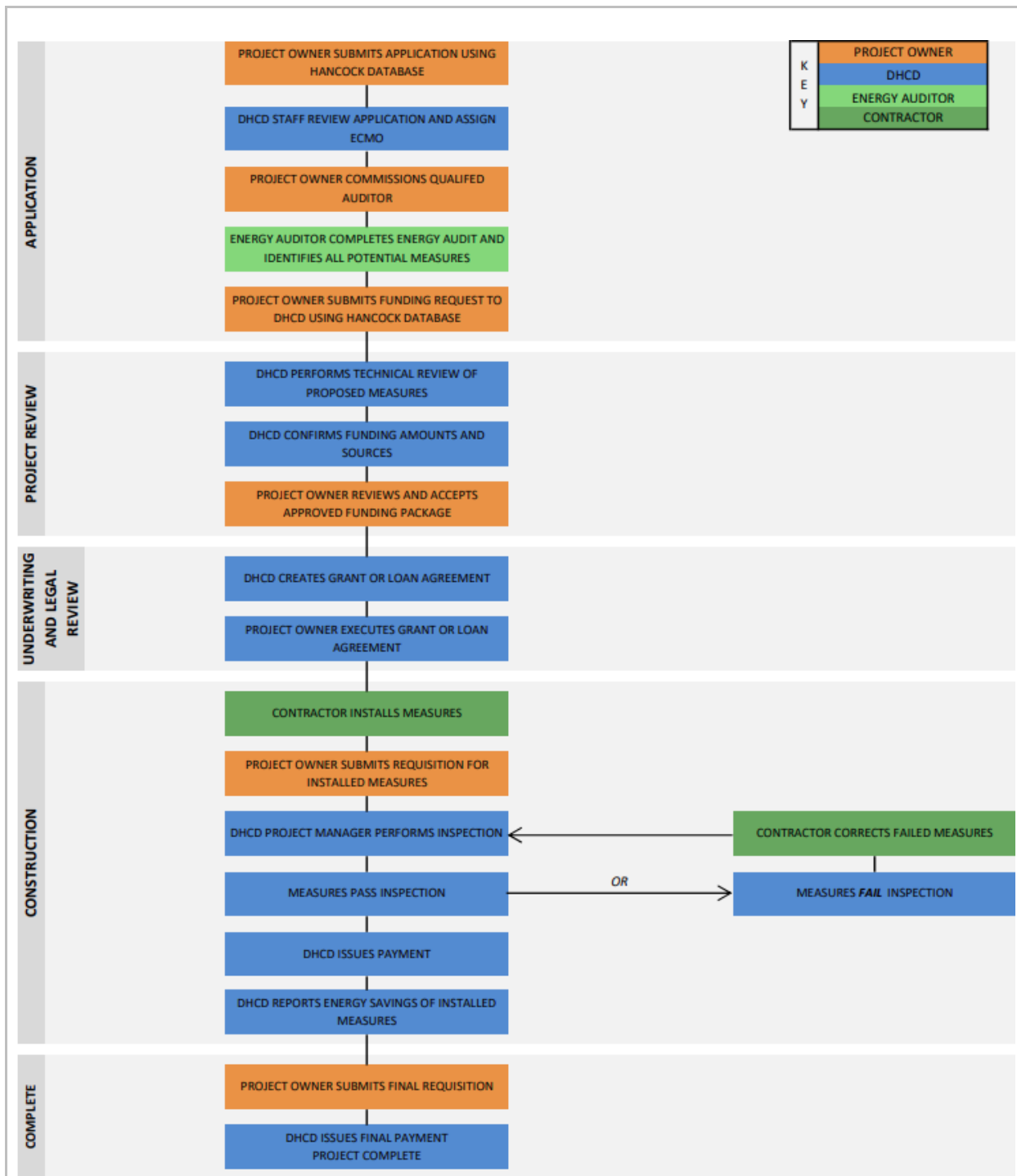


Illustration 21 - MEEHA program process chart

5.3.2 TARGET MARKET ANALYSIS AND ELIGIBILITY

The MEEHA program is finding a large amount of energy efficiency upgrade opportunities in the older housing stock of Maryland’s multifamily buildings. Older multifamily buildings were built to older building codes and are inherently less efficient, leaving significant opportunities for program funding.

The program has provided outstanding customer service and flexibility in funding and has therefore grown in notoriety. Many of the program’s previous customers continue to return to the program for other projects within their portfolio. Continued outstanding customer service and ample opportunities for energy efficiency improvements cause the Program to be in very high demand.

5.3.3 PROGRAM MODIFICATIONS

The MEEHA-EmPOWER program is successful; however, there are a number of potential improvements that will further enhance the efficiency and effectiveness of the program. These improvements will reduce application time and increase measure implementation efficiency through the use of a Measure Funding List to define not to exceed funding amounts for projects.

Modification 5.3.3.A	Define measure incentives using a Measure Funding List
<p>Historically, the Savings to Investment Ratio (SIR) has been used to determine the funding amount for each energy conservation measure and the project as a whole. Most measures, whether residential or commercial, require the project to share the cost of the measure in order to meet the SIR requirement. The SIR requirement has resulted in unintended consequences including; a high share cost to the owner and some inequity in funding amounts across the State with projects in utility territories with high utility rates receiving more funding for the same measure than projects in utility territories with lower utility rates. The high cost share has resulted in measures being removed from the scope of work in most projects, and many projects have withdrawn their application due to not being able to afford the cost share.</p> <p>This modification request is to remove the use of the SIR to determine funding amounts for energy conservation measure improvements. Instead, a Measure Funding List will be used to determine funding for each project.</p>	

At times, applicants have stated that there is a lack of transparency and some confusion regarding determining project funding. This has also been noted in previous evaluation reports by DHCD's independent evaluator, Cadmus. The use of the Measure Funding List will increase transparency and consistency in funding amounts for each project, effectively reducing the confusion about funding amount determination.

The scope of work will continue to be developed by a Qualified Energy Auditor who will follow program guidance and industry standards to perform the energy audit and create the list of recommended measures. DHCD expects to continue to share some of the cost with the project owner for most ECM's.

This modification was discussed at planning meetings with over 50 stakeholders in attendance. The LI Workgroup stated its support for this request in those program planning meeting discussions.

Modification 5.3.3.B

High performance building design for new construction projects

All affordable multifamily housing properties in MD that receive or want to receive tax credits or any other State issued assistance must apply to DHCD to get that assistance. In other words, a majority of the state's affordable housing projects come through DHCD at one point or another for some level of financing or other assistance.

The program currently funds new construction projects and while interest in funding is high, only a small number of projects pursue funding. The program has also not been able to capture all of the savings in these projects due to the current funding mechanism having a limited selection of measures. Additionally, many projects have not pursued funding for new construction projects due to the limited measures offered for new construction projects.

DHCD is proposing to incentivize new construction projects by funding the design and achievement of nationally recognized certifications. Projects that achieve any of the certifications listed below will receive the stated incentive for that certification for each unit included in the project. Projects that receive multiple certifications can stack incentive amounts increasing the total funding amount for the project. The certifications and funding amount for each certification are listed in the table below:

Certificat	Incentive
------------	-----------

ion	Amount (per unit)
Energy Star New Construction	\$700
Energy Star NextGen	\$600
Zero Energy Ready Home	\$1,500
Passive House Institute (US)	\$1,500

- The Energy Star New Construction certification is an EPA certification which requires the project to be built to specific energy efficiency standards. Energy Star certified projects are at least 10% more efficient than homes built to code.²⁵
- The Energy Star NextGen²⁶ certification adds onto the Energy Star New Construction certification with higher requirements for space and water heating as well as other requirements.
- The Zero Energy Ready Home (ZERH) certification is a federal Department of Energy certification that requires increased energy efficiency standards for the building shell, appliances, and/or space and water heating conditioning equipment, and prepares homes so renewable energy can cost effectively offset most or all of their annual energy consumption. ZERH homes are 2%-8% more efficient than an Energy Star home.²⁷

²⁵ https://www.energystar.gov/partner_resources/residential_new/about

²⁶ https://www.energystar.gov/newhomes/energy_star_nextgen

²⁷ <https://www.nrel.gov/docs/fy16osti/64762.pdf> page ix

- The Passive House Institute of the United States (PHIUS)²⁸ issues certification for residential projects built to a very high standard of building shell, space and water conditioning equipment, thermal bridge elimination, high standard for air tightness, and balanced unit ventilation with heat recovery.

Modification 5.3.3.C

Active solar heating systems (solar thermal)

Active solar heating systems use solar energy to heat a fluid which transfers the solar heat to an interior space or water heating system.²⁹ This energy conservation measure has been mistaken as an energy generation measure in the past but no electricity is generated from these systems. The program will fund these systems as it does other energy conservation measures.

5.3.4 ELIGIBLE MEASURES/SERVICES

Measures eligible for funding include:

- Energy audit
- Exterior envelope draft stopping/air sealing
- Interior air sealing between dwelling units, chases, unconditioned spaces
- Duct sealing
- Interior/exterior LED lighting
- Insulation
- Low flow faucet aerators and shower heads
- Cooling Tower replacement/repair
- Programmable or smart thermostats

²⁸<https://www.phius.org/certifications/projects/project-certification-overview>

²⁹ <https://www.energy.gov/energysaver/active-solar-heating#:~:text=Active%20solar%20heating%20systems%20use,system%20provides%20the%20additional%20heat>

- Controls, devices or equipment which increase the efficiency of existing HVAC equipment or systems
- Energy Star or high performance HVAC equipment or systems
- Energy Star appliances (refrigerators, dishwashers, laundry, induction cooktops)
- High efficiency domestic water heaters or distribution equipment
- Energy recovery ventilation devices
- Energy Star windows
- Elevator motor and controls
- Variable speed pumps
- Variable speed ventilation
- Other qualifying energy conservation measures identified in the project energy audit
- Health and safety and incidental repairs as approved in prior cycles
- High Performance Building Design Certifications (new offering)
- Active Solar Heating Systems (new offering)

Services:

DHCD provides an incentive for Qualified Energy Auditors to perform energy audits according to program guidelines. Qualified Energy Auditors perform on-site inspections to collect data, create a list of recommended energy conservation measures and enter the existing condition information as well as the recommended energy conservation measures into the Hancock Database. Qualified Energy Auditors are strongly recommended to assist project owners in accessing other sources of Federal or State funding to leverage with MEEHA-EmPOWER program funding.

DHCD will no longer provide incentives for Qualified Project Managers as the new Hancock Database will perform many of the required actions of a Qualified Project Manager.

5.3.5 CUSTOMER INCENTIVES

Funds are used to provide loans and grants for the purchase and installation of energy conservation measures identified by an energy audit completed by a Qualified Energy Auditor. The option to receive energy efficiency funding as a grant or loan has proven beneficial for project owners for a number of reasons, which include project owners having the ability to use their preferred contractors or their own maintenance staff to implement the funded measures. This financing structure also enables easier integration with LIHTCs or other rental housing financing assistance programs that evaluate a project's financial position.

Modification 5.3.3.A will change the incentive structure provided by the program to being a maximum amount for each measure. If a Qualified Energy Auditor determines that a measure should be replaced based on program guidelines, that measure will receive the funding amount stated in MEEHA-EmPOWER Measure Funding List. If the actual cost of the measure is less than the maximum funding amount, only the actual cost of the measure will be funded, as determined by contractor invoices.

The incentive amounts stated in the MEEHA-EmPOWER Measure Funding List were determined based on historical data from the MEEHA program, DHCD’s Whole Home, and Base Efficiency programs, as well as national data. However, the list is not complete and any measures included in a scope of work that are not included in the incentive list and provide energy savings will be considered on a case-by-case basis for program funding.

On average, MEEHA-EmPOWER currently contributes about 65% of the cost of a project and the owner is responsible for the other 35% of costs. The new funding amounts are set at a level which will continue to require the owner to financially contribute to the project but will reduce the percentage of contribution from the owner from approximately 35% to approximately 15%.

If Modification 5.3.3.A is not accepted, the program will continue the use of determining funding by all cost effective energy conservation measures identified by an energy audit that collectively demonstrates a minimum Savings to Investment Ratio of 1.1.

5.3.6 EXPECTED SAVINGS, COSTS, AND COST-EFFECTIVENESS

Data from the 2018-2020 and 2021-2023 MEEHA Program cycles were used to determine forecasts for unit participation and energy savings. The total achievable results were spread over the three cycle years with a small adjustment for the months affected by COVID-19 and enhancements to the program. The forecast calculations are further described in the Assumptions section.

Expected results are shown in the table below.

