PUBLIC SERVICE COMMISSION OF MARYLAND

The EmPOWER Maryland Energy Efficiency Act STANDARD REPORT OF 2016

With Data for Compliance Year 2015

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

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April 2016

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Report Contents

This document constitutes the 2016 annual report of the Public Service Commission of Maryland regarding the EmPOWER Maryland Energy Efficiency Act ("EmPOWER Maryland"). This Report is submitted in compliance with §7-211 of the Public Utilities Article, *Annotated Code of Maryland* ("PUA"). PUA §7-211 requires that, on or before March 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.

The EmPOWER Maryland Act declares that it is the goal of the State to achieve a 15% reduction in per capita electricity consumption and a 15% reduction in per capita peak demand by the end of 2015, derived from a 2007 electricity consumption baseline. As mandated by the EmPOWER Maryland Act, the electric utilities are responsible for a 10% reduction in the per capita electricity consumption within their respective service territories,[1] as well as the entirety of the 15% per capita peak demand reductions targeted by the end of 2015. 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; progress pertaining to the Advance Metering Infrastructure ("AMI") initiatives; 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. For example, prior to the semi-annual hearings in May, the Commission held hearings on February 12 and 13, 2015 to consider two topics: post 2015 energy efficiency goals and future cost-effectiveness screening methodologies. As a result of these hearings, the Commission issued Order No. 87082 on July 16, 2015. The Order provided guidance regarding various cost-effectiveness assumptions, including: a revision to the calculation for demand-reduction induced price effect ("DRIPE"); the inclusion of certain non-energy benefits in the

[1] The EmPOWER Maryland Act calls for MEA to provide 5% of the 15% per capita electricity consumption reduction goal by 2015.

approved cost-effectiveness tests; and the appropriate discount rate to be used in each cost-effectiveness test. Further, the Order established the Societal Cost Test and the Total Resource Cost Test as the assessment tools for cost-effectiveness screening on a prospective basis. Order No. 87082 also established post-2015 electric energy efficiency goals designed to achieve an annual incremental gross energy savings equivalent to 2.0% of the individual utility's weather normalized gross retail sales baseline, with a ramp-up rate of 0.20% per year. Lastly, the Order directed Staff, on behalf of the work groups, to file proposals for natural gas energy efficiency goals, as well as energy efficiency goals specific to the limited income sector, no later than February 1, 2016.[2]

The Commission held a legislative-style hearing on May 11 and 12, 2015 to review the semi-annual EmPOWER reports filed by the EmPOWER Maryland Utilities[3] (hereinafter "Utilities") and the Maryland Department of Housing and Community Development ("DHCD"), with data from the third and fourth quarters of 2014. Following these hearings, on May 21, 2015, the Commission issued Order No. 86995, which addressed requests for program modifications and budget adjustments, as well as recommendations pertaining to programmatic improvements. The Order authorized several budget adjustment requests, primarily attributable to the residential and small commercial demand response programs implemented by Pepco and Delmarva.[4] Further, the Commission revised rebates to several commercial LED measures to reflect changing market conditions and changing efficiency standards. The Commission also extended BGE's Residential Natural Gas Conversion Pilot, which will be considered during the spring 2016 semi-annual hearings for purposes of determining whether to approve the program beyond the pilot stage. Finally, the Commission approved DHCD as the implementer of the Limited-Income Energy Efficiency Program ("LIEEP") and the Multifamily Energy Efficiency and Housing Affordability Program ("MEEHA") for the remainder of the 2015-2017 program cycle.

The Commission held its second legislative-style hearing on October 15 and 16, 2015 to consider the semi-annual EmPOWER reports filed by the Utilities and DHCD for the first and second quarters of 2015. On December 8, 2015, the Commission issued Order No. 87285, which addressed requests stemming from the October 2015 hearings. The majority of the October hearings and resulting Order targeted improvements to the Utilities' commercial and industrial ("C&I") EmPOWER portfolios, including budget increases of approximately $44 million for a range of C&I programs, most notably the small business and prescriptive programs administered by Pepco and Delmarva. The order also extended the time for which incentives can be paid to Combined Heat and Power ("CHP") projects and non-CHP projects after the 2015-2017 program cycle has ended to encourage the development of long lead-time projects. Lastly, as part of the Order, the Commission also established several work group directives, which Staff, the Utilities, and other stakeholders will collaborate on throughout 2016.

[2] Staff, on behalf of the various work groups, filed these proposals on February 1, 2016. *See* ML#182981, 182985. Both proposals will be reviewed at the May 2016 semi-annual hearings.

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

[4] Order No. 86995 approved $32 million of demand response program spending ($24 million for residential, and $8 million for small commercial); the funding was largely required so that Pepco and Delmarva could administer their demand response programs in compliance with the U.S. Department of Homeland Security's recommendations. *See* Order No. 86995 at 6-7.

In early February 2016, the Utilities and DHCD submitted semi-annual reports detailing programmatic performance for the latter half of 2015. According to these filings, incremental energy savings reported in 2015 surpassed the one million MWh threshold for the third straight program year, and exceeded the 2015 program forecasts by 28%. Collectively, the Utilities' continued progress during 2015 translates into 99% of the 2015 EmPOWER Maryland energy reduction goal – falling short of achieving 100% of the 2015 goal by 81,323 MWh.

Similarly, the early February 2016 filings by the Utilities indicated significant progress toward achieving the 2015 demand reduction goals specified by the EmPOWER statute. In fact, the Utilities achieved 100% of the 2015 demand reduction goal.[5] It should be noted, however, that as the utility Direct Load Control ("DLC") programs have reached saturation levels (*i.e.* the number of actual participants is approaching the number of expected program participants), a greater level of peak demand reduction savings are coming from dynamic pricing programs compared to previous years. Absent demand reductions from dynamic pricing programs, peak demand reductions fell short of the 2015 yearly forecast by 10%. However, with the addition of the combined reported peak demand reductions of 289.7 MW from DPL, Pepco, and BGE (DPL-46.9 MW, Pepco–142.8 MW, BGE-100 MW) derived from the Utilities' smart grid enabled dynamic pricing programs, the Utilities achieved 125% of the forecasted annual demand reduction target.

Therefore, having collectively achieved 99% of the EmPOWER 2015 energy reduction goal and 100% of the EmPOWER 2015 demand reduction goal, the Utilities are well-positioned to transition into the new energy efficiency goal structure established by the Commission in Order No. 87082 pursuant to PUA § 7-211.[6]

Initiative Highlights

- Program-to-date, the Utilities' EmPOWER Maryland programs have saved a total of 5,394,086 MWh and 2,117 MW (*see* Table 1 on the following page for individual utility achievements).[7] This translates into over 38.9 billion kilowatt-hours ("kWh") saved over the lifetime of the installed measures, which is equivalent to $4.39 billion in lifetime energy bill savings.

- Across all Utilities, the lifecycle cost per kWh for the EE&C programs is $0.032 per kWh[8] - significantly lower than the current cost of Standard Offer Service ("SOS"), which ranges from $0.076 to $0.093 per kWh.

[5] Without the MW reduction attributed to the dynamic pricing programs, the Utilities would not have met their 2015 EmPOWER Maryland peak demand reduction goal, and instead achieved only 86% of the goal.

[6] These estimations only include energy and demand savings from energy efficiency and conservation and demand response programs. The Commission will allow additional verified savings resulting from the Consumer Investment Fund programs to be counted towards the goals, which will bring the combined Utilities closer to, or in excess of, the 2015 EmPOWER Maryland goals.

