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State of Maryland

Comments on EmPOWER Maryland 2025 Q1-Q2 Semi-Annual Reports

October 15, 2025

Prepared by

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Key Definitions and Acronyms

Definitions

Annual savings refers to the savings achieved in the first year after a measure is installed or otherwise paid for. Annual savings can be used to measure greenhouse gas (GHG) reductions or energy savings; in this report we generally differentiate GHG reductions from energy savings.

Forecasted or target savings/reductions refers to the amount of savings or greenhouse gas reductions each utility or DHCD predicted in its three-year plan to save in each program, sector (residential or commercial & industrial), or total portfolio, for a given year or over the full three-year cycle. Forecasted savings may exceed the statutory savings goal (see below).

The utilities do not forecast savings in half-year increments; however, for any half-year report, such as in the Q1-Q2 semi-annuals, the utilities and VEIC consider the program, sector, or portfolio "on target" if savings are close to half of what was forecasted for the full year.

Lifecycle savings/reductions refer to the total energy savings or greenhouse gas reductions predicted to be achieved throughout the expected life of the measure, taking into account projected changes over time (e.g., avoided emissions from future electricity savings will be lower). When lifetime savings are put in monetary terms, projected future energy costs are used and all amounts are discounted to present value dollars.[1]

Reported savings/reductions refers to the amount of energy savings or GHG reductions each utility or DHCD claims to have achieved in the cycle to date (CTD) or the year to date (YTD). Throughout the cycle, VEIC pro-rates the forecasted three-year cycle savings to correspond to reported CTD savings. For example, after one year we compare reported savings to one-third of the forecasted savings. Savings claims are later verified on an annual basis through

[1] The formulas and values for projecting future energy savings and GHG reductions, as well as future energy costs and discount rates, are established and clarified when necessary by the Evaluation Advisory Group in accordance with Commission orders.

the EmPOWER evaluation process, in which the Commission's independent evaluator verifies EmPOWER program savings based on a process that is discussed in the evaluator-led Evaluation Advisory Group.

Market transformation refers to self-sustaining shifts in market behavior whereby high efficiency and/or low GHG emissions products are manufactured, sold, and adopted as the standard option.

Downstream programs provide incentives directly to end customers. Typically, customers fund the project upfront and apply for a rebate after completion.

Midstream programs provide incentives to distributors, contractors, or other market actors who in turn sell the equipment to end use customers. This design is often intended to encourage stocking practices for high efficiency equipment and leverage economies of scale in driving higher participation rates with fewer dollars relative to downstream programs.

Upstream programs provide incentives directly to manufacturers or large retailers to produce and/or distribute efficient products, intended to reduce wholesale costs.

GHG reduction goal refers to the minimum GHG reduction amounts called for by law for the EmPOWER electric utilities for any given year. In 2025, this amount is based on translating 2.25% of the utilities' baseline (2016) electricity sales into equivalent lifecycle GHG reductions. The gas utilities have a goal based on past program achievement from the 2021-2023 cycle. DHCD has been given a goal metric relative to baseline, but the baseline has not been determined to date.

Acronyms

AMI: Area Median Income or Advanced Metering Infrastructure
ASHP: Air-source heat pump
BGE: Baltimore Gas and Electric Company
BTU: British Thermal Unit
BYOD: Bring Your Own Device, often referring to demand response programs where customers enroll with their own smart thermostat or similar device.
CAC: Central air conditioner
C&I: Commercial and industrial customer segment

CO2e: Carbon dioxide (CO_2) equivalent
CVR: Conservation Voltage Reduction
DHCD: Department of Housing and Community Development (Maryland)
DPL: Delmarva Power & Light Company
DR: Demand Response
ESRPP: ENERGY STAR Retail Products Platform
GHG: Greenhouse gas, frequently referring to a reduction in greenhouse gas emissions
HEIP: Home Energy Improvement Program (SMECO and Potomac Edison)
HER: Home Energy Report
HPWH: Heat pump water heater
HPwES: Home Performance with EnergyStar
HVAC: Heating, ventilation and air conditioning
IOU: Investor-owned utility
IRA: Inflation Reduction Act (U.S.)
KWh: Kilowatt-hour
LED: Light emitting diode
MEA: Maryland Energy Administration
MEEHA: Multifamily Energy Efficiency and Housing Affordability Program (DHCD only)
MEET: Maryland Energy Efficiency Tune-Up (DHCD only)
ML: MailLog. This is a reference to a filed document identifier on the Maryland Public Service Commission's website.[2]
MMBTU: Million BTU
MWh: Megawatt-hour (1,000 kilowatt-hours)
OHEP: Office of Home Energy Programs (Maryland)
Pepco: The Potomac Electric Power Company
PJM: The Pennsylvania-New Jersey-Maryland Interconnection, the RTO serving Maryland
Potomac Edison: The Potomac Edison Company sometimes abbreviated "PE" in tables.
QHEC: Quick Home Energy Check-up
RTO: Regional Transmission Organization
SMECO: Southern Maryland Electric Cooperative, Inc.
WGL: Washington Gas Light Company

[2] Filed documents can be searched by MailLog number through this page: https://webpscxb.psc.state.md.us/DMS/maillogsearch

Summary of Key Findings & Recommendations

Key Findings

1. Most utilities have achieved between 40-60 percent of their statutory minimum GHG reduction targets halfway through 2025. Potomac Edison is the notable exception at only 25 percent of target, driven by particularly low achievement in commercial programs.
2. Generally, all utilities have overestimated the budgets necessary to achieve GHG reductions.
3. All residential portfolios achieved below 50 percent of target in the first half of 2025, with only WGL, BGE, and DPL above 40 percent. Potomac Edison, Pepco, and SMECO are particularly at risk of ending the year below target without very strong program performance in the second half of 2025.
4. EmPOWER generated energy efficiency savings in the first half of 2025 at a cost of 5.9 cents/kwh, well below the cost of delivered electricity.
5. EmPOWER generated GHG reductions in the first half of 2025 at a cost of $286 per metric ton of CO2e.
6. The Department of Housing and Community Development (DHCD) continues to fall well short of the increased goals this cycle. In the first half of 2025, DHCD programs achieved just over one quarter of the annual target, indicating 2025 may resemble 2024 when only 35 percent of the annual target was achieved.
7. HVAC programs generally and midstream programs in particular continue to lag participation numbers needed to align with the state's policy objectives. The lack of agreement about the scale and role of midstream programming as a means for market transformation appears unlikely to be resolved without further direction.
8. The future programming work group tasked with developing a demand response goal framework for consideration is behind schedule.

Key Recommendations

1. The Public Service Commission should end new gas-burning appliance incentives in EmPOWER programs. BGE has already eliminated these measures from its programs. WGL is the only utility still offering incentives for the installation of new gas equipment. Every gas appliance installed today could operate for the next 20 years, locking in gas emissions and gas system reliance over that period. In order for Maryland to achieve its climate objectives, EmPOWER must cease incentivizing new gas equipment.
2. The Commission should retain an independent, skilled, professional consultant to facilitate strategic planning to work with the Commission, EmPOWER stakeholders and state agencies to establish an overall roadmap or framework for heat pump market transformation. Assuming other state agencies are willing to contribute, both with their participation and funding, the roadmap would allow the Commission to develop EmPOWER programs in ways that align with the strategies and programs of agencies such as Maryland Department of the Environment (MDE), Maryland Energy Administration (MEA), the Building Code Administration, and others.
3. The Commission should direct utilities to report on reimbursement timelines for contractors and distributors.
4. The Commission should require all utilities to phase out incentives for air conditioning in order to promote high efficiency heat pump adoption.
5. The future programming work group tasked with proposing a demand response / management goal framework for EmPOWER should prioritize the task in order to allow time for meaningful discussion ahead of next planning cycle.

EmPOWER Residential Program Descriptions

Each EmPOWER program is designed to target specific technologies, customers, or both. Programs focus on different decision points related to energy use and equipment purchase. For example, some programs target customers who are shopping in a store (or online) for a new appliance and others seek to engage and motivate them when they are at home reviewing their energy bills. Other programs target the contractors and suppliers who influence customer choices about equipment installed for them (e.g. a new heating system).

Appliance Rebate

The Appliance Rebate programs offer instant, online, and paper rebates for select ENERGY STAR products, including room air conditioners, dehumidifiers, room air purifiers, heat pump water heaters, refrigerators, freezers, clothes washers, clothes dryers, pool pumps, advanced power strips, and smart thermostats.

The EmPOWER electric utilities deliver appliance program rebates through separate "downstream" and "midstream" channels, which seek to influence equipment purchases in different ways. The suite of eligible measures varies from utility to utility except for those offerings delivered through the ENERGY STAR® Retail Products Platform (ESRPP), which is a midstream channel. The traditional downstream offerings involve individual customer applications, whereas participating distributors deliver the midstream point-of-sale offerings through instant coupon rebates, instant markdown, or a midstream retailer incentive (i.e., the ESRPP) to participating retailers. All five electric utilities also offer a midstream heat pump water heater initiative offering incentives through participating distributors, which typically sell equipment to contractors not end-use customers.

Appliance Recycling

The Appliance Recycling program encourages early retirement and recycling of inefficient operating appliances by offering customers a rebate and free appliance pick-up. The program primarily targets recycling of refrigerators and freezers but offers ancillary pick-ups for room air conditioners and dehumidifiers in addition to hosting local community turn-in events.

HVAC

The HVAC program promotes efficient heating and cooling technology for homes, including efficient air conditioners, heat pumps, and furnace technology, along with smart thermostats installed with HVAC measures. For most HVAC equipment, contractors and distributors are highly influential about the choice of equipment that customers have effective access to, whether due to stocking, installer knowledge, or other factors. Starting in 2018, HVAC programs largely transitioned to a midstream channel model, which targets incentives and engagement at equipment distributors and installation contractors. Although some residential retrofit projects include HVAC measures, the HVAC Program is the primary EmPOWER program for influencing replacement of heating and cooling equipment.

Residential Retrofit

The Residential Retrofit program group includes Quick Home Energy Check-up (QHEC), Home Performance with Energy Star (HPwES) and the Home Energy Improvement Program (HEIP), which combines elements of the two other programs. BGE, Pepco, and DPL deliver QHEC and HPwES. SMECO and Potomac Edison deliver HEIP. Washington Gas supports residential retrofits through its Coordinated Program, through which WGL and electric utilities share costs and savings in homes with electric and gas savings. The residential retrofit programs are distinct from most other EmPOWER programs in that they employ a "whole home" (vs. technology specific) approach.

Quick Home Energy Checkup

QHEC (and HEIP) include an initial walk-through where a certified technician inspects the condition of a home, identifies opportunities for savings, and offers the direct installation of smaller measures that provide immediate savings, such as smart power strips or efficient flow showerheads. QHEC is free to EmPOWER ratepayers.

Home Performance with ENERGY STAR & Home Energy Improvement Program

HPwES begins with a more comprehensive energy audit—including a blower door test, for example—to identify energy savings opportunities. Direct installation measures are also offered.

Audit results point participants to performance-based rebates for air sealing and insulation, heating and cooling equipment, and other weatherization measures. Participants in need of financing may be directed to the Clean Energy Advantage Loan Pilot Program, an EmPOWER pilot implemented by the Maryland Clean Energy Center and the Montgomery County Green Bank.[3] The Moderate Income Offering (MIO) was added to HPwES in 2025. offering enhanced rebates targeting moderate income households and providing referrals to DHCD for qualifying households.

New Construction

The EmPOWER incentive program for residential new construction is based on the national ENERGY STAR® Residential New Construction program and is generally referred to by the utilities as ENERGY STAR for New Homes. The core program and incentive structure targets whole home energy performance. Homes that earn the ENERGY STAR label are estimated to be at least 10 percent more energy efficient than the prevailing energy code and are backed by established national quality standards. ENERGY STAR periodically develops new and more stringent program standards in response to the adoption of new energy codes in order to ensure savings above baseline code construction. The EPA specifies which version of the ENERGY STAR program requirements must be met by each state according to its adopted energy code. With the adoption of IECC 2021,[4] Maryland is required to meet ENERGY STAR v3.2 for certification of homes permitted on or after Jan 1, 2025. However, because Maryland adopted an amended, less stringent, version of the 2021 IECC, EmPOWER utilities requested to offer a 'Code-Plus' tier which allows builders to meet the requirements of ENERGY STAR v3.1 with some additional criteria. In the 2024-2026 program cycle, builders may receive incentives for the following certification levels:

- Code-Plus (ENERGY STAR v3.1)
- ENERGY STAR (ENERGY STAR v3.2)

[3] OPC's comments regarding the Clean Energy Advantage Loan Pilot Program are addressed in the Finance Work Group Report.

[4] An International Energy Conservation Code (IECC), developed by the International Code Council, is a model building code established every three years that sets minimum efficiency standards in new construction for a structure's walls, floors, ceilings, lighting, windows, doors, duct leakage, and air leakage.

- ENERGY STAR NextGen (ENERGY STAR v3.2 + electrification requirements)

NextGen certification requires that primary heating and hot water loads be met by heat pump equipment, induction cooking, and electric vehicle charging capabilities. NextGen certified homes must also be constructed to ENERGY STAR's highest national program version. Some utilities also provide incentives to builders for constructing homes that achieve U.S. DOE's Zero Energy Ready Homes (ZERH) and/or Passive House certification.

In addition to whole-home certifications, EmPOWER utilities offer additional incentives for "additive measures"—individual measures such as high efficiency heating, cooling, and water heating equipment, smart thermostats, and verification of high-quality HVAC installation by a HERS rater.[5]

Energy Efficiency Kits

Several electric utilities and DHCD distribute free energy efficiency kits through different channels. The kits contain basic energy efficiency measures, such as advanced power strips and faucet/shower aerators, that customers can install themselves to reduce energy consumption. The kits may be offered to customers opening new utility accounts, upon request, or other circumstances. DHCD started a kits-based program in 2022, targeting limited income households.

Behavioral

Behavioral energy efficiency programs encompass a wide range of strategies designed to motivate individuals and organizations to alter their energy consumption habits. These programs leverage insights and techniques from behavioral science to encourage energy saving actions and participation in other efficiency programs. Many programs offer general advice to improve energy consumption, though programs continue to evolve to target specific behaviors relevant to the end user such as no- or low-cost actions, seasonal tips, cross-promotional messaging, or insights from "disaggregating" metered usage to see patterns from individual end

[5] HVAC installations verified against the "Standard for Grading the Installation of HVAC Systems", ANSI/RESNET/ACCA 310-2020, June 23, 2025. https://www.resnet.us/wp-content/uploads/ANSIRESNETACCA_310-2020_v7.1.pdf

uses (e.g. cooling load that is correlated with outdoor temperature). Generally, behavioral programs result in habitual curtailment or small efficiency upgrades (such as lightbulbs). Savings tend to be largest in the summer and winter when space-conditioning appliances are most heavily relied on. Behavioral programs may also recommend participation in other utility programs, though this spillover represents a small fraction of overall program savings which are not accrued in behavioral program totals.