MEEHA Residential	2024	2025	2026	Total
Annual MWh Savings	8,510	12,743	19,026	40,279
Annual MW Savings	2.066	3.094	4.620	9.780
Participants	4,319	6,468	9,658	20,445
Admin Costs	2,075,984	3,163,403	4,646,250	9,885,637
Incentive Costs	25,504,424	38,191,122	57,019,732	120,715,278
Other Costs	408,669	622,736	914,645	1,946,050

Total Program Costs	27,989,077	41,977,261	62,580,627	132,546,965
Surcharge Impact	Refer to Individual Utility Surcharge Impacts			
TRC Ratio	N/A			
UCT Ratio	N/A			
PCT Ratio	N/A			
SCT Ratio	0.90			
RIM Ratio	N/A			

Table 22 - Commercial Savings, Costs, and Cost-Effectiveness				
MEEHA Commercial	2024	2025	2026	Total
Annual MWh Savings	1,743	2,609	3,896	8,248
Annual MW Savings	0.423	0.634	0.946	2.003
Participants	631	945	1,411	2,987
Admin Costs	171,359	261,119	383,520	815,998
Incentive Costs	1,741,141	2,607,239	3,892,634	8,241,014
Other Costs	-	-	-	0
Total Program Costs	1,912,500	2,868,358	4,276,154	9,057,012
Surcharge Impact	Refer to Individual Utility Surcharge Impacts			
TRC Ratio	N/A			
UCT Ratio	N/A			
PCT Ratio	N/A			
SCT Ratio	2.79			
RIM Ratio	N/A			

5.4 Base Efficiency

5.4.1 PROGRAM OVERVIEW

The Base Efficiency program serves homes that are in a condition of disrepair that cannot be corrected within the Whole Home Efficiency program budget or guidelines to allow the installation of building shell measures. These deferred projects receive installation of baseload measures and HVAC systems through the Base Efficiency program, where the installation does not cause a negative impact on the

health and safety of the occupants or degradation of the building materials. In order to provide a simplified and streamlined program, the measures are installed based on a prescriptive measure list.

A home that received Base Efficiency funds and later remedied the issue(s) that had prevented a comprehensive project from being performed, is eligible to move forward in the Whole Home Efficiency program at a later date, however it cannot receive funding for measures already implemented through the Base Efficiency program.

5.4.2 TARGET MARKET ANALYSIS AND ELIGIBILITY

This program's target market is the same as for all of the limited-income programs with limited income eligibility as defined in section 4.2.

The program is available for participants that may have received the Energy Kit, but are not eligible for the comprehensive Whole Home Efficiency program for the reasons stated above. This program is not intended to be used as a replacement to the comprehensive program where the whole home opportunity exists in an eligible home. All customers are first directed and assessed for comprehensive retrofits.

This program enables DHCD to continue to provide immediate assistance and savings to these homes, while a path forward to comprehensive assistance is being developed.

5.4.3 MARKETING

This program is not marketed to the public, as all applicants are first directed to the comprehensive program. Any applicants that are deemed not to be a candidate for the comprehensive program will be routed to this program via their service provider or DHCD program staff.

5.4.4 ELIGIBLE MEASURES AND INCENTIVES

Each participating home is assessed by a Network Partner's energy auditor to determine which measures qualify for installation. Measures that can be installed in these homes include LED light bulbs, water conservation measures, smart thermostats, appliances, hot water heaters, duct sealing, clean and tunes, and HVAC system replacements under defined conditions.

A full list of the measures and efficiency requirements can be found in the Appendix.

The incentives paid for individual measures follow the approved price list for Whole Home Efficiency, as the same vendors are used. A home can receive any combination of measures up to the total job caps.

Modification 5.4.4.A	Adjust job cost caps		
<p>With the current price caps in place, investments in appliances and water heaters that would provide increased energy savings to participating homes are difficult or impossible to accomplish. The increases will enable the Network Partners to provide all eligible measures while in the home.</p>			
Table 23 - New Base Efficiency Program Cost Restrictions			
Spending Cap	Allowable Budget	Allowable Measures	Requirements
Soft Cap	\$6,250	Baseload measures (lighting, appliances, water conservation, thermostats, etc.)	None
Hard Cap	\$12,500	HVAC Replacements and all measures allowed under soft cap	HVAC replacement in scope

Total household incentives are capped at the following levels:

Table 24 - Base Efficiency Job Cost Caps	
Measure Category	Cost Cap
Total Job Cost	\$12,500 per job (see modification 5.4.4.A)
Health and Safety	\$1,000
Incidental Repairs	Up to 20% of total job cost

5.4.5 EXPECTED SAVINGS, COST, AND COST-EFFECTIVENESS

The forecasts for this program were based on a 50% deferral rate from the comprehensive program, using the verified average savings and costs from the current program cycle. The forecast calculations are further described in the Assumptions section.

Table 25 – Residential Savings, Costs, and Cost-Effectiveness				
Base Efficiency	2024	2025	2026	Total
Annual MWh Savings	5,859	8,775	13,101	27,735
Annual MW Savings	1.431	2.143	3.200	6.774
Participants	3,847	5,762	8,602	18,211
Admin Costs	744,561	1,134,567	1,666,396	3,545,524
Incentive Costs	8,319,474	12,457,840	18,599,681	39,376,995
Other Costs	197,921	301,594	442,967	942,482
Total Program Costs	9,261,956	13,894,001	20,709,044	43,865,001
Surcharge Impact	Refer to Individual Utility Surcharge Impacts			
TRC Ratio	N/A			
UCT Ratio	N/A			
PCT Ratio	N/A			
SCT Ratio	1.48			
RIM Ratio	N/A			

5.5 Maryland Energy Efficiency Tune-up (MEET) Program

5.5.1 PROGRAM OVERVIEW

This program aims to prolong the life of installed energy measures and increase long term energy savings via repeated customer engagement and maintenance of installed equipment. The MEET program previously included a behavior component, but is now focusing on system maintenance. Accordingly, the program will provide necessary repairs and upkeep of previously-installed measures to prevent the deterioration of energy savings.

The MEET program increases the life expectancy of energy equipment by properly maintaining it on a regular schedule and educating the customers on how to perform no-cost maintenance tasks themselves. Energy savings that were attributed to the initial weatherization program will be maintained or increased through regular re-commissioning of equipment, reinforcing user instructions, and

repairing or installing additional measures as needed. In addition, the regular check-ins will enable ongoing measurement and verification of real energy savings, provide data on the longevity and persistence of measures, and can be used to improve accuracy of savings predictions and therefore the success of weatherization projects.

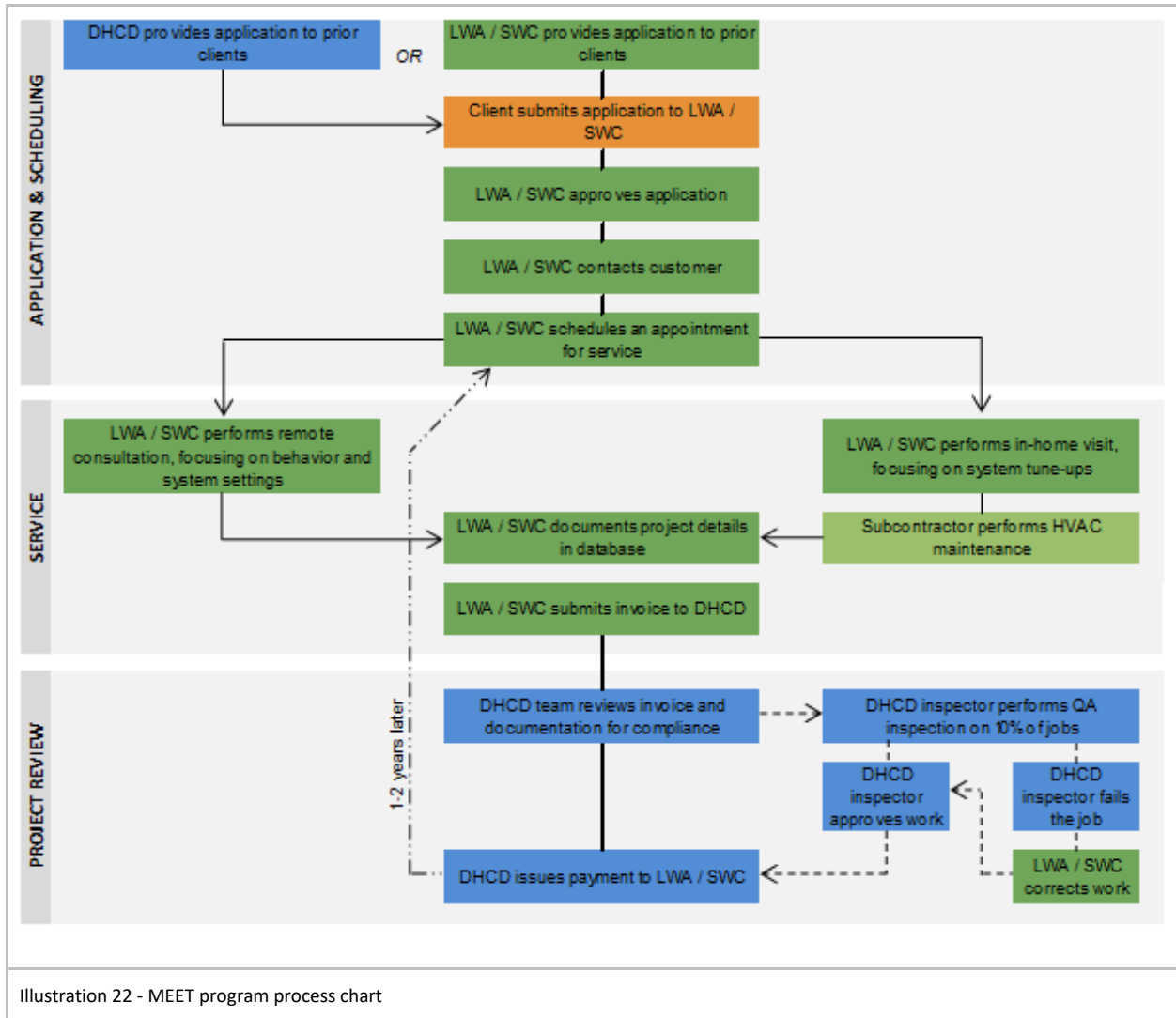
Customers who completed a project in the EmPOWER programs, are offered to enroll into MEET one year after their initial project.

At the home visit, the Network Partner will engage the customer and physically examine the condition of energy-related components of the home. The home visit ends with the implementation of low-cost energy measures and referral to additional services as applicable.

Modification 5.5.1.A	Change in program to focus on the maintenance of energy saving equipment in electric households
<p>DHCD will change the focus of the MEET program to the maintenance of installed measures and the upkeep of the home’s HVAC systems. These activities have been identified as the most beneficial in program evaluations. The previously-provided behavior component produced less savings and was more costly to implement. DHCD sees this modification as a way to provide the best benefit to the customer with the most economical use of EmPOWER funds.</p> <p>In order to not lose the smaller benefit from behavioral engagement, DHCD will incorporate some of the behavioral measures in other programs, and collaborate with the utilities to strengthen limited income content in their behavioral programs.</p> <p>Additionally DHCD will be adjusting the MEET program to only service electric households, reducing the cost impact of the program while ensuring contributions to DHCD’s legislative electric savings goals.</p>	

Modification 5.5.1.B	Reduce frequency to one site visit every 3 years
<p>As part of the adjustment to focus on maintenance of installed measures DHCD will eliminate the 2nd virtual visit from its MEET program. The virtual visit was mainly focused on client education resulting in limited if any energy savings. By only including the in person visit the program will focus on ensuring the energy measures originally installed in the project will continue to provide energy savings and function properly.</p>	

The following chart describes the process flow of the program.



5.5.2 TARGET MARKET ANALYSIS AND ELIGIBILITY

The MEET program will be available to customers who have received service through the EmPOWER programs within 5 years prior to their MEET application.

5.5.3 MARKETING

Marketing efforts continue to be tied to the completion of the primary service. The Network Partners will provide an application for the MEET program to each customer after completion of their project. The application packet will include a brochure on the goals and process of the program and a customer application form. The Network Partners will be trained to actively encourage participation in the MEET program. In addition, DHCD will invite its past customers to participate in the program via mail on a recurring schedule.

5.5.4 ELIGIBLE MEASURES AND INCENTIVES

The core service of the MEET program is a site visit to each customer every three years. During the 1-2 hour visit the contractor will perform the following tasks:

- Perform check on all existing energy systems to assess:
 - Condition of refrigerator coils and seal
 - Water heater tank condition
 - Hot water temperature set point
 - Thermostat settings
 - Condition of air filters
 - Condition of heating and cooling systems
 - Burnt-out light bulbs or use of inefficient bulbs
 - Building envelope - new penetrations
- Install or perform measures as needed:
 - Outlet gaskets
 - Door sweep
 - Window caulking
 - Adjust water heater temperature
 - Showerhead
 - Kitchen aerator
 - Bathroom aerator
 - Water pipe insulation
 - Thermostatic shutoff valve
 - Shower timer
 - Install additional light bulbs
 - Install smart strip
 - Clean refrigerator coils

- Adjust programmable thermostat settings
- Duct sealing
- Install smart thermostat
- Clean and tune of HVAC system
- Perform necessary HVAC repairs
- Provide additional resources
 - Information on additional applicable programs or available assistance

DHCD will procure implementation contractors and reimburse the contractors for their services based on a standardized price list. A base fee is paid for each visit and additional fees are paid for each performed maintenance repair. Incentive amounts in the attached list under section 7 are for planning purposes only and will be finalized through the same competitive bidding process that selects the Network Partners for Whole Home Efficiency.