[7] Table 1 displays energy savings at the Gross Wholesale level. Energy savings reported at the Gross Wholesale level do not include net-to-gross ratios, which are used by the Commission's independent evaluator to assess the cost effectiveness of a program.

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

- Program-to-date, the Utilities have spent over $1.78 billion on the EmPOWER Maryland programs, including approximately $1.13 billion on EE&C programs, and $568 million on DR programs.

- EmPOWER EE&C programs continue to be cost effective on a statewide basis in 2015, with a statewide Total Resource Cost ("TRC") score of 1.82 verified for program year 2014. For every dollar of reported utility or participant cost, the EmPOWER EE&C programs generate approximately $1.82 in benefits.

- Program-to-date, 20,899 limited-income customers participated in EmPOWER Maryland through the Residential Limited-Income Programs. Of the program-to-date participants, 4,010 limited-income households participated in 2015. The average savings per participant is 2,976 kWh per year. Program-to-date spending on limited-income energy efficiency programs has exceeded $90 million.

- The average monthly residential surcharge bill impacts[9] for 2015 were as follows:

	EE&C	DR	Dynamic Pricing[10]	Total
BGE	$3.06	$1.95	$0.08	$5.08
Pepco	$4.17	$1.36	$0.00	$5.53
DPL	$4.00	$1.10	$0.87	$5.97
PE	$5.64	N/A	N/A	$5.64
SMECO	$4.39	$2.34	N/A	$6.73

[9] 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.

[10] 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 2015 dynamic pricing bill impacts include trued-up costs associated with the Peak Time Rebate program offered by Pepco and BGE in the summer of 2014. The bill impact for Dynamic Pricing is expected to decrease in future years as PJM Capacity payments will be available to offset the peak time rebate bill credits.

Table 1. EE&C and Demand Response Reported Achievements

	2015 Reported Reduction*	Program-to-Date Reduction**	Percentage of 2015 Goal
BGE			
Electric Consumption (MWh)	517,216	2,638,975	73%
Demand Reduction (MW)	198	1,156	91%
Pepco			
Electric Consumption (MWh)	465,594	1,600,813	129%
Demand Reduction (MW)	265	640	95%
PE			
Electric Consumption (MWh)	76,508	529,519	128%
Demand Reduction (MW)	12	82	392%
DPL			
Electric Consumption (MWh)	117,577	382,605	267%
Demand Reduction (MW)	74	147	815%
SMECO			
Electric Consumption (MWh)	42,639	242,174	289%
Demand Reduction (MW)	13	92	67%
Total			
Electric Consumption (MWh)	1,219,533	5,394,086	99%
Demand Reduction (MW)	562	2,117	100%

*Based on preliminary energy and demand savings from semi-annual programmatic reports. These savings will be verified through an EM&V process.

** 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, beginning January 1, 2008.

*** Percentage of energy savings forecasted from individual utility plans.

EmPOWER Maryland Portfolios

For the 2015 – 2017 program cycle, the Commission directed Maryland's electric investor-owned utilities and SMECO to meet the EmPOWER Maryland goals through a diverse array of cost-effective solutions for its Maryland ratepayers, which can include EE&C, DR, distributed generation, and AMI or Smart Grid-enabled opportunities.[11] While the EmPOWER Maryland Act mandates that the Commission require each gas and electric utility to establish energy efficiency programs, the directive is limited to those programs that the Commission deems appropriate and cost effective. Furthermore, the Commission must consider the impact on rates of each ratepayer class in determining whether to approve an energy efficiency program.

[11] 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.*

Other statutory factors that the Commission must consider in determining whether an energy efficiency program is appropriate include the impact on jobs and on the environment.[12] Prior to approving the 2015 - 2017 EmPOWER Maryland plans, the Commission estimated the share of the 2015 EmPOWER Maryland energy and demand savings goals for each electric company's service territory.[13] Individual utility achievement as a percentage of the 2015 goals is recorded in Table 1 (above) using program-to-date verified savings (2009 – 2014) and the reported savings for 2015. In aggregate, the reductions achieved and reported by the Utilities represent 99% of the 2015 energy savings goal and 100% of the 2015 demand reduction goal. Beginning in 2016, the Utilities will work toward achieving the newly established post-2015 electric energy efficiency goals designed to achieve an annual incremental gross energy savings equivalent to 2.0% of the individual utility's weather normalized gross retail sales baseline, with a ramp-up rate of 0.20% per year. The Commission, the Utilities, and interested stakeholders will discuss the proposals for natural gas energy efficiency goals, as well as energy efficiency goals specific to the limited-income sector, at the next semi-annual hearing in May 2016.

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 & Verification ("EM&V") process for the EmPOWER programs, consistent with national best practices. See the "Evaluation, Measurement & Verification" section herein for further information.

EE&C Programs

As mandated by the EmPOWER Maryland Act, the Utilities are responsible for a 10% reduction in the per capita electricity consumption within their respective territories,[14] as well as the entirety of the 15% per capita peak demand reductions targeted by the end of 2015. To generate these savings, the five Utilities each developed EE&C and DR portfolios, based on a three-year planning cycle beginning with the 2009 – 2011 program cycle. On December 22, 2011, the Commission approved plans for the 2012 – 2014 program cycle in Order No. 84569; the Commission approved plans for the 2015 – 2017 program cycle on December 23, 2014 in Order No. 86785.

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"), compact fluorescent lights ("CFLs"), and appliances; heating, ventilation, and air conditioning ("HVAC") rebates; home energy audits; weatherization; and limited-income programs.[15] 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.

[12] PUA §7-211(i)(1). The Commission shall consider the: cost-effectiveness; impact on rates of each ratepayer class; impact on jobs; and impact on the environment.
[13] *Notice of EmPOWER Maryland Plan Consumption and Demand Reduction Targets* (Aug. 15, 2008).
[14] The EmPOWER Maryland Act calls for MEA to provide 5% of the 15% per capita energy consumption reduction goal by the end of 2015.
[15] Other than the volumetric surcharge collected from all ratepayers, limited-income programs are offered at no additional cost for those who qualify.

As the Utilities transition into the 2015 – 2017 EmPOWER Maryland program cycle, there are several changes to evaluation parameters, building codes, and efficiency standards that will reduce the incremental energy and demand savings for installing efficient lighting, appliances, and equipment. The following list provides some examples of these impacts, although it does not represent an exhaustive compilation of pending changes to codes and standards. Some of these baseline changes result in reduced savings potential available from historically-predominant EmPOWER Maryland programs, such as lighting-based programs.

- Increased energy efficiency standards for refrigerators and freezers were finalized on September 15, 2014, with a compliance deadline of September 15, 2015.
- Clothes washers will undergo two increases in efficiency standards over the next three years, with the first revision effective between March 7, 2015 and January 1, 2018. The second increase will take effect on January 1, 2018.
- On January 1, 2015, Maryland adopted the International Energy Conservation Code ("IECC") 2015 code requirements, with enforcement required by July 1, 2015.
- The Consortium for Energy Efficiency ("CEE") is revising the specifications for room air conditioners. The revisions are scheduled to be completed and effective in the fall of 2016.