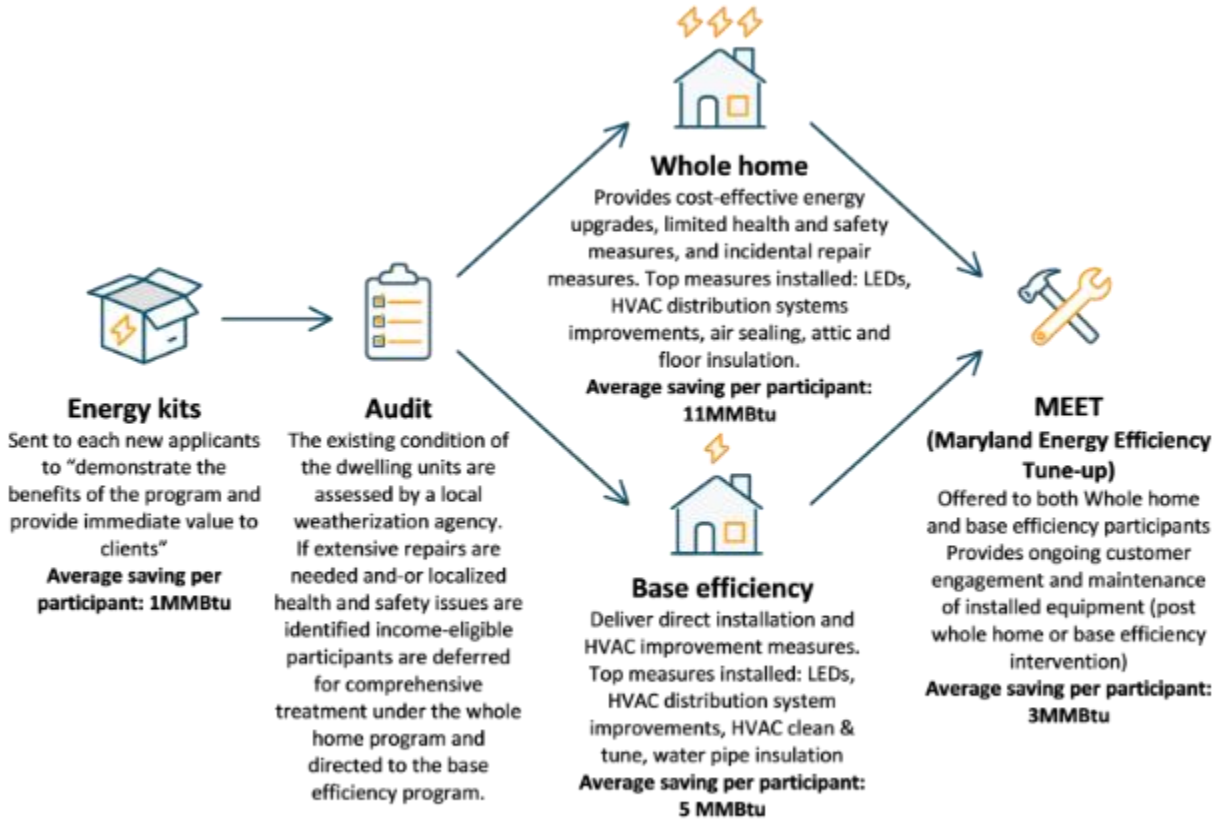
The EmPOWER Behavioral programs save energy by providing insights to customers through printed and emailed home energy reports (HERs), digital tools, and messaging to customers. These tools leverage advanced meter infrastructure (AMI) data to influence energy saving behavioral changes by customers (compared statistically to non-targeted customers). Energy savings accrue as end-users adopt behaviors that the reports recommend based on usage patterns and historical trends.

Each utility maintains a randomly selected control group of customers which do not receive program interventions. Behavior program customers' usage is compared against the control group to determine savings impact. In EmPOWER, savings from behavioral programs are assumed to last for a single year.

Limited Income

The Maryland Department of Housing and Community Development (DHCD) programs serve both single family and multifamily markets. Eligible customers have household incomes less than 250 percent of the Federal Poverty Level. Although participation in DHCD single-family programs has no direct cost to participants, identifying eligible customers and engaging and supporting them to participate in programs is an enormous and complex task. For the single-family segment, a comprehensive suite of programs (including Energy Kits, Whole Home and Base Efficiency, and the recently ended Maryland Energy Efficiency Tune-up (MEET) program)

targets customers at different stages of their journey toward energy efficiency, based on specific barriers to participation, as illustrated in the graphic below. (Note this graphic uses average



energy savings examples to illustrate the relative project size for the various programs, though programs now pursue and report GHG reductions. Also note the MEET program ended in the first half of 2025.)

Marylanders in the multifamily market are eligible to receive an energy kit. DHCD also runs the Multifamily Energy Efficiency and Housing Affordability Program (MEEHA) to generate deep energy savings and GHG reductions in buildings that are home to a minimum of 20 percent of households at 80 percent of the average median income (AMI) or less.[3] MEEHA is an application based program supporting retrofit/rehabilitation projects and new construction projects, requiring a landlord co-payment for retrofits.

Demand Response

EmPOWER Maryland's Demand Response (DR) programs leverage a mix of technologies, equipment, and behavioral or economic incentives to encourage shifts in residential and small commercial energy use during critical or strategic periods, particularly when electricity demand is at its peak. By activating DR during PJM system peak events, utilities can reduce their capacity obligations. Similarly, targeting their own system peaks allows utilities to lower their share of transmission costs.

EmPOWER customers are compensated for their enrollment (availability) to participate in demand response events and not necessarily for the performance of their individual assets.

Introduction

In 2025, all utilities and DHCD operated with GHG reduction goals. Legislation[6] and subsequent Commission orders[7] have directed the transition away from electricity savings goals mid-cycle. GHG reduction can be achieved with electricity and gas efficiency, fuel-switching (e.g., replacing a gas-burning furnace with an electric ASHP), and other strategies.

While fuel-switching (electrification) measures represent a growing share of the EmPOWER portfolio, the vast majority of the GHG reductions achieved thus far in 2025 are from electricity and gas efficiency measures. A notable share of GHG reductions continues to come from rebated gas-burning appliances, though only WGL continues to include new gas-burning appliances in programming. As is briefly noted below, and discussed at length in separate comments regarding WGL's alternative plan, eliminating rebates for new gas appliances is a crucial step in aligning EmPOWER programs with the state's policy objectives.

Findings from Q1 and Q2 provide insights into the opportunities and barriers for GHG reductions through energy efficiency throughout the rest of the cycle.[8]

EmPOWER Portfolio-Level Results

The entire EmPOWER portfolio of programs is undergoing a shift as GHG reduction is now the primary measure of success. To align with this paradigm, the observations and recommendations in the following sections focus primarily on the GHG reductions, including energy savings and other metrics only when necessary to add valuable context. This transition from energy savings goals to GHG reduction goals leads to notable new dynamics like

[6] Maryland HB 864, 2024 Reg. Sess. § 7-223(b)(1) (Ch. 539). Available at https://mgaleg.maryland.gov/2024RS/bills/hb/hb0864E.pdf

[7] Maryland Public Service Commission Order No. 91175 (p. 1-2) directs utilities to revise plans in accordance with HB 864.

[8] Unless otherwise noted, all values in these comments are derived from the utilities' and DHCD's semi-annual report Excel worksheet tables, primarily the "Executive Summary - Gross Wholesale" table, the "Program Summary – Gross Wholesale" table, or program-specific "mini-tables".

challenges associated with increasing the numbers of electrification measures and programs, as well as disagreements between utilities involving fuel-switching measures.

Program coordination across utilities remains a key driver of success. Coordination will become even more important should the Commission approve OPC's recommendations to eliminate rebates for new gas appliances and encourage WGL to collaborate with other utilities through its Residential Coordinated Programs in pursuit of deeper gas efficiency savings.

Total GHG Reductions

This year, 2025, is the first in which the utilities are reporting lifecycle GHG reductions as the primary program metric. As shown in Table 1 below, many utilities are on pace to achieve statutory lifecycle GHG reduction targets, with Potomac Edison being the only utility behind track. Commercial and industrial (C&I) portfolios are generally demonstrating greater success than residential portfolios, with BGE's C&I portfolio in particular achieving 75 percent of forecast in the first half. Indeed, all the residential portfolios achieved below 45 percent of forecast, except WGL at 49 percent.

Table 1. Year-to-date reported GHG reductions relative to statutory targets.

Utility	Reported Lifecycle GHG Reduction in Metric Tons (CO2e)	Annual Targeted Lifecycle GHG Reduction in Metric Tons (CO2e)	Percent of Statutory Target
Potomac Edison	45,510	179,454	**25%**
BGE	489,301	835,887	**59%**
Pepco	174,717	387,702	**45%**
DPL	53,286	103,427	**52%**
SMECO	39,362	86,513	**46%**
WGL	164,500	79,509	**48%**
DHCD	45,537	166,396*	**27%***

*DHCD does not have an official statutory target yet. Achievement relative to forecast is shown instead.

EmPOWER utilities reported just over 1 million tons of lifecycle GHG reductions in the first half of 2025, with 363,000 tons, or about 36 percent, coming from the residential sector. This ratio was relatively constant across utilities, with only Pepco being notably lower at 27 percent of GHG reductions coming from the residential sector. WGL continues to see much higher achievement

in the residential sector, which accounts for more than 80 percent of its GHG reductions. Overall, the residential sector's proportion of GHG reductions highlights a positive trend, as in 2024 the overall ratio was only 30 percent of GHG reductions from residential programs with electric-only utilities as low as 18 percent.

Potomac Edison reports being behind target in every individual program, both residential and commercial. There are several factors Potomac Edison notes are contributing to the shortfall. Potomac Edison is still in the process of integrating electrification measures (e.g., air source heat pumps, heat pump hot water heaters) into programs. These long-life measures should increase GHG reductions realized by the programs once fully integrated. Potomac Edison's low achievement across all programs is attributed to lower participation across all customer segments, participants in the commercial programs completing smaller projects relative to past program years – a trend Potomac Edison attributes to higher efficiency baseline equipment, a slow housing market, and other factors. No CVR was reported in the first half. Potomac Edison's C&I programs are significantly behind pace at only 16 percent of forecast.

For context, note that EmPOWER continues to generate electricity savings that cost far less than the cost of generated and delivered electricity.[9] As shown in Table 2, the average cost of electricity savings achieved by EmPOWER year-to-date is just under 6 cents/kWh. The average cost per ton of GHG reduction is $286 across the electric utilities.

[9] EmPOWER projects statewide residential retail rates between $0.14-0.16 per kWh and commercial retail rates between $0.11-0.12 per kWh in assessing program benefits and costs.

Table 2. Year-to-date reported electric utility savings and GHG reductions with reported cost per savings.

Utility	Lifecycle Energy Savings (MWh)	Lifecycle GHG Reductions (MT CO2e)	Total Program Expenditures	Reported Cost per Lifecycle Electric Savings ($/kWh)	Reported Cost per Lifecycle GHG Savings ($/MT CO2e)
PE	311,641	45,510	$15,766,290	$0.051	$346
BGE	2,256,908	489,301	$135,387,041	$0.060	$277
Pepco	819,976	174,717	$47,912,866	$0.058	$274
DPL	271,389	53,286	$16,858,923	$0.062	$316
SMECO	197,817	39,362	$13,520,170	$0.068	$343
Total	**3,857,731**	**802,176**	**$229,445,290**	**$0.059**	**$286**

Adjusting GHG reductions to account for the size of utility by normalizing against baseline 2016 sales, we can better compare achievement across the utilities. As opposed to 2024, there is generally similar achievement across the utilities in the first half of 2025 with the exception of Potomac Edison, whose GHG reduction performance is notably lower. The other utilities' performances are more closely aligned, with BGE and SMECO reporting the highest rate of GHG reductions in the residential sector. As noted elsewhere, this aligns with a trend toward more consistency across programs, utilities, and sectors.

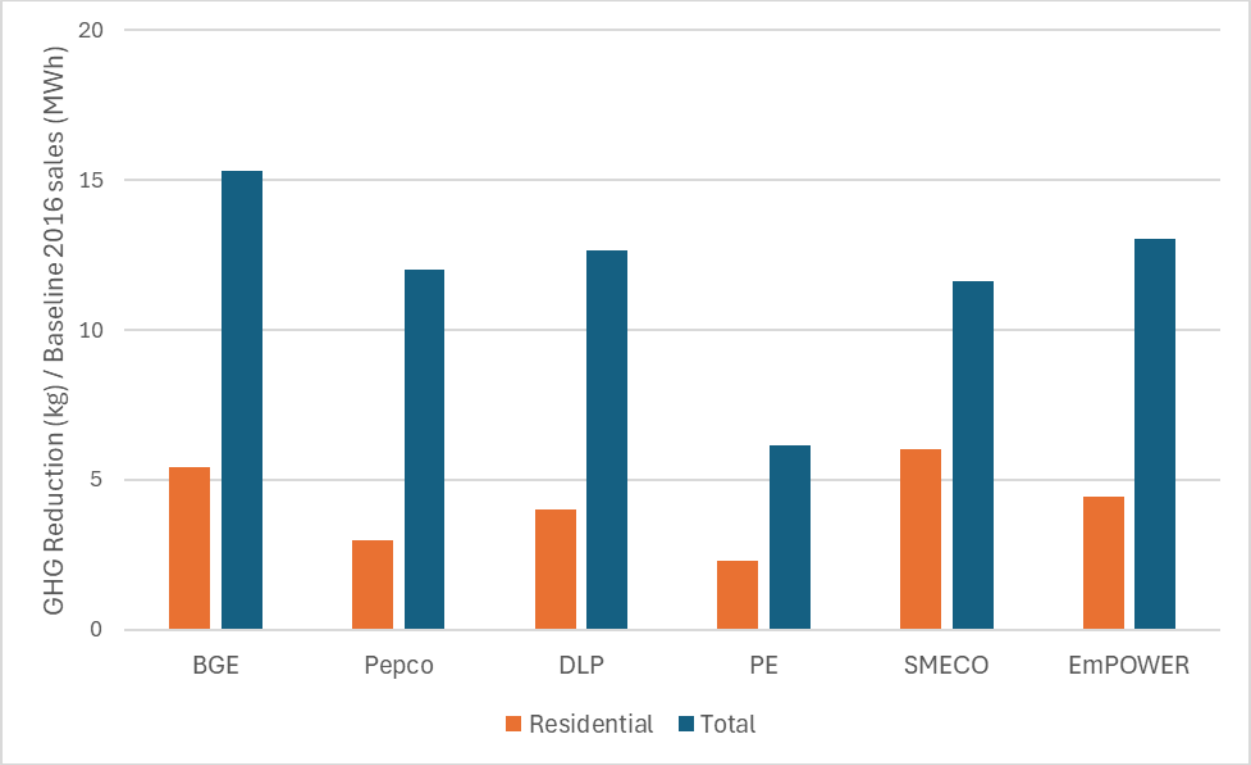


Figure 1. GHG reductions per baseline electricity sales for the residential portfolio and total portfolio, by utility and for EmPOWER utilities combined.