5.5.5 EXPECTED SAVINGS, COSTS, AND COST-EFFECTIVENESS

For the 2024-2026 program period, funds will be allocated per utility territory based on an average job cost of \$440 per home visit. The forecast calculations are described in the Assumptions section.

Table 26 - Residential Savings, Costs, and Cost-Effectiveness				
MEET	2024	2025	2026	Total
Annual MWh Savings	830	1,243	1,857	3,930
Annual MW Savings	0.203	0.303	0.453	0.959
Participants	2,196	3,288	4,909	10,393
Admin Costs	138,801	211,507	310,651	660,959
Incentive Costs	966,217	1,446,842	2,160,148	4,573,207
Other Costs	32,557	49,610	72,869	155,036
Total Program Costs	1,137,575	1,707,959	2,543,668	5,389,202
Surcharge Impact	Refer to Individual Utility Surcharge Impacts			
TRC Ratio	N/A			
UCT Ratio	N/A			
PCT Ratio	N/A			
SCT Ratio	1.03			

RIM Ratio	N/A
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5.6 Energy Kits

5.6.1 PROGRAM OVERVIEW

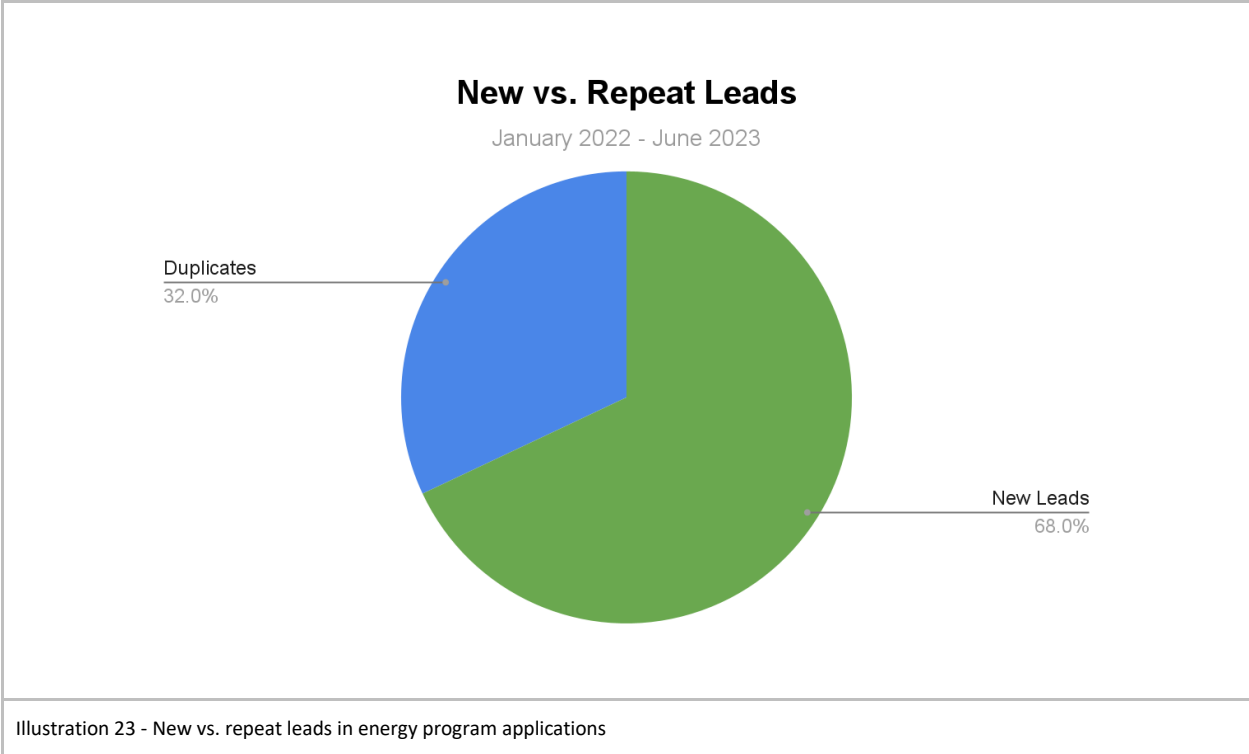
In alignment with the program portfolio's objectives to maximize participation and to not leave any energy savings on the table, DHCD introduced a new energy kit program in 2022 that is designed to engage clients early on and provide energy savings to every household. In this program, DHCD sends an energy kit containing a small number of direct-install measures and resources with energy saving tips to each new applicant. The kit demonstrates the benefits of the comprehensive program, provides immediate value to clients, and has increased client conversion rates from 21% to 29%³⁰. Any client leads that do not convert to on-site projects, can at least realize small energy savings through the kit.

DHCD avoids duplication of efforts by cross-referencing applicants with its own previous client lists, as well as the utilities prior energy kit and QHEC participants. Only clients who have not been served through one of the referenced lists, receive an energy kit from DHCD.

5.6.2 TARGET MARKET ANALYSIS AND ELIGIBILITY

DHCD assigns an average of 980 income qualified applications per month to its Network Partners. Those who have not received any prior energy efficiency services from DHCD are eligible for the energy kits. On average, 68% of the referrals are new customers, translating to 769 customers per month, or 9,228 per year.

³⁰ Based on internal analysis of conversion rate pre and post roll out of the program



5.6.3 ELIGIBLE MEASURES AND INCENTIVES

When DHCD receives a customer referral, income-eligibility is either already confirmed by the partner agency, or DHCD will perform the income verification. Then, the address of the referral is checked against DHCD’s database of existing customers to determine whether the client has participated in one of DHCD’s Limited-income EmPOWER programs before or is a new applicant. Once the income is verified and the new applicant status confirmed, the customer will be added to the list of monthly new leads.

Each eligible applicant will receive an energy kit within 2 weeks of their confirmed eligibility. The kit will be mailed to the address on file by a vendor contracted with DHCD. Each kit is sent in a branded box. The energy kit contents will be revised as follows.

Modification 5.6.3.A	Revised energy kit contents
Due to the lighting phase-out in 2023, DHCD researched other opportunities to continue to provide kWh savings to its energy kit recipients. In July of 2023 the 4 light bulbs in the energy kits were	

replaced with two faucet aerators on a temporary basis. For the 2024-2026 program cycle, DHCD re-evaluated all measures and found the following measure composition to produce the best electric savings for the best value:

- 1 Low-flow showerhead
- 1 Smart power strip
- 4 Outlet gaskets
- Pipe Insulation
- 2 Faucet aerators
- Energy Saver booklet
- Information about how to proceed with comprehensive retrofit program

These measures are expected to save on average 209 kWh per kit, an increase of 74 kWh compared to the prior cycle.

The incentive amount spent on each kit is expected to remain around the same amount as the current \$50.85. DHCD is in the process of re-procuring a vendor to achieve best pricing and will update the Commission of the final procured price.

5.6.4 EXPECTED SAVINGS, COST, AND COST-EFFECTIVENESS

The participation forecasts for this program are based on the average number of new single-family applicants DHCD receives per month. The application rates are fairly steady throughout the years and spread evenly over the course of the program cycle.

Each kit is expected to save 209 kWh, based on deemed savings according to Technical Reference Manuals. The forecast calculations are further described in the Assumptions section.

Energy Kits	2024	2025	2026	Total
Annual MWh Savings	1,495	2,237	3,341	7,073
Annual MW Savings	0.365	0.547	0.815	1.727
Participants	7,148	10,705	15,982	33,835
Admin Costs	140,515	214,118	314,485	669,118
Incentive Costs	393,189	588,774	879,046	1,861,009

Other Costs	30,845	47,000	69,033	146,878
Total Program Costs	564,549	849,892	1,262,564	2,677,005
Surcharge Impact	Refer to Individual Utility Surcharge Impacts			
TRC Ratio	N/A			
UCT Ratio	N/A			
PCT Ratio	N/A			
SCT Ratio	5.07			
RIM Ratio	N/A			

6 ES TABLES

	2012-2021 Verified Metrics (1)				2021 Reported Metrics (2)				2022 Reported Metrics (2)				2023 Projected Metrics			
Energy Efficiency and Conservation Programs																
Residential EE&C																
Energy Kits	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Base Efficiency	-	-	-	-	-	-	-	-	7,301	1,052	13,357	0.294	23,997	3,240	39,426	0.906
Sub Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Whole Home Efficiency	-	-	-	-	775	1,202	15,622	0.335	932	1,328	17,262	0.368	1,341	1,623	21,110	0.453
Sub Total	17,917	41,233	617,949	13,195	791	1,761	29,417	0.489	1,050	2,199	36,738	0.613	1,961	3,155	52,682	0.880
MEET	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub Total	158	44	133	0.033	-	-	-	-	511	186	932	0.053	808	288	1,438	0.080
MEEHA Residential	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MEEHA Sub Total	10,899	20,655	336,534	4,859	-	-	-	-	2,365	4,219	62,911	1.248	2,991	4,275	55,384	1.150
Residential Programs Subtotal	28,974	61,932	954,616	18,087	-	-	-	-	12,159	8,984	131,200	2.576	31,098	12,581	170,040	3.469
Commercial and Industrial EE&C Programs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MEEHA Commercial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MEEHA C&I Sub Total	887	-	-	-	-	-	-	-	132	548	5,680	0.163	455	2,128	26,701	0.615
Commercial and Industrial EE&C Programs Subtotal	887	1,311	17,733	150	-	-	-	-	132	548	5,680	0.163	455	2,128	26,701	0.615
Energy Efficiency and Conservation Subtotal	29,861	63,243	972,349	18,237	-	-	-	-	12,291	9,532	136,880	2.739	31,553	14,709	196,741	4.084

	2024 Forecasted Metrics				2025 Forecasted Metrics				2026 Forecasted Metrics				2024-2026 Forecasted Metrics			
Energy Efficiency and Conservation Programs																
Residential EE&C																
Energy Kits																
Sub Total	7,148	1,495	14,052	0.365	10,705	2,237	21,028	0.547	15,982	3,341	31,406	0.815	33,835	7,073	66,486	1.727
Base Efficiency																
Sub Total	3,847	5,859	93,744	1.431	5,762	8,775	140,400	2.143	8,602	13,101	209,616	3.200	18,211	27,735	443,760	6.774
Whole Home Efficiency																
Sub Total	3,834	8,418	151,524	2.056	5,742	12,604	226,872	3.076	8,574	18,818	338,724	4.597	18,150	39,840	717,120	9.729
MEET																
Sub Total	2,196	830	8,383	0.203	3,288	1,243	12,554	0.303	4,909	1,857	18,756	0.453	10,393	3,930	39,693	0.959
MEEHA Residential																
MEEHA Sub Total	4,319	8,510	153,180	2.066	6,468	12,743	229,374	3.094	9,658	19,026	342,468	4.620	20,445	40,279	725,022	9.780
Residential Programs Subtotal																
Commercial and Industrial EE&C Programs	21,344	25,112	420,883	6	31,965	37,602	630,228	9	47,725	56,143	940,970	14	101,034	118,857	1,992,081	29
MEEHA Commercial																
MEEHA C&I Sub Total	631	1,743	22,659	0.423	945	2,609	33,917	0.634	1,411	3,896	50,648	0.946	2,987	8,248	107,224	2.003
Commercial and Industrial EE&C Programs Subtotal																
Energy Efficiency and Conservation Subtotal	21,975	26,855	443,542	6.544	32,910	40,211	664,145	9.797	49,136	60,039	991,618	14.631	104,021	127,105	2,099,305	30.972

	2012-2021 Verified Metrics				2021 Reported Metrics (2)				2022 Reported Metrics (4)				2023 Projected Metrics			
Energy Efficiency and Conservation Programs																
Residential EE&C Programs																
Energy Kits	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SubTotal	-	-	-	-	-	-	-	-	1,052	0,294	-	21,903	3,240	0,906	-	71,993
Base Efficiency	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SubTotal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Whole Home Efficiency	-	-	-	-	1,202	0,335	-	2,792	1,328	0,368	-	2,261	1,623	0,453	-	39,771
SubTotal	-	-	-	-	1,202	0,335	-	2,792	1,328	0,368	-	2,261	1,623	0,453	-	39,771
MEEHA	42,485	13,964	-	798,798	0	1,761	0,491	-	28,345	0	2,199	0,613	-	43,840	3,155	0,880
SubTotal	42,485	13,964	-	798,798	0	1,761	0,491	-	28,345	0	2,199	0,613	-	43,840	3,155	0,880
MEEHA Residential	144	0,032	-	-	-	-	-	-	-	-	188	0,613	0,000	10,024	0	288
SubTotal	144	0,032	-	-	-	-	-	-	-	-	188	0,613	0,000	10,024	0	288
MEEHA Commercial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SubTotal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MEEHA C&I SubTotal	452	0,365	-	6,295	-	-	-	-	18,003	548	0,162	-	8,030	2,128	0,615	0
Commercial and Industrial EE&C Programs Subtotal	452	0,365	-	6,295	-	-	-	-	18,003	548	0,162	-	8,030	2,128	0,615	0
Energy Efficiency and Conservation Subtotal	87,532	28,881	-	1,187,958	2,963	0,826	-	49,140	9,532	3,298	-	83,907	14,709	4,084	-	374,569
(1) Therm savings include 2020 reported but not verified savings																

