PUBLIC SERVICE COMMISSION OF MARYLAND

The EmPOWER Maryland Energy Efficiency Act REPORT OF 2024

With Data for Compliance Year 2023

In compliance with Section 7-211 of
the Public Utilities Article,
Annotated Code of Maryland

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Report Contents

This document constitutes the 2024 annual report of the Public Service Commission of Maryland regarding the EmPOWER Maryland Energy Efficiency Act. This Report is submitted in compliance with §7-211 of the Public Utilities Article (PUA), *Annotated Code of Maryland*. PUA §7-211 requires that, on or before May 1 of each year, the Commission, in consultation with the Maryland Energy Administration (MEA), shall report to the General Assembly on the following:

1. the status of programs and services to encourage and promote the efficient use and conservation of energy, including an evaluation of the impacts of the programs and services that are directed to low-income communities, low-to moderate-income communities to the extent possible, and other particular classes of ratepayers;
2. a recommendation for the appropriate funding level to adequately fund these programs and services; and
3. in accordance with subsection (c) of this section, the per capita electricity consumption and the peak demand for the previous calendar year.

In compliance with PUA §7-211, topics addressed in this report include a summary of: the Energy Efficiency & Conservation (EE&C) and Demand Response (DR) program achievements and information regarding forthcoming milestones.

Executive Summary

The Commission reviews the progress of EmPOWER programs on a semi-annual basis, typically in May, to review the results of the third and fourth quarters of the previous year, and again in October to review the results of the first and second quarters of the current year. As part of these semi-annual hearings, parties may also request program modifications and budget adjustments. As needed, the Commission also holds *ad hoc* proceedings to address specific EmPOWER elements.

The Commission held a legislative-style hearing on May 2, 2023 to review the semi-annual EmPOWER reports filed by the EmPOWER Maryland Utilities[1], Washington Gas (WGL) and the Maryland Department of Housing and Community Development (DHCD), with data from the third and fourth quarters of 2022. Following these hearings, on June 9, 2023, the Commission issued Order No. 90663 which addressed program design and evaluation issues as well as future programming. Specifically, the Commission directed the Midstream Work Group to file a status report by October 13, 2023 and an interim status report by August 15, 2023, focusing on the possibility of a single-implementer model and further program enhancements. Further, the Commission directed the EmPOWER Reporting and Process Improvement (ERPI) Work Group to file a status report by October 15, 2023, and another status report by January 19, 2024.

[1] The "EmPOWER Maryland Utilities" (electric) are: The Potomac Edison Company (PE); Baltimore Gas and Electric Company (BGE); Delmarva Power & Light Company (DPL); Potomac Electric Power Company (Pepco);

The Commission held its second legislative-style hearing on November 6, 2023, to consider the semi-annual EmPOWER reports filed by the Utilities—WGL and DHCD—for the first and second quarters of 2023. On November 28, 2023, the Commission issued Order No. 90919 which provided direction on programmatic improvements and modifications. Specifically, the Commission approved a two-year extension to the Clean Energy Advantage (CEA) Pilot Program and directed the Finance Work Group to file a final report on the pilot by February 16, 2026. The Order also directed the Finance Work Group to file a final report by April 15, 2024, on the remaining budget of the CEA Pilot Program.

The Commission also reviewed the utilities' and DHCD's proposals for 2024–2026 EmPOWER programs. The Commission issued Order No. 90957 transitioning the EmPOWER program to the new cycle on December 29, 2023.

Initiative Highlights

- Program-to-date, the Utilities' EmPOWER Maryland programs have saved a total of 16,237,812 MWh and 3,165 MW. The expected savings associated with EmPOWER Maryland programs is over $14.5 billion over the life of the installed measures for the EE&C programs.

- Across all Utilities, the lifecycle cost per kWh for the EE&C programs, in 2023, is $0.041 per kWh[2]—significantly lower than the current cost of Standard Offer Service (SOS),—which ranges from $0.079 to $0.119 per kWh.

- Program-to-date, the Utilities have spent over $4.1 billion on the EmPOWER Maryland programs, including approximately $2.9 billion on EE&C programs, and $1.1 billion on DR programs.

- EmPOWER EE&C programs continue to be cost effective on a statewide basis in 2022, with a statewide societal cost test (SCT) score of 2.12 verified for program year 2022. For every dollar of reported utility or participant cost, the EmPOWER EE&C programs generate approximately $2.12 in benefits.

- Program-to-date, 73,285 limited-income customers participated in EmPOWER Maryland through the Residential Limited-Income Programs. Of the program-to-date participants, 13,513 limited-income households participated in 2023. The average savings per participant in 2023 was 478 kWh. Program-to-date spending on limited-income energy efficiency programs is approximately $264.4 million.

- The average monthly residential surcharge bill impacts[3] for 2023 were as follows:

[2] The lifecycle cost per kWh is calculated by dividing the total EE&C expenditures by the total lifecycle energy savings of the Utilities.

[3] Bill impacts are calculated assuming an average residential monthly usage of 1,000 kilowatt-hours (kWh). The calculated bill impact does not reflect savings produced by EmPOWER Maryland programs through reduced customer usage or energy rate reductions due to reduced system demand.

Table 1: Average Monthly Residential Bill Impacts from EmPOWER Maryland Surcharge in 2023

	EE&C	DR	Dynamic Pricing[4]	Total
BGE	$4.40	$2.75	($0.01)	$7.14
DPL	$5.81	$1.58	($0.11)	$7.28
PE	$6.41	N/A	N/A	$6.41
Pepco	$5.93	$2.64	($0.06)	$8.51
SMECO	**$7.58**	**$2.15**	**N/A**	$9.73

- The reported energy savings for 2023 and program-to-date are as follows:

Table 2 EE&C Reported Achievements[5,6]

	2023 Reported Energy Savings (MWh)[7]	2023 Energy Savings as a % of 2016 Retail Sales Baseline	2023 Target Energy Savings %	Program-to-Date Reduction (MWh)[8]
BGE	745,466	2.33%	2.00%	8,694,123
DPL	93,257	2.22%	2.00%	1,036,763
PE	167,652	2.26%	2.00%	1,574,140
Pepco	376,163	2.59%	2.00%	4,284,536
SMECO	75,042	2.21%	1.93%	749,998

EmPOWER Maryland Portfolios

For the 2021-2023 program cycle, the Commission directed the Utilities to meet the EmPOWER Maryland goals through a diverse array of cost-effective solutions for Maryland ratepayers, which can include EE&C, DR, and Advanced Metering Infrastructure (AMI) or Smart Grid-enabled opportunities.[9] While the EmPOWER Maryland Act mandates that the Commission require each gas and electric utility to establish energy efficiency programs, the

[4] The difference between rebates paid to participants and revenues received from PJM markets are trued-up in the subsequent calendar year review of the EmPOWER Maryland surcharge. Therefore, the 2021 dynamic pricing bill impacts include trued-up costs associated with the Peak Time Rebate program offered by BGE, DPL, and Pepco in the summer of 2020. The dynamic pricing surcharge for BGE was negative in 2021 (*i.e.*, resulted in a credit) because the PJM capacity payments received by the utility exceeded the rebate credits paid to customers.

[5] "Reported" savings constitute unverified energy savings and demand reductions based on the Utilities' quarterly programmatic reports. An independent, third-party verification of reported savings is conducted annually.

[6] EmPOWER Maryland 2018 Annual Target was defined in the *2018-2020 Program Cycle EmPOWER Maryland Annual Electric Energy Efficiency Targets* in Order No. 87402 (Sept. 26, 2017) at 11.