Residential Portfolio-Level GHG Reductions

In these comments, we primarily evaluate at the program level against the quantities forecasted by each utility in their Commission-approved plans, including GHG reductions and program spending. Utilities do not provide forecasts for GHG reductions or spending at mid-year, so we assume that generally programs ought to be near 50 percent. We interpret a large departure from 50 percent at mid-year as cause for concern. Figure 2 shows the reported GHG reductions and spending through the first half of 2025 for the residential programs compared to the annual forecast (i.e., a program exactly halfway to its annual forecast will show 50 percent achievement). Note that the target shown is half of the annual forecast. Most utilities are behind pace, with only WGL's residential programs being on track to achieve forecast. BGE and DPL are above 40 percent. Most utilities spending is aligned with or slightly lagging achievement thus far. In other words, GHG reduction achievement relative to forecast is further along than spending relative to budget. While at mid-year this is not necessarily indicative of utilities overestimating costs, it is

consistent with a long-observed trend of achieving savings or GHG reductions with less budget than anticipated.

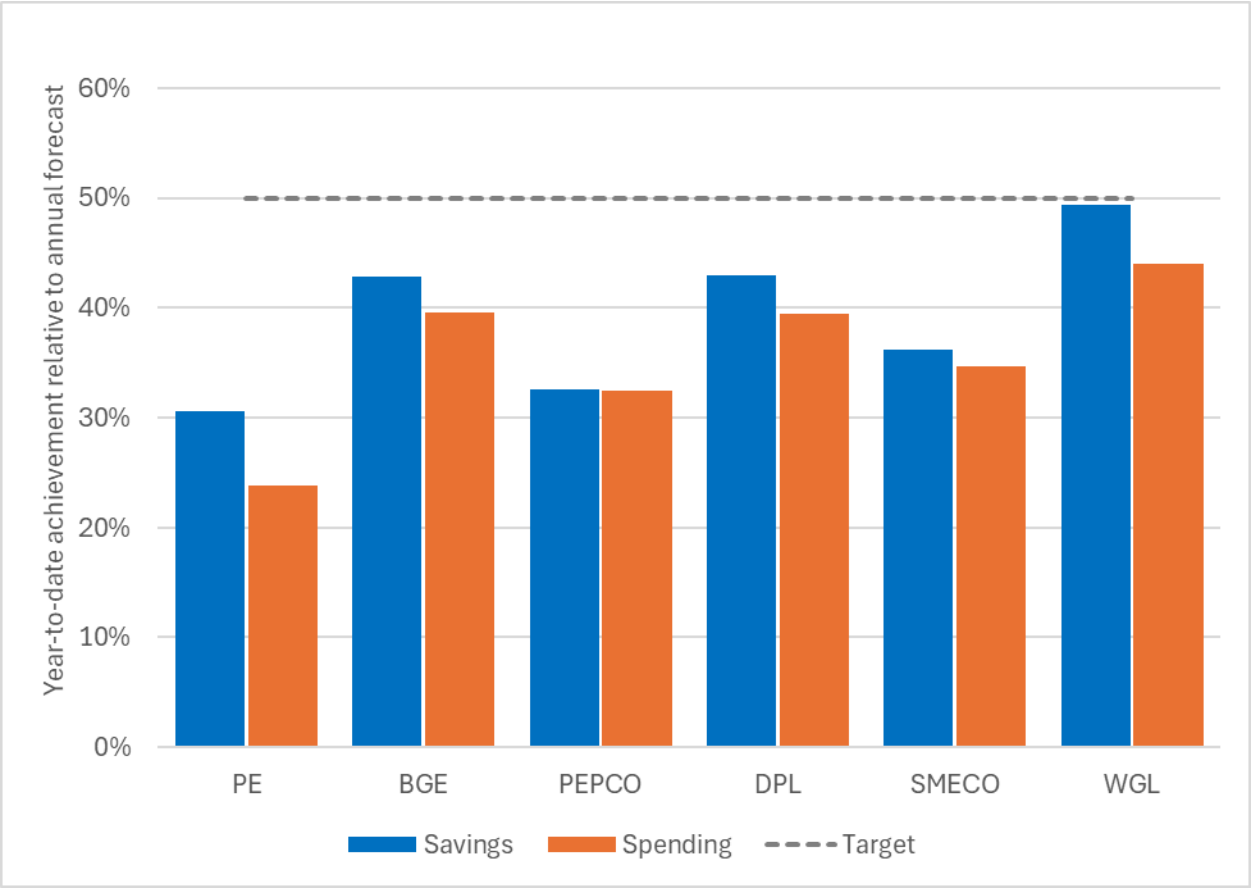


Figure 2. Year-to-date achievement of annual forecasted GHG reductions and spending for the residential portfolio. The target shown simply illustrates half of each utility's respective annual forecasts and should be interpreted as a rough measure of where programs ought to be at mid-year.

Figure 3, below, shows a summary of year-to-date utility GHG reductions vs annual forecasts for the major residential program areas. Again, note that a program is considered "on pace" if it has achieved about 50 percent of its annual forecast. At midyear, there is plenty of variation across programs and utilities. BGE's and SMECO's new construction programs have reportedly already surpassed their annual forecasts. New construction programs in general show some of the highest achievement relative to forecast across all utilities. Several programs are at risk of underachievement, including all Potomac Edison programs as well as HVAC programs across all utilities.

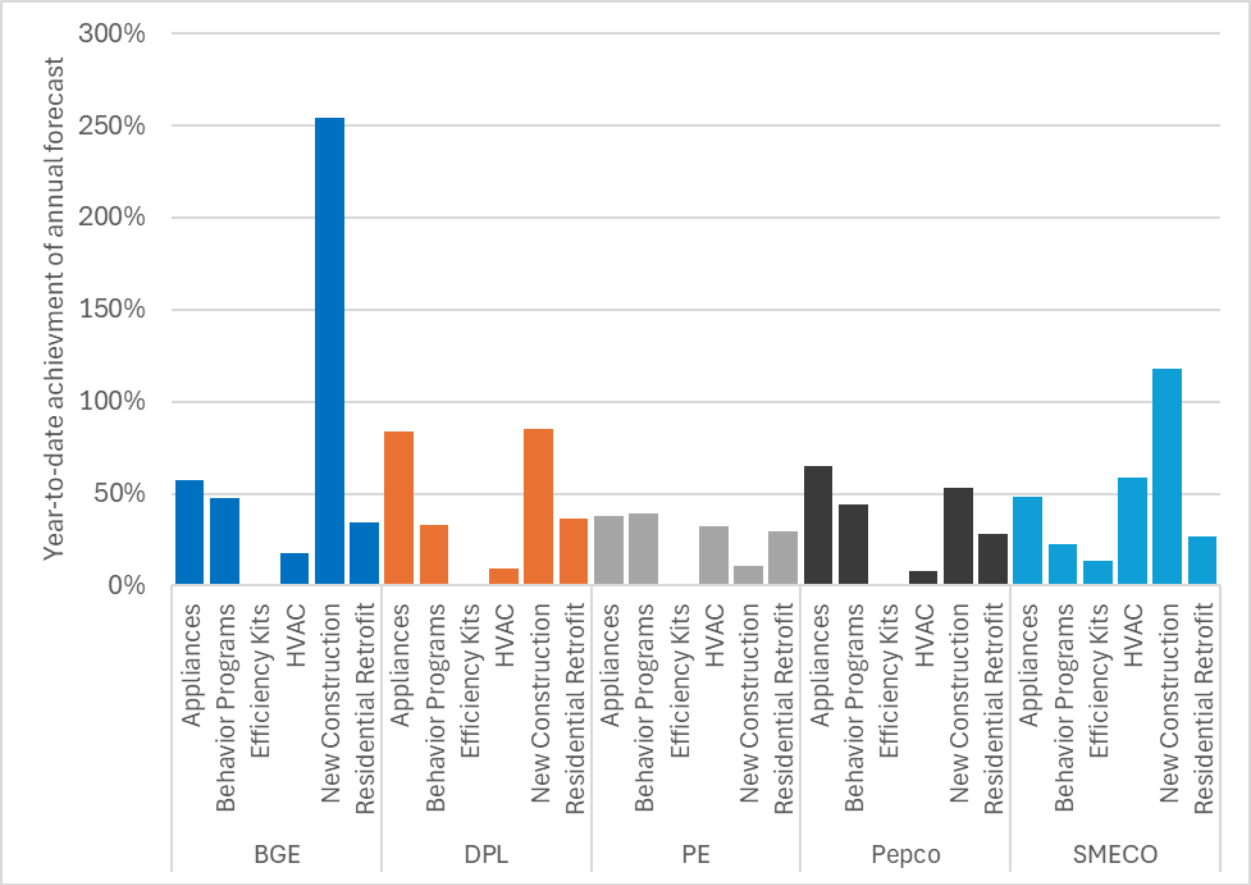


Figure 3. Year-to-date achievement of forecasted GHG reductions by program and utility. While utilities do not provide mid-year forecasts, a significant departure from 50 percent achievement at mid-year is interpreted as cause for concern.

Figure 4, below, illustrates the total lifecycle GHG reductions achieved by program area across the utilities in the first half of 2025. Residential retrofits, appliances, and new construction contribute the most GHG reductions in the residential portfolio.

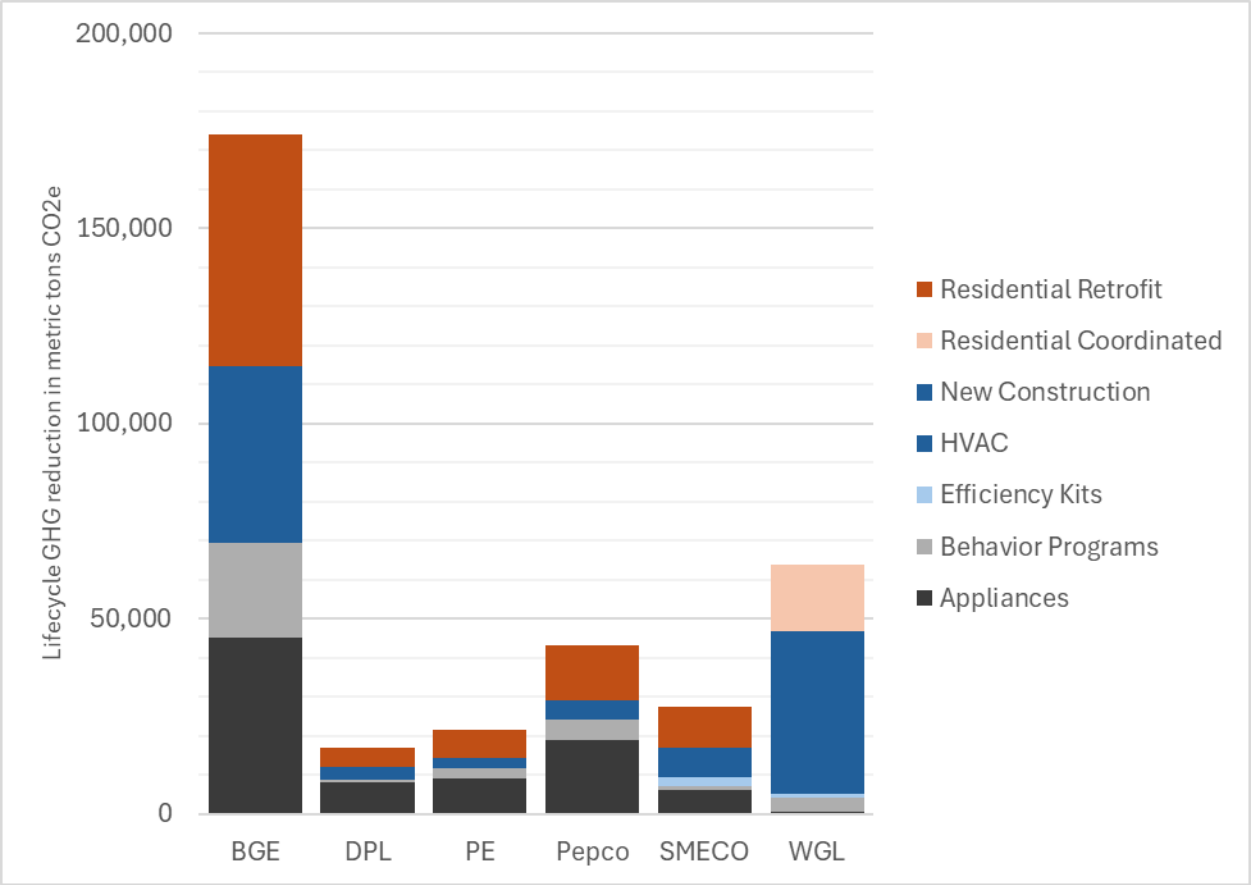


Figure 4. Aggregated residential GHG reductions by program, 2025 year-to-date.

DHCD

Observations

DHCD is on pace in 2025 to increase program production – both in terms of households served and GHG reductions achieved – over 2024. In Q1 and Q2 of 2025, a combined total of 1,635 dwelling units were served through the Base Efficiency and Whole Home Efficiency programs[10]. That pace, if maintained throughout 2025, would represent a 36 percent increase in units served over 2024. These programs reportedly leveraged over $3M in supplemental funding from external sources, representing the largest amount in program history. Likewise, MEEHA is seeing historic program activity. The 111 project funding applications under review in the first half of 2025, representing 17,774 dwelling units (of which 2,501 are new construction, are the most projects under review at one time in program history.