	2024 Forecasted Metrics				2025 Forecasted Metrics				2026 Forecasted Metrics				2024-2026 Forecasted Metrics (5)				
Energy Efficiency and Conservation Programs																	
Residential EE&C Programs																	
Energy Kits																	
SubTotal	1,495	0,365	-	10,882	2,237	0,547	-	16,294	3,341	0,815	-	24,328	7,073	1,727	-	51,504	-
Base Efficiency																	
SubTotal	5,859	1,431	-	49,002	8,775	2,143	-	73,376	13,101	3,200	-	108,696	27,735	6,774	-	231,074	-
Whole Home Efficiency																	
SubTotal	8,418	2,056	-	168,810	12,604	3,076	-	252,781	18,818	4,507	-	377,040	39,840	9,729	-	798,631	-
MEET																	
SubTotal	830	0,203	-	29,090	1,243	0,303	-	43,545	1,857	0,453	-	65,013	3,630	0,950	-	137,638	-
MEEHA Residential																	
MEEHA SubTotal	8,510	2,069	-	51,692	12,743	3,084	-	77,405	19,028	4,620	-	114,535	40,279	9,780	-	243,632	-
Residential Programs Subtotal	25,112	6,121	-	309,466	37,602	9,183	-	463,401	56,143	13,685	-	689,612	118,857	29	0	1,462,479	0
Commercial and Industrial EE&C Programs																	
MEEHA Commercial																	
MEEHA C&I SubTotal	1,743	0,423	-	0	2,609	0,834	-	0	3,896	0,846	-	0	8,248	2,003	-	0	-
Commercial and Industrial EE&C Programs Subtotal	1,743	0,423	-	0	2,609	0,834	-	0	3,896	0,846	-	0	8,248	2,003	-	0	-
Energy Efficiency and Conservation Subtotal	26,855	6,544	-	309,466	40,211	9,797	-	463,401	60,039	14,631	-	689,612	127,105	30,972	-	1,462,479	-

(5) MEEHA projects that commit in 2020 may not complete in 2026 and may need to be reported in 2027

Table ES-3A EmPOWER Maryland Energy Efficiency and Conservation Forecasted Total Program Costs by Category for 2024-2026 Plan							
Program Year: 2024	Administration Costs	Outside Services	Marketing Cost	Evaluation Monitoring and Verification Costs	Total Non-incentive Costs	Customer Benefits	Total Program Costs
Energy Efficiency and Conservation Programs							
Residential EE&C Programs							
Energy Kits							
BGE	71,092	12,138	0	3,468	86,698	199,495	286,193
Delmarva	14,988	2,559	0	731	18,278	48,862	67,140
PE	16,862	2,879	0	823	20,564	53,426	73,990
Pepco	30,533	5,213	0	1,489	37,235	64,958	102,193
Smeco	7,040	1,202	0	343	8,585	26,448	35,033
WGL	0	0	0	0	0	0	0
Sub Total	140,515	23,991	0	6,854	171,360	393,189	564,549
Base Efficiency							
BGE	376,701	73,910	7,153	19,073	476,837	4,640,085	5,116,922
Delmarva	79,420	15,582	1,508	4,021	100,531	750,359	850,890
PE	89,347	17,530	1,696	4,524	113,097	1,054,557	1,167,654
Pepco	161,787	31,743	3,072	8,192	204,794	1,090,874	1,295,668
Smeco	37,306	7,320	708	1,889	47,223	783,599	830,822
WGL	31,023	6,087	589	1,571	39,270	432,869	472,139
Subtotal	775,584	152,172	14,726	39,270	981,752	8,752,343	9,734,095
Whole Home Efficiency							
BGE	1,755,623	362,829	58,521	163,858	2,340,831	15,556,300	17,897,131
Delmarva	370,138	76,495	12,338	34,546	493,517	2,730,895	3,224,412
PE	416,405	86,057	13,880	38,864	555,206	2,809,806	3,365,012
Pepco	754,011	155,829	25,134	70,374	1,005,348	3,712,025	4,717,373
Smeco	173,863	35,932	5,795	16,227	231,817	1,768,499	2,000,316
WGL	144,585	29,881	4,820	13,495	192,781	840,275	1,033,056
Subtotal	3,614,625	747,023	120,488	337,364	4,819,500	27,417,800	32,237,300
MEET							
BGE	70,225	12,571	433	3,468	86,697	490,235	576,932
Delmarva	14,805	2,650	91	731	18,277	120,073	138,350
PE	16,656	2,982	103	823	20,564	131,289	151,853
Pepco	30,160	5,399	186	1,489	37,234	159,627	196,861
Smeco	6,955	1,245	43	343	8,586	64,993	73,579
WGL	0	0	0	0	0	0	0
Subtotal	138,801	24,847	856	6,854	171,358	966,217	1,137,575
MEEHA Residential							
BGE	1,050,318	53,469	9,428	143,864	1,257,079	12,841,724	14,098,803
Delmarva	221,438	11,273	1,988	30,331	265,030	1,995,710	2,260,740
PE	249,118	12,682	2,236	34,122	298,158	2,404,792	2,702,950
Pepco	451,094	22,964	4,049	61,787	539,894	7,693,264	8,233,158
Smeco	104,016	5,295	934	14,247	124,492	568,934	693,426
WGL	86,499	4,403	777	11,848	103,527	1,273,144	1,376,671
Subtotal	2,162,483	110,086	19,412	296,199	2,588,180	26,777,568	29,365,748
Residential Programs Subtotal	6,832,008	1,058,119	155,482	686,541	8,732,150	64,307,117	73,039,267
Commercial and Industrial EE&C Programs							
MEEHA Commercial							
BGE	86,697	0	0	0	86,697	876,681	963,378
Delmarva	18,278	0	0	0	18,278	136,244	154,522
PE	20,563	0	0	0	20,563	164,171	184,734
Pepco	37,235	0	0	0	37,235	525,205	562,440
Smeco	8,586	0	0	0	8,586	38,840	47,426
WGL	0	0	0	0	0	0	0
C&I Subtotal	171,359	0	0	0	171,359	1,741,141	1,912,500
Commercial and Industrial EE&C Programs Subtotal	171,359	0	0	0	171,359	1,741,141	1,912,500
2024 Energy Efficiency and Conservation	7,003,367	1,058,119	155,482	686,541	8,903,509	66,048,258	74,951,767

Table ES-3B EmPOWER Maryland Energy Efficiency and Conservation Forecasted Total Program Costs by Category for 2024-2026 Plan							
Program Year: 2025	Administration Costs	Outside Services	Marketing Cost	Evaluation Monitoring and Verification Costs	Total Non-incentive Costs	Customer Benefits	Total Program Costs
Energy Efficiency and Conservation Programs							
Residential EE&C Programs							
Energy Kits							
BGE	108,331	18,495	0	5,284	132,110	298,730	430,840
Delmarva	22,839	3,900	0	1,114	27,853	73,168	101,021
PE	25,694	4,387	0	1,253	31,334	80,002	111,336
Pepco	46,526	7,943	0	2,269	56,738	97,270	154,008
Smeco	10,728	1,832	0	523	13,083	39,604	52,687
WGL	0	0	0	0	0	0	0
Sub Total	214,118	36,557	0	10,443	261,118	588,774	849,892
Base Efficiency							
BGE	574,020	112,624	10,899	29,064	726,607	6,948,208	7,674,815
Delmarva	121,020	23,745	2,298	6,128	153,191	1,123,611	1,276,802
PE	136,148	26,713	2,585	6,893	172,339	1,579,127	1,751,466
Pepco	246,532	48,370	4,681	12,483	312,066	1,633,508	1,945,574
Smeco	56,847	11,154	1,079	2,878	71,958	1,173,386	1,245,344
WGL	47,274	9,275	898	2,394	59,841	648,191	708,032
Subtotal	1,181,841	231,881	22,440	59,840	1,496,002	13,106,031	14,602,033
Whole Home Efficiency							
BGE	2,675,236	552,882	89,174	249,689	3,566,981	23,294,490	26,861,471
Delmarva	564,019	116,564	18,801	52,642	752,026	4,089,327	4,841,353
PE	634,522	131,134	21,151	59,222	846,029	4,207,491	5,053,520
Pepco	1,148,969	237,453	38,299	107,237	1,531,958	5,558,503	7,090,461
Smeco	264,935	54,753	8,831	24,727	353,246	2,648,205	3,001,451
WGL	220,320	45,533	7,344	20,563	293,760	1,258,254	1,552,014
Subtotal	5,508,001	1,138,319	183,600	514,080	7,344,000	41,056,270	48,400,270
MEET							
BGE	107,009	19,156	660	5,284	132,109	734,093	866,202
Delmarva	22,561	4,039	139	1,114	27,853	179,801	207,654
PE	25,381	4,543	157	1,253	31,334	196,596	227,930
Pepco	45,959	8,227	284	2,269	56,739	239,030	295,769
Smeco	10,597	1,897	65	523	13,082	97,322	110,404
WGL	0	0	0	0	0	0	0
Subtotal	211,507	37,862	1,305	10,443	261,117	1,446,842	1,707,959
MEEHA Residential							
BGE	1,600,484	81,477	14,367	219,221	1,915,549	19,229,599	21,145,148
Delmarva	337,430	17,178	3,029	46,218	403,855	2,988,439	3,392,294
PE	379,608	19,325	3,408	51,996	454,337	3,601,011	4,055,348
Pepco	687,381	34,993	6,170	94,152	822,696	11,520,134	12,342,830
Smeco	158,500	8,069	1,423	21,710	189,702	851,939	1,041,641
WGL	131,809	6,710	1,183	18,054	157,756	1,906,445	2,064,201
Subtotal	3,295,212	167,752	29,580	451,351	3,943,895	40,097,567	44,041,462
Residential Programs Subtotal	10,410,679	1,612,371	236,925	1,046,157	13,306,132	96,295,484	109,601,616
Commercial and Industrial EE&C Programs							
MEEHA Commercial							
BGE	132,110	0	0	0	132,110	1,312,770	1,444,880
Delmarva	27,853	0	0	0	27,853	204,015	231,868
PE	31,334	0	0	0	31,334	245,835	277,169
Pepco	56,739	0	0	0	56,739	786,459	843,198
Smeco	13,083	0	0	0	13,083	58,160	71,243
WGL	0	0	0	0	0	0	0
C&I Subtotal	261,119	0	0	0	261,119	2,607,239	2,868,358
Commercial and Industrial EE&C Programs Subtotal	261,119	0	0	0	261,119	2,607,239	2,868,358
2025 Energy Efficiency and Conservation	10,671,798	1,612,371	236,925	1,046,157	13,567,251	98,902,723	112,469,974