[7] Based on preliminary energy savings from semi-annual programmatic reports. These savings will be verified through an EM&V process.

[8] Program-to-date reported reductions include savings contributions from Fast Track Programs, which were Lighting and Appliance Rebate programs that began before the EmPOWER Maryland Law was enacted.

[9] Beginning in 2015, the Commission also directed WGL to implement natural gas energy efficiency and conservation programs. *See* Case No. 9362, *In the Matter of Washington Gas Light Company's Energy Efficiency, Conservation and Demand Response Programs Pursuant to the EmPOWER Maryland Energy Efficiency Act of 2008.*

directive is limited to those programs that the Commission deems appropriate after considering: (a) cost effectiveness, (b) the impact on rates of each ratepayer class in determining whether to approve an energy efficiency program, (c) the impact on jobs, and (d) on the environment.[10]

In order to verify the Utilities' energy and peak demand savings resulting from individual EE&C and DR programs, the Commission has developed an independent, third-party evaluation, measurement and verification (EM&V) process for the EmPOWER programs, consistent with national best practices. See the "Evaluation, Measurement & Verification" section herein for further information. Beginning with the 2016 program year, the Utilities were evaluated against the post-2015 electric energy efficiency goals established by Order No. 87082,[11] which are designed to achieve an annual incremental gross energy savings equivalent to 2.0 percent of the individual utility's weather normalized gross retail sales baseline, with a ramp-up rate of 0.20 percent per year.

Energy Efficiency & Conservation Programs

In Order No. 89679, issued on December 18, 2020, the Commission approved plans for the 2021-2023 program cycle. The Utilities' EmPOWER Maryland core EE&C program offerings are similarly designed with standardized customer incentives across the State, albeit with some variation in program implementation based on service territory demographics. Residential EE&C programs include discounted light-emitting diodes (LEDs) and appliances; heating, ventilation, and air conditioning (HVAC) rebates; home energy audits; weatherization; and limited-income programs.[12] Commercial and industrial EE&C programs are designed to encourage businesses to upgrade to more efficient equipment, such as lighting or HVAC retrofits, or to improve overall building performance through weatherization or building shell upgrades. For larger commercial buildings or industrial facilities, a utility can customize its program offerings for cost-effective improvements.

[10] PUA §7-211(i)(1). In its evaluation of a program or service, the Commission must consider the following four factors: cost effectiveness; impact on rates of each ratepayer class; impact on jobs; and impact on the environment.

[11] The electric energy efficiency goals are codified in statute for the duration of the 2018-2020 and 2021-2023 program cycles as a result of legislation enacted during the 2017 legislative session. *See* Md. Laws Ch. 014 (2017); PUA §7-211(g).

[12] Other than the volumetric surcharge collected from all ratepayers, limited-income programs are offered at no additional cost for those who qualify.

Baltimore Gas and Electric Company (BGE)

BGE EmPOWER Programs	
Residential Program	**Commercial Programs**
Appliance Rebates	Combined Heat and Power
Appliance Recycling	Commercial Behavior Based
Home Performance with Energy Star	Custom
HVAC	Midstream Products
Lighting	Prescriptive
Quick Home Energy Checkup	Retrocommissioning
Residential Behavior Based	Small Business
Residential New Construction	
Smart Thermostats	
Schools	

BGE realized 97 percent of its 2023 annual energy savings target (or 745,466 MWh) and 104 percent of its forecasted 2023 annual demand reduction target (or 540 MW). BGE's programs reached nearly 2.3 million participants and installed over 6.4 million measures in homes and businesses in the BGE service territory for just over $157.4 million.

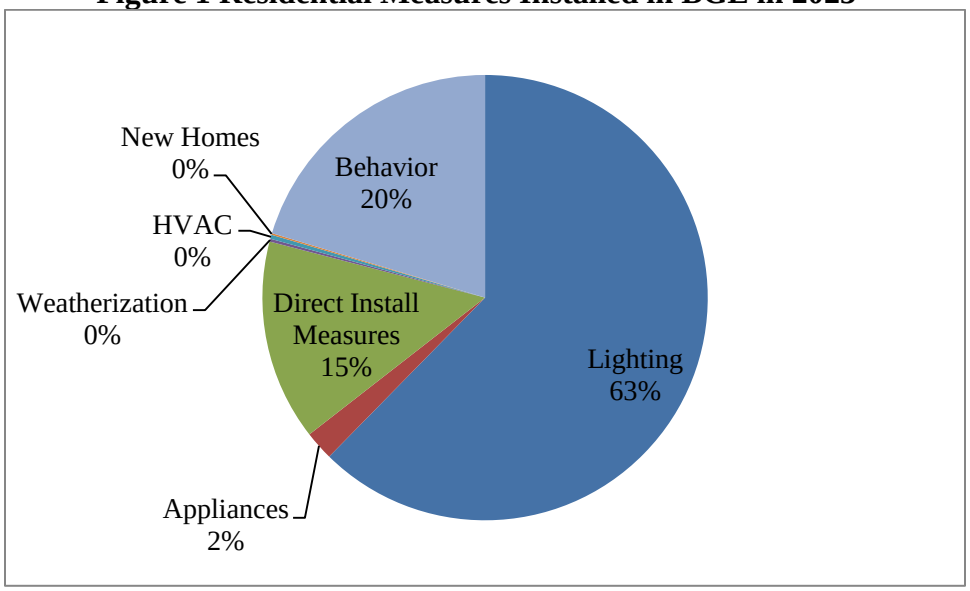
Table 3 BGE Reported Savings vs Targets for 2023

	2023 Reported Savings	2023 Target Savings[13,14]	% of Target Achieved
MWh	745,466	766,151	97%
MW	540	518	104%

[13] EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of each Utility.

[14] The demand reduction targets and reported achievements include peak demand reductions generated by both EE&C and DR programs, as both components are part of the total portfolio.

Figure 1 Residential Measures Installed in BGE in 2023[15]



Potomac Electric Power Company (Pepco)

Pepco EmPOWER Programs	
Residential Program	**Commercial Programs**
Appliance Rebates	Combined Heat and Power
Appliance Recycling	Custom
Behavior Based	Customer Engagement Portal
Home Performance with Energy Star	Energy Efficient Communities
HVAC	Midstream Products
Lighting	Prescriptive
Quick Home Energy Checkup	Retrocommissioning
Residential New Construction	Small Business
Schools	Virtual Commissioning
Smart Thermostats	

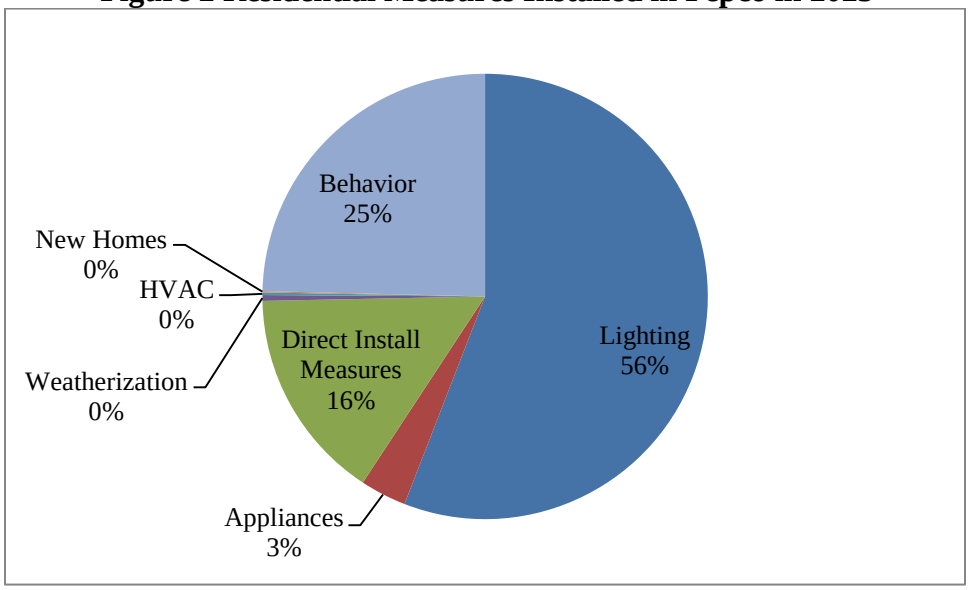
Pepco realized 89 percent of its 2023 annual energy savings target (or 376,163 MWh) and 79 percent of its forecasted 2023 annual demand reduction target (or 318 MW). Pepco's programs reached over 477,000 participants and installed over 2.6 million measures in homes and businesses in the Pepco service territory for approximately $89.1 million.