While 2025 marks the first year that DHCD programs are pursuing GHG reductions instead of energy savings, it isn't yet clear what DHCD's precise GHG reduction targets should be for the year. House Bill (HB) 864 notes a 0.9 percent reduction trajectory relative to a 2016 baseline that has yet to be determined by Maryland Department of Environment (MDE).[11] DCHD thus reports GHG reductions relative only to its forecast. DHCD reports 45,537 tons CO2e of GHG reduction in the first half of 2025, achieving just over 18 percent of its forecast. About two-thirds of that comes from the EmPOWER limited-income programs described in the next section, and the other one-third comes from other sources described in the subsequent section below.

EmPOWER Limited Income Programs

Many DHCD programs (Energy Kits, Base Efficiency, Whole Home, MEET, and MEEHA Residential) are significantly behind pace for GHG reductions relative to forecast through the first half of 2025. MEEHA Commercial is the lone program on pace, achieving 56 percent of

[10] See the Limited-Income Programs outlined in the EmPOWER Residential Program Descriptions section above on pages 13-14.
[11] MD Code Ann., Public Utilities § 7-224.

forecast. Altogether, the portfolio has achieved 18 percent of forecasted GHG reductions through Q1 and Q2, while spending 24 percent of budget. The Energy Kits Program and MEEHA Residential program had the highest achievement relative to forecast, both meeting about 26 percent of forecast. The Whole Home Efficiency Program contributed the largest share of GHG reductions at over 72,000 metric tons CO2e, a total which represents only 13 percent of forecast.

The **Energy Kits** program achieved 26 percent of its GHG reduction forecast by spending 32 percent of its budget, sending out 3,011 kits in the first half of 2025. The program was in the process of transitioning to a new provider, leading to lower than anticipated program activity, particularly during Q2. The program aims to not only increase productivity in Q3 and Q4 but also ensure customers who did not receive kits during the transition to a new provider are addressed.

The **Base Efficiency** program achieved less than 12 percent of its GHG reduction forecast and spent 26 percent of its budget. Efforts to increase participation rates have been successful, leading to consistent quarter-over-quarter increases in the number of dwelling units served throughout the entire cycle to date. The program provided 816 dwelling units with appliance upgrades, HVAC upgrades, and direct installation of lighting and hot water efficiency measures in the first half of 2025, a 69 percent increase from the same period in 2024.

The **Whole Home Efficiency** program achieved 13 percent of its GHG reduction forecast and spent 24 percent of its budget. Despite these findings, the program is in fact reporting strong achievement. In the first half of 2025, the program provided 819 dwelling units with weatherization measures in addition to appliance, HVAC, and direct install measures. That pace would achieve over 1,600 units this year, representing a 27 percent increase over 2024. The increased productivity is credited to marketing and outreach and strong network partnerships.

The **MEET** program ended during the first half of 2025 as previously approved by the Commission. DHCD reports achievement of 1.3 percent of its GHG reduction forecast and spent 9 percent of budget. As the program sunsets, funding will be put toward MEEHA and LIEEP programs.

The **MEEHA Residential** program achieved 26 percent of its GHG reduction forecast and spent 22 percent of its budget, while the **MEEHA Commercial** program – the lone program above target – achieved 56 percent of its GHG reduction forecast by spending 47 percent of its budget. The MEEHA program is reportedly seeing demand outpacing DHCD's expectations, with increased requests for funding to support retrofit/rehabilitation and new construction projects. This cycle, the program has committed funds covering 7,063 dwelling units. Additionally, 111 applications are in review including 17,774 units of which 2,501 are new construction.

Non-EmPOWER Programs Contributing to GHG Reduction Target

DHCD also credits energy savings and corresponding GHG reductions achieved through external funding sources and initiatives (i.e., programs not funded via EmPOWER surcharge) toward its overall GHG reduction targets. During the reporting period, DHCD's non-EmPOWER programs including Weatherization Assistance, the Greenhouse Gas Reduction Program, and other non-energy programs reportedly contributed 9,292 tons CO2e of GHG reductions for limited-income households. DHCD reports an additional 6,616 tons CO2e of GHG reductions attributed to programs not administered by DCHD but by other utilities.

Non-Program Observations

DHCD has previously requested the discontinuation of fossil fuel funding for buildings, to comply with the Building Energy Performance Standards (BEPS) rule. The Commission in Order 91711 in turn requested an explanation on how WGL funding would be used in such a case. DHCD states that it can use the funding for building envelope and shell measures or hot water efficiency measures (e.g., showerheads, aerators) in buildings that continue to have gas-fired water heating equipment, both of which would result in GHG reductions from gas efficiency.

Analysis

While GHG reduction achievement is behind forecast, DHCD programs are growing and seeing all time high levels of units served, dollars leveraged, and applications in review. The low achievement of GHG reduction does not adequately capture these other important dimensions. However, the programs must continue to expand staffing levels and capabilities, workforce capacity, and program participation rates in coming years to achieve targeted GHG reductions.

Recommendations

1. DHCD should continue efforts to ramp up capacity – staffing levels, workforce capacity, program participation volume – as programs grow. Despite all-time high levels of program participation and aggregate applications under review, GHG reduction achievement is still well behind forecast. Internal staff additions as well as increased workforce development activities will help scale program activity.
2. DHCD should ensure delays in energy kit deliveries stemming from the transition to a new provider are addressed and all customers who requested kits receive them.
3. The Commission should approve DHCD's request to discontinue fossil fuel measures in BEPS-covered buildings, as DHCD's plan to utilize funding seems appropriate.

Washington Gas

Observations

Washington Gas (WGL) achieved over 79,000 tons CO2e in GHG reductions in the first half of 2025, with residential programs achieving 49 percent of forecast GHG reductions with 44 percent of budget. The Residential New Construction program accounts for nearly half of total residential program spending and is responsible for 50 percent of total residential GHG reductions in the first half of 2025. Gas furnace measures remain the most popular measure.

Three residential programs (Behavior Based, Coordinated and Demand Response) are above target, and Residential New Construction is on target. Only the Residential Prescriptive program is below target at 36 percent of forecast. All residential programs except Residential Demand Response are under budget – both in terms of spend relative to budget (i.e., spend is below 50 percent of budget) but also relative to achievement (i.e., share of budget spent trails share of GHG reductions achieved). This continues a trend where residential programs are able to achieve GHG reductions (and previously energy savings) with lower costs than initially budgeted.

Table 3. WGL percent of GHG reductions reported-to-forecast and percent budget utilized, by program.

Program	Percent of Gross GHG Reductions Reported-to-Forecast	Percent Budget Utilized
Residential Prescriptive	36%	34%
Residential New Construction	50%	45%
Behavior Based	71%	45%
Residential Coordinated	57%	44%
Demand Response	58%	60%
Residential Total	**49%**	**44%**

Analysis

Overall, WGL's portfolio of residential programs is on track to achieve its GHG reduction targets. As has often been the case, WGL is achieving these targets with less budget than initially projected. Similarly, the most common measure in WGL's portfolio is again new gas furnaces.

WGL's C&I programs include only 120 participants in the first half of 2025, representing only a fraction of the total C&I customer base and likely leaving significant GHG reduction potential untapped. Increased engagement in this sector ought to deliver greater GHG reduction.

WGL has both illustrated in its alternative plan that it can achieve statutory minimum GHG reductions without new gas equipment and continues to demonstrate it can achieve GHG reductions at lower costs than anticipated. Together, these findings suggest a feasible path to the elimination of new gas appliances while maintaining statutory minimum GHG reduction targets, a crucial step in aligning EmPOWER programs with the state's policy objectives.

Recommendations

1. The Commission should end incentives for new gas-burning appliances.[12] Pursuant to Order No. 91461, WGL has filed its alternative program plan illustrating that achieving statutory minimum GHG reduction targets is possible with the elimination of new gas-burning appliances. New gas appliances could operate for the next 20 years, locking in gas emissions and gas system reliance over that period. To reiterate, EmPOWER must transition incentives away from new gas equipment to electric equipment if the state is to achieve its policy goals.
2. WGL should increase program engagement in the commercial and industrial sectors. Only 120 C&I customers participated in the first half of 2025. The share of total GHG reductions that come from commercial customers is about 20 percent, far below all other utilities.

[12] Exceptions for narrowly defined commercial applications where no viable alternative exists are appropriate. OPC's full position on ending incentives for new gas appliances is included in separate comments directly addressing WGL's alternative plan.

EmPOWER Utility Program-Level Results

Residential Home Retrofit – Moderate Income Offering

Observations

In 2025, BGE, Pepco, and DPL fully launched the Moderate Income Offering (MIO) to their Residential Home Retrofit[13] programs, integrated as a subcomponent into their HPwES programs. The offering relies on contractors familiar with DHCD's limited-income programming who are well-positioned to support moderate-income households navigating the HPwES program. MIO intends to bridge the gap between limited-income programs and market rate programs, targeting households with incomes above DHCD's upper limit and below 100 percent area median income. This segment has historically seen low participation due to difficulty managing upfront costs even with standard rebates.

Uptake in MIO has been slow thus far across all three utilities. Overall, less than one in five MIO-program applicants complete a home energy audit, and less than 4 percent complete a subsequent air sealing, HPWH, or ASHP project (as described in more detail below). Table 4 below illustrates program activity across each utility and reflects the fact that, often, applicants to the MIO programs actually qualify for limited-income programs, leading utilities to refer those applicants to the limited-income EmPOWER programs that DHCD delivers. Utility referrals to DHCD programs account for nearly half of all the MIO applicants who drop out of MIO programs.

[13] Residential Home Retrofit includes the subprograms Quick Home Energy Checkup (QHEC), Home Performance with ENERGY STAR (HPwES), and Home Energy Improvement (HEIP). The Exelon utilities BGE, Pepco, and DPL offer QHEC and HPwES to their customers. SMECO and Potomac Edison now offer HEIP. QHEC and HEIP are not considered in these comments.

Table 4. Number of customers completing each MIO program stage, by utility.

Utility	Leads & Applications	Audits Completed	Jobs Completed	Notes
BGE	186	24	3	1 HPWH Project
Pepco	86	30	8	1 HPWH Project
DPL	48	8	0	2 Reservations
Total	**320**	**62**	**11**	

None of the utilities report GHG reductions or program costs separately from HPwES. BGE describes in its narrative that the GHG reductions attributed to its MIO projects total 37 tons.

Affordability is both the design principle underpinning the philosophy of MIO, and the ongoing overarching challenge to program success. The MIO was designed with significant subsidies to ensure low upfront costs from customers. However, rising costs of both equipment and labor have increased total project costs to the point that even the large rebates appear to be insufficient to close the affordability gap MIO was intended to address. Participation rates far below expectations validate in part this conclusion.

Utilities generally plan to continue monitoring MIO participation rates across the program phases. BGE has acknowledged that increasing or modifying rebate levels may be required to fulfill the program's intent of reducing the affordability gap for moderate income households. The utilities generally report that in keeping with the intent of MIO, the incentive levels should fall between market rate electrification incentives (which reach up to $15,000) and DHCD's limited income programs. If incentives are too low, it may create confusion among moderate-income customers finding better offers via market rate programs. If incentives are too high, there may be confusion among qualifying limited-income customers as to the appropriate channel to receive support. –In other words, MIO incentive levels should make it clear that qualifying limited-income customers should be routed to the limited-income programs while qualifying moderate-income customers should receive appropriate support through MIO.

Analysis

While MIO is a new component of HPwES programs, participation is lower than expected. Less than 20 percent of applicants complete a home energy audit, and less than 4 percent complete a project. The significant drops between number of applications to number of completed audits, and number of completed audits to number of completed projects suggest persistent and significant barriers along the customer journey.

Nearly half of all MIO applicants are referred to DHCD's limited-income programming. Of the half that remain, fewer than 50 percent complete the *free* energy audit. Workforce limitations or simple lack of trust may explain this low conversion rate, but the issue is clear: most qualifying moderate-income households don't even proceed to the free energy audit step.

Since utilities report cost increases have pushed co-pays above the intended levels, cost is likely a bigger factor in the even more precipitous drop to the next phase where only about one in six households that complete an audit proceeds with a project. The initial program design as reported by all three utilities was intended to limit upfront costs for various measures and packages.[14] The incentives were set to cover what was *expected* to be most of the project cost, and participants would be required to cover only a modest co-pay:

- $0 for home energy audit
- $250 for attic air sealing, insulation, ventilation
- $500 for attic package + HPWH
- $750 for attic package + ASHP

Rising costs of equipment and labor reported by all three utilities have pushed project costs up, but the incentive levels have not followed. In other words, the co-pay amounts presented as the fixed, upfront costs required of customers have in fact increased, while the incentive rates intended to cover most of the project costs have remained flat and no longer do so. This results

[14] BGE Semi-Annual Report at 28; Pepco Semi-Annual Report at 76; DPL Semi-Annual Report at 74.

in higher co-pay amounts than were intended in the original design. Ensuring program incentive levels adjust so the program can adhere to the targeted co-pay amounts may increase participation provided the primary barrier is in fact rising costs. Contractor training and customer support services may help encourage applicants to proceed with home energy audits and subsequent projects.

Referrals from MIO to other programs have been successful. About half of all inquiries have been referred to DHCD's limited-income programs, and another small fraction have been referred to standard programs. This suggests that MIO serves as a useful tool for ensuring customers are served through the appropriate channel.

Recommendations

1. Utilities delivering MIO should consider enhancing the customer experience through contractor training and customer support services to increase the number of applicants who proceed to a home energy audit.
2. Utilities should modify rebate levels in response to rising equipment and labor costs to better reflect the intent of MIO in addressing affordability issues for moderate income households.
3. Utilities should report costs, savings, and other program metrics of MIO as a subprogram of HPwES. Without these data, program success is impossible to assess.

HVAC

Observations

Mid-year achievement in HVAC programs versus forecast varies sharply by utility. Again, note that utilities do not provide forecasts of GHG reduction or spending at mid-year, so we assume programs should be about halfway toward annual forecasts. SMECO reports lifecycle GHG reductions at 58 percent of the annual forecast while spending sits at about 42 percent of budget. Savings were primarily driven by strong air source heat pump (ASHP) participation in SMECO's midstream program. WGL achieved similar results, achieving 52 percent of annual GHG forecast, but driven primarily by higher efficiency gas furnaces. The other four electric utilities are significantly behind forecasted GHG savings for 2025, with Potomac Edison at 32 percent and DPL and Pepco below 10 percent. It's notable that BGE reports an 86 percent increase in the number of ASHP units delivered in the midstream program but is only at 17 percent of annual HVAC program GHG goal. No additional explanation is given for the misalignment between the growth of ASHP sales and the low GHG savings to goal, nor how the underperforming utilities plan to narrow the gap to goal in 2025.