Table ES-3C EmPOWER Maryland Energy Efficiency and Conservation Forecasted Total Program Costs by Category for 2024-2026 Plan							
Program Year: 2026	Administration Costs	Outside Services	Marketing Cost	Evaluation Monitoring and Verification Costs	Total Non-incentive Costs	Customer Benefits	Total Program Costs
Energy Efficiency and Conservation Programs							
Residential EE&C Programs							
Energy Kits							
BGE	159,110	27,165	0	7,762	194,037	446,007	640,044
Delmarva	33,545	5,727	0	1,637	40,909	109,240	150,149
PE	37,738	6,443	0	1,841	46,022	119,444	165,466
Pepco	68,335	11,667	0	3,333	83,335	145,226	228,561
Smeco	15,757	2,690	0	768	19,215	59,129	78,344
WGL	0	0	0	0	0	0	0
Sub Total	314,485	53,692	0	15,341	383,518	879,046	1,262,564
Base Efficiency							
BGE	843,092	165,417	16,008	42,688	1,067,205	10,373,745	11,440,950
Delmarva	177,749	34,875	3,375	9,000	224,999	1,677,563	1,902,562
PE	199,967	39,234	3,797	10,125	253,123	2,357,652	2,610,775
Pepco	362,094	71,044	6,875	18,334	458,347	2,438,844	2,897,191
Smeco	83,494	16,382	1,585	4,228	105,689	1,751,877	1,857,566
WGL	69,433	13,623	1,318	3,516	87,890	958,940	1,046,830
Subtotal	1,735,829	340,575	32,958	87,891	2,197,253	19,558,621	21,755,874
Whole Home Efficiency							
BGE	3,929,252	812,045	130,975	366,730	5,239,002	34,778,909	40,017,911
Delmarva	828,403	171,203	27,613	77,318	1,104,537	6,105,406	7,209,943
PE	931,954	192,604	31,065	86,982	1,242,605	6,281,827	7,524,432
Pepco	1,687,548	348,760	56,251	157,505	2,250,064	8,298,901	10,548,965
Smeco	389,123	80,419	12,971	36,318	518,831	3,953,797	4,472,628
WGL	323,595	66,876	10,787	30,202	431,460	1,861,471	2,292,931
Subtotal	8,089,875	1,671,907	269,662	755,055	10,786,499	61,280,311	72,066,810
MEET							
BGE	157,170	28,136	970	7,762	194,038	1,096,008	1,290,046
Delmarva	33,136	5,932	204	1,637	40,909	268,444	309,353
PE	37,278	6,673	230	1,841	46,022	293,519	339,541
Pepco	67,502	12,084	417	3,333	83,336	356,874	440,210
Smeco	15,565	2,786	96	768	19,215	145,303	164,518
WGL	0	0	0	0	0	0	0
Subtotal	310,651	55,611	1,917	15,341	383,520	2,160,148	2,543,668
MEEHA Residential							
BGE	2,350,712	119,670	21,102	321,981	2,813,465	28,709,985	31,523,450
Delmarva	495,600	25,230	4,449	67,883	593,162	4,461,770	5,054,932
PE	557,550	28,384	5,005	76,368	667,307	5,376,346	6,043,653
Pepco	1,009,591	51,396	9,063	138,286	1,208,336	17,199,677	18,408,013
Smeco	232,797	11,851	2,090	31,887	278,625	1,271,954	1,550,579
WGL	193,594	9,855	1,738	26,517	231,704	2,820,411	3,052,115
Subtotal	4,839,844	246,386	43,447	662,922	5,792,599	59,840,143	65,632,742
Residential Programs Subtotal	15,290,684	2,368,171	347,984	1,536,550	19,543,389	143,718,269	163,261,658
Commercial and Industrial EE&C Programs							
MEEHA Commercial							
BGE	194,037	0	0	0	194,037	1,959,979	2,154,016
Delmarva	40,909	0	0	0	40,909	304,597	345,506
PE	46,022	0	0	0	46,022	367,033	413,055
Pepco	83,336	0	0	0	83,336	1,174,191	1,257,527
Smeco	19,216	0	0	0	19,216	86,834	106,050
WGL	0	0	0	0	0	0	0
C&I Subtotal	383,520	0	0	0	383,520	3,892,634	4,276,154
Commercial and Industrial EE&C Programs Subtotal	383,520	0	0	0	383,520	3,892,634	4,276,154
2018-2020 Energy Efficiency and Conservation	15,674,204	2,368,171	347,984	1,536,550	19,926,909	147,610,903	167,537,812

Table ES-3D							
EmPOWER Maryland Energy Efficiency and Conservation Forecasted Total Program Costs by Category for 2024-2026 Plan							
Program Year: 2024-2026	Administration Costs	Outside Services	Marketing Cost	Evaluation Monitoring and Verification Costs	Total Non-incentive Costs	Customer Benefits	Total Program Costs
Energy Efficiency and Conservation Programs							
Residential EE&C Programs							
Energy Kits							
BGE	338,533	57,798	0	16,514	412,845	944,232	1,357,077
Delmarva	71,372	12,186	0	3,482	87,040	231,270	318,310
PE	80,294	13,709	0	3,917	97,920	252,872	350,792
Pepco	145,394	24,823	0	7,091	177,308	307,454	484,762
Smeco	33,525	5,724	0	1,634	40,883	125,181	166,064
WGL	0	0	0	0	0	0	0
Sub Total	669,118	114,240	0	32,638	815,996	1,861,009	2,677,005
Base Efficiency							
BGE	1,793,813	351,951	34,060	90,825	2,270,649	21,962,038	24,232,687
Delmarva	378,189	74,202	7,181	19,149	478,721	3,551,533	4,030,254
PE	425,462	83,477	8,078	21,542	538,559	4,991,336	5,529,895
Pepco	770,413	151,157	14,628	39,009	975,207	5,163,226	6,138,433
Smeco	177,647	34,856	3,372	8,995	224,870	3,708,862	3,933,732
WGL	147,730	28,985	2,805	7,481	187,001	2,040,000	2,227,001
Subtotal	3,693,254	724,628	70,124	187,001	4,675,007	41,416,995	46,092,002
Whole Home Efficiency							
BGE	8,360,111	1,727,756	278,670	780,277	11,146,814	73,629,699	84,776,513
Delmarva	1,762,560	364,262	58,752	164,506	2,350,080	12,925,628	15,275,708
PE	1,982,881	409,795	66,096	185,068	2,643,840	13,299,124	15,942,964
Pepco	3,590,528	742,042	119,684	335,116	4,787,370	17,569,429	22,356,799
Smeco	827,921	171,104	27,597	77,272	1,103,894	8,370,501	9,474,395
WGL	688,500	142,290	22,951	64,260	918,001	3,960,000	4,878,001
Subtotal	17,212,501	3,557,249	573,750	1,606,499	22,949,999	129,754,381	152,704,380
MEET							
BGE	334,404	59,863	2,063	16,514	412,844	2,320,336	2,733,180
Delmarva	70,502	12,621	434	3,482	87,039	568,318	655,357
PE	79,315	14,198	490	3,917	97,920	621,404	719,324
Pepco	143,621	25,710	887	7,091	177,309	755,531	932,840
Smeco	33,117	5,928	204	1,634	40,883	307,618	348,501
WGL	0	0	0	0	0	0	0
Subtotal	660,959	118,320	4,078	32,638	815,995	4,573,207	5,389,202
MEEHA Residential							
BGE	5,001,514	254,616	44,897	685,066	5,986,093	60,781,308	66,767,401
Delmarva	1,054,468	53,681	9,466	144,432	1,262,047	9,445,919	10,707,966
PE	1,186,276	60,391	10,649	162,486	1,419,802	11,382,149	12,801,951
Pepco	2,148,066	109,353	19,282	294,225	2,570,926	36,413,075	38,984,001
Smeco	495,313	25,215	4,447	67,844	592,819	2,692,827	3,285,646
WGL	411,902	20,968	3,698	56,419	492,987	6,000,000	6,492,987
Subtotal	10,297,539	524,224	92,439	1,410,472	12,324,674	126,715,278	139,039,952
Residential Programs Subtotal							
	32,533,371	5,038,661	740,391	3,269,248	41,581,671	304,320,870	345,902,541
Commercial and Industrial EE&C Programs							
MEEHA Commercial							
BGE	412,844	0	0	0	412,844	4,149,430	4,562,274
Delmarva	87,040	0	0	0	87,040	644,856	731,896
PE	97,919	0	0	0	97,919	777,039	874,958
Pepco	177,310	0	0	0	177,310	2,485,855	2,663,165
Smeco	40,885	0	0	0	40,885	183,834	224,719
WGL	0	0	0	0	0	0	0
C&I Subtotal	815,998	0	0	0	815,998	8,241,014	9,057,012
Commercial and Industrial EE&C Programs Subtotal							
	815,998	0	0	0	815,998	8,241,014	9,057,012
2024-2027 Energy Efficiency and Conservation							
	33,349,369	5,038,661	740,391	3,269,248	42,397,669	312,561,884	354,959,553

EmPOWER Maryland Energy Efficiency and Conservation Plan and Programmatic Cost Effectiveness for 2024-2026 - NPV for Costs and Benefits	All Ratepayers Test (TRC)			Utility/Administrator Test			Participants Test			Societal Cost Test		
Energy Efficiency and Conservation Programs												
Residential EE&C Programs												
Energy Kits												
<i>Subtotal</i>	0	0	0.00	0	0	0.00	0	0	0.00	2,677	13,577	5.07
Base Efficiency												
<i>Subtotal</i>	0	0	0.00	0	0	0.00	0	0	0.00	46,092	68,422	1.48
Whole Home Efficiency												
<i>Subtotal</i>	0	0	0.00	0	0	0.00	0	0	0.00	152,705	101,931	0.67
MEET												
<i>Subtotal</i>	0	0	0.00	0	0	0.00	0	0	0.00	5,389	5,546	1.03
MEEHA Residential												
<i>Subtotal</i>	0	0	0.00	0	0	0.00	0	0	0.00	139,040	125,120	0.90
Residential Programs Subtotal	0	0	0.00	0	0	0.00	0	0	0.00	345,903	314,596	0.91
Commercial and Industrial EE&C Programs												
MEEHA Commercial												
<i>Commercial and Industrial EE&C Programs Subtotal</i>	0	0	0.00	0	0	0.00	0	0	0.00	9,057	25,262	2.79
2024-2026 Energy Efficiency and Conservation Subtotal	0	0	0.00	0	0	0.00	0	0	0.00	354,960	339,858	0.96

Table ES-6 EmPOWER Maryland Energy Efficiency and Conservation Actual and Forecasted Lifecycle Net Present Value Cost to Achieve Savings	2012-2021 Verified		2021 Reported		2022 Projected		2023 Projected	
	Forecasted Lifecycle Cost per kWh Saved (\$)	Lifecycle Cost per kW Demand Reduced (\$)	Forecasted Lifecycle Cost per kWh Saved (\$)	Lifecycle Cost per kW Demand Reduced (\$)	Forecasted Lifecycle Cost per kWh Saved (\$)	Lifecycle Cost per kW Demand Reduced (\$)	Forecasted Lifecycle Cost per kWh Saved (\$)	Lifecycle Cost per kW Demand Reduced (\$)
Energy Efficiency and Conservation Programs								
Residential EE&C Programs								
Energy Kits								
BGE	-	-	-	-	0.06	199.59	0.03	120.68
Delmarva	-	-	-	-	0.05	195.85	0.03	126.83
PE	-	-	-	-	0.07	234.26	0.03	123.95
Pepco	-	-	-	-	0.08	290.62	0.03	121.57
Smeco	-	-	-	-	0.06	224.87	0.03	122.36
WGL	-	-	-	-	0.00	0.00	0.00	0.00
Sub Total	-	-	-	-	0.32	1,145.19	0.17	615.39
Base Efficiency								
BGE	-	-	0.14	505.34	0.17	617.70	0.17	586.24
Delmarva	-	-	0.08	293.29	0.08	303.26	0.17	619.95
PE	-	-	0.11	385.51	0.15	561.83	0.08	284.25
Pepco	-	-	0.15	535.29	0.16	584.17	0.13	478.83
Smeco	-	-	0.12	413.76	0.17	613.59	0.07	257.26
WGL	-	-	-	-	-	-	0.00	0.00
Sub Total	0.00	0.00	0.59	2,133.19	0.74	2,680.55	0.62	2,226.52
Whole Home Efficiency								
BGE	0.26	888.67	0.33	1,169.75	0.17	617.70	0.17	586.24
Delmarva	0.26	620.69	0.26	958.43	0.08	303.26	0.17	619.95
PE	0.22	1,078.87	0.28	1,012.42	0.15	561.83	0.08	284.25
Pepco	0.22	551.69	0.31	1,109.73	0.16	584.17	0.13	478.83
Smeco	0.32	773.42	0.28	968.07	0.17	613.59	0.07	257.26
WGL	-	-	-	-	-	-	0.00	0.00
Sub Total	1.29	3,913.34	1.45	5,218.40	0.74	2,680.55	0.62	2,226.52
MEET								
BGE	0.24	1,072.47	-	-	0.19	84.71	0.25	898.87
Delmarva	-	-	-	-	0.27	18.88	0.25	886.01
PE	-	-	-	-	0.19	88.78	0.25	956.23
Pepco	-	-	-	-	0.32	55.69	0.25	892.84
Smeco	-	-	-	-	0.32	134.91	0.23	814.15
WGL	-	-	-	-	0.00	0.00	0.00	0.00
Sub Total	0	1,072	-	-	1.29	382.98	1.23	4,448.11
MEEHA Residential								
BGE	0.06	208.13	-	-	0.16	543.92	0.25	898.87
Delmarva	0.05	118.55	-	-	0.28	1,019.59	0.25	886.01
PE	0.04	165.14	-	-	0.27	905.53	0.25	956.23
Pepco	0.04	111.54	-	-	0.21	700.41	0.25	892.84
Smeco	0.05	125.70	-	-	0.02	80.20	0.23	814.15
WGL	-	-	-	-	-	-	-	-
MEEHA Sub Total	0.24	729.06	-	-	0.95	3,249.64	1.23	4,448.11
Residential Programs Subtotal	1.77	5,714.87	-	-	4.04	10,138.91	3.86	13,964.65
Commercial and Industrial EE&C Programs								
MEEHA Commercial								
BGE	1.10	1,098.44	-	-	0.16	518.53	0.05	189.38
Delmarva	0.56	1,612.15	-	-	0.08	296.97	0.22	773.42
PE	0.98	396.53	-	-	0.00	0.00	0.19	627.67
Pepco	2.01	18,585.79	-	-	6.03	0.00	0.24	856.61
Smeco	12.20	4,878.95	-	-	0.10	337.81	0.12	392.13
WGL	0.00	0.00	-	-	0.00	0.00	-	-
MEEHA C&I Sub Total	16.85	26,571.85	-	-	6.38	1,153.31	0.82	2,839.22
Commercial and Industrial EE&C Programs Subtotal	17	26,572	-	-	6	1,153	0.82	2,839.22
Energy Efficiency and Conservation Subtotal	18.62	32,286.71	-	-	10.42	11,292.22	4.68	16,803.86

7 SUMMARY OF INCENTIVES

7.1 Whole Home Efficiency Incentives

The following energy measures and prices are currently in effect for the Whole Home Efficiency program. They will be updated when the next procurement concludes.