BGE

As noted in Table 3, BGE's portfolio of programs achieved 73% and 91% of its 2015 EmPOWER Maryland energy savings and peak demand reduction goals, respectively. Although the Company fell short of achieving its 2015 statutory goals, BGE continues to achieve the greatest quantity of energy savings and demand reductions to-date. Further, BGE continues to scale up its savings and reduction achievements, realizing 104% of its forecasted 2015 annual energy consumption reduction target (or 517,216 MWh) and 158% of its forecasted 2015 annual demand reduction target, primarily attributable to the 100MW of reported demand savings achieved through its smart grid-enabled dynamic pricing program.[16]

BGE EmPOWER Programs

Residential Programs

Appliance Rebate
Appliance Recycling
Natural Gas Conversion Pilot Program
Home Performance with Energy Star
HVAC
Lighting
Multi-Family New Construction
New Homes
Quick Home Energy Check-up

Commercial Programs

Benchmarking
Building Operator Certification
Combined Heat and Power
Custom
Energy Analytics & Customer Engagement
Master-Metered Multi-Family
New Construction
Prescriptive
Retrocommissioning
Small Business Behavior Pilot
Small Business Solutions
Upstream Lighting

In realizing its forecasted 2015 energy savings target, BGE's Residential Lighting program continued to provide a majority (around 70%) of the energy savings in the Residential portfolio, which is a consistent percentage for both the cycle-to-date and program-to-date share of savings. In an attempt to diversify its residential portfolio offerings, BGE developed its Residential Natural Gas Conversion Pilot, which reported savings of 1,678 MWh for 260 participants and 469 measures.

In 2015, BGE's C&I portfolio experienced its best performance to-date. Participation increased by 197% between 2014 and 2015 (from 4,249 to 12,640 participants), along with a 34% increase in energy savings (from 127,232 MWh in 2014, to 169,856 MWh in 2015). This notable portfolio performance was largely driven by the success of the Prescriptive Program, which realized its best performance to-date across all of the metrics. The participants and energy savings reported for the Prescriptive Program were 391% and 115% above the 2015 forecasts, respectively.

[16] Demand reductions from dynamic pricing represent a snapshot for a particular time period and are dependent upon customer engagement and participation; therefore, demand reductions attributable to dynamic pricing programs may change year-to-year. Although both programs are voluntary, the dynamic pricing program is different from the PeakRewards program for which BGE pays a customer an incentive so that the utility may directly control the customer's central air conditioner during a pre-defined event. Direct load control programs represent a repeatable MW reduction potential.

Table 3. BGE Annualized Energy Savings Reported[17] Achievements

	Incremental 2015 Electric Consumption Reduction (MWh)	Percentage of 2015 Annual Target*	Program-to-Date Electric Consumption Reduction (MWh)***	Percentage of 2015 Goal
EmPOWER Maryland Targets**	495,822	104%	3,593,750	73%
BGE Portfolio of Programs	517,216		2,638,975	

*Percentage of energy savings forecasted for the year compared to actual savings.
**EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of each utility.
*** Program-to-date reported reduction includes savings contributions from Fast Track Programs, which were Lighting and Appliance Rebate programs that began before the EmPOWER Maryland Law was enacted beginning January 1, 2008.

Table 4. BGE Peak Demand Reduction Reported Achievements[18]

	Incremental 2015 Peak Demand Reduction (MW)	Percentage of 2015 Annual Target*	Program-to-Date Peak Demand Reduction (MW)***	Percentage of 2015 Goal
EmPOWER Maryland Targets**	125	158%	1,267	91%
BGE Portfolio of Programs	198		1,156	

*Percentage of demand savings forecasted for the year compared to actual savings.
**EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of each utility.
***Program-to-date reported reduction includes savings contributions from Fast Track Programs, which were Lighting and Appliance Rebate programs that began before the EmPOWER Maryland Law was enacted beginning January 1, 2008.

[17] "Reported" savings constitute unverified energy savings and demand reductions based the Utilities' quarterly programmatic reports. An independent, third-party verification of reported savings is conducted annually.
[18] The demand reduction goals and reported achievements include peak demand reductions generated by both EE&C and DR programs, as both components contribute toward achieving overall 2015 peak reduction goals.

Pepco

As noted in Table 4, Pepco's portfolio of programs achieved 129% and 95% of its EmPOWER Maryland energy savings and peak demand reduction goals, respectively. Although the Company fell short of achieving its 2015 demand reduction statutory goal, Pepco significantly scaled up its demand response portfolio efforts in 2015, achieving 322% (or 265.462 MW) of its 2015 peak demand reduction target; this success was due in large part to the 143 MW of reported demand reductions achieved through the Company's smart grid-enabled dynamic pricing program.[19] Further, Pepco realized 181% (or 465,594 MWh) of its forecasted 2015 annual energy savings target.

In realizing its forecasted 2015 energy savings target, Pepco's Residential Behavior Based Program surpassed its Residential Lighting Program for the first time in 2015 to be the largest contributing program to the Residential portfolio in terms of energy savings achieved with 35,687 MWh and 33,442 MWh reported respectively by each program. The Residential Lighting Program saw a longer ramp-up time than in previous years due to the start of the new program cycle. Together, the two programs combined to represent 83% of the savings for the Company's Residential portfolio. The Residential portfolio exceeded its 2015 measure forecast by 10%, or 396,127 measures.

Pepco EmPOWER Programs

Residential Programs

Appliance Rebate
Appliance Recycling
Behavior Based
Home Performance with Energy Star
HVAC
Lighting
Multi-Family New Construction
New Homes
Quick Home Energy Check-up

Commercial Programs

Combined Heat and Power
Custom
Master Meter and Multi-Family New Construction
Prescriptive
Retrocommissioning
Small Business
Master-Metered Multi-Family

In 2015, Pepco's C&I portfolio experienced a successful year, exceeding forecasts for both the energy savings and demand savings metrics by 193% and 158%, respectively. One of Pepco's longest-running C&I programs, the Prescriptive Program, realized the highest reported energy savings in 2015 of any year program-to-date, with 50,949 MWh of energy savings, which translated into an 176% higher achievement than the previous year. Pepco also achieved great success with a new program for the 2015 - 2017 program cycle, the Multifamily Prescriptive Program. This Program provides the same rebates available to other commercial buildings in the general Prescriptive Program, but instead focuses on the multifamily sector. This focus allows better service to this underserved population, and resulted in participation exceeding the 2015 forecasts by 192%.

[19] Demand reductions from dynamic pricing represent a snapshot for a particular time period and are dependent upon customer engagement and participation; therefore, demand reductions attributable to dynamic pricing programs may change year-to-year. Although both programs are voluntary, the dynamic pricing program is different from the PeakRewards program for which BGE pays a customer an incentive so that the utility may directly control the customer's central air conditioner during a pre-defined event. Direct load control programs represent a repeatable MW reduction potential.

Table 5. Pepco Annualized Energy Savings Reported[20] Achievements

	Incremental 2015 Electric Consumption Reduction (MWh)	Percentage of 2015 Annual Target*	Program-to-Date Electric Consumption Reduction (MWh)***	Percentage of 2015 Goal
EmPOWER Maryland Targets**	257,258	181%	1,239,108	129%
Pepco Portfolio of Programs	465,594		1,600,813	

* Percentage of energy savings forecasted for the year compared to actual savings.
**EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of each utility.
*** Program-to-date reported reduction includes savings contributions from Fast Track Programs, which was a Lighting Rebate program that began before the EmPOWER Maryland Law was enacted beginning January 1, 2008.

Table 6. Pepco Peak Demand Reduction Reported Achievements[21]

	Incremental 2015 Peak Demand Reduction (MW)	Percentage of 2015 Annual Target*	Program-to-Date Peak Demand Reduction (MW)***	Percentage of 2015 Goal
EmPOWER Maryland Targets**	83	322%	672	95%
Pepco Portfolio of Programs	265		640	

* Percentage of demand savings forecasted for the year compared to actual savings.
**EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of each utility.
*** Program-to-date reported reduction includes savings contributions from Fast Track Programs, which was a Lighting Rebate program that began before the EmPOWER Maryland Law was enacted beginning January 1, 2008.