[15] Direct Install Measures are energy efficiency measures installed directly into a customer's home typically through a home audit program. These measures include things such as lightbulbs and faucet aerators.

Table 4 Pepco Reported Savings vs Targets for 2023

	2023 Reported Savings	2023 Target Savings[16,17]	% of Target Achieved
MWh	376,163	421,246	89%
MW	318	402	79%

Figure 2 Residential Measures Installed in Pepco in 2023



The Potomac Edison Company (PE)

PE EmPOWER Programs	
Residential Program	**Commercial Programs**
Appliance Rebates	Custom
Appliance Recycling	Prescriptive
Behavior Based	Retrocommissioning
Energy Efficiency Kits	Small Business
Home Performance with Energy Star	
HVAC	
Lighting	
Quick Home Energy Checkup	
Residential New Construction	
Schools	

PE realized 102 percent of its 2023 annual energy savings target (or 167,652 MWh) and 108 percent of its forecasted 2023 annual demand reduction target (or 28 MW). PE's programs

[16] EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of each Utility.

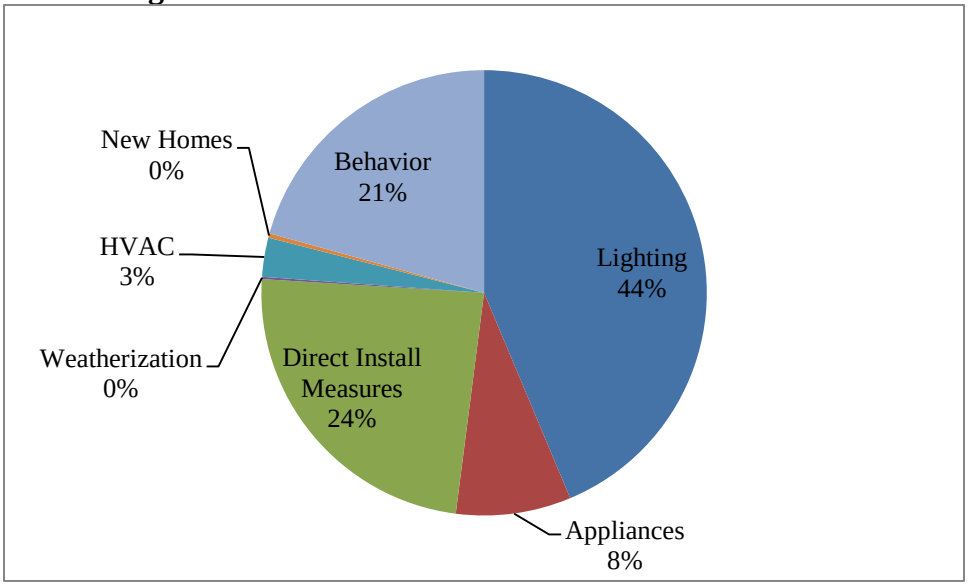
[17] The demand reduction targets and reported achievements include peak demand reductions generated by both EE&C and DR programs, as both components are part of the total portfolio.

reached over 258,828 participants and installed over 750,000 million measures in homes and businesses in the PE service territory for approximately $48.0 million.

Table 5 PE Reported Savings vs Targets for 2023

	2023 Reported Savings	2023 Target Savings[18]	% of Target Achieved
MWh	167,652	164,543	102%
MW	28	26	108%

Figure 3 Residential Measures Installed in PE in 2023



Delmarva Power & Light Company (DPL)

DPL EmPOWER Programs	
Residential Program	**Commercial Programs**
Appliance Rebates	Combined Heat and Power
Appliance Recycling	Custom
Behavior Based	Customer Engagement Portal
Home Performance with Energy Star	Energy Efficient Communities
HVAC	Midstream Products
Lighting	Prescriptive
Quick Home Energy Checkup	Retrocommissioning
Residential New Construction	Small Business
Schools	Virtual Commissioning
Smart Thermostats	

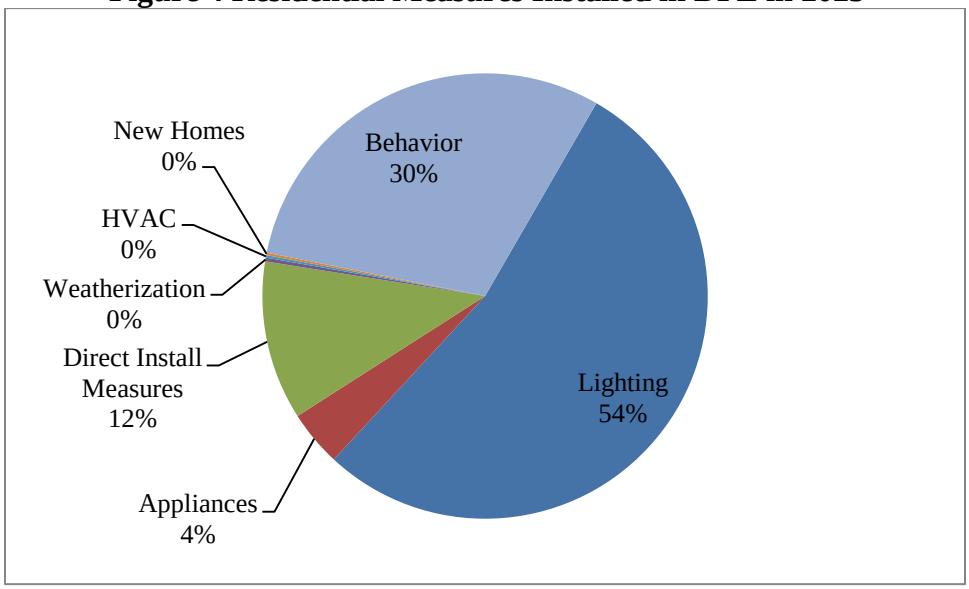
[18] EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of each Utility.

DPL realized 95 percent of its 2023 annual energy savings target (or 93,257 MWh) and 106 percent of its forecasted 2023 annual demand reduction target (or 67 MW). DPL's programs reached over 138,000 participants and installed over 622,000 million measures in homes and businesses in the DPL service territory for approximately $29.5 million.

Table 6 DPL Reported Savings vs Targets for 2023

	2023 Reported Savings	2023 Target Savings[19,20]	% of Target Achieved
MWh	93,257	98,191	95%
MW	67	63	106%

Figure 4 Residential Measures Installed in DPL in 2023



[19] EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of each Utility.