Energy Measure	Unit	Maximum Price
Adjust Water Heater Setting to 120 degrees	each	\$20.00
Attic Hatch Treatment - R-19	sq ft	\$36.00
Attic Hatch Treatment - R-30	sq ft	44.00
Attic Hatch Treatment - R-38	sq ft	\$56.00
Attic Hatch Treatment - R-49	sq ft	\$66.00
Attic Knee Wall Door Treatment - R-13 Insulation	each	\$142.00
Attic Knee Wall Door Treatment - R-19 Insulation	each	\$162.00
Attic Pull Down Stair Cover - R-19	each	\$272.00
Attic Pull Down Stair Cover - R-30	each	\$296.00
Attic Pull Down Stair Cover - R-38	each	\$322.00
Attic Pull Down Stair Cover - R-49	each	\$388.00
Blower door guided air sealing	CFM	\$1.80
Boiler Pipe Insulation - R-7 Wrap on Hot Water Boiler Pipes	lf	10.80
Central A/C Replacement - 2 ton	each	\$6,754.50
Central A/C Replacement - 3 ton	each	\$7,055.98
Central A/C Replacement - 4-5 ton	each	\$7,989.80
Chest Freezer, 10.1 - 16 cubic foot	each	\$1,202.00
Chest Freezer, 3.5 - 6 cubic foot	each	\$382.00

Chest Freezer, 6.1 - 10 cubic foot	each	\$740.00
Clean and Tune - A/C	each	400.00
Clean and Tune - Heat Pump	each	400.00
Clean and Tune - Natural Gas Heating System	each	507.00
Clean refrigerator coils	each	\$100.00
Crawlspace Hatch/Door - R-21 Insulation	each	\$296.00
Duct Insulation - R-8 Wrap	sq ft	\$5.10
Duct Sealing - Mastic	lf	\$4.40
Ductless Mini-Split Heat Pump Replacement (Output 24k/24k)	each	\$9,984.00
Ductless Mini-Split Heat Pump Replacement (Output 36k/36k)	each	\$10,807.50
Ductless Mini-Split Heat Pump Replacement (Output 48k/48k)	each	\$12,560.00
Electric Water Heater Replacement - 30 Gallons	each	\$1,776.00
Electric Water Heater Replacement - 50 Gallons	each	\$1,942.00
Electric Water Heater Replacement - 80 Gallons	each	\$2,328.00
Energy Recovery Ventilator	Each	\$1,350.00
Furnace Replacement - Gas AFUE 80% (Output 45KBTU-75KBTU)	each	\$5,495.40
Furnace Replacement - Gas AFUE 80% (Output higher than 75KBTU)	each	\$6,053.40
Furnace Replacement - Gas AFUE 95% (Output 45KBTU-80KBTU)	each	\$8,166.00
Furnace Replacement - Gas AFUE 95% (Output higher than 80KBTU)	each	\$9,054.00
Gas Boiler Replacement - 85% AFUE (Output 40 - 80 KBTU)	each	\$9,673.00
Gas Boiler Replacement - 85% AFUE (Output higher than 80 KBTU)	each	\$9,577.50
Gas Boiler Replacement - 90%+ AFUE (Output 40 - 80 KBTU)	each	\$9,876.80
Gas Boiler Replacement - 90%+ AFUE (Output higher than 80 KBTU)	each	\$10,951.50
Gas Tankless Water Heater Replacement - higher than 8 GPM	each	\$3,528.00
Gas Tankless Water Heater Replacement - up to 5 GPM	each	\$2,618.00
Gas Tankless Water Heater Replacement - up to 5.1 - 8 GPM	each	\$2,988.00
Gas Water Heater Replacement - 30 Gallons	each	\$2,454.00
Gas Water Heater Replacement - 40 Gallons	each	\$3,338.00

Gas Water Heater Replacement - 50 Gallons	each	\$2,916.00
Gas Water Heater Replacement - 80 Gallons	each	\$3,114.00
Heat Pump Replacement - ASHP (Output 24k/24k)	each	\$8,487.80
Heat Pump Replacement - ASHP (Output 36k/36k)	each	\$8,959.68
Heat Pump Replacement - ASHP (Output 48k/48k)	each	\$10,095.00
Heat Pump Water Heater - 30 Gallons	each	\$3,738.00
Heat Pump Water Heater - 50 Gallons	each	\$4,566.00
Heat Pump Water Heater - 80 Gallons	each	\$5,326.00
Heat Recovery Ventilator	Each	\$1,350.00
Install Advanced Power Strip	each	\$52.50
Install Faucet Aerators	each	\$8.10
Install Knee Wall Insulation - R-13 Faced Batt	sq ft	\$2.60
Install Low Flow Showerhead Fixed	each	\$50.00
Install Low Flow Showerhead Handheld	each	\$70.00
Install Occupancy Sensor	each	\$126.00
Install Smart Thermostat	each	\$585.00
Install Thermostatic Shut-off Valve	each	70.00
Install Water Heater Blanket	each	\$136.00
Install Water Pipe insulation (1/2-3/4").	lf	2.80
Insulation - Install Polyiso Foam Board 1"	sq ft	\$4.40
Insulation - Install Polyiso Foam Board 2"	sq ft	\$6.00
Insulation - Install Polyiso Foam Board 3"	sq ft	\$7.80
Insulation - Install R-11 Cellulose(Attic)	sq ft	\$2.40
Insulation - Install R-11 Dense Pack Cellulose	sq ft	\$4.20
Insulation - Install R-11 Dense Pack Cellulose under Storage Platform (Attic)	sq ft	\$4.60
Insulation - Install R-11 Dense Pack Fiberglass under Storage Platform (Attic)	sq ft	\$4.20
Insulation - Install R-11 Fiberglass Batt	sq ft	\$2.20

Insulation - Install R-11 Fiberglass(Attic)	sq ft	\$2.40
Insulation - Install R-13 Dense Pack Cellulose	sq ft	\$4.40
Insulation - Install R-13 Dense Pack Fiberglass	sq ft	\$4.40
Insulation - Install R-13 Fiberglass Batt	sq ft	\$2.60
Insulation - Install R-19 Cellulose(Attic)	sq ft	\$3.00
Insulation - Install R-19 Dense Pack Cellulose	sq ft	\$5.40
Insulation - Install R-19 Dense Pack Cellulose(Attic)	sq ft	\$5.80
Insulation - Install R-19 Dense Pack Fiberglass	sq ft	\$5.40
Insulation - Install R-19 Dense Pack Fiberglass(Attic)	sq ft	\$5.40
Insulation - Install R-19 Fiberglass Batt	sq ft	\$3.40
Insulation - Install R-19 Fiberglass(Attic)	sq ft	\$3.00
Insulation - Install R-30 Cellulose(Attic)	sq ft	\$4.00
Insulation - Install R-30 Fiberglass Batt	sq ft	\$4.00
Insulation - Install R-30 Fiberglass(Attic)	sq ft	\$3.80
Insulation - Install R-38 Cellulose(Attic)	sq ft	\$4.60
Insulation - Install R-38 Fiberglass(Attic)	sq ft	\$4.60
Insulation - Install R-49 Cellulose(Attic)	sq ft	\$5.40
Insulation - Install R-49 Fiberglass(Attic)	sq ft	\$5.20
Insulation - Install Spray Foam 2"	sq ft	\$5.60
Insulation - Install Spray Foam 3"	sq ft	\$7.60
Insulation Attic Knee Wall Backing - EPS Foam Board Barrier 1" (Attic)	sq ft	\$3.80
Insulation Attic Knee Wall Backing - EPS Foam Board Barrier 2" (Attic)	sq ft	\$4.20
Insulation Attic Knee Wall Backing - EPS Foam Board Barrier 3" (Attic)	sq ft	\$6.00
Insulation Attic Knee Wall Backing - Polyiso Foam Board Barrier 1" (Attic)	sq ft	\$4.60
Insulation Attic Knee Wall Backing - Polyiso Foam Board Barrier 2" (Attic)	sq ft	\$5.40
Insulation Attic Knee Wall Backing - Polyiso Foam Board Barrier 3" (Attic)	sq ft	\$8.00
Integrated Boiler	each	\$12,800.00
LED - 11W A-type	each	12.00

LED - 11W R30	each	13.20
LED - 15W A-type	each	14.80
LED - 17W R40	each	15.40
LED - 5W Candle	each	12.20
LED - 6W Globe	each	11.80
LED - 9/11/15W 3-Way	each	15.20
LED - 9W A-type	each	11.40
LED - Recessed Trim Kit 11W	each	58.80
LED - Recessed Trim Kit 15W	each	67.00
Mobile Home Belly Insulation - Dense Pack Fiberglass	sq ft	\$7.60
Mobile Home Replacement Door	each	\$970.00
Mobile Home Roof Insulation - Dense Pack Fiberglass	sq ft	\$5.40
Replace Ceiling Fan	each	\$502.00
Replace Ceiling Fan w Lighting	each	\$600.00
Replace Dishwasher	each	\$1,244.00
Replace Dryer	each	\$1,974.00
Replace Existing Dehumidifier	each	\$694.00
Replace Refrigerator/Freezer Combo, 10-14 cubic foot	each	\$1,306.00
Replace Refrigerator/Freezer Combo, 14.5-18 cubic foot	each	\$1,480.00
Replace Refrigerator/Freezer Combo, 18.5-22 cubic foot	each	\$2,106.00
Replace Refrigerator/Freezer Combo, 22.5-25 cubic foot	each	\$2,710.00
Replace Washing Machine	each	\$1,968.00
Replace Window AC - 5000 - 7999 KBTU	each	\$586.50
Replace Window AC - 8000 - 12000 KBTU	each	\$777.60
Rim/Band Insulation - Install EPS Foam Board 1"	sq ft	\$3.60
Rim/Band Insulation - Install EPS Foam Board 2"	sq ft	\$5.00
Rim/Band Insulation - Install EPS Foam Board 3"	sq ft	\$7.20
Rim/Band Insulation - Install Spray Foam 2"	sq ft	\$5.60

Rim/Band Insulation - Install Spray Foam 3"	sq ft	\$7.60
Steam Pipe Insulation Minimum R-12.7	lf	\$10.80
TLED - 2ft	each	\$60.00
TLED - 4ft	each	\$80.00
Upright Freezer, 12-16 cubic foot	each	\$1,406.00
Upright Freezer, 16.1-20 cubic foot	each	\$1,668.00
Wall Insulation - Dense Pack 5.5 inch Cavity - Cellulose	sq ft	5.80
Wall Insulation - Dense Pack 5.5 inch Cavity - Fiberglass	sq ft	5.40
Wall Insulation - Dense-pack 3.5 inch wall cavity - Cellulose	sq ft	4.60
Wall Insulation - Dense-pack 3.5 inch wall cavity - Fiberglass	sq ft	4.20
Wall Insulation - Install Polyiso Foam Board 1"	sq ft	\$4.20
Wall Insulation - Install Polyiso Foam Board 2"	sq ft	\$5.60
Wall Insulation - Install Polyiso Foam Board 3"	sq ft	\$7.80
Wall Insulation - Install R-11 Fiberglass Batt	sq ft	\$1.60
Wall Insulation - Install R-13 Fiberglass Batt	sq ft	\$1.80
Window Replacement	each	\$740.00

Table 29 - Whole Home Efficiency Existing Price List for Health and Safety Measures

Measure	Unit	Maximum Price
Air Filter Replacement	each	\$51.40
Automatic Water Feeder Installation	each	\$530.00
Barometric Draft Control Installation	each	\$340.00
Baseboard Heating Element Replacement	each	\$500.00
Blower Motor Replacement	each	\$540.00
Boiler Overflow Pipe Installation	each	\$164.00
Burner Replacement	each	\$1,540.00
CO Alarm Installation	each	\$72.00

Chimney Repairs	hour	\$160.00
Circulator Pump Installation	each	\$692.00
CO/Smoke Alarm Combination Install	each	\$114.00
Condensate Pump Installation	each	\$212.00
DHW Clean and Tune	each	\$495.00
Drip Tube Installation - DHW	each	\$46.00
Expansion Tank Installation	each	\$510.00
Flue Pipe Correction - DHW	each	\$500.00
Flue Pipe Correction - Furnace	each	\$500.00
Gas Line Repair	hour	\$200.00
Gas Valve Replacement	each	\$306.00
High Limit Switch Replacement	each	\$280.00
Ignition Transformer Replacement	each	\$380.00
Junction Box & Cover Installation	each	\$98.00
Junction Box Cover Installation	each	\$4.00
Make-Up Air Installation	each	\$300.00
Miscellaneous Electrical Repairs	hour	\$150.00
Miscellaneous Heating System Repairs	hour	160.00
Power Vent Installation	each	\$852.00
Remove and cap supply duct from active chimney	each	\$390.00
Smoke Alarm Installation	each	\$70.00
Stove Clean and Tune	each	\$330.00
Thermostat Replacement	each	350.00