BGE, DPL and Pepco launched electrification (fuel switch) measures in the HVAC midstream program in April 2025, but participation remains relatively low as a percentage of overall heat pump participation. Although SMECO did not include electrification measures through the midstream HVAC program, they were launched through the Home Energy Improvement Program (HEIP). Potomac Edison is the only EmPOWER utility that did not launch electrification measures in the first half of 2025 through either residential program. The EmPOWER Midstream HVAC Uniform Program Manual (UPM) was filed in January 2025, but due to the lack of consistent program launches across all utilities, electrification measures are proposed to be included as an addendum to the existing UPM. In the midstream work group, contractors identified payment timeliness and the significant burden of contractors carrying the cost of incentives between equipment purchase, installation, and reimbursement as issues needing

immediate attention by EmPOWER utilities.[15] All of the EmPOWER utilities addressed rebate timeliness in their semi-annual filings—emphasizing automation and distributor communications to reduce contractor reimbursement times. However, only SMECO provided the additional detail of an actual average processing time of 31 days.

EmPOWER utilities highlighted that manufacturer transitions to A2L refrigerants (e.g., R-454B and R-32) are affecting compliant HVAC equipment availability and contractors' installation practices.[16] Contractors report a learning curve around charging limits, leak detection, and ventilation/clearance requirements, which is compounded by mixed distributor inventories where R-410A and A2L models coexist during the sell-down period.

The impact on contractors includes potential scheduling delays, model substitutions, and need for investing in new A2L compatible tools and training of service technicians. EmPOWER utilities note that distributors, the Heating and Air Conditioning Contractors of Maryland and The Training Center are currently providing training and certification courses to prepare technicians for handling A2L refrigerants safely and specific equipment requirements for A2L HVAC installations. EmPOWER utilities should evaluate opportunities to further support contractor training and develop site verification checklists to support new A2L HVAC installations.

Analysis

The HVAC program began a transition in 2025 with the addition of electrification measures and incentives as approved by the Commission in December 2024,[17] as well as tracking to new GHG EmPOWER goals, in effect for 2025. However, the transition to A2L refrigerants; reported contractor financial burden of carrying the costs of extended rebate reimbursement periods; and

[15] The midstream work group status report to be filed is expected to elaborate on these concerns.
[16] A2L refrigerants (e.g., R-32, R-454B) are a newer class of low global warming potential (GWP) and low-flammability refrigerants increasingly used in new HVAC equipment to meet more stringent environmental standards. These are replacing older high-GWP refrigerants like R-401A.
[17] Electrification in the HVAC program was proposed by and approved for the investor-owned electric utilities only.

the lack of consistent implementation of new electrification measures across the EmPOWER utilities remain as barriers to the success of the midstream HVAC program.

EmPOWER utilities with electrification measures in the HVAC midstream program held trainings with participating distributors and contractors to coincide with the April 2025 launch. Engagement by Maryland distributors continues to make gains; for example, BGE reports a new all-time high of 32 participating distributors. The level of detail about distributor and supply chain engagement in utility filings has improved, though utilities still are not reporting sufficient information identifying what barriers continue to keep non-participating distributors from participating in the EmPOWER HVAC midstream program.

As highlighted by data above, the majority of the EmPOWER utilities' HVAC program performance in the first half of 2025 are not on track to meet annual GHG goals. Even if they were achieving program-level goals, the results are dramatically inconsistent with the level of market penetration for space and water heating equipment required to meet Maryland's climate and building energy transition targets and plans. (As described further in the Midstream Work Group section, those targets and plans include the near complete transition of HVAC equipment sales to heat pumps in the coming 5-10 years). Participants in the midstream and future programming work groups remain uncertain and divided about the role of EmPOWER programs (including but not limited to the HVAC program) in achieving Maryland's overall state objectives. This uncertainty is unlikely to be resolved without further direction from the Commission (or the General Assembly, or a cross-agency planning effort as OPC has urged). EmPOWER could do more to support a market transformation objective with a clearer directive, but the strategies likely required to do so might not yield higher GHG in the near term and thus are naturally unappealing to the utilities in the current goal framework. OPC and other parties have concerns about the risk of putting greater costs on ratepayers even in support of worthy market transformation goals. Without concrete proposals it is difficult to estimate the magnitude of the costs required to sufficiently expand midstream programs toward a transformed market, so the status quo prevails.

The table below is a summary of all HVAC reported measures in the semi-annual filings by the EmPOWER utilities. The reported 5,659 air source heat pumps in the first half of 2025 are more than a 15 percent increase over a comparable period in 2024.[18] In the first half of 2025, the utilities provided rebates for nearly 7,400 heat pumps, generating more than 8,400 MWh in electricity savings and over 20,000 tons of GHG reduction. The programs also provided incentives for over 2,500 central air conditioners (CAC), which generated about 740 MWh of electric savings and over 1,400 tons of GHG reduction. Central air conditioners represent a quarter of the combined rebated measures but contributed only 8 percent of the electric MWh savings and 7 percent of the GHG reduction. By continuing to promote the replacement of failed CAC equipment with slightly more efficient CAC equipment instead of ASHP, EmPOWER is missing an enormous opportunity to significantly increase heat pump market transformation and provide customers with the dual benefits of ASHP, which not only provide high efficiency space heating and cooling but also help utilities meet GHG targets.

Table 5. Reported HVAC metrics by equipment type, aggregated across all utilities.

Measure	Measure Quantity	Annualized Savings (MWh)	Peak Demand Reduction (MW)	Lifecycle GHG Reduction in Metric Tons (CO2e)
Air Source Heat Pumps- EE	5,575	6351	1.966	11,638
	56%	69%	59%	53%
Air Source Heat Pumps- Fuel-Switch	84	-128	0.025	1,954
	1%	-1%	1%	9%
Central Air Conditioners	2,509	743	0.591	1,458
	25%	8%	18%	7%
Ductless Mini-Split Heat Pumps	942	902	0.247	*2,468*
	10%	10%	7%	11%
Heat Pump - Water & Geothermal-EE	797	1,291	0.522	4,620
	8%	14%	16%	21%
HVAC Total	**9,907**	**9,159**	**3.351**	**22,138**
HVAC- Heat Pump Total	**7,398**	**8,416**	**2.76**	**20,680**
HVAC- CAC Total	**2,509**	**743**	**0.591**	**1,458**

[18] Assumes 50 percent of the reported full year measure quantity in 2024.

Recommendations

1. The Commission should initiate a professionally led strategic planning process related to heat pump market transformation, as described in the Midstream Work Group section of these comments.
2. The Commission should direct all utilities to provide details in their Semi-Annual reports about full contractor reimbursement timing in addition to distributor reimbursement. SMECO provided average reimbursement periods for distributors, but this should be expanded to include maximum and minimum, as well as a method for capturing contractor burden from the time of purchase to the time of reimbursement.
3. The Commission should direct utilities to phase out CAC incentives and promote ASHPs which provide high efficiency heating and cooling and greater GHG reductions.
4. The Commission should direct the utilities to work together on implementation plans for consistent midstream electrification measures in periodic consultation with the Midstream Work Group.

New Construction

Observations

By the end of Q2, all six utilities successfully launched Code Plus, a less stringent incentive tier based on ENERGY STAR v3.1 rather than v3.2. Four of the utilities have seen uptake; however, only a total of 36 units qualified for Code Plus, which represents less than 1 percent of the total units built under the Residential New Construction program. This could indicate a preference for ENERGY STAR over Code Plus or merely reflect the time required for the market to respond to this new incentive tier—additional time and data will provide greater insights. All the utilities also offer incentives for the higher level of ENERGY STAR NextGen certification. However, builders only took advantage of this program in BGE's territory, building only four units total to the NextGen standard, just one-tenth of one percent of the total units built under this program.

The utilities continue to offer five additive measures on top of the whole home incentives, and they have seen considerable traction with smart thermostats and high efficiency central air conditioning (HE CAC)—uptake rates of 78 percent and 50 percent, respectively.[19] Much smaller numbers of participants (less than 10 percent) received the incentives for high efficiency heat pumps (HEHP) and heat pump water heaters (HPWH) as well as HVAC Verified Quality Install. Only DPL achieved higher than 5 percent uptake rate for high efficiency heat pumps (13 percent) and only BGE and DPL achieved higher than 3 percent heat pump water heaters (13 percent and 22 percent respectively).

[19] Please note that the values calculated for additive measure uptake relative to total units are approximate. Utilities report the total number of unique participants (homes or units), but additive measures are reported by total quantity. Some participants (homes or units) may install more than one of a given additive measure.

Table 6. Number of incentives for each category of additive measure that exceeds ENERGY STAR minimum efficiency requirements as a percentage of total units in the Residential New Construction Program by utility.

	HE CAC	HE ASHP	HPWH	Quality Install	Smart Thermostat
Potomac Edison	47%	1%	1%	0%	67%
BGE	46%	4%	13%	12%	76%
Pepco	56%	5%	1%	7%	67%
DPL	22%	13%	22%	11%	95%
SMECO	61%	0%	3%	5%	93%
Overall Percentage	**50%**	**3%**	**7%**	**7%**	**78%**

Table 7. Number of incentives for each program tier as a percentage of total units in the Residential New Construction Program by utility.

	Code Plus	ENERGY STAR	NextGen
Potomac Edison	4.0%	96.0%	0.0%
BGE	0.0%	99.7%	0.3%
Pepco	0.5%	99.5%	0.0%
DPL	6.9%	93.1%	0.0%
SMECO	0.4%	99.6%	0.0%
Total Percentage	**0.9%**	**99.0%**	**0.1%**

Utilities are experimenting with the incentives they offer to further move the market toward decarbonization and electrification. BGE is phasing out incentives for commercial air conditioners in order to prioritize heat pump adoption. Pepco noted increasing its incentives for heat pumps; SMECO increased incentives for heat pump water heaters, heat pump systems, and Next Gen certification. Notably, Potomac Edison incentivized an all-electric affordable housing multifamily building with 127 units. Nonetheless, in the first half of 2025, collectively, the EmPOWER utilities incentivized over 3,300 new homes to install new gas heating and over 2,600 homes to install new gas water-heating systems despite the State's legally mandated target to have net zero emissions in 20 years. Relevant to Order No. 91805, it would be of interest to understand these incentives in the context of the total number of new homes connected to utility service each year for each utility's service area.

All utilities have focused on engaging with builders directly. Potomac Edison, Pepco, DPL, SMECO, and WGL all recruited new builders or successfully encouraged existing builders to expand the incentives they pursue. BGE, Pepco, DPL, SMECO, and WGL all attended the

Maryland Builders Industry Association events. All utilities employ digital advertising, targeting both builders and homebuyers.

Analysis

Other than Potomac Edison, all the utilities are on pace to meet or exceed their savings goal based on achievement through the first half of 2025 for the Residential New Construction program. BGE and SMECO have already exceeded this year's full forecast by the end of Q2. In fact, BGE achieved 254 percent of its *annual* savings goal with just 42 percent of its annual budget.

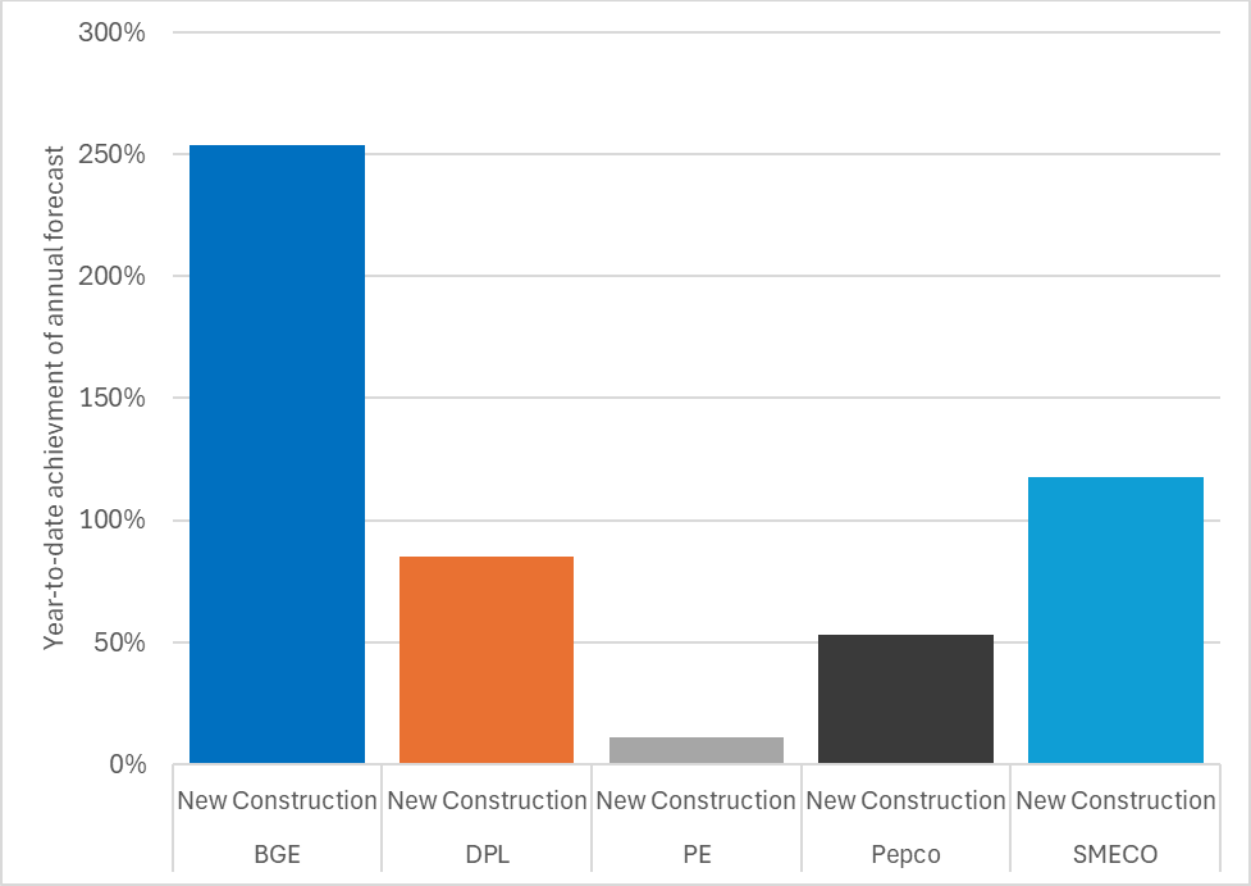


Figure 5. Year-to-date achievement of annual GHG reduction forecast.