[20] The demand reduction targets and reported achievements include peak demand reductions generated by both EE&C and DR programs, as both components are part of the total portfolio.

Southern Maryland Electric Cooperative, Inc. (SMECO)

SMECO EmPOWER Programs	
Residential Program	**Commercial Programs**
Appliance Rebates	Combined Heat and Power
Appliance Recycling	Custom
Behavior Based	Midstream Products
Energy Efficiency Kits	Prescriptive
Home Energy Improvement	Retrocommissioning
HVAC	Small Business
Lighting	
My Energy Target	
Residential New Construction	
Schools	
Smart Thermostats	
SmartTemps	

SMECO realized 93 percent of its 2023 annual energy savings target (or 75,042 MWh) and 97 percent of its forecasted 2023 annual demand reduction target (or 74 MW). SMECO's programs reached over 362,000 participants and installed almost 1.0 million measures in homes and businesses in the SMECO service territory for approximately $27.3 million.

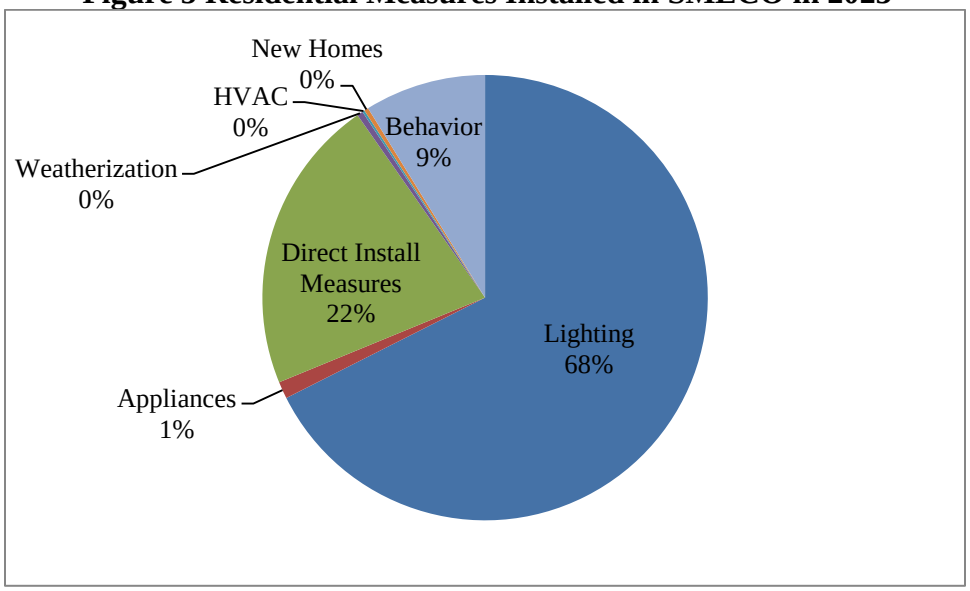
Table 7 SMECO Reported Savings vs Targets for 2023

	2023 Reported Savings	2023 Target Savings[21,22]	% of Target Achieved
MWh	75,042	81,044	93%
MW	74	77	97%

[21] EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of each Utility.

[22] The demand reduction targets and reported achievements include peak demand reductions generated by both EE&C and DR programs, as both components are part of the total portfolio.

Figure 5 Residential Measures Installed in SMECO in 2023



Washington Gas Light Company (WGL)

WGL EmPOWER Programs	
Residential Program	**Commercial Programs**
Residential Existing Home	C&I Prescriptive
Residential New Construction	Custom
Behavior Based	
Residential Coordinated	

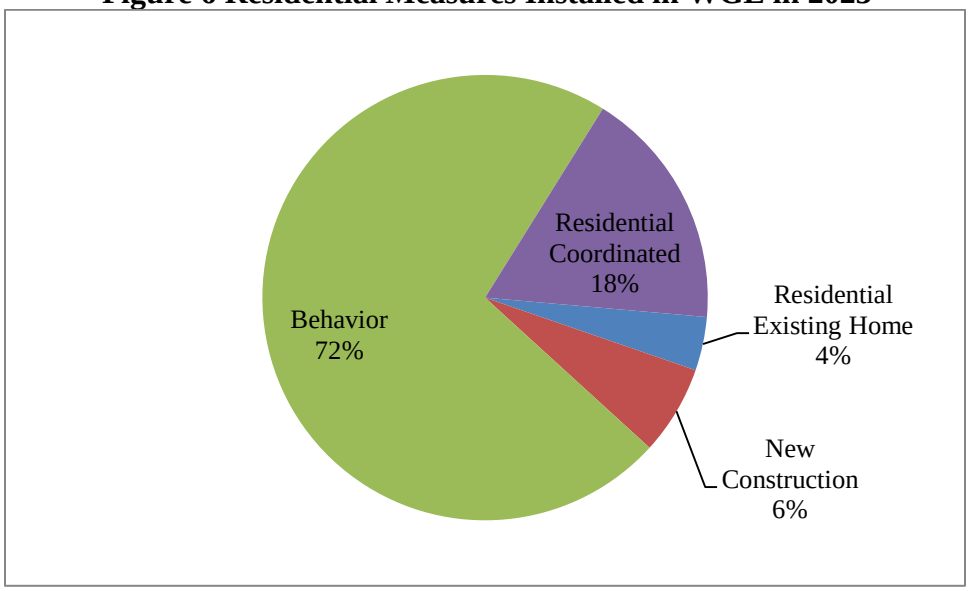
WGL realized 99 percent of its 2023 annual energy savings target (or 2,424,699 Therms). WGL's programs reached over 129,000 participants and installed over 155,000 measures in homes and businesses in the WGL service territory for approximately $12.5 million.

Table 8 WGL Reported Savings vs Targets for 2023

	2023 Reported Savings	2023 Target Savings[23]	% of Target Achieved
Therms	2,424,699	2,445,402	99%

[23] EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of each Utility.

Figure 6 Residential Measures Installed in WGL in 2023



Limited-Income Programs

On December 22, 2011, the Commission, in Order No. 84569, designated DHCD as the sole implementer of limited-income programs for the EmPOWER Maryland Utilities. In April 2012, DHCD accepted control of the residential limited-income programs of BGE, PE, and SMECO. In July 2012, the transition was completed with DHCD accepting control of the Pepco and DPL limited-income programs.

In Order No. 86785, issued on December 23, 2014, the Commission authorized DHCD to continue its implementation of the limited-income programs in Maryland during calendar year 2015, subject to certain specified structural enhancements such as spending guidelines per household. DHCD was approved as the implementer of the limited-income programs for the remainder of the 2015-2017 program cycle in Order No. 86995. In Order No. 89679, DHCD's 2021-2023 program cycle plan was approved.[24]