[20] "Reported" savings constitute unverified energy savings and demand reductions based the Utilities' quarterly programmatic reports. An independent, third-party verification of reported savings is conducted annually.
[21] The demand reduction goals and reported achievements include peak demand reductions generated by both EE&C and DR programs, as both components contribute toward achieving overall 2015 peak reduction goals.

PE

As noted in Table 7, PE's portfolio of programs achieved 128% and 392% of its 2015 EmPOWER Maryland energy savings peak demand reduction goal, respectively. Further, PE achieved 112% of its forecasted 2015 annual energy consumption target (or 76,508 MWh) and 123% of its forecasted 2015 annual demand reduction target (or 12.471 MW).

PE EmPOWER Programs

Residential Programs

Appliance Rebate

Appliance Recycling

Behavior Based

Home Performance with Energy Star

HVAC

Lighting

New Homes

Quick Home Energy Check-up

Commercial Programs

Custom

Prescriptive

Small Business

In realizing its forecasted 2015 energy savings target, PE's Residential portfolio exceeded the performance of the Company's C&I portfolio in energy savings by 186% (or 28,706 MWh), and in demand savings by 171%(or 4.421 MW). The program that contributed the most savings to the Residential portfolio was the Behavior Based Program, which accounted for 48% of the reported energy savings. Combined with the Residential Lighting Program, 80% of the energy savings for the Residential portfolio were achieved by these two programs. Overall, PE's Residential portfolio exceeded 2015 forecasts for both energy savings and demand savings by 2% and by 20%, respectively.

In 2015, PE's C&I portfolio experienced a slight decrease in performance compared to prior years. There was a slower start than expected to the Small Business and Custom Programs, resulting in a 66% decrease from the 2014 reported data. Nonetheless, PE's C&I portfolio exceeded its 2015 forecasts for both energy savings and demand savings by 43% and by 33%, respectively. PE anticipates greater participation and savings from the C&I sector in 2016 now that all of the programs are running and have healthy pipelines of projects for the future.

Table 7. PE Annualized Energy Savings Reported[22] Achievements

	Incremental 2015 Electric Consumption Reduction (MWh)	Percentage of 2015 Annual Target*	Program-to-Date Electric Consumption Reduction (MWh)	Percentage of 2015 Goal
EmPOWER Maryland Targets**	68,246	112%	415,228	128%
PE Portfolio of Programs	76,508		529,519	

* Percentage of energy savings forecasted for the year compared to actual savings.
**EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of each utility.

Table 8. PE Peak Demand Reduction Reported Achievements[23]

	Incremental 2015 Peak Demand Reduction (MW)	Percentage of 2015 Annual Target*	Program-to-Date Peak Demand Reduction (MW)	Percentage of 2015 Goal
EmPOWER Maryland Targets**	10	123%	21	392%
PE Portfolio of Programs	12		82	

* Percentage of demand savings forecasted for the year compared to actual savings.
**EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of each utility.

[22] "Reported" savings constitute unverified energy savings and demand reductions based the Utilities' quarterly programmatic reports. An independent, third-party verification of reported savings is conducted annually.
[23] PE is the only utility that does not operate a separate demand response program. Achievement toward PE's demand reduction goal is derived from the Company's EE&C portfolio, Fast Track programs, and non-EmPOWER funded additional programs.

DPL

As noted in Table 9, DPL's portfolio of programs achieved 267% and 815% of its 2015 EmPOWER Maryland energy savings and demand reduction goals, respectively. Further, DPL continues to scale up its energy efficiency programs, realizing 174% of its forecasted 2015 annual energy consumption reduction target (or 117,577 MWh) and 355% of its forecasted 2015 annual demand reduction target (or 73.576 MW), due in large part to the 46.9 MW of reported demand reductions derived from its smart grid-enable dynamic pricing program.[24]

DPL EmPOWER Programs

Residential Programs

Appliance Rebate
Appliance Recycling
Behavior Based
Home Performance with Energy Star
HVAC
Lighting
New Homes
Quick Home Energy Check-up

Commercial Programs

Combined Heat and Power
Custom
Master Meter and Multi-Family
New Construction
Prescriptive
Retrocommissioning
Small Business

In realizing its forecasted 2015 energy savings target, on the residential side, DPL's Lighting Program continued to be the largest contributor in energy savings to the portfolio with 8,612 MWh of energy savings; the Company's Behavior Based Program followed closely with 8,525 MWh in energy savings. Together, the two programs accounted for 78% of the energy savings reported in DPL's Residential portfolio in 2015.

In 2015, DPL's C&I portfolio continued to outperform the Residential portfolio, with 54% more energy savings and 60% more demand savings than reported by DPL's Residential portfolio in 2015. The Company's C&I portfolio also exceeded all of the year's forecasts for every metric. Specifically, the Small Business Program remains a strong performer for DPL, accounting for 79% of the participants and 80% of the demand savings reported by DPL's C&I portfolio. The Company's C&I New Construction Program also fared well in 2015, experiencing its best performance since the Program began with 1,183 MWh in energy savings and 0.293 MW in demand savings.

[24] Demand reductions from dynamic pricing represent a snapshot for a particular time period and are dependent upon customer engagement and participation; therefore, demand reductions attributable to dynamic pricing programs may change year-to-year. Although both programs are voluntary, the dynamic pricing program is different from the PeakRewards program for which BGE pays a customer an incentive so that the utility may directly control the customer's central air conditioner during a pre-defined event. Direct load control programs represent a repeatable MW reduction potential.

Table 9. DPL Annualized Energy Savings Reported[25] Achievements

	Incremental 2015 Electric Consumption Reduction (MWh)	Percentage of 2015 Annual Target*	Program-to-Date Electric Consumption Reduction (MWh)***	Percentage of 2015 Goal
EmPOWER Maryland Targets**	67,617	174%	143,453	267%
DPL Portfolio of Programs	117,577		382,605	

* Percentage of energy savings forecasted for the year compared to actual savings.
**EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of each utility.
*** Program-to-date reported reduction includes savings contributions from Fast Track Programs, which was a Lighting Rebate program that began before the EmPOWER Maryland Law was enacted beginning January 1, 2008.

Table 10. DPL Peak Demand Reduction Reported Achievements[26]

	Incremental 2015 Peak Demand Reduction (MW)	Percentage of 2015 Annual Target*	Program-to-Date Peak Demand Reduction (MW)***	Percentage of 2015 Goal
EmPOWER Maryland Targets**	21	355%	18	815%
DPL Portfolio of Programs	74		147	

* Percentage of demand savings forecasted for the year compared to actual savings.
**EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of each utility.
*** Program-to-date reported reduction includes savings contributions from Fast Track Programs, which was a Lighting Rebate program that began before the EmPOWER Maryland Law was enacted beginning January 1, 2008.

[25] "Reported" savings constitute unverified energy savings and demand reductions based the Utilities' quarterly programmatic reports. An independent, third-party verification of reported savings is conducted annually.
[26] The demand reduction goals and reported achievements include peak demand reductions generated by both EE&C and DR programs, as both components contribute toward achieving overall 2015 peak reduction goals.