BGE and WGL, which rely most heavily on emission reductions from gas efficiency measures, saved the most metric tons CO2-equivalent (MTCO2e) per participant (37.2 MTCO2e for WGL and 24.8 MTCO2e for BGE) in the first half of 2025 and also had the lowest cost per lifecycle

GHG Reduction in metric tons ($73/MTCO2e and $81/MTCO2e). In contrast, SMECO, DPL, and Pepco, which all achieved the majority of their GHG savings from kWh savings, ranged in cost per metric ton of CO2-equivalent from $141 to $248.

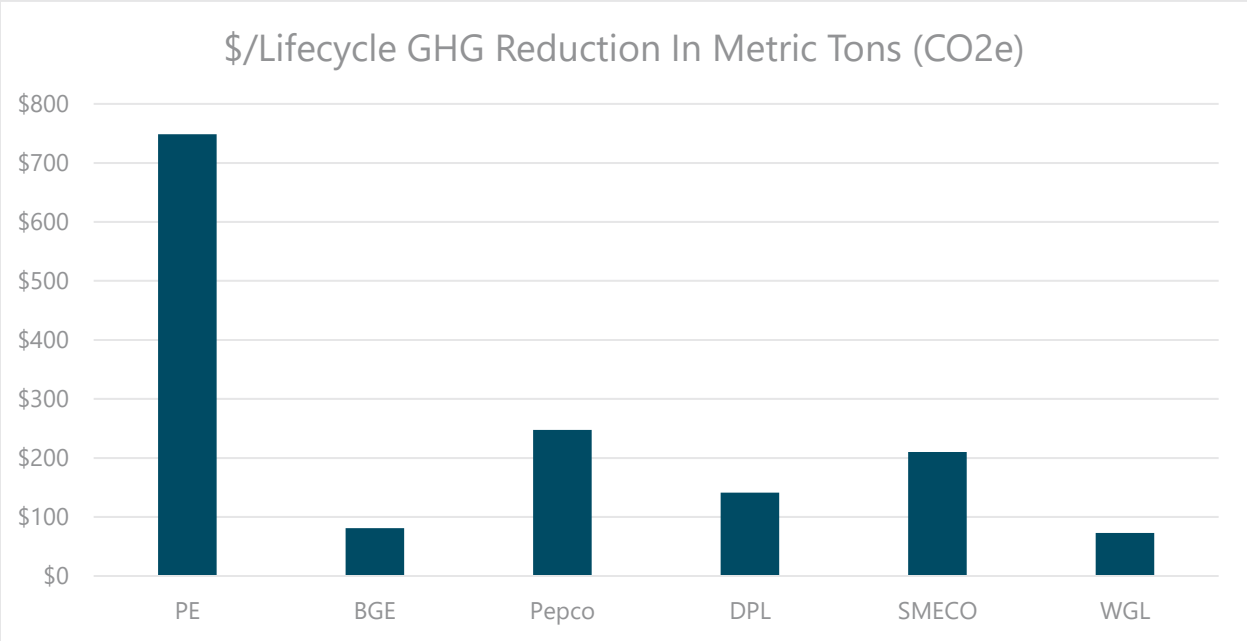


Figure 6. Cost per lifecycle GHG reduction in dollars per metric ton CO2e in first half of 2025.

Potomac Edison was an outlier in their lack of success with the Residential New Construction program during this period; the data that Potomac Edison reported paints an unclear picture of why. Potomac Edison managed to achieve just 11% of its savings target for the year, despite using 38 percent of its annual budget. The company cited low progress due to a slowdown in construction and lack of uptake: "The housing market in the Potomac Edison service territory continues to be depressed. Housing prices and mortgage rates have kept buyers on the sideline in exurb territories, with a larger focus on development occurring closer to metropolitan areas."[20] However, that explanation requires further clarification as Potomac Edison actually did achieve 49 percent of its unit participation target.

Instead, the issue seems to stem from the lack of savings achieved per participant with just 1.8 Metric tons of CO2-equivalent per participating unit, less than a third as much as the next lowest

[20] "PE Annual EmPoWER MD Semi-Annual Report Q2 2025 FINAL.pdf," p. 19

utility (Pepco, with 5.5 Metric tons of CO2-e per participant). This led to a staggering $748/Metric ton of CO2-equivalent reduced, significantly higher than the cost of emission reductions for the other utilities noted above. The issue seems due, in part, to a negative reduction (i.e. an increase) in emissions from gas customers of 1,457 metric tons that is unexplained and unique to Potomac Edison.

Tracking utilities' historical performance over time yields additional insights. We continue to see a strong performance in annual kWh savings per participant for DPL which again dramatically outperformed other utilities. BGE and Pepco showed modest increases, while SMECO posted a slight decline—the fourth decline in five years. Consistent with the observations above, Potomac Edison saw an unexplained and precipitous drop in savings per participant.

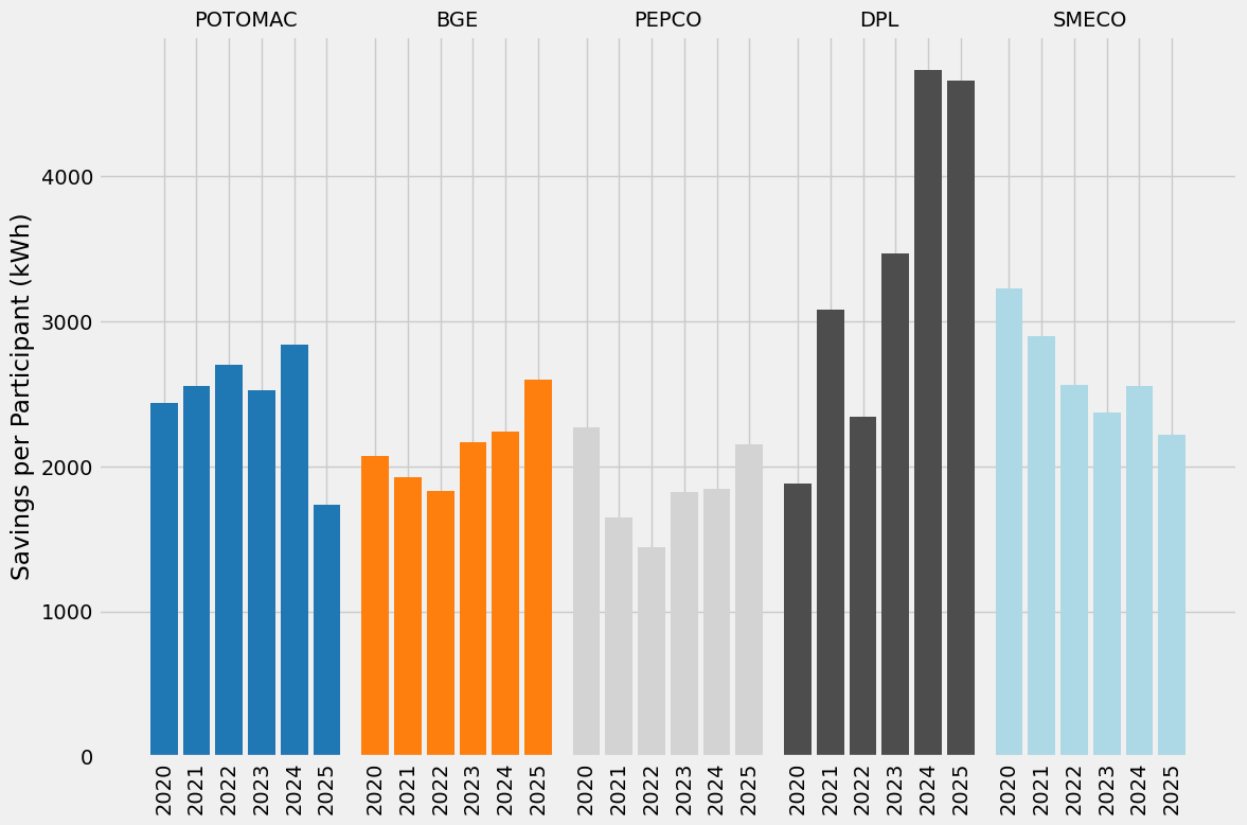


Figure 7. Annual savings per participant (kWh) for Residential New Construction, by utility, 2020-2025.

2025 has brought cost increases per lifecycle electric savings nearly across the board, with only Pepco reducing costs per lifecycle MWh saved. Once again, we see a substantial rise (more than

double) in per MWh costs for Potomac Edison, but here we also see substantial increases for BGE, DPL, and SMECO.

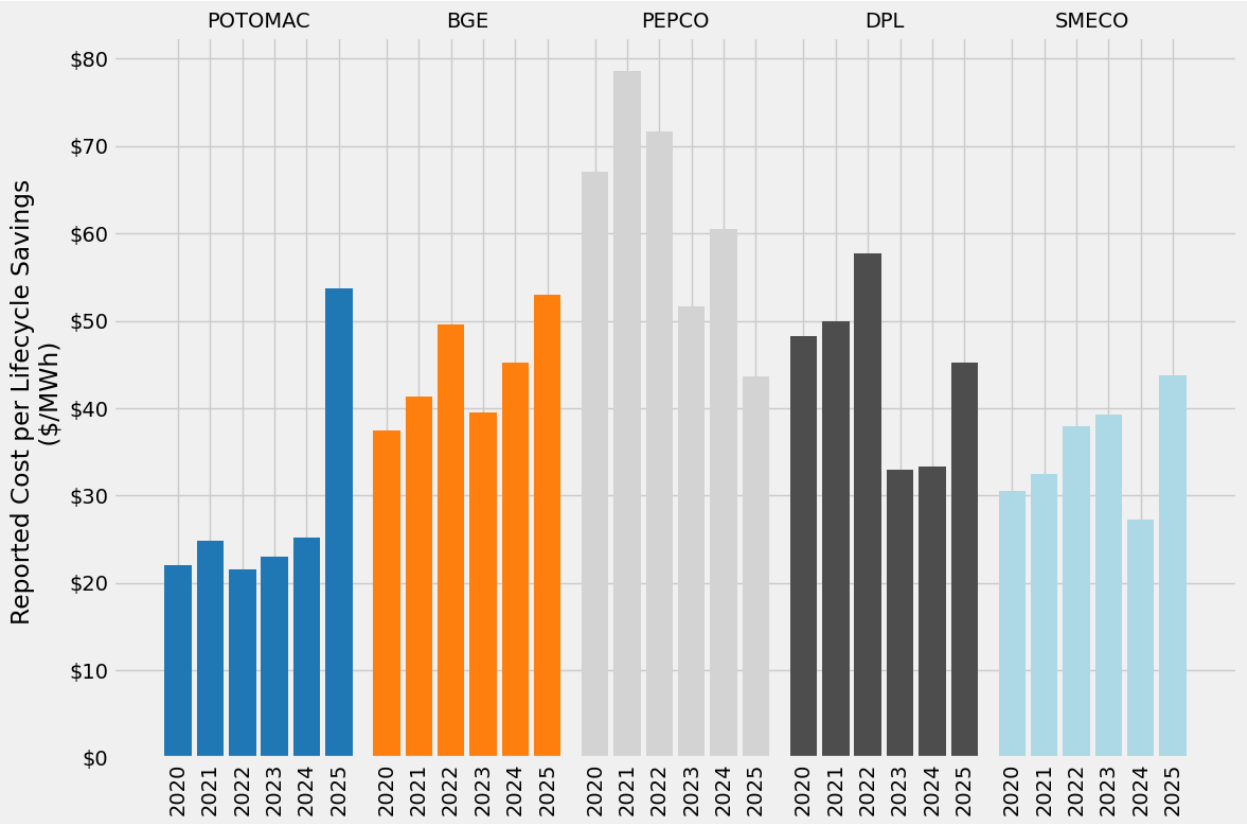


Figure 8. Annual reported cost per lifecycle savings ($/MWh) for Residential New Construction, by utility, 2020-2025.

Nonetheless, all utilities have spent less than 50 percent of their annual budgets for the year, other than SMECO, which has exceeded its annual budget. Since participation rates for all the other utilities remain below 50 percent of the annual target, while SMECO has reached 68 percent, the impact of spending is consistent with observed results and increasing spending presents an opportunity for utilities to increase participation in the second half of this year and future years.

NextGen uptake has been very low. In response to a data request about the major barriers Potomac Edison noted "cost concerns and code-related complexities" and BGE identified the "time and effort associated with adopting new practices or procedures." BGE also "recognizes that persistent, reliable program offerings are essential to building trust and driving change." Both SMECO and BGE increased their NextGen incentives this year—BGE, Pepco, DPL and

SMECO now all advertise $4,950 incentives for NextGen homes. Potomac Edison claimed in its response to a discovery request from OPC dated September 17, 2025 that "as of July 1, 2025, the NextGen incentive was increased from $2,000 to $3,000."[21] However, while Pepco, DPL, SMECO, and BGE are prominently promoting the NextGen program and incentives, we were unable to find any public materials from Potomac Edison about the NextGen program or incentive online—only ENERGY STAR Version 3.1 is advertised at the lower $1,250 rebate amount for a Single-Family Detached Home.[22] Finally, while increases will hopefully draw greater participation over time, by comparison, Mass Save, the energy efficiency utility in Massachusetts, offers incentives of $15,000 per single-family home that reaches the NextGen standard, and it may take raising incentives again to reach a meaningful level of participation.[23]

Recommendations

1. Building on BGE's example, the Commission should require all utilities to phase out incentives for Commercial Air Conditioning in order to promote high efficiency heat pump adoption.
2. The Commission should direct Potomac Edison to provide a more satisfactory response to the low savings results and high cost of emission abatement.
3. Utilities should consider ways to drive additional ENERGY STAR NextGen uptake in each utility territory, including weighing a further increase of incentives. Potomac Edison should publicly advertise the NextGen incentive online.

[21] See "Response of The Potomac Edison Company to Discovery Request Data Request No. 5"
[22] New Home Construction (accessed on September 19th, 2025, and last modified on January 2, 2025)
[23] Single-Family New Construction (1-4 units)

Demand Response

Introduction

EmPOWER's demand response (DR) programs leverage a mix of technologies, equipment, and behavioral or economic incentives to encourage shifts in residential and small commercial energy use during critical or strategic periods, particularly when electricity demand is at its peak. By activating DR during PJM system peak events, utilities can reduce their capacity obligations. Similarly, targeting their own system peaks allows utilities to lower their share of transmission costs.