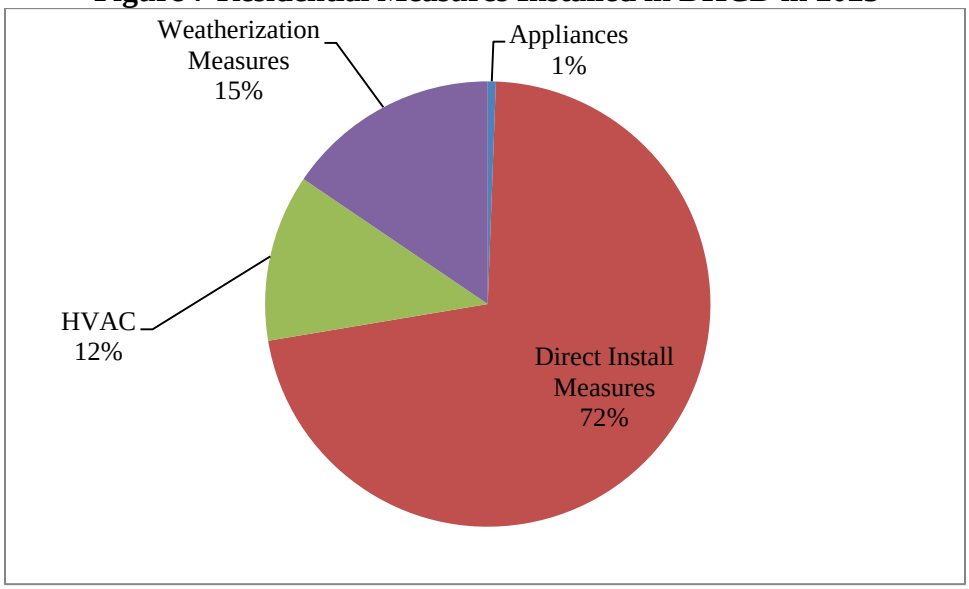
DHCD offers two programs, one for single family homes and another for multifamily properties. In 2023, DHCD weatherized approximately 14,000 limited-income homes and 2,500 multifamily properties at a total cost of $24.2 million. The average savings per participant in 2023 was 478 kWh.

[24] DHCD also partners with WGL to implement limited-income programs in WGL's service territory.

Table 9 DHCD Reported Savings vs Targets for 2023

Program	Energy/Demand Savings	2023 Reported Savings	2023 Target Savings[25]	% of Target Achieved
Single Family	MWh	4,598	8,075	57%
	MW	1.287	2.249	57%
Multifamily	MWh	2,980	6,402	47%
	MW	0.887	1.766	50%

Figure 7 Residential Measures Installed in DHCD in 2023



Demand Response

The EmPOWER Maryland Act requires the Utilities to implement cost-effective demand response programs; although, there are not currently goals established for the magnitude of demand reduction that each Utility must target (following the realization of the legislatively-mandated 15 percent by 2015 targets). The Commission approved four residential demand response programs in late 2007 and early 2008,[26] all of which were operational by the end of 2009.[27]

Customers who have chosen to participate in the direct load control programs included in the Utilities' demand response portfolios have a switch or thermostat installed at their properties to briefly curtail usage of central air conditioning or an electric heat pump in instances of system reliability issues or high electricity prices during critical peak hours. Each direct load control DR program includes the following common components: (1) customer participation in DR programs is voluntary; (2) upon receiving a customer request, the utility installs either a

[25] EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of DHCD.
[26] *See* Commission Letter Order (Nov. 30, 2007).
[27] The Commission did not approve a DR program for PE similar to those implemented for BGE, Pepco, DPL, and SMECO because PE's proposed program was not cost effective due to lower zonal capacity prices.

programmable thermostat or a direct load control switch for a central air conditioning system or for an electric heat pump on a customer's premise; (3) the Utilities provide a one-time installation incentive and annual bill credits to the participants during the specified summer peak months; and (4) with the exception of the SMECO DR program, customers can select one of three cycling choices (50 percent, 75 percent, or 100 percent).[28] Utilities will invoke the cycling process when PJM calls for an emergency event or if the Utilities individually determine that an event is necessary during summer peak season. Table 10 summarizes the incentives offered by the Utilities to the residential program participants.

Table 10 Utilities' Incentive Levels for Residential Demand Response Program Participants

Utility	50% Cycling		75% Cycling		100% Cycling		Bill Credit Months
	Installation Incentive	Annual Bill Credit	Installation Incentive	Annual Bill Credit	Installation Incentive	Annual Bill Credit	
BGE	$50	$50	$75	$75	$100	$100	Jun.–Sept.
Pepco	$40	$40	$60	$60	$80	$80	Jun.– Oct.
DPL	$40	$40	$60	$60	$80	$80	Jun.– Oct.
SMECO	***	$50	***	$75	N/A	N/A	Jun.– Oct.

*** A participant in SMECO's CoolSentry program can keep the installed thermostat at no additional cost following 12 months of program participation; otherwise, the thermostat will be removed if the participant terminates participation less than 12 months after installation.

Table 11 summarizes the number of active devices installed for each of the Utilities' direct load control (DLC) programs on a program-to-date basis through December 31, 2023.

Table 11 Utilities' Residential Direct Load Control Program Device Installation

Utility	Residential	Commercial	Total
BGE	377,299	N/A	377,299
DPL	40,075	2,733	42,808
Pepco	231,700	6,445	238,145
SMECO	39,557	91	39,648
Total	688,631	9,269	697,900

Table 12 summarizes the demand reduction capability for the Utilities' DLC programs as of December 31, 2023.

[28] The three cycling choices represent the air conditioner compressor working cycle reduced by 50 percent, 75 percent, or 100 percent under PJM- or utility-invoked emergency events during summer peak season. SMECO only offers 50 percent and 75 percent cycling levels with corresponding bill credits of $50 and $75 during the summer months.

Table 12 DLC Program Coincident Peak Demand Reduction (MW)

Utility	Program-to-Date Reported
BGE	247.239
DPL	39.301
Pepco	238.240
SMECO	52.729
Total	**577.509**

Additional demand reductions are expected to stem from smart grid-enabled dynamic pricing programs, as well as from other non-EmPOWER funded programs such as conservation voltage reduction (CVR). Table 13 summarizes the reported demand reductions from the dynamic pricing programs for 2013-2022. BGE, Pepco, and DPL are currently the only Utilities that operate dynamic pricing programs. Demand reductions from dynamic pricing programs represent a snapshot for a particular time period and are dependent upon customer engagement and participation; therefore, demand reductions attributable to dynamic pricing programs could change year-to-year.

Table 13 Dynamic Pricing Demand Reduction (MW)

Utility	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
BGE	0	209	309	336	330	140	111	110	125	125	125
DPL	0	0	143	39	31	47	0	54	64	31	0
Pepco	309	125	47	126	135	124	91	55	140	140	0
Total	**309**	**334**	**499**	**501**	**496**	**311**	**202**	**219**	**329**	**296**	**125**

PJM Reliability Pricing Model Capacity Market

Some EmPOWER Maryland programs are eligible to participate in the wholesale energy market through PJM's capacity auctions and can receive payments that are used to offset the costs in the EmPOWER programs and lower the surcharge.

PJM conducted the Base Residual Auction (BRA) for delivery years (DY) 2022/2023 in June of 2022. The auction had been postponed in 2019 after the Federal Energy Regulatory Commission's (FERC) orders stating the PJM auction was non-competitive and adding a Minimum Offer Price Rule (MOPR) applicable to any capacity resource that was deemed to receive a state subsidy. After receiving FERC orders on October 15 and November 12, 2021, approving PJM's proposal for fixing the capacity market rules by imposing a MOPR, PJM released a schedule for the capacity auctions. The BRA for DY 2024/2025 was held in December of 2023 and the BRA for DY 2025/2026 will be held in June 2024.

The following tables illustrate the cleared capacity and PJM capacity payments for the DLC, EE&C and DP programs. The utilities previously bid DLC as a capacity program and received capacity payments from PJM for these programs. For DY 2021/2022 and onwards these programs were shifted to a Price Responsive Demand resource in PJM which reduces the capacity obligations of the utility and thus reduces the capacity payments customers would otherwise have had to make.