SMECO

As noted in Table 11, SMECO's portfolio of programs achieved 289% and 67% of its 2015 EmPOWER Maryland energy savings and peak demand reduction goals, respectively. While the Cooperative fell short of its 2015 demand reduction statutory goal, SMECO is demonstrating an upward trend in achievement for their demand response portfolio, as evidenced by the Cooperative's achievement of 109% or 12.568 MW) of its forecasted 2015 annual demand reduction target. However, the reverse is true with respect to SMECO's realization of its energy savings target, since the Cooperative over-achieved its 2015 energy savings statutory goal, but realized only 67% (or 42,639 MWh) of its forecasted 2015 annual energy savings target.

SMECO EmPOWER Programs

Residential Programs

Appliance Rebate

Appliance Recycling

Behavior Based

Home Performance with Energy Star

HVAC

Lighting

New Homes

Quick Home Energy Check-up

Assisted Home Performance with Energy Star

Commercial Programs

Custom

Prescriptive

Small Business

Master-Metered Multi-Family

Upstream Lighting

With respect to its 2015 Residential portfolio, SMECO's Behavior Based Program was the largest contributor, achieving 51% (or 13,328 MWh) of the year's energy savings for the Residential portfolio, which translated into 40% of the year's energy savings across the Cooperative's entire portfolio. The Cooperative's Behavior Based program also achieved 60% (or 3.059 MW) of the demand savings reported for the 2015 Residential portfolio and 28% of the demand savings reported for the total EmPOWER portfolio. Other residential programs that posted favorable results in 2015 included SMECO's Quick Home Energy Check-up and Residential New Construction Lighting programs, both of which exceeded the 2015 forecasts for energy savings.

For the Cooperative's C&I portfolio, the Small Business and Custom Programs both experienced their best performances to-date. The Small Business Program reported 1,986 MWh of energy savings and 0.469 MW of demand savings, or 57% and 20% more than in 2014, respectively. Similarly, SMECO's Custom Program achieved 1,675 MWh and 0.573 MW in energy savings and demand savings in 2015, or 1,495% and 100% more than in 2014, respectively.

Table 11. SMECO Annualized Energy Savings Reported[27] Achievements

	Incremental 2015 Electric Consumption Reduction (MWh)	Percentage of 2015 Annual Target*	Program-to-Date Electric Consumption Reduction (MWh)	Percentage of 2015 Goal
EmPOWER Maryland Targets**	63,493	67%	83,870	289%
SMECO Portfolio of Programs	42,639		242,174	

* Percentage of energy savings forecasted for the year compared to actual savings.
**EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of each utility.

Table 12. SMECO Peak Demand Reduction Reported Achievements[28]

	Incremental 2015 Peak Demand Reduction (MW)	Percentage of 2015 Annual Target*	Program-to-Date Peak Demand Reduction (MW)	Percentage of 2015 Goal
EmPOWER Maryland Targets**	11	109%	139	67%
SMECO Portfolio of Programs	13		92	

* Percentage of demand savings forecasted for the year compared to actual savings.
**EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of each utility.

[27] "Reported" savings constitute unverified energy savings and demand reductions based the Utilities' quarterly programmatic reports. An independent, third-party verification of reported savings is conducted annually.
[28] The demand reduction goals and reported achievements include peak demand reductions generated by both EE&C and DR programs, as both components contribute toward achieving overall 2015 peak reduction goals.

Limited-Income Programs

On December 22, 2011, in Order No. 84569, the Commission 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. Further, in Order No. 87082 the Commission directed Staff, on behalf of the Limited-Income Work Group, to submit post-2015 energy savings goals specific to the limited-income sector no later than February 1, 2016.

In 2015, DHCD weatherized approximately 4,010 limited income homes at a total cost of $13.8 million. Total energy savings per job averaged 1,496 MWh. Both the number of participating households, as well as the total savings per job, decreased in 2015 compared to data reported in 2014.[29]

Demand Response

The EmPOWER Maryland Act requires the Utilities to implement cost-effective demand response programs designed to achieve a reduction in per capita peak energy demand (measured in kilowatts ("kW")) of 5% by 2011, 10% by 2013, and 15% by 2015. Customers who have actively 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. The Commission approved four residential demand response programs in late 2007 and early 2008,[30] all of which were operational by the end of 2009.[31]

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 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,

[29] DHCD has proposed an alternate funding mechanism to supplement its limited-income energy efficiency programs in the PE and Pepco service territories for the remainder of the 2015 - 2017 program cycle. This matter is pending before the Commission and will be discussed at the May 2016 semi-annual hearing.
[30] *See* Commission Letter Order (Nov. 30, 2007).
[31] 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.

customers can select one of three cycling choices (50%, 75%, or 100%).[32] 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 13 summarizes the incentives offered by the Utilities to the program participants.

Table 13. Utilities' Incentive Levels for DLC Program Participants

Utility	50% Cycling		75% Cycling		100% Cycling		Bill Credit Month
	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 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 14 summarizes the installation progress of these devices for each of the Utilities' direct load control ("DLC") program in 2015 and program-to-date through December 31, 2015. The 2015 device installations accounted for approximately 1% to 6% of the Utilities' program-to-date totals, with the most installation progress occurring by Pepco in 2015, followed closely by DPL.

Table 14. Utilities' Residential Direct Load Program Device Installation

Utility	2015	Program-to-Date
BGE	5,191	358,102
DPL	2,651	43,568
Pepco	14,447	229,812
SMECO	1,683	45,855
Total	**23,972**	**677,337**

For the 2015 – 2017 program cycle, in an effort to increase program participation, the Commission granted SMECO's request to alter its DLC program design by eliminating the three degree temperature offset and offering instead a 50% and 75% cycling level option with corresponding $50 and $75 participant summer bill credits. Additionally, the Commission

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

allowed all of the Utilities to offer two-way or AMI-compatible thermostats to determine whether these technologies facilitate greater participation and demand savings.

Table 15 summarizes the demand reductions achieved by the Utilities' DLC programs for 2015 and program-to-date. The total peak demand reduction reported in 2015 was 40.634 MW, or approximately 90% of the forecast, reinforcing the concern regarding market saturation. Program-to-date, the four Utilities have achieved 738.053 MW of demand reduction through the DLC programs.

Table 15. DLC Program Coincident Peak Demand Reduction (MW)

Utility	2015 Peak Demand Target	2015 Reported	Percent of 2015 Target	Program-to-Date Reported
BGE	(2.207)[33]	0.349	116%	428.556
DPL	8.760	4.959	57%	38.967
Pepco	37.919	31.342	83%	215.337
SMECO	0.490	3.984	713%	55.192
Total	**44.962**	**40.634**	**90%**	**738.053**

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 16 summarizes the reported demand reductions from the dynamic pricing programs for 2013, 2014, and 2015, as well as forecasted demand reductions for 2016 and 2017 derived from the revised ES Tables filed on February 13, 2015. 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 16. Dynamic Pricing Demand Reduction (MW)

Utility	Reported			Forecast	
	2013	2014	2015	2016	2017
BGE	0	209	100	272	284
DPL	0	0	143	174	175
Pepco	309	125	47	51	51
Total	**309**	**334**	**290**	**497**	**510**

[33] BGE initially projected that, due to customer attrition, its 2015 peak demand target would decrease by -2.207 MW; however, the Company exceeded its forecasts and achieved an incremental addition of 0.349 MW to its available DLC capacity.