Legacy direct load control (DLC) programs relied on utility-owned smart switches to cycle HVAC equipment during peak demand periods (e.g., Peak Rewards, EnergyWise Rewards). Customers could choose cycling levels of 50 percent, 75 percent, or 100 percent, where the compressors would be cycled reducing load by 50 percent of their current power, reducing by 75 percent, or would be completely turned off (100 percent). Programs like BGE's Peak Rewards are being phased out due to high operating costs and relatively low performance.

In response, utilities are increasingly adopting smart thermostats with dual communication capabilities. These devices offer cost efficiencies by leveraging customer Wi-Fi and providing real-time device status, reducing the need for utility-owned infrastructure. As a result, utilities are transitioning customers to smart thermostat-based programs. For example, BGE is merging Peak Rewards with Connected Rewards, while DPL and Pepco are shifting EnergyWise Rewards participants to Bring Your Own Device (BYOD) programs featuring eligible technologies such as Nest, Ecobee, Honeywell, and Emerson thermostats.

Unlike energy efficiency programs, DR has intrinsic economic value even when the resource is not actively dispatched. PJM, the regional transmission operator, sets strict criteria for DR participation in wholesale markets. PJM applies to a demand response resource offered by a market participant (like a utility) a capacity accreditation factor of 70 percent, meaning that for every 100 kW of demand reduction offered, only 70 kW is compensated for being available to support the system.

The EmPOWER DR programs' valuation follows different rules. Customers are compensated for their enrollment (availability) to participate in demand response events and not necessarily for the performance of their individual assets. The performance reported by the utilities is either directly measured using advanced metering infrastructure (AMI) or estimated using deemed values developed by a third-party evaluator and approved by the regulator.

Observations

EmPOWER utilities offer a range of demand response (DR) programs. Bring Your Own Device (BYOD) programs enroll customers with individual smart thermostats that can be called upon during peak events. Non-BYOD programs leverage traditional load control switches. Utilities offer programs to both residential and commercial customers and address both seasonal and year-round peak demand objectives. The following comments address the various strategies observed across the EmPOWER demand response programs.

Non-BYOD Residential Programs

Non-BYOD residential programs have relied on utility owned load control switches and telecommunications. Switches controlled HVAC equipment that was cycled down 50 percent, 75 percent, or was completely turned off (100 percent). Utilities are now phasing out 100 percent and 75 percent tiers to improve customer satisfaction and streamline operations.

Through the first half of 2025, utilities report having successfully increased participation in 50 percent-tiered cycling with Pepco and DPL reporting that 98 percent of the customers enrolled in these programs have transitioned to a less invasive 50 percent cycling. BGE reports that 82 percent of its customers enrolled in Peak Rewards have moved to the 50 percent tier.

Demand response performance varies significantly across utilities, with BGE reporting 57 MW peak demand reduction from 321,429 devices, and Pepco reporting 225 MW from 220,238 devices. This discrepancy warrants further investigation to inform future program design (Table 8 and Figure 9).

Table 8. Residential non-BYOD statistics across participant utilities.

Utilities	Active End	Incentive Spent ($)	DR Reduction (MW)	Incentive/MW ($)	kW/Device*
BGE	321,429	$4,457,204	57	$78,098	0.18
SMECO	68,657	--	34	--	0.50
Pepco	220,238	$5,626,253	225	$25,006	1.02

* Based on Active Devices at the end of Q2 and MW DR Reduction – calculated for purposes of comparing performance and program design options across EmPOWER participants.

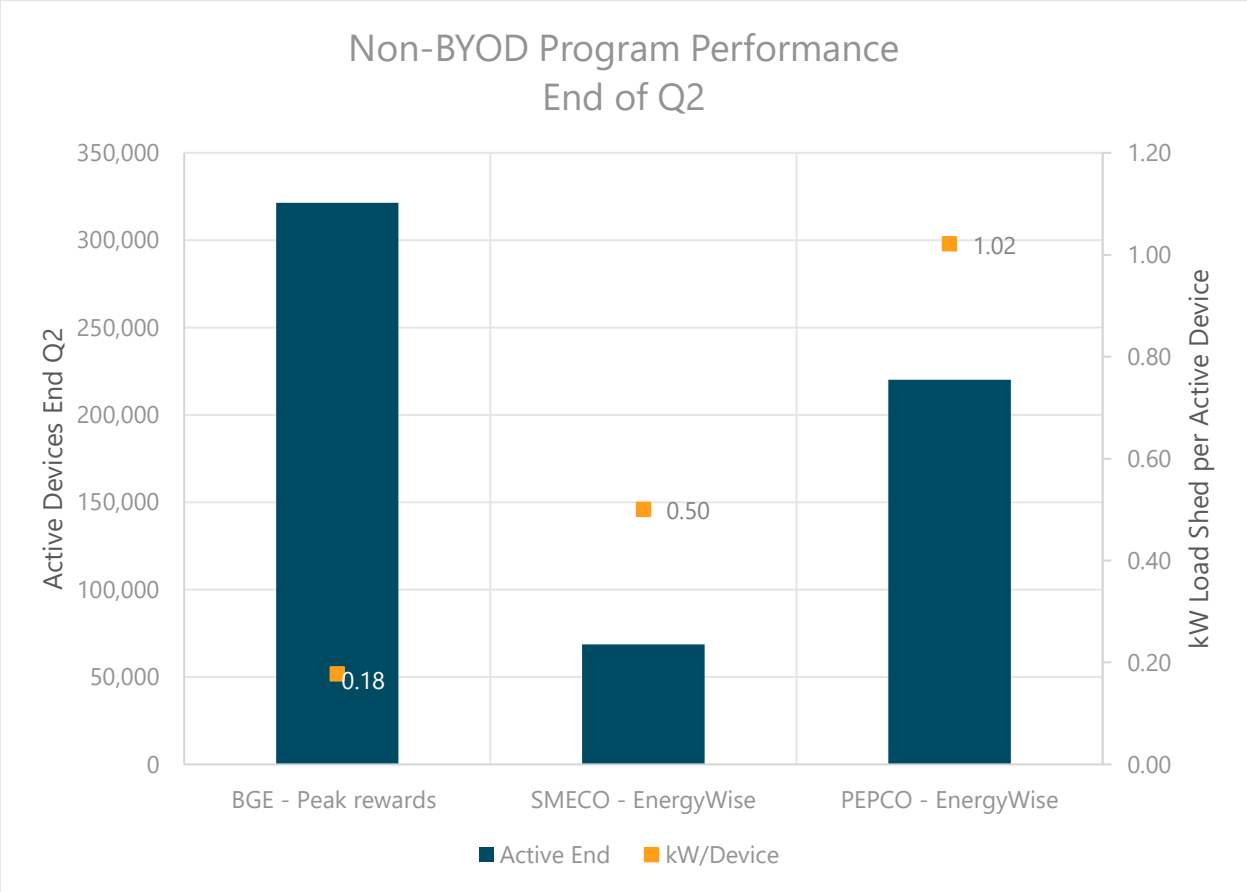


Figure 9. Load shed by active device at end of Q2 by utility. Blue bars represent number of active devices, read against the left axis. Orange dots show kW load shed per active device, read against the right axis.

Small Commercial non-BYOD Programs

DPL and Pepco report 2,181 and 5,960 active devices at the end of Q2, respectively. Pepco achieved 13 MW load shed, with an impressive 2.18 kW per device, which exceeds residential performance. Unenrollment rates were 11 percent (DPL) and 2 percent (Pepco).

Residential BYOD (Bring Your Own Device Smart Thermostat)

BYOD Year-Round

As utilities expand to deliver year-round program design, SMECO is the first to report year-round BYOD results corresponding to the first half of 2025. With 1,431 participants at the end of this period, SMECO reports a promising 1.4 MW demand reduction capacity, which indicates 0.98 kW load shed per active device at the end of the period.

BYOD Summer

BGE's and SMECO's BYOD summer programs show strong performance, nearing 1 kW load shed per device. Note that SMECO's year-round and summer programs have separate budgets and reported performance. DPL and Pepco have yet to report MW reductions, Notably, BYOD programs are more cost-efficient than the legacy direct load control program relying on utility owned switches, with BGE spending $7,196 in incentives per MW compared to $78,098 under non-BYOD (Table 9 and Figure 10).

Table 9. Metrics across utilities, BYOD residential summer.

Utilities	Active End	Incentive Spent ($)	DR Reduction (MW)	Incentive/MW ($)	kW/Device
BGE	54,230	$463,707	48.416	$7,195.84	0.89
DPL	5,755				
SMECO	9,692	$207,768	10.08		1.04
Pepco	21,624				

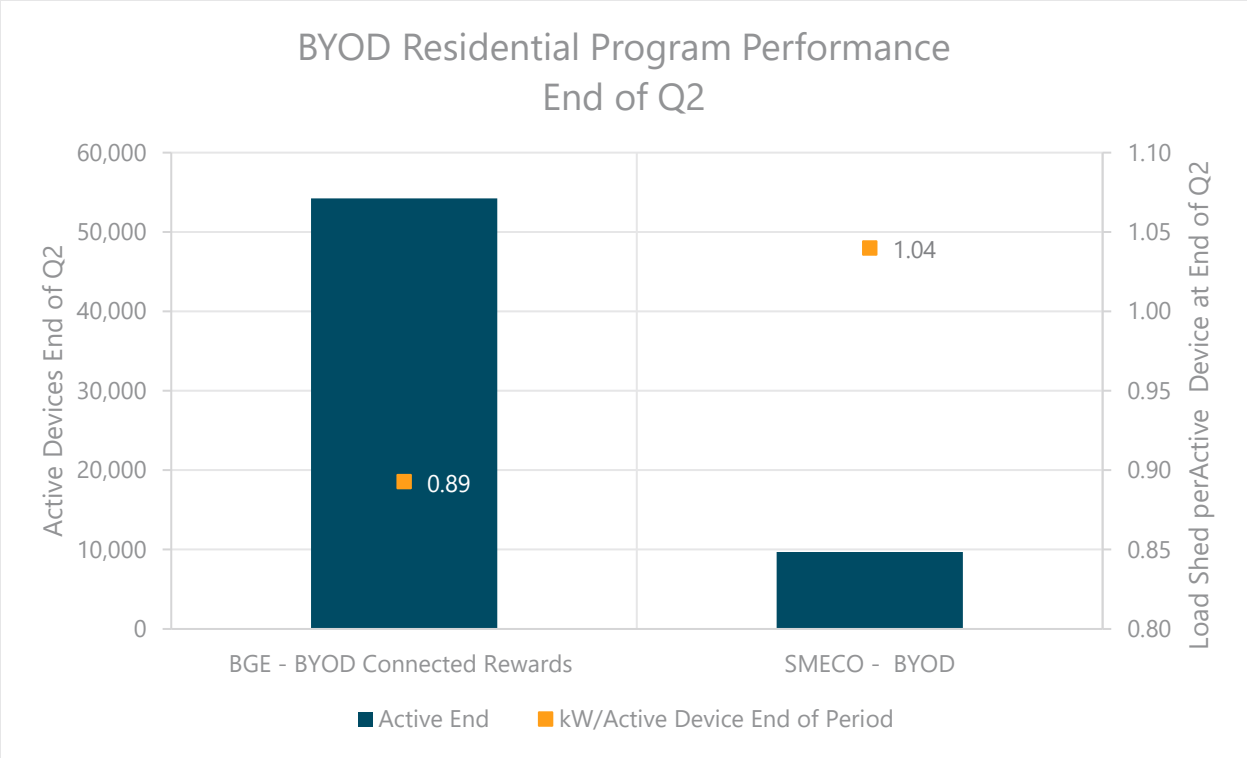


Figure 10. Comparison between BYOD summer performance at End of Q2 for, BGE and SMECO. Blue bars represent number of active devices, read against the left axis. Orange dots show kW load shed per active device, read against the right axis.

Events

Summer Residential and Small Commercial

Before the start of the demand response season (or capability period), it is standard operating procedure to test the technology and communication channels on a non-event day. This ensures that all assets are prepared to respond effectively when an actual event is called. BGE, Pepco, and DPL all conducted test events before the start of the summer season.

BGE 4-hour Connected Rewards Event saw a 34 percent opt-out rate and 47 MW load reduction (with an average performance of 0.9 kW/device).

SMECO's six shorter events had lower opt-out rates (11 percent on average) and identical load shed impact per device.

Pepco and DPL jointly dispatched residential and small commercial portfolios but opt-out data is unavailable. In addition to system wide economic events, Pepco has evolved the programs to

address local constraints. Those assets were dispatched twice (once for 5.75 hours and once for half an hour).

Utilities have begun transitioning customers from legacy direct load control (DLC) programs—which relied on utility-owned switches controlling HVAC units and communicating over cellular networks (non-BYOD), to smart thermostat-based BYOD programs. This shift is more economical for utilities and has demonstrated greater load relief, particularly in the residential sector. However, results for small commercial customers are mixed: while the opt-out rate stands at 11 percent, active devices show strong performance, averaging 2.18 kW of load reduction. These findings are still preliminary, as the current analysis only covers data through the end of June.

This transition reflects a broader shift in both technology and operational procedures. Moving forward, continued monitoring will be essential to capture insights that can inform program improvements and enhance overall demand response impact.

Year-Round Programs

SMECO ran 53 HVAC heating and 69 water heater events. HVAC heating had lower opt-out rates (6 percent) than cooling (11 percent), with similar load shed (~0.9 kW/device). Water heaters had the lowest opt-out rate (2 percent) but minimal load shed (0.1 kW/device; Table 10)

Table 1010. SMECO's year-round program metrics including opt-out rate, kW/device, events called, and seasonality, by equipment type.

SMECO Programs	Average of % Opt-Outs	Average of kW/Device	No. of Events Called between Jan and June 2025	Summer/Year-Round
HVAC Cooling*	11%	0.94	6	Summer
HVAC Heating	6%	0.89	53	Year-Round
Water Heater	2%	0.10	69	Year-Round

*Activated in the Summer – mentioned in the table as a benchmark for opt-out rates and performance.

Dispatch coincidence

The PJM regional transmission operator (RTO) is a summer peaking system, with peaks occurring in the early evenings between 5:00PM and 7:00PM. In the Winter, the peaks occur in the mornings, between 7:00 AM and 9:00 AM (Figure 11).