Table 14 Demand Response Program BRA Results

	Cleared Capacity (MW)	PJM Capacity Payment (Million $)
DY 2009/2010	217	$18.8
DY 2010/2011	415	$26.4
DY 2011/2012	662	$26.6
DY 2012/2013	953	$46.5
DY 2013/2014	803	$67.7
DY 2014/2015	772	$33.9
DY 2015/2016	625	$36.0
DY 2016/2017	554	$24.1
DY 2017/2018	536	$23.5
DY 2018/2019	522	$11.5
DY 2019/2020	230	$1.6
DY 2020/2021	265	$9.2
DY 2021/2022[29]	N/A	N/A
DY 2022/2023[30]	N/A	N/A
DY 2023/2024[31]	N/A	N/A
Total	**6,554**	**$325.8**

The Utilities also bid capacity reductions from their EE&C programs and AMI-enabled dynamic pricing programs. Utilities earn capacity payments from PJM for these commitments; the payments are used to offset EE&C program costs and to fund the rebates earned by customers in the dynamic pricing program. Table 15 and Table 16 summarize the capacity bid into the PJM capacity market from the EE&C and dynamic pricing programs by delivery year, and the payments the Utilities receive from PJM.

[29] The DLC program committed 589 MW of capacity as a Price Responsive Demand resource. Under the prior RPM construct, 589 MW would have earned approximately $32.8 million in capacity payments from PJM.
[30] The DLC program committed 233 MW of capacity as a Price Responsive Demand resource. Under the prior RPM construct, 233 MW would have earned approximately $9.8 million in capacity payments from PJM.
[31] The DLC program committed 235 MW of capacity as a Price Responsive Demand resource. Under the prior RPM construct, 235 MW would have earned approximately $5.2 million in capacity payments from PJM.

Table 15 EE&C Program BRA Results

	Cleared Capacity (MW)	PJM Capacity Payment (Million $)
DY 2012/2013	168	$8.2
DY 2013/2014	107	$8.7
DY 2014/2015	179	$8.3
DY 2015/2016	175	$10.2
DY 2016/2017	226	$9.5
DY 2017/2018	243	$10.8
DY 2018/2019	172	$10.1
DY 2019/2020	184	$6.8
DY 2020/2021	199	$5.8
DY 2021/2022	180	$11.4
DY 2022/2023	49	$2.0
DY 2023/2024	90	$2.3
Total	**1,972**	**$94.1**

Table 16 Dynamic Pricing Program BRA Results

	Cleared Capacity (MW)	PJM Capacity Payment (Million $)
DY 2014/2015	267	$12.2
DY 2015/2016	426	$23.3
DY 2016/2017	461	$20.0
DY 2017/2018	387	$17.0
DY 2018/2019	378	$10.0
DY 2019/2020	225	$2.2
DY 2020/2021	425	$13.1
DY 2021/2022	177	$4.8
DY 2022/2023	186	$2.5
DY 2023/2024	177	$4.3
Total	**3,109**	**$109.4**

Table 17 illustrates the amount of capacity cleared in the BRA by the EmPOWER Utilities for the delivery years of 2022/2023 and 2023/2024. The table also shows the amount of capacity revenue that the Utilities can expect to receive from PJM in the two delivery years, which will be used to offset the costs of the DR, EE&C, and dynamic pricing programs borne by ratepayers. The amount of capacity cleared in the 2023/2024 DY auctions is 32 MW more than the amount of capacity cleared in the 2022/2023 DY.

Table 17 Maryland Utilities' PJM BRA Results and Expected Revenue for Delivery Years 2022/2023 and 2023/2024

DY 2022/2023					DY 2023/2024				
Cleared Bids (MW)				Value	Cleared Bids (MW)				Value
DR	DP	EE&C	Total	($Million)	DR	DP	EE&C	Total	($Million)
N/A	186	49	235	$4.4	N/A	177	90	267	$6.6

EmPOWER Maryland Funding Levels

EE&C Program Funding

On December 18, 2020, in Order No. 89679, the Commission approved the 2021-2023 program cycle budgets based on the EmPOWER Maryland Utilities' proposals. Table 18 breaks down the 2023 Commission-approved budgets for each of the Utilities, while Table 19 illustrates the actual 2023 expenditures by the Utilities with respect to their EmPOWER Maryland EE&C programs.

Table 18 Forecasted 2023 EE&C Budgets

Utility	Residential	C&I	DHCD Limited-Income Program	Total
BGE	$63,207,684	$79,429,334	$13,110,731	**$155,747,749**
DPL	$8,256,704	$23,971,741	$0	**$32,228,445**
PE	$17,794,210	$33,474,775	$3,799,122	**$55,068,107**
Pepco	$25,571,201	$55,932,803	$0	**$81,504,004**
SMECO	$16,112,885	$9,758,060	$0	**$25,870,945**
Total	**$130,942,684**	**$202,566,713**	**$16,909,853**	**$350,419,250**

Table 19 Reported 2023 EE&C Spending

Utility	Residential	C&I	DHCD Limited-Income Program	Total
BGE	$60,236,679	$59,835,068	$11,753,830	**$131,825,577**
DPL	$7,998,098	$16,027,330	$1,544,142	**$25,569,569**
PE	$14,059,263	$33,891,826	$2,388,535	**$50,339,624**
Pepco	$24,025,956	$41,668,585	$5,322,559	**$71,017,100**
SMECO	$15,049,066	$6,400,514	$5,786	**$21,455,366**
Total	**$121,369,061**	**$157,823,323**	**$21,014,852**	**$300,207,236**

Table 20 details the EmPOWER Maryland EE&C program surcharges and revenue requirements for each of the Utilities. The EmPOWER Maryland surcharges are a volumetric-based charge, subject to the individual ratepayer's monthly energy usage. The revenue requirements do not correspond to the filed budgets because program costs are amortized and collected over a five-year period as directed by the Commission in Order No. 81637.[32] The Commission issued an order at the end of 2022 that will transition the recovery of EmPOWER costs to a single year by 2030. This process of shortening and then eliminating the amortization of EmPOWER costs over five years will start in 2024.[33]

[32] *In the Matter of the Commission's Investigation of Advanced Metering Technical Standards, Demand Side Management (DSM) Cost Effectiveness Tests, DSM Competitive Neutrality, and Recovery of Costs Advanced Meters and DSM Programs*, Case No. 9111.

[33] Order on Cost Recovery and Unamortized Balance Retirement, Order No. 90456, Case No. 9648 (Dec. 29, 2022). The process to shift to an expensing model was subsequently updated in Commission Order No. 90957, Case No. 9705, and its letter orders approving the utility surcharges on February 21, 2024.

Table 20 shows the surcharge by utility and Table 21 shows the unamortized balance as of December 2023.

Table 20 2023 EE&C Monthly Surcharges (per kWh) and Revenue Requirements

Utility	Residential	Small C&I	Large C&I	Revenue Requirement
BGE	$0.00440	$0.00995	$0.00388	$109,383,365
DPL	$0.00581	$0.00838	$0.00838	$28,443,221
PE	$0.00641	$0.00651	$0.00760	$41,934,020
Pepco	$0.00593	$0.00647	$0.00647	$80,476,340
SMECO	$0.00758	$0.00537	$0.00537	$23,783,368

Table 21 2023 Unamortized Balance

Utility	2023 Unamortized Balance
BGE Electric	$116,294,685
BGE Gas	$35,754,068
DPL	$24,095,939
PE	$67,816,469
Pepco	$64,410,181
SMECO	$30,687,711
WGL	$22,317,692

Demand Response Program Funding

The December 17, 2020 Commission order similarly approved three-year budgets for the demand response programs operated by BGE, DPL, Pepco, and SMECO. Table 22 details the EmPOWER Maryland demand response surcharges and revenue requirements for each of the Utilities operating an approved DR program.[34]

Table 22 2023 Demand Response Monthly Surcharges (per kWh) and Revenue Requirements

Utility	Residential	C&I	Revenue Requirement
BGE	$0.00275	N/A	$33,724,079
DPL	$0.00158	$0.00022	$3,791,281
Pepco	$0.00264	$0.00013	$15,467,405
SMECO	$0.00215	$0.00031	$5,166,293

Table 23 details the respective forecasted and reported budgets for each of the EmPOWER Utilities operating an approved DR program during 2023. All of the Utilities' programs were under budget for the 2023 program year.