Table 30 - Whole Home Efficiency Existing Price List for Incidental Repair Measures

Measure	Unit	Maximum Price
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Acrylic White Roof Coating	sq ft	\$2.60
Aluminum Fibered Roof Coating	sq ft	\$2.20
Attic Hatch / Stair Damming	sq ft	\$11.80
Attic Storage Removal	hr	50.00
Attic/Knee Wall Access Installation	each	\$270.00
Baffles	each	\$7.20
Bath Exhaust Fan - Vent Pipe	lf	\$10.50
Bath Exhaust Fan Installation	each	\$950.00
Bath Exhaust Vent Insulation	sq ft	\$4.80
Bath Fan Switch/Timer Installation	each	\$168.00
Batt Insulation Removal	sq ft	2.40
Belly Repair	sq ft	\$3.40
Block and Seal Window AC	each	\$110.00
Blown Insulation Removal	sq ft	\$2.60
Chimney Cap Installation	each	\$385.50
Chimney Liner (Aluminum)	each	\$2,115.00
Condensate Line - Clean Out	each	\$54.00
Crawl Space Access Well Installation	each	\$610.00
Crawl Space Storage Removal	hr	\$50.00
Crawl Space Vent Installation	each	\$450.00
Crawl Space Door Installation	each	\$104.00
Downspout Extender Installation	each	\$33.40
Dryer - Vent To Outside	lf	\$10.20
Dryer Vent Booster Fan	each	\$962.00
Dryer Vent Insulation	sq ft	\$4.60
Drywall Mud & Tape	sq ft	\$3.00
Drywall Reinforcement - Attic	sq ft	\$1.20
Drywall Reinforcement - Wall	sq ft	\$0.40

Duct Insulation Removal	sq ft	\$0.60
Ductless Mini-Split Additional Feed	each	\$856.00
Existing Bath Exhaust Fan Replacement	each	\$572.00
Existing Bath Fan Motor Replacement	each	\$284.00
Existing Kitchen Exhaust Fan Replacement	each	\$646.00
Existing Kitchen Fan Motor Replacement	each	\$300.00
Exterior Door Replacement	each	\$976.00
Exterior Wall Repair	sq ft	\$31.00
Fascia Repair	lf	\$20.00
Flue Pipe Damming	sq ft	\$20.28
French Drain System	lf	\$56.25
Gable Vent Installation	each	\$539.20
Gutter - Clean-out	lf	\$5.00
Gutters/Downspout Repair	lf	\$16.00
Install / Build / Relocate Attic Platform	sq ft	10.60
Install New Dehumidifier	each	800.00
Install Programmable Thermostat	each	351.12
Install Thermostat - Baseboard Heaters	each	400.00
Insulate HVAC Line Set	lf	4.20
Junction Box & Cover Installation - Attic	each	98.00
Junction Box Cover Installation - Attic	each	4.60
Kitchen Exhaust Fan Installation	each	889.10
Kitchen Exhaust Fan To Outside - Vent Pipe	lf	10.60
Kitchen Exhaust Vent Insulation	sq ft	4.80
Kitchen Fan Switch/Timer Installation	each	124.80
Knob & Tube Wiring Mitigation - Attic	hr	150.00
Knob & Tube Wiring Mitigation - Wall	hr	150.00
Low Height Crawl Space Treatment	sq ft	1.20

Minor Asbestos Remediation	sq ft	24.00
Minor Carpentry Repair	sq ft	30.00
Minor Mold Remediation	sq ft	70.00
Minor Plumbing Repair	hr	3,160.00
Minor Roof Leak Repair	hr	90.00
Non-insulating Air Barrier on Crawl Ceiling	sq ft	1.20
Non-insulating Air Barrier on Knee Wall	sq ft	1.40
Permits / Fees	each	300.00
Pest Removal	hr	890.00
Re-attach or Secure Duct	each	130.00
Recessed Light Cover	each	57.00
Registers - Replace	each	40.40
Replace Attic Pull-down Stairs	each	750.00
Replace Flexible Duct	lf	21.20
Replace Roof Stack Boot 2" Replacement	each	106.80
Replace Roof Stack Boot 3" Replacement	each	119.20
Replace Roof Stack Boot 4" Replacement	each	132.80
Ridge Vent Installation	lf	25.80
Roof Stack Boot 1 1/2" Replacement	each	101.60
Roof Vent Installation	each	568.00
Soffit Repair	lf	24.00
Soffit Vent Installation	lf	18.00
Sump Pump Lid/Cover	each	124.00
Sump Pump Replacement	each	892.50
Vapor Barrier Installation	sq ft	1.80
Vent Termination - Masonry Wall	each	365.40
Vent Termination - Roof	each	292.00
Vent Termination - Wood Wall	each	300.00

Weatherstripping Kit for Doors	each	178.00
Whole House Fan Damming	each	250.00
Whole House Fan Removal	each	596.00
Whole House Fan Treatment	each	330.00
Window - Replace Glass/Pane up to 64 u.i.	each	154.60
Window Sash Replacement	each	402.00
Window Well Cover Installation	each	38.60
Whole House Fan Removal	each	\$625.00
Whole House Fan Treatment	each	\$285.00
Window Well Cover Installation	each	\$45.00

7.2 MEEHA Incentives

Table 31 - MEEHA Measure Funding List		
Energy Measure	Unit	Maximum Price
Appliances		
Clothes Washer	Each	\$800
Clothes Dryer	Each	\$800
Dehumidifier	Each	\$430
Dishwasher	Each	\$700
Bathroom Exhaust Fan	Each	\$300
Bathroom Exhaust Fan w/controls	Each	\$325
Kitchen Exhaust Fan	Each	\$350
Refrigerator 10-14 Cubic Foot	Each	\$750
Refrigerator 14.1-18 Cubic Foot	Each	\$850
Refrigerator 18.1-22 Cubic Foot	Each	\$950
Elevator Motor/Controls	Each	\$4,500
Induction Range	Each	\$1,000

Vending Miser	Each	\$350
DHW		
Gas Water Heater 30 Gal	Each	\$525
Gas Water Heater 40 Gal	Each	\$575
Gas Water Heater 50 Gal	Each	\$625
Gas Water Heater 80 gal and above	Each	\$675
Electric Water Heater 30 Gal	Each	\$1,050
Electric Water Heater 40 Gal	Each	\$1,150
Electric Water Heater 50 Gal	Each	\$1,250
Electric Water Heater 80 Gal and above	Each	\$1,350
Electric Water Heater 30 Gal (Electrification)	Each	\$525
Electric Water Heater 40 Gal (Electrification)	Each	\$575
Electric Water Heater 50 Gal (Electrification)	Each	\$625
Electric Water Heater 80 Gal and above (Electrification)	Each	\$675
Heat Pump Water Heater 40 Gal	Each	\$2,200
Heat Pump Water Heater 50 Gal	Each	\$2,600
Heat Pump Water Heater 80 Gal and above	Each	\$3,000
Heat Pump Water Heater 40 Gal (Electrification)	Each	\$1,100
Heat Pump Water Heater 50 Gal (Electrification)	Each	\$1,300
Heat Pump Water Heater 80 Gal and above (Electrification)	Each	\$1,500
Low Flow Shower Head	Each	\$25
Faucet Aerators	Each	\$5
Air Sealing		
In Unit Air Sealing	Per Unit	\$250
Exterior Mechanical Closet Air Sealing	Per Unit	\$150
Attic Air Sealing (low to mid rise or garden style)	Per Unit	\$300
Attic Air Sealing (Townhouse or Detached House)	Per Unit	\$800
Lighting		
Screw Based SSL LED Lamp	Each	\$10
Integrated LED Fixture (18W max)	Each	\$20
Integrated LED Fixture (30W max)	Each	\$40
Integrated LED Fixture (55W max)	Each	\$50
Integrated LED Fixture (90W max)	Each	\$100

Occupancy Sensor	Each	\$30
LED T-type Lamp	Each	\$25
HVAC		
Combination Space and Water Heating Gas Boiler	Each	\$4,500
High Efficiency Gas Furnace	Each	\$2,500
Condensing Unit 24k BTU (16 SEER min)	Each	\$3,000
Condensing Unit 24k BTU (18 SEER min)	Each	\$3,500
Condensing Unit 36k BTU (16 SEER min)	Each	\$3,250
Condensing Unit 36k BTU (18 SEER min)	Each	\$3,750
Condensing Unit 48k BTU (16 SEER min)	Each	\$3,500
Condensing Unit 48k BTU (18 SEER min)	Each	\$4,000
Split System Heat Pump 24k BTU (16 SEER, 8.1 HSPF min)	Each	\$6,500
Split System Heat Pump 24k BTU (18 SEER, 8.5 HSPF min)	Each	\$7,000
Split System Heat Pump 36k BTU (16 SEER, 8.1 HSPF min)	Each	\$6,750
Split System Heat Pump 36k BTU (18 SEER, 8.5 HSPF min)	Each	\$7,250
Split System Heat Pump 48k BTU (16 SEER, 8.1 HSPF min)	Each	\$7,000
Split System Heat Pump 48k BTU (18 SEER, 8.5 HSPF min)	Each	\$7,500
Split System Heat Pump 24k BTU (16 SEER, 8.1 HSPF min) (Electrification)	Each	\$3,250
Split System Heat Pump 24k BTU (18 SEER, 8.5 HSPF min) (Electrification)	Each	\$3,500
Split System Heat Pump 36k BTU (16 SEER, 8.1 HSPF min) (Electrification)	Each	\$3,375
Split System Heat Pump 36k BTU (18 SEER, 8.5 HSPF min) (Electrification)	Each	\$3,625
Split System Heat Pump 48k BTU (16 SEER, 8.1 HSPF min) (Electrification)	Each	\$3,500
Split System Heat Pump 48k BTU (18 SEER, 8.5 HSPF min) (Electrification)	Each	\$3,750
Mini-Split Heat Pump 24k BTU (18 SEER, 8.5 HSPF min)	Each	\$8,000
Mini-Split Heat Pump 24k BTU (20 SEER, 9.0 HSPF min)	Each	\$8,500
Mini-Split Heat Pump 36k BTU (18 SEER, 8.5 HSPF min)	Each	\$8,500
Mini-Split Heat Pump 36k BTU (20 SEER, 9.0 HSPF min)	Each	\$9,000
Mini-Split Heat Pump 48k BTU (18 SEER, 8.5 HSPF min)	Each	\$9,000
Mini-Split Heat Pump 48k BTU (20 SEER, 9.0 HSPF min)	Each	\$9,500
Mini-Split Heat Pump 24k BTU (18 SEER, 8.5 HSPF min) (Electrification)	Each	\$4,000
Mini-Split Heat Pump 24k BTU (20 SEER, 9.0 HSPF min) (Electrification)	Each	\$4,250
Mini-Split Heat Pump 36k BTU (18 SEER, 8.5 HSPF min) (Electrification)	Each	\$4,250
Mini-Split Heat Pump 36k BTU (20 SEER, 9.0 HSPF min) (Electrification)	Each	\$4,500
Mini-Split Heat Pump 48k BTU (18 SEER, 8.5 HSPF min) (Electrification)	Each	\$4,500

Mini-Split Heat Pump 48k BTU (20 SEER, 9.0 HSPF min) (Electrification)	Each	\$4,750
Packaged Terminal Heat Pump	Each	\$3,000
Packaged Terminal Heat Pump (Electrification)	Each	\$1,500
Smart Thermostat	Each	\$300
Duct Sealing	Linear Foot	\$3.00
Duct Sealing (Aeroseal)	Each	\$600
VFD - Pump	Each	\$1,500
Insulation		
Blown-in Insulation R-11	Square Foot	\$1.50
Blown-in Insulation R-19	Square Foot	\$2.15
Blown-in Insulation R-30	Square Foot	\$2.75
Blown-in Insulation R-38	Square Foot	\$3.25
Blown-in Insulation R-49	Square Foot	\$3.50
R-11 Batt Insulation	Square Foot	\$1.35
R-13 Batt Insulation	Square Foot	\$1.90
R-19 Batt Insulation	Square Foot	\$2.35
R-30 Batt Insulation	Square Foot	\$2.95
2" Spray Foam Insulation	Square Foot	\$4.50
3" Spray Foam Insulation	Square Foot	\$5.75
Pipe Insulation	Linear Foot	\$1.50
Duct Insulation	Linear Foot	\$3.00
Fenestration		
Exterior Door	Each	\$700
Window	Square Foot	\$35
Miscellaneous / Other		
Energy Auditor	Each	\$4,000
Incidental Repair		Up to 10% of EE funding
Health and Safety		Up to 10% of EE funding
New Construction Only		
Energy Star New Construction Certification	Per Unit	\$700
Energy Star NextGen Certification	Per Unit	\$600
Zero Energy Ready Home Certification	Per Unit	\$1,500
Passive House Certification	Per Unit	\$1,500

- Minimum measure efficiencies will be identified in program guidance
- Funding for measures not included on the MEEHA Funding List will be determined on a case by case basis

7.3 Base Efficiency Eligible Measures

Measure prices for this program are tied to the contracted pricing for the Whole Home Efficiency program Network Partners (see Section 7.1 above). Accordingly, the pricing will be updated at the conclusion of the next procurement.