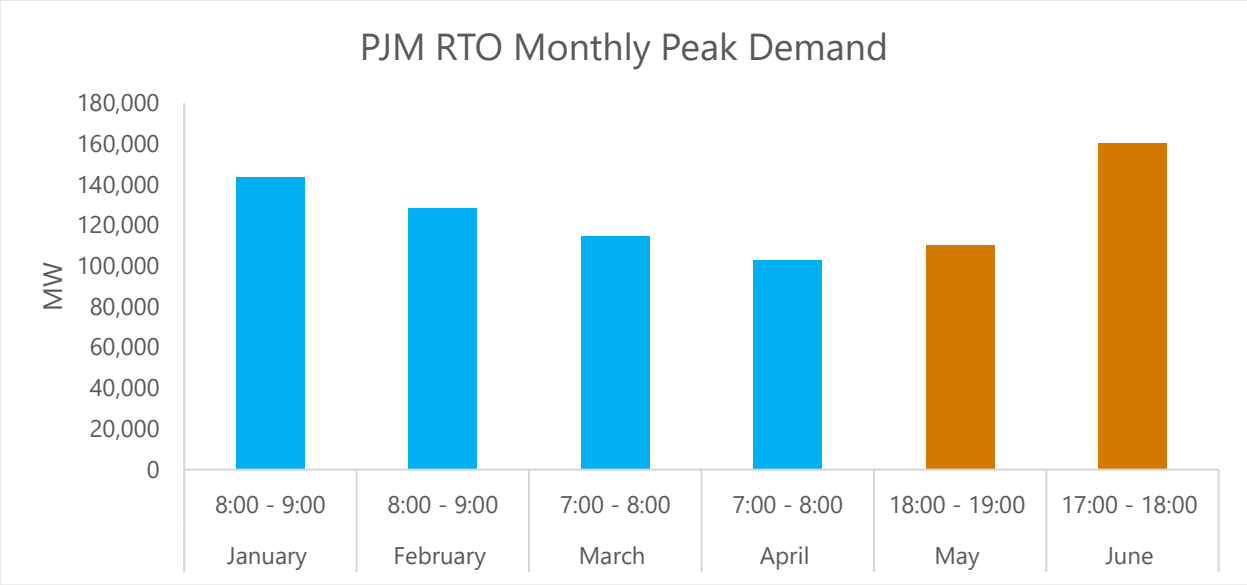


Figure 11. Timing and peak demand of the PJM RTO between January and June, 2025.

Except for SMECO's annual program, the EmPOWER programs are currently designed to reduce summer peaks. However, utilities' dispatches have not been coincidental with system or monthly utility peaks in the summer (Table 11).

Table 11 11. Lack of coincidence between utility event dispatches with the PJM system peak or each individual utility monthly peak.

Utility	Program Type	Event Date	Event Time	PJM RTO Monthly Peak	Utility Monthly Peak	Coincidence (Y/N)
Residential						
BGE	Peak Rewards	6/24/2025	14:00 – 18:30	6/23/2025 17:00 – 18:00	6/23/2025 18:00 - 19:00	No
	Con. Rewards	6/24/2025	14:00 – 18:30			No
SMECO	Residential	6/12/2025	16:00 - 17:00	6/23/2025 17:00 – 18:00	6/24/2025 18:00 – 19:00	No
	Residential	6/23/2025	15:00 - 16:30			No
	Residential	6/24/2025	15:00 - 16:00			No
	Residential	6/25/2025	14:00 - 15:00			No
	Residential	6/26/2025	14:00 - 15:00			No
	Residential	6/30/2026	14:00 - 15:00			No
Pepco	Residential	6/12/2025	no data	6/23/2025 17:00 – 18:00	6/24/2025 17:00 – 18:00	No
DPL	Residential	6/12/2025	no data	6/23/2025 17:00 – 18:00	6/24/2025 17:00 – 18:00	No
Small Commercial						
DPL	Small Commercial	6/12/2025	no data	6/23/2025 17:00 – 18:00	6/24/2025 17:00 – 18:00	No
Pepco	Small Commercial	6/22/2025	no data	6/23/2025 17:00 – 18:00	6/24/2025 17:00 – 18:00	No
	Small Commercial	6/26/2025	no data		6/24/2025 17:00 – 18:00	No

Unlike SMECO's seasonal program, where dispatched events did not align with SMECO's system peaks, the annual program demonstrated stronger alignment with SMECO's regional system peaks during the winter and shoulder months (see Table 12). This suggests that the annual program may be more effective in targeting peak demand periods outside of summer. In contrast, summer system peaks appear to be more difficult to predict, likely due to the variability and intensity of HVAC cooling loads.

Table 12. SMECO's year-round programs system peak coincidence.

Utility	Month	Technology	Nr Events	PJM System Peak	SMECO Monthly Peak	Coincidence (Y/N)
SMECO	January	HVAC Heating Water Heaters	17 11	1/22/2025 8:00-9:00	1/23/2025 7:00-8:00	Yes, with SMECO's Peak
	February	HVAC Heating Water Heaters	11 12	2/19/2025 8:00-9:00	2/19/2025 18:00-19:00	Yes, with SMECO's Peak
	March	HVAC Heating Water Heaters	19 13	3/3/2025 7:00-8:00	3/3/2025 6:00-7:00	Yes, with SMECO's Peak
	April	HVAC Heating Water Heaters	6 11	4/9/2025 7:00-8:00	4/9/2025 7:00-8:00	Yes, with SMECO's Peak
	May	Water Heaters	10	5/15/2025 18:00-19:00	5/16/2025 16:00-17:00	No
	June	Water Heaters HVAC Cooling	12 6	6/23/2025 17:00-18:00	6/24/2025 18:00-19:00	No

Utilities have missed opportunities to dispatch demand response during peaks. Increasing the alignment with both system-wide (Figure 12) and utility-specific peaks (Figure 13) would benefit all customers by helping to reduce capacity obligations and lower transmission cost allocations.

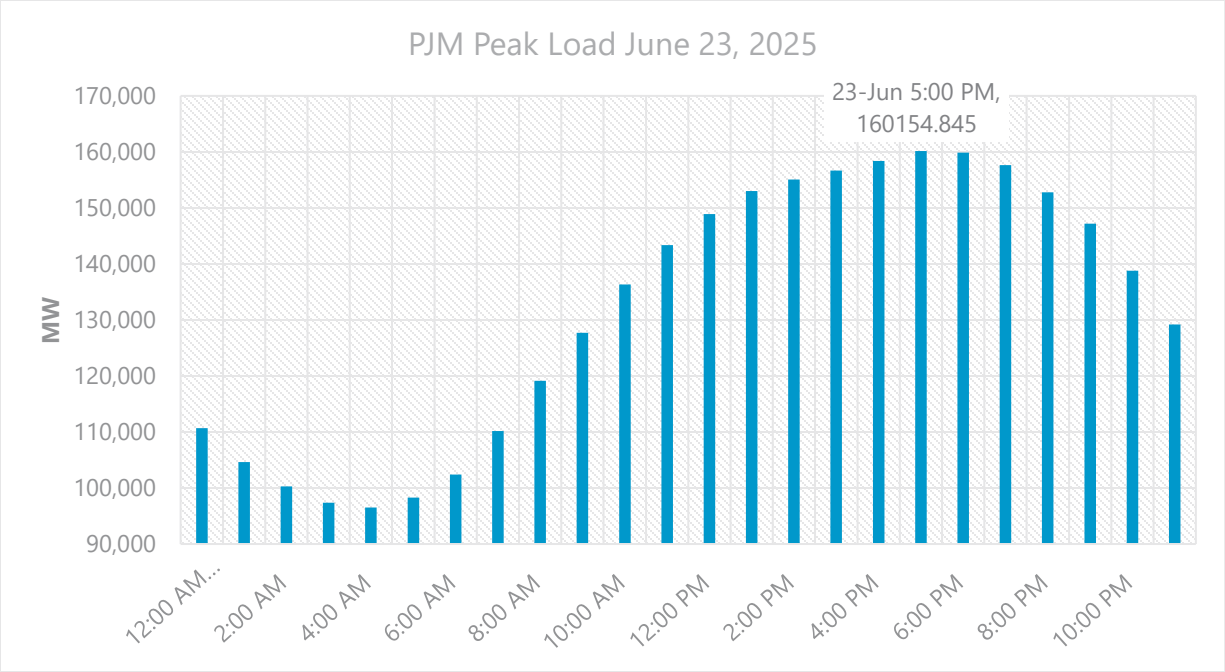


Figure 12. System peak in the PJM system, 5pm June 23, 2025.

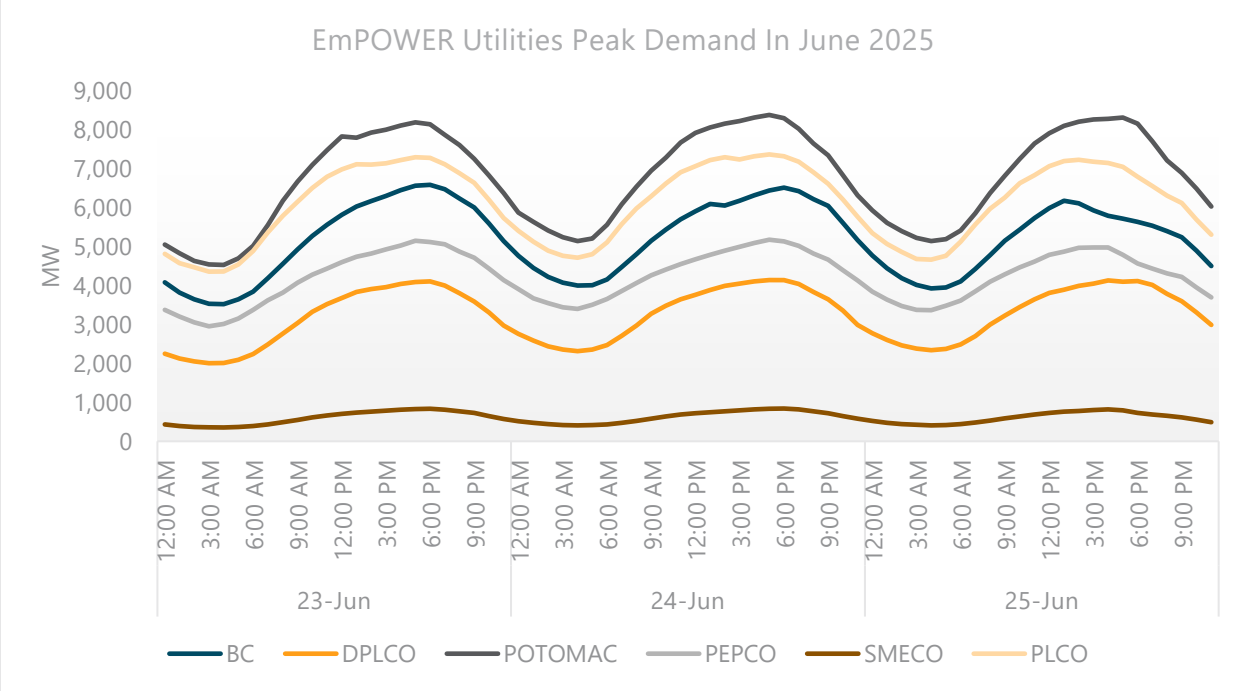


Figure 13. EmPOWER utilities' load shapes.

Coordinating the dispatch with periods of high locational marginal prices (LMPs), which often coincide with system peaks, could increase GHG reduction impacts. This is because demand

response during these times can displace marginal generators, typically natural gas peaker plants, which often set the market price and have higher emissions.

Analysis

Most program offerings are designed to provide summer peak load relief. As such, the reported results should be considered preliminary, especially for newer BYOD and year-round programs still in early deployment or enrollment phases.

Non-BYOD programs, except for small commercial offerings, continue to show lower Performance when compared to BYOD events.

While the transition away from legacy cycling strategies is a positive step toward modernizing demand response, the small commercial segment demonstrates promising performance and warrants deeper evaluation. Utilities may benefit from reassessing the design and scalability of small commercial non-BYOD programs, particularly given their higher per-device load shed and lower opt-out rates.

Recommendations

1. We commend the transition from legacy DLC to dual-communication thermostats, which enable more flexible and cost-effective program designs. These technologies allow for real-time device monitoring and customer-specific dispatch, improving operational efficiency and customer experience.
2. Utilities have rightly recognized that all customer segments should be able to participate in demand response. While more advanced programs are planned for post-2026, we encourage earlier demonstrations to allow for iterative design improvements and increased customer engagement.
3. Utilities should continue the strategy of phasing out non-BYOD residential programs, which have shown lower cost-effectiveness and performance compared to BYOD offerings.

4. Utilities should reevaluate the potential of non-BYOD programs for small commercial customers. Given their higher load shed per device and lower opt-out rates, this segment may offer untapped value and should not be phased out without further analysis.
5. To enhance the GHG reduction impact of demand flexibility, utilities should align program dispatch with system and regional peak periods, when grid emissions intensity is typically higher.
6. A formal demand response / demand management goal framework should be set for EmPOWER programs.

Utilities should consider aligning dispatch with LMP signals as a proxy for grid stress and emissions intensity, enabling more targeted and impactful load reductions.

Work Groups

Midstream

The midstream work group continues to consider strengths and weaknesses of the program design. Recent appearances by industry peers like Energy Solutions have injected valuable outside perspective and expertise into the discussions.

There is evidently disagreement among workgroup members about timeliness of reimbursement as contractors voice significant concern whereas utilities report minimal issues. OPC aims to support contractors facing undue burden caused by carrying high-dollar instant rebates on their books for many weeks or months while preserving the streamlined and scalable intent of a midstream model.

OPC continues to recommend that the Commission retain an independent, skilled, professional consultant to facilitate strategic planning to work with the Commission and EmPOWER stakeholders and state agencies. The goal should be to establish an overall roadmap or framework for heat pump market transformation. Assuming other state agencies are willing to contribute, both with their participation and funding, the roadmap would allow the Commission to develop EmPOWER programs in ways that align with the strategies and programs of agencies such as MDE, MEA, the Building Code Administration, and others.

Future Programming

The future programming work group has been convened in 2025 to provide recommendations on GHG reduction goals and demand response goals for the 2027-2029 program cycle.

Progress has been slow, but consensus is emerging on a GHG reduction goal framework. We commend input from industry experts, the independent evaluator, and other state agencies.

Even further behind schedule is the discussion on demand response goals. Recall that in December 2023, the Commission initially ordered staff to develop proposals for demand management goals using an appropriate work group. Only introductory discussions have

occurred thus far. There are many options to consider and little guidance on how to proceed. OPC intends to develop a straw proposal in anticipation of the next planning cycle goal deadline. To reiterate, demand management is critical for addressing energy costs and enabling transition toward renewables and electrification.