[34] PE did not operate a separate DR program during 2021 and therefore did not file for a surcharge recovery of DR program costs.

Table 23 2023 Demand Response Forecasted and Reported Budgets

Utility	Forecasted Budget	Reported Costs	Variance
BGE	$50,999,179	$37,341,831	($13,657,348)
DPL	$4,200,750	$3,863,881	($336,869)
Pepco	$17,636,419	$17,242,170	($394,249)
SMECO	$6,701,194	$5,807,352	($893,842)
Total	**$79,537,541**	**$64,255,234**	**($15,282,308)**

Evaluation, Measurement & Verification

Determining and validating electricity savings and related impacts is a critical component of EE&C and DR programs. The process of EM&V of resulting program savings is particularly important in determining: the effectiveness of program delivery; the factors driving or impeding customer participation in programs; characteristics of participants and non-participant customers; determinants of equipment decisions; and customer satisfaction with program delivery. Moreover, the design and depth of program data collection, monitoring, and analyses can impact the accuracy and prudence of compliance results. Given the scale of the EmPOWER Maryland initiative and the potential bill impacts, the Commission is sensitive to the issue of program credibility and transparency. This process also evaluates free-ridership, spillover, cost-effectiveness, deemed savings calculations, etc., pertinent to a thorough and ongoing review of viable and cost-effective energy efficiency and demand response programs.

Based on EM&V best practices, the Commission adopted an independent, third-party evaluator model to review the EmPOWER portfolio results.[35] In this model, the Utilities direct primary evaluation and verification activities through an EM&V contractor; subsequently, the Commission's third-party, independent evaluator provides independent analysis and due diligence of the EM&V process. Because this thorough evaluation process requires up to six months following the receipt of program data from the prior calendar year to complete, this report illuminates the results of the Utilities' 2022 program year reported savings.

Overall EM&V Findings of the 2022 EmPOWER EE&C Program

Energy and Peak Demand Savings

In 2022, Guidehouse's evaluation of the first-year savings[36] was 1,088,501 MWh and 198 MW, which was 91 percent and 97 percent of the Utilities' reported energy and demand savings for that year. For the 2022 program year, Guidehouse estimated an effective net-to-gross (NTG) ratio of 0.63 for annual energy savings and 0.70 for peak demand savings. The NTG ratio is used to derive savings specifically attributable to the EmPOWER programs by calculating free-

[35] Order No. 82869 (Aug. 31, 2009).
[36] "First-year savings" is the amount of energy a measure will save in the first year in which the measure is installed.

ridership levels and reducing reported gross savings by that amount.[37] Following the application of the calculated NTG ratios, the net savings for program year 2022 were 647,445 MWh and 126.745 MW.

As the EmPOWER Maryland independent evaluator, Loper Energy supports the Commission's oversight of the statewide evaluation of the EmPOWER EE&C programs conducted by Guidehouse. Loper Energy's verification analysis confirmed Guidehouse's results and accepted all of the evaluated energy and demand savings estimates for program year 2022. This important result should increase ratepayer and other stakeholders' confidence that the evaluated savings from the EmPOWER Maryland programs are real and credible.

Given that the key energy assumption values and NTG ratios have been updated and other anomalies in the program tracking databases have been rectified to improve the quality of reporting, it is expected that the Utilities' reported savings estimates for 2023 should continue to be very similar to the evaluation results. Changes to evaluation parameters and codes and standards will have the effect of raising the baseline level of energy savings, therefore reducing the incremental energy savings achieved by installing efficient equipment. The EM&V contractors will monitor and reflect these changes in future evaluation cycles.

Cost Effectiveness

Table 24 presents the 2022 SCT cost-effectiveness results by sector for each of the Utilities.[38] The sector-level benefit-to-cost ratios reflect the present value of the benefits compared to the present value of the costs, aggregated from each program in the sector-level sub-portfolio. As noted, SCT ratios greater than 1.0 indicate that the financial benefits that accrue over the life of the measures exceed the financial costs of the program, specifically the costs associated with: utility program administration; the provision of incentives to free riders; and customer outlays for the efficiency measures. Statewide, both the residential and C&I sub-portfolios were cost effective in 2022, with overall SCT scores of 1.79 and 2.44, respectively.

Table 24 2022 Portfolio SCT Results

	Residential	Commercial	Portfolio
BGE	1.95	2.67	2.30
Pepco	1.69	2.03	1.89
PE	1.99	2.72	2.35
DPL	1.30	2.33	1.95
SMECO	1.36	2.71	1.73
Statewide	1.79	2.44	2.12

At the statewide level, the 2022 EmPOWER residential portfolio is expected to generate approximately $1.79 in utility and participant benefits for each dollar of utility and participant cost while the EmPOWER commercial portfolio is expected to generate approximately $2.44 in

[37] A "free rider" is a customer who would have installed an energy efficiency measure absent the utility-provided EmPOWER incentive.
[38] The 2023 program year cost-effectiveness results are expected in the second half of 2024.

utility and participant benefits for each dollar of utility and participant cost. For a total investment of $318 million,[39] the state's Utilities, participants, and ratepayers will realize approximately $675 million[40] in financial benefits via electricity, fuel, and water savings generated over the lifetime of the measures installed through the EmPOWER program. These results correspond to a net benefit of approximately $357 million.

When assessing whether to approve the Utilities' plans, the Commission evaluates cost effectiveness at the sub-portfolio level, i.e., the C&I and residential sub-portfolios should both generate SCT ratios greater than 1.0. Thus, individual programs do not necessarily need to be cost effective as long as other programs are sufficiently cost-effective to generate sector-level SCT ratios that are greater than 1.0. The Commission may approve individual programs that are not individually cost effective to ensure a broader array of energy-saving opportunities amongst rate classes, income levels, etc., or because the program may promote innovative technologies and market-transformative practices leading to broader energy savings. All EmPOWER Utilities have developed cost-effective portfolios that pass the SCT test, most by a comfortable margin.

2023 per Capita Electricity Consumption and Peak Demand

Table 25 and Table 26 compare the per capita energy use and peak demand from 2013 to 2023 for all Maryland utilities. In 2023, most of the state's electric utilities experienced a decrease in per capita energy use and per capita peak demand as compared to 2022 levels.