PJM RPM Capacity Market

In 2015, the Utilities' DLC programs resulted in a combined 687 MW bid into the PJM Reliability Pricing Model ("RPM") Base Residual Auction ("BRA") for Delivery Year ("DY") 2018-2019, a 3% decrease from the 2014 PJM bid of 536 MW for DY 2017-2018. To-date, these programs have accounted for 6,059 MW of the total capacity bid into the PJM capacity market, which has resulted in a total of $315 million in capacity payments PJM has or will make to the Utilities, thereby offsetting the total cost of the DLC programs, which totaled over $568 million through the end of 2015. Table 17 summarizes the capacity bid into the PJM capacity market from the DLC programs by delivery year, as well as the resulting payments the Utilities receive from PJM, which are then used to offset the DLC program cost to ratepayers.

Table 17. 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
Total	**6,059**	**$315.0**

The Utilities also bid capacity reductions from their EE&C programs and AMI-enabled dynamic pricing programs. Similar to the DLC programs, the 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. Tables 18 and 19 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.

Table 18. 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
Total	**1,270**	**$65.8**

Table 19. 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
Total	**1,919**	**$82.5**

Table 20 illustrates the amount of capacity cleared in the May 2014 and August 2015 BRA by the EmPOWER Utilities for the delivery years of 2017/2018 and 2018/2019, respectively. 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 2018/2019 DY auction is 94 MW less than the amount of capacity cleared in 2017/2018 DY, primarily due to the reduction of the capacity bids across all three capacity types. PJM noted that there were several changes to the RPM design, such as tariff reforms to PJM's Capacity Performance Resources and revisions to the Variable Resource Requirement curve shape and Gross Cost of New Entry values, since the previous BRA.[34] The changes to the auction design led to an 8% drop in the quantity of cleared bids in the 2018/2019 BRA as compared to the 2017/2018 BRA.

[34] 2018/2019 RPM Base Residual Auction Results, PJM (August 28, 2015), http://www.pjm.com/~/media/markets-ops/rpm/rpm-auction-info/2018-2019-base-residual-auction-report.ashx

Table 20. Maryland Utilities' PJM BRA Results and Expected Revenue for Delivery Years 2017/2018 and 2018/2019

DY 2017/2018					DY 2018/2019				
Cleared Bids (MW)				Expected Revenue	Cleared Bids (MW)				Expected Revenue
DR	DP	EE&C	Total	($Million)	DR	DP	EE&C	Total	($Million)
536	387	243	1,166	$51.2	522	378	172	1,072	$31.5

EmPower Maryland Funding Levels

EE&C Program Funding

On December 23, 2014, in Order No. 86785, the Commission approved the 2015 – 2017 program cycle budgets based on the EmPOWER Maryland Utilities' proposals.[35] Table 21 breaks down the 2015 Commission-approved budgets for each of the Utilities, while Table 22 illustrates the actual 2015 expenditures by the Utilities with respect to their EmPOWER Maryland EE&C programs.

Table 21. Forecasted 2015 EE&C Budgets

Utility	Residential	C&I	DHCD Limited-Income Program	Total
BGE	$49,177,788	$53,092,075	$8,381,731	$110,651,593
DPL	$6,626,439	$15,968,926	$0	$22,595,366
PE	$13,251,238	$5,739,775	$2,649,954	$21,640,967
Pepco	$24,561,249	$49,461,607	$0	$74,022,857
SMECO	$9,892,172	$5,713,990	$0	$15,606,162
Total	**$103,508,886**	**$129,976,373**	**$11,031,685**	**$244,516,945**

Table 22. Reported 2015 EE&C Spending

Utility	Residential	C&I	DHCD Limited-Income Program	Total
BGE	$45,364,228	$58,428,390	$8,620,629	$112,413,247
DPL	$7,668,165	$22,971,853	$2,623,504	$33,263,522
PE	$11,838,759	$5,574,042	$1,459,845	$18,872,645
Pepco	$24,578,696	$72,495,012	$2,523,810	$99,597,518
SMECO	$8,160,755	$3,526,349	$922,521	$12,609,625
Total	**$97,610,603**	**$162,995,646**	**$16,150,309**	**$276,756,557**

Table 23 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.[36]

[35] During the course of the 2015 – 2017 program cycle, the Utilities may request and receive adjustments to the budgets of certain programs, which has resulted in 2015 budgets that differ in some respects from the proposals filed by the Utilities in September 2014.

[36] *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.

Table 23. 2015 EE&C Monthly Surcharges (per kWh) and Revenue Requirements

Utility	Residential	Small C&I	Large C&I	Revenue Requirement
BGE	$0.00306	$0.00515	$0.00225	$85,373,146
DPL	$0.00400	$0.00777	$0.00777	$23,537,729
PE	$0.00564	$0.00209	$0.00217	$25,139,143
Pepco	$0.00417	$0.00538	$0.00538	$70,759,014
SMECO	$0.00439	$0.00213	$0.00213	$12,856,401

Demand Response Program Funding

The December 23, 2014 Commission Order similarly approved three-year budgets for the demand response programs operated by BGE, DPL, Pepco, and SMECO. Table 24 details the EmPOWER Maryland demand response surcharges and revenue requirements for each of the Utilities operating an approved DR program.[37]

Table 24. 2015 Demand Response Monthly Surcharges (per kWh) and Revenue Requirements

Utility	Residential	C&I	Revenue Requirement
BGE	$0.00195	N/A	$25,655,043
DPL	$0.00110	$0.00000	$2,266,652
Pepco	$0.00136	$0.00000	$7,956,455
SMECO	$0.00234	$0.00234	$8,499,753

Table 25 details the respective forecasted and reported budgets for each of the EmPOWER Utilities operating an approved DR program during 2015. All of the Utilities' programs were under budget for the 2015 program year.

[37] PE did not operate a separate DR program during 2014 and therefore did not file for a surcharge recovery of DR program costs.

Table 25. 2015 Demand Response Forecasted and Reported Budgets

Utility	Forecasted Budget	Reported Costs	Variance
BGE	$37,170,713	$36,967,595	($203,118)
DPL	$9,290,264	$5,596,417	($3,693,846)
Pepco	$32,323,037	$22,923,135	($9,399,902)
SMECO	$8,735,113	$8,567,613	($167,500)
Total	$87,519,127	$74,054,760	($13,464,366)

Evaluation, Measurement & Verification

Determining and validating electricity savings and related impacts is a critical component of EE&C and DR programs. The process of evaluation, measurement, and verification ("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.[38] 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 to complete following the receipt of program data from the prior calendar year, this report illuminates the results of the Utilities' 2014 program year reported savings.

Overall EM&V Findings of the 2014 EmPOWER EE&C Program

Energy and Peak Demand Savings

In 2014, Navigant's evaluation of the first-year savings[39] was 852,494 MWh and 155.116 MW, which was 87% and 90% of the Utilities' reported energy and demand savings for that year. Navigant noted that, overall, the gross realized savings ratios ("GRSRs") of the Utilities' programs were impacted by the Residential Lighting metering study. This study lowered the

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

hours-of-use estimates for residential lighting measures. Adjustments were made to the demand GRSR due to the coincidence factor estimates for Small Business and Prescriptive lighting measures.[40]

For the 2014 program year, Navigant estimated an effective Net-to-Gross ("NTG") of 0.71 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-ridership levels and reducing reported gross savings by that amount.[41] Following application of the calculated NTG ratios, the net savings for program year 2015 were 604,487 MWh and 97.754 MW.