The following measure categories are eligible under this program:

- Refrigerator
- Freezer
- Large appliances
- Dehumidifier
- Ceiling fan
- Smart strip
- Light bulb
- Occupancy sensor
- Water heater
- Faucet aerator
- Showerhead
- Water pipe insulation
- Water tank insulation
- Thermostatic shutoff valve
- Forced air heating system
- Heat pump
- Central air conditioner
- Ductless mini-split heat pump
- Window AC unit
- Boiler
- HVAC system clean and tune
- Smart Thermostat
- Duct sealing

- Duct insulation
- Boiler pipe insulation

7.4 MEET Incentives

The following measures are currently available under this program:

Measure	Unit	Preliminary Measure Cost
Site Visit	each	\$250.00
Adjust programmable thermostat	each	\$10.00
Adjust Water Heater Setting to 120 degrees	each	\$20.00
Clean and Tune - A/C	each	400.00
Clean and Tune - Heat Pump	each	400.00
Clean refrigerator coils	each	\$100.00
Door sweep	each	TBD
Duct Sealing - Mastic	lf	\$4.40
Install Advanced Power Strip	each	\$52.50
Install Faucet Aerators	each	\$8.10
Install Low Flow Shower Head Fixed	each	\$50.00
Install Low Flow Showerhead Handheld	each	\$70.00
Install Smart Thermostat	each	\$585.00
Install Thermostatic Shut-off Valve	each	70.00
Install Water Heater Blanket	each	\$136.00
Install Water Pipe insulation (1/2-3/4").	lf	2.80
LED - 11W A-type	each	12.00
LED - 11W R30	each	13.20
LED - 15W A-type	each	14.80
LED - 17W R40	each	15.40

LED - 5W Candle	each	12.20
LED - 6W Globe	each	11.80
LED - 9/11/15W 3-Way	each	15.20
LED - 9W A-type	each	11.40
LED - Recessed Trim Kit 11W	each	58.80
LED - Recessed Trim Kit 15W	each	67.00
Shower timer	each	30.00
Window caulking	NTE	TBD

Going forward, measure prices for this program will be tied to the contracted pricing for the Whole Home Efficiency program Network Partners (see Section 7.1 above). Accordingly, the pricing will be updated at the conclusion of the next procurement.

8 APPENDIX

8.1 Glossary

AMI	Area Median Income
APPRISE	Applied Public Policy Research Institute for Study and Evaluation
BPI	Building Performance Institute
CDA	Community Development Administration (within DHCD)
COMAR	Code of Maryland
Commission	Public Service Commission
C&I	Commercial and Industrial
DHS	Department of Human Services
Department	Department of Housing and Community Development
DHCD	Department of Housing and Community Development
DOE	U.S. Department of Energy
ECM	Energy Conservation Measure
ERPI	EmPOWER Reporting and Process Improvement Work Group
EM&V	Evaluation, Measurement, and Verification
EPA	Environmental Protection Agency

EUL	Estimated Useful Life
EUSP	Electric Universal Service Program
FPL	Federal Poverty Level
GHGRP	Greenhouse Gas Reduction Program
HAF	Homeowner Assistance Fund
HBEP	DHCD's Housing and Building Energy Programs unit
HEIP	Home Energy Improvement Program
HPwES	Home Performance with Energy Star program
LIEEP	Limited Income Energy Efficiency Programs
LI	Limited Income
LIHTC	Low Income Housing Tax Credit
LI Workgroup	Limited-Income Workgroup, comprised of interested program stakeholders
LWA	Local Weatherization Agency
MEA	Maryland Energy Administration
MEAP	Maryland Energy Assistance Program
MCEC	Maryland Clean Energy Center
MDE	Maryland Department of the Environment
MEEHA	Multifamily Energy Efficiency and Housing Affordability
MEET	Maryland Energy Efficiency Tune-up
Network Partners	Collectively, the LWAs and SWCs that serve the Whole Home Efficiency Program and related single-family programs.
OHEP	Office of Home Energy Programs

OPC	Office of People’s Counsel
Plan	This 2024-2026 plan, submitted by DHCD for the EmPOWER Limited-Income Programs for the 2024-2026 program cycle.
Programs	The EmPOWER Limited-Income Programs administered by DHCD.
QHEC	Quick Home Energy Check-up
SIR	Savings-to-Investment Ratio
SEER	Seasonal Energy Efficiency Ratio
SLP	Special Loans Programs
State	State of Maryland
SWC	State Weatherization Contractor
TCA	Transaction Cost Analysis
TRM	Technical Reference Manual
WAP	Weatherization Assistance Program
WGL	Washington Gas Light

8.2 Assumptions

Assumptions for individual numbers and references to studies are noted throughout the document in the footnotes. Savings estimates are generally based on evaluated savings from prior program years and adjusted for the effects of proposed modifications in this plan.

DHCD is moving to use TRM based savings in the 2024-2026 program cycle. There was not sufficient time to adapt the TRM savings calculations in preparation for filing the Plan by August 1, 2023. It is likely that actual savings results for 2024 and beyond will be different than the estimates provided in this Plan. However, these variances will not be known until at least 2025 or 2026 when 2024 program savings are evaluated.

Forecasts

The forecasts for the 2024-2026 Program cycle have been allocated based on the assumption that the Commission will accept the programs as proposed. DHCD will revise the ES tables as necessary if parts of the Plan are not accepted, or as requested by the Commission or Staff.

The forecasts for this Plan are based on the assumptions described below. They result from the most recent data available to DHCD, primarily from the DHCD 2022 Evaluation Report and analysis performed by DHCD’s consultant, APPRISE, Inc..

Table 33 - Whole Home Efficiency Forecast Calculation					
Utility	Estimated Units 2024-2026	Estimated Average Cost per Unit ³¹	Estimated Average Unit Savings (MWh) ³²	Estimated Average Unit Savings (Therms) ³³	Estimated Average Demand Reduction (MW)
BGE	9,997	\$7,300	2.004	70.84	0.0005150
Delmarva	2,033	\$6,300	2.413	0	0.0005260
PE	2,060	\$6,400	2.605	0	0.0006382
PEPCO	2,764	\$6,300	2.36	0	0.000531
SMECO	1,137	\$7,300	2.337	0	0.0005656
WGL	1,237	\$3,201	N/A	68	N/A
Estimated Useful Life ³⁴ : 18 years					

Table 34 - MEEHA Residential Forecast Calculation

³¹ Based on actual costs of jobs performed in 2022. WGL job cost was reduced by 19% to account for reduced installation of gas equipment.

³² Verified savings, based on DHCD 2022 Evaluation Report

³³ BGE: verified savings, based on DHCD 2022 Evaluation Report. WGL: Average savings reported to WGL in 2021 and 2022, with 51% realization rate applied based on EMV findings in 2022.

³⁴ Based on TRM and actual measure mix in 2020.

Utility	Estimated Units 2024-2026	Estimated Average Cost per Unit ³⁵	Estimated Average Unit Savings (MWh) ³⁶	Estimated Average Unit Savings (Therms) ³⁷	Estimated Average Demand Reduction (MW) ³⁸
BGE	10,346	\$5,904	1.97	0.508	0.0005063
Delmarva	1,608	\$5,904	1.97	0	0.0004295
PE	1,937	\$5,904	1.97	0	0.0004827
PEPCO	6,199	\$5,904	1.97	0	0.0004433
SMECO	459	\$5,904	1.97	0	0.0004767
WGL	1,332	\$4,505	N/A	179	N/A
Estimated Useful Life ³⁹ : 18 years					

Table 35 - MEEHA Commercial Forecast Calculation

Utility	Estimated Units 2024-2026	Estimated Average Cost per Unit ⁴⁰	Estimated Average Unit Savings (MWh) ⁴¹	Estimated Average Unit Savings (Therms) ⁴²	Estimated Average Demand Reduction
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³⁵ Based on reported data, projects under construction, and projects in process, as of 5/1/2020 and enhancements to the Program. Costs per unit include health and safety and incidental repair costs.

³⁶ Based on current cycle verified reported values and enhancements to the Program.

³⁷ Based on current cycle verified reported values and enhancements to the Program.

³⁸ Based on current cycle verified reported values.

³⁹ Based on TRM and actual measure mix in 2020

⁴⁰ Based on reported data, projects under construction, and projects in process, as of 5/1/2020 and enhancements to the Program. Costs per unit include health and safety and incidental repair costs. The reported data includes master metered projects and individually metered projects with commercial spaces.

⁴¹ Based on current cycle verified reported values and enhancements to the Program. Estimated 50% of commercial customer benefit to fund master metered projects and 50% to fund individually metered projects resulting in a weighted average MWh savings per unit.

⁴² There are no Commercial gas funds available, no therm savings are estimated.

					(MW) ⁴³
BGE	1,513	\$2,757	2.76	0	0.0007093
Delmarva	235	\$2,757	2.76	0	0.0006017
PE	284	\$2,757	2.76	0	0.0006762
PEPCO	906	\$2,757	2.76	0	0.0006210
SMECO	67	\$2,757	2.76	0	0.0006679
WGL	0	0	0	0	0
Estimated Useful Life ⁴⁴ : 13 years					

Table 36 - Base Efficiency Forecast Calculation					
Utility	Estimated Units 2024-2026	Estimated Average Cost per Unit ⁴⁵	Estimated Average Unit Savings (MWh) ⁴⁶	Estimated Average Unit Savings (Therms) ⁴⁷	Estimated Average Demand Reduction (MW)
BGE	10,168	\$2,152	1.379	3.22	0.0003544
Delmarva	2,127	\$1,664	1.615	0	0.0003521
PE	2,068	\$2,405	1.816	0	0.0004449
PEPCO	2,655	\$1,938	1.72	0	0.0003870
SMECO	1,128	\$3,276	1.648	0	0.0003988

⁴³ Based on current cycle verified reported values.

⁴⁴ Based on TRM and actual measure mix in 2020

⁴⁵ Based on actual costs of jobs performed in 2022. WGL job cost was reduced by 23% to account for reduced installation of gas equipment.

⁴⁶ Verified savings, based on DHCD 2022 Evaluation Report

⁴⁷ BGE: verified savings, based on DHCD 2022 Evaluation Report. WGL: Average savings reported to WGL in 2021 and 2022, with 51% realization rate applied based on EMV findings in 2022.

WGL	1,396	\$1461.46	0	142	0
Estimated Useful Life ⁴⁸ : 16 years					

Table 37 - MEET Forecast Calculation					
Utility	Estimated Units 2021-2023	Estimated Average Cost per Unit ⁴⁹	Estimated Average Unit Savings (MWh) ⁵⁰	Estimated Average Unit Savings (Therms) ⁵¹	Estimated Average Demand Reduction (MW)
BGE	5,300	\$440	0.378	0	0.0000971
Delmarva	1,298	\$440	0.378	0	0.0000824
PE	1,419	\$440	0.378	0	0.0000926
PEPCO	1,726	\$440	0.378	0	0.0000851
SMECO	702	\$440	0.378	0	0.0000915
WGL	0	0	0	0	0
Estimated Useful Life ⁵² : 10.1 years					

Table 38 - Energy Kit Forecast Calculation					
Utility	Estimated Units 2021-2023	Estimated Average Cost per Unit ⁵³	Estimated Average Unit Savings	Estimated Average Unit Savings	Estimated Average Demand

⁴⁸ Based on TRM and actual measure mix in 2020

⁴⁹ Based on actual costs of jobs performed in 2022

⁵⁰ Engineered savings estimate for new measure mix, based on TRM assumptions

⁵¹ MEET will be serving electric households and measures only

⁵² Engineered values for new measure mix, based on TRM assumptions

⁵³ Engineered cost estimate for new measure mix, based on existing contractor pricing

			(MWh) ⁵⁴	(Therms) ⁵⁵	Reduction (MW)
BGE	19,170	\$55	0.209	3	0.00005371
Delmarva	4,695	\$55	0.209	0	0.00004556
PE	5,134	\$55	0.209	0	0.00005121
PEPCO	6,242	\$55	0.209	0	0.00004703
SMECO	2,541	\$55	0.209	0	0.00005057
WGL	0	0	0	0	0
Estimated Useful Life ⁵⁶ : 9.4 years					

The following conversion factors were used in calculating the demand reduction savings where appropriate:

Table 39 - kWh / kW Coincidence Factors⁵⁷	
Utility	Coincidence Factor
BGE	0.000257
Delmarva	0.000218
PE	0.000245
PEPCO	0.000225
SMECO	0.000242

⁵⁴ Engineered savings estimate for new measure mix, based on TRM assumptions

⁵⁵ Energy kits will be provided to customers based on their electric utility, which is known at the time of service. Any gas savings will be ancillary.

⁵⁶ Engineered values for new measure mix, based on TRM assumptions

⁵⁷ Provided by Cadmus as calculated for the utilities.