Table 25 2013 - 2023 per Capita Energy Consumption

	Per Capita Energy Use MWh										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
BGE	12.06	11.86	11.82	11.57	11.31	11.44	11.25	11.17	11.10	11.10	11.02
Pepco	8.1	7.81	7.94	7.73	7.56	7.6	7.45	7.21	7.17	7.00	7.07
PE	17.53	17.64	17.39	17.57	17.6	18.1	17.47	17.04	16.52	16.59	15.98
Delmarva	12.6	12.55	13	12.73	12.65	12.89	12.52	12.1	9.79	10.31	10.28
SMECO	10.49	10.21	10.25	10.03	9.72	9.75	9.96	9.45	9.20	9.67	9.21
Choptank	12.92	12.55	13.04	12.73	13.24	13.42	12.52	12.1	N/A	N/A	N/A
Hagerstown	7.71	7.6	7.62	7.58	7.49	8.27	8.05	7.71	7.91	7.46	7.15
Easton	16.52	16.41	16.55	16.33	16.03	17.12	17.36	15.01	15.63	15.08	14.10
Thurmont	13.27	13.02	13.68	13.06	12.61	13.41	11.94	11.77	11.22	11.29	10.92
Berlin	9.37	9.9	10.61	10.15	9.86	11.06	10.13	10.05	10.21	9.71	9.12
Williamsport	9.87	10.06	10.04	9.64	9.39	9.85	9.65	9.34	9.86	9.96	9.87
Somerset	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A&N Coop.	10.81	11.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[39] The $318 million total investment is the present value of both utility and participant costs.
[40] The $675 million in financial benefits is the present value of both utility and participant benefits.

Table 26 2013 - 2023 per Capita Peak Demand

	Per Capita Energy Use kW										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
BGE	2.38	2.27	2.36	2.4	2.34	2.36	2.22	2.3	2.29	2.23	2.22
Pepco	1.55	1.57	1.88	2.03	1.62	1.62	2.73	2.6	2.58	1.58	1.51
PE	3.1	2.62	3.68	3.49	3.42	3.34	3.19	3.39	3.28	3.02	2.96
Delmarva	2.72	2.62	2.76	2.83	2.67	2.64	2.67	2.61	2.11	2.08	2.06
SMECO	2.15	1.93	2.76	2.36	2.41	2.42	2.27	2	1.94	1.98	2.07
Choptank	3.33	2.59	3.33	2.83	2.99	2.98	3.31	3.08	N/A	N/A	N/A
Hagerstown	1.54	1.28	1.66	1.5	1.52	1.55	1.49	1.56	1.52	1.59	1.39
Easton	3.81	3.24	4.27	3.73	3.63	3.63	3.6	3.42	3.42	3.36	3.30
Thurmont	2.39	2.03	4.33	3.26	2.94	3.11	3.44	2.63	2.45	3.15	2.63
Berlin	2.09	2.19	2.3	1.17	2.21	2.27	2.1	2.31	2.25	2.13	2.12
Williamsport	1.87	1.39	2.48	2.15	2.18	2.21	2.52	2.09	1.96	2.42	2.11
Somerset	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A&N Coop.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 27 illustrates the per capita electricity usage and peak demand statewide. Generally, statewide per capita energy usage has been lower in 2023 than previous years.

Table 27 Statewide Per Capita Electricity Usage and Peak Demand 2007-2023

Year	Per Capita Energy Use MWh	Per Capita Energy Use kW
2007	12.38	2.56
2008	11.74	2.49
2009	11.73	2.53
2010	12.02	2.40
2011	11.70	2.50
2012	11.21	2.28
2013	11.13	2.18
2014	10.91	2.07
2015	10.96	2.37
2016	10.74	2.39
2017	10.53	2.21
2018	10.68	2.22
2019	10.49	2.50
2020	10.27	2.49
2021	10.02	2.42
2022	10.01	2.05
2023	9.92	2.02

2024 – 2026 Program Plans

On August 1, 2024, the utilities and DHCD filed their 2024–2026 EmPOWER program plans. The proposed plans contained three different scenarios that increased the amount of Greenhouse Gas Emissions ("GHG") emissions avoided while still meeting the energy reduction requirements of statute. The three scenarios were required by Commission Order 90546 after considering a GHG abatement study for EmPOWER early in 2023.

Various parties filed comments on the proposed plans and the Commission held a legislative style hearing on November 6, 7, and 8, 2023. The Commission issued Order No. 90957 which transitioned the EmPOWER program to the 2024–2026 cycle, and approved many of the utility proposals to be operated at the lowest cost scenario subject to certain modifications. The Commission permitted the utilities to conduct demand response programs to achieve the highest savings possible and thus higher cost for those programs. Some utilities requested to include beneficial electrification in their EmPOWER programs which was denied without prejudice. With the passage of HB864 (2024) the inclusion of beneficial electrification will likely be revisited this year.

The Commission also directed follow up on several program elements to further refine EmPOWER operations. Notable requirements were to (1) to develop a uniform program manual for midstream programs to better promote HVAC systems by January 1, 2025, (2) an examination of the costs and assumptions underlying some of the EmPOWER program proposals, (3) a review of the EmPOWER cost recovery framework to determine if there is a better method for transitioning EmPOWER to an expensing model, and (4) research and analyze a performance incentive mechanism structure for EmPOWER.

Upcoming Milestones

The Commission will review several Work Group reports as a result of Commission Order Nos. 90663 and 90919.

- Finance Work Group
    - A final report, filed by April 15, 2024 on options for the use of the remaining CEA Pilot Program budget that would best reach limited income customers and identifies additional data points and reporting metrics.
- ERPI Work Group
    - A status report, filed by June 1, 2024, on reporting templates to be used in the 2024-2026 program cycle, including those developed for GHG reduction reporting, as well as confirmation that all utilities will be reporting in a uniform and consistent manner or, in the alternative, details on any reporting matter that has not reached a consensus among the utilities.
- Cost Recovery Work Group (Surcharge and PIMs)
    - A final report, filed by July 1, 2024, on an improved method for balancing the shift to an expensing model with the rising program costs and increased surcharges. Should also include an examination of the rate design associated with C&I customers to determine how to mitigate rate impacts to this class of customers.

    - The Commission provided guidance on the development of a performance incentive mechanism (PIM) for EmPOWER. The Commission stated it was open to a preliminary PIM while paying down the unamortized balance and a permanent PIM once the balance was gone. The Commission required any PIM have both a reward and a penalty structure, and that rewards are only granted if goals are exceeded while producing net benefits. A status report of the work groups research and analysis is due October 15, 2024.
- Midstream Work Group
    - Required to develop a uniform program manual by January 1, 2025, such that utilities have similar operating parameters for contractors in their midstream programs across the State.

During the 2024 legislative session, the General Assembly passed House Bill 864 – titled "Energy Efficiency and Conservation Plans." The bill was signed by Governor Moore. The following are several key elements of the new law that will impact EmPOWER:

- Cost Recovery
    - The EmPOWER surcharge will shift to an expensing model on or before January 1, 2028.
    - The elimination of the unamortized balance that existed on December 31, 2024, or incurred before January 1, 2028, on or before December 21, 2032.
    - The EmPOWER Utilities can earn a return on the unamortized balance at the average cost of outstanding debt.
- GHG Reduction Target
    - The Commission will establish GHG reductions for 2025 and 2026 and for each three-year program cycle starting in 2027.
    - The Commission shall measure the GHG emissions from electricity and gas and the intensities of those emissions, using current data from the Department of the Environment.
    - As soon as possible in 2024, and at least eight months before the filing deadline for plans after 2024, the Commission shall issue an order that determines the GHG emissions reduction targets.

- Permit beneficial electrification within utility programs.
- Consider Choptank Electric Cooperative as part of the larger EmPOWER program.
    - The Commission is to determine by October 1, 2025, if Choptank should be a part of the larger EmPOWER program or simply have to offer energy efficiency programs.
- Develop regulations requiring the promotion of federal and state funds for certain applications within EmPOWER programs.
- Moderate income household work group
    - Established a working group to study and make recommendations as to program specific to moderate income customers for EmPOWER Maryland. The Commission is required to file a report with the General Assembly on this work group by July 1, 2025.