As the EmPOWER Maryland Independent Evaluator, Itron, Inc. ("Itron") supports the Commission's oversight of the statewide evaluation of the EmPOWER EE&C programs conducted by Navigant. Itron's verification analysis confirmed 99.6% of the evaluated energy and demand savings estimates. Except for the Residential HVAC and C&I Custom programs, verified savings are equal to the evaluated savings for all of the EmPOWER programs in program year 2014. 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 net-to-gross 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 utilities' reported savings estimates for 2015 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 26 presents the 2014 total resource cost ("TRC") test cost-effectiveness results by sector for each of the Utilities.[42] 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, TRC 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 portfolios were cost effective in 2014, with overall TRC scores of 1.76 and 1.86, respectively.

[40] EmPOWER Maryland Evaluation Report Calendar Year 2014 (Sept. 2015) at 6.
[41] A "free rider" is a customer who would have installed an energy efficiency measure absent the utility-provided EmPOWER incentive.
[42] The 2015 program year cost-effectiveness results are expected in April 2016.

Table 26. 2014 Portfolio TRC Results

	Residential	Commercial	Portfolio
BGE	**1.79**	**2.01**	**1.90**
Pepco	**2.06**	**2.01**	**2.03**
PE	**0.80**	**1.17**	**0.95**
DPL	**2.44**	**1.50**	**1.66**
SMECO	**1.50**	**2.49**	**1.76**
Statewide	**1.76**	**1.86**	**1.82**

At the statewide level, the 2014 EmPOWER portfolio is expected to generate approximately $1.82 in utility and participant benefits for each dollar of utility and participant cost. For a total investment of $374 million,[43] the State's Utilities, participants, and ratepayers will realize approximately $681 million[44] 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 $307 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 TRC 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 TRC 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, with the exception of PE, have developed cost-effective portfolios that pass the TRC test - most by a comfortable margin. In 2014, PE's total portfolio did not pass the TRC test on a retrospective basis because of its Residential sub-portfolio results. These results are largely attributable to the fact that PE does not include any price mitigation or transmission and distribution ("T&D") benefits in its avoided cost estimates. The decision by PE to assume a zero estimate for price mitigation or T&D benefits for its EmPOWER programs is a primary driver of its sector-level TRC results.

[43] The $374 million total investment is the present value of both utility and participant costs.
[44] The $681million in financial benefits is the present value of both utility and participant benefits.

Advanced Metering Infrastructure Programs

Advanced metering infrastructure ("AMI") or "smart grid" technology refers to an integrated system of smart meters, communication networks, and data management systems that enable two-way communication between utilities and the meters located on customer premises. Because smart grid technology facilitates real-time monitoring of energy usage, which in turn enables new and innovative programs such as dynamic pricing, AMI is included in this report as it is generally considered to be an initiative that can reduce peak demand and energy consumption beyond those reductions achieved through "traditional" EE&C and DR programs.

Maryland Utilities Smart Grid Activity

The Commission authorized the deployment of smart meters for BGE (Case No. 9208) in 2010; Pepco (Case No. 9207) in 2010; DPL (Case No. 9207) in 2012; and SMECO (Case No. 9294) in 2013. As of December 31, 2015, approximately 2.6 million electric and gas meters have been installed across the State. BGE has installed over 1.8 million electric meters and gas modules, or approximately 86% of the Company's total planned installations. Pepco has installed 560,851 meters, exceeding the Company's total planned installations by 2%. DPL has installed 211,115 meters, or approximately 96% of its total planned installations. While the Cooperative previously completed installation of a limited number of smart meters as part of a pilot, SMECO is continuing to work on starting the full-scale deployment of smart meters in its territory.

While authorizing full-scale deployment of smart meters in four service territories, the Commission concluded that the public interest required an option for customers to decline the installation of a smart meter, so long as the ratepayers that exercise the option are required to bear appropriate costs.[45] On February 26, 2014, the Commission issued Order No. 86200, in which it extended the opt-out choice to residential and small commercial customers and allocated to these customers the appropriate costs associated with the opt-out decision. Consistent with the traditional ratemaking principles of cost causation, the Commission established a two-part fee structure designed to allocate the fixed and ongoing costs directly attributable to the opt-out customer.

On November 5, 2015, the Commission heard the issue of whether an interim adjustment to the $11.00 recurring monthly fee for opt-out customers of BGE was appropriate. In Order No. 87264, the Commission ordered the monthly opt-out fee be reduced to $5.50. The Commission further mandated in Order No. 87301 that BGE waive and remove all opt-out fees imposed following the transition of a customer into the opt-out program should that customer schedule an installation of a smart meter with BGE within five billing cycles from the date on which the opt-out charges are first assessed on a customer's monthly bill.

[45] Order No. 85294 (Jan. 7, 2013) at 2.

Utility	Up-Front Fee (Payable in 3 monthly installments)	Ongoing, Monthly Fee
BGE	$ 75.00	$ 5.50
Pepco	$ 75.00	$ 14.00
DPL	$ 75.00	$ 17.00
SMECO	$ 75.00	$ 17.00

While many parties were supportive of the Commission's decision to allow an opt out, several stakeholders such as MEA noted that allowing even one customer to opt out causes an erosion of the benefits derived from smart grid technology. In particular, MEA expressed concern regarding the inability of opt-out customers to take advantage of opportunities such as the Utilities' dynamic pricing programs.[46] For this reason, future iterations of this report will monitor the opt-out numbers in each service territory as the data will impact the magnitude of savings achievable by the dynamic pricing programs and any future smart grid-enabled program.

2015 per Capita Electricity Consumption and Peak Demand

Tables 27 and 28 present the per capita electricity consumption and the per capita peak demand for all of the Maryland utilities in 2007, which serves as the baseline upon which the EmPOWER Maryland per capita reduction goals are based. Additionally, the tables include the EmPOWER Maryland goals of a 10% per capita reduction in electricity use and a 15% per capita reduction of peak demand by the end of 2015. The final column in each table calculates the amount of electricity use reduction and peak demand reduction necessary to achieve the applicable 2015 per capita reduction targets. These numbers are based on electricity use and demand forecasts from the 2011 PJM load forecast and population projections based on the 2010 census population data.

[46] ML#148814: *Comments Regarding the Companies' Proposals for an Opt-out Option for Advanced Meters* (July 31, 2013) at 10.

Table 27. Ten Percent Reduction per Capita Energy Consumption

EmPower Maryland - 10 Percent Reduction in Maryland Energy Sales 2015										
2007 Utility Company Data Request Information										
Maryland Utility	**Energy Use MWh (1)**	**2007 Loss Factors (2)**	**Energy Sales Gross-Up by Loss Factor**	**2007 Estimated Population (3)**	**2015 Estimated Population (3)**	**2007 per Capita Energy Use MWh**	**10 Percent Reduction per Capita Energy Use MWh**	**Energy Use Goal 2015 MWh**	**PJM Derived Energy Use Forecast 2015 MWh (4)**	**Difference Between Goal and PJM Derived Forecast MWh**
BGE	33,112,453	5.69%	35,109,765	2,618,715	2,778,350	13.41	12.07	**33,525,028**	**37,118,778**	**3,593,750**
Pepco	15,651,105	5.25%	16,518,897	1,772,292	1,894,550	9.32	8.39	**15,892,578**	**17,131,686**	**1,239,108**
PE	7,045,209	9.63%	7,795,557	422,227	464,516	18.46	16.62	**7,718,695**	**8,133,924**	**415,228**
Delmarva	4,410,698	5.83%	4,683,582	341,860	366,380	13.70	12.33	**4,517,572**	**4,661,025**	**143,453**
SMECO	3,464,094	5.99%	3,684,887	328,537	371,750	11.22	10.09	**3,752,609**	**3,836,480**	**83,870**
Choptank	957,285	7.11%	1,030,556	75,221	87,652	13.70	12.33	**1,080,769**	**1,099,423**	**18,654**
Hagerstown	355,623	3.56%	368,769	39,544	42,477	9.33	8.39	**356,509**	**393,169**	**36,660**
Easton	274,392	5.18%	289,373	14,289	16,640	20.25	18.23	**303,288**	**300,271**	**-3,018**
Thurmont	86,870	4.92%	91,364	6,057	6,823	15.08	13.58	**92,632**	**95,784**	**3,152**
Berlin	40,260	7.94%	43,732	3,957	4,742	11.05	9.95	**47,164**	**47,574**	**411**
Williamsport	20,083	7.79%	21,780	2,282	2,291	9.54	8.59	**19,680**	**21,475**	**1,796**
Somerset	7,343	5.67%	7,784	1,844	1,893	4.22	3.80	**7,192**	**8,868**	**1,677**
A&N Coop	3,343	6.43%	3,572	386	386	9.25	8.33	**3,215**	**3,785**	**570**
								67,316,932	**72,852,242**	**5,535,310**

(1) Energy Use is 2007 total usage, not weather normalized, Choptank, Somerset and A&N have not provided responses to DR No. 3. Values are from DR No. 2.
(2) Loss Factors are from data request for preparation of the Unaccounted for Electricity Report.
(3) Based on the U.S. Census Bureau's population estimates for July 1, 2007 for state (revised December 2010, released March, 2011).
2015 Populations projections are from the Maryland Department of Planning - Population Forecast - revised November 2010
(4) PJM forecast is from the January 2011 load and energy forecast and is for the entire BGE, DPL, PE, and Pepco Zones.
Staff applied these zonal growth rates to the appropriate utilities 2007 weather normal peak demand and weather normal energy sales to produce the utility 2015 forecast for peak demand and energy sales. For example, because Hagerstown is a part of the PE Zone, Staff applied the PJM growth rate for peak demand and energy sales to the 2010 weather normal peak demand and energy sales provided by Hagerstown in response to DR No. 6.

Table 28. Fifteen Percent Reduction per Capita Peak Demand

EmPower Maryland - 15 Percent Reduction in Maryland Peak Demand 2015								
2007 Utility Company Data Request Information								
Maryland Utility	2007 Peak Demand Weather Normalized (1)	2007 Estimated Population (2)	2015 Estimated Population (2)	2007 per Capita Peak Demand MW	15 Percent Reduction per Capita Peak Demand MW	Peak Demand Goal 2015 MW	PJM Derived Peak Demand Forecast 2015 MW (3)	Difference Between Goal and PJM Derived Forecast MW
BGE	7,260.000	2,618,715	2,778,350	0.0028	0.0024	**6,547**	**7,814**	**1,267**
Pepco	3,471.000	1,772,292	1,894,550	0.0020	0.0017	**3,154**	**3,826**	**672**
PE	1,418.000	422,227	464,516	0.0034	0.0029	**1,326**	**1,347**	**21**
Delmarva	1,068.000	337,934	369,608	0.0032	0.0027	**993**	**1,011**	**18**
SMECO	748.700	328,537	371,750	0.0023	0.0019	**720**	**859**	**139**
Choptank	250.134	79,147	84,424	0.0032	0.0027	**227**	**230**	**3**
Hagerstown	73.992	39,544	42,477	0.0019	0.0016	**68**	**75**	**7**
Easton	64.820	14,289	16,640	0.0045	0.0039	**64**	**67**	**3**
Thurmont	16.600	6,057	6,823	0.0027	0.0023	**16**	**21**	**5**
Berlin	9.143	3,957	4,742	0.0023	0.0020	**9**	**11**	**2**
Williamsport	4.086	2,282	2,291	0.0018	0.0015	**3**	**5**	**1**
Somerset	2.055	1,844	1,893	0.0011	0.0009	**2**	**2**	**0**
A&N Coop	0.810	386	386	0.0021	0.0018	**1**	**1**	**0**
						13,130	**15,269**	**2,139**

(1) Peak Demand is Electric Company demand, coincident with PJM peak demand at 5 p.m. EDT on August 8, 2007.
Choptank, Hagerstown, Thurmont, Williamsport, Somerset, and A&N did not provide weather-normalized Peak Demand to DR No. 3.

(2) Based on the U.S. Census Bureau's population estimates for July 1, 2007 for state (revised December 2010, released March, 2011).
2015 Populations projections are from the Maryland Department of Planning - Population Forecast - revised November 2010

(3) PJM forecast is from the January 2011 load and energy forecast and is for the entire BGE, DPL, PE, and Pepco Zones.
Staff applied these zonal growth rates to the appropriate utilities 2007 weather normal peak demand and weather normal energy sales to produce the utility 2015 forecast for peak demand and energy sales. For example, because Hagerstown is a part of the PE Zone, Staff applied the PJM growth rate for peak demand and energy sales to the 2010 weather normal peak demand and weather normal energy sales provided by Hagerstown in response to DR No. 6.

Table 29 presents the per capita electricity consumption for all Maryland utilities in 2015, and compares the reported 2015 per capita values to the 2007 per capita baseline values to gauge the progress that has been made toward achieving the 2015 EmPOWER Maryland per capita energy use goals. The Act measures success based on a per capita basis derived from a 2007 electricity use baseline. However, it is important to note that independent variables such as the State's economic activity and energy prices may influence electricity sales, which are used to calculate the per capita figures reflected in the below tables. Furthermore, electricity sales are not weather-normalized, and therefore, will fluctuate depending upon the weather, which likely further complicates the exercise of calculating energy savings attributable to EmPOWER Maryland.

BGE's 2015 per capita results continue to provide a direct example of the disconnect between the previous[47] method of assessing EmPOWER program achievement on a per capita basis. In 2015, the Commission calculated BGE's per capita energy use at 11.82 MWh, which is an 11.9% reduction of the 2007 per capita energy use baseline in its service territory. In other words, based on 2015 energy sales and population numbers, BGE achieved the mandated 10% reduction goal in per capita energy use. However, BGE's reported program-to-date energy savings are only 73% of the 2015 overall energy reduction goal, which was calculated using a projection based on 2011 energy sales and an estimate of 2015 population based on the 2010 census.

Table 30 presents the per capita peak demand for all Maryland utilities in 2015, and compares the reported 2015 per capita values to the 2007 per capita baseline values to gauge the progress that has been made toward achieving the 2015 EmPOWER Maryland per capita peak demand goals. Since peak demand *is* weather normalized, the peak demand reduction values reported in the EmPOWER Maryland programs should be more in line with the per capita reduction goal values. However, there is a similar disconnect between the Utilities achieving the per capita peak demand reductions required by the EmPOWER Act and the peak reductions achieved through the EmPOWER Maryland programs. For example, BGE has a per capita peak demand that is 14.8% lower than the 2007 baseline, or 98% of the 15% EmPOWER peak demand reduction goal. However, as of the end of 2015, BGE has only reached 91% of the overall MW reduction goal through its EmPOWER Maryland programs. There are several reasons for this difference: (1) there are MW reductions occurring in BGE's service territory that are not counted by EmPOWER Maryland, including activity by competitive service providers[48] and the installation of solar power panels; and (2) the per capita calculation requires a population estimate for each service territory. If the population in a service territory grows at a faster rate than the peak demand of the service territory, the per capita peak demand will decrease solely on the basis of the growing population and not as a result of program participation. These two factors may explain why BGE is closer to achieving the per capita peak demand reduction goal than the MW reduction goal.

[47] It is important to note that beginning in 2016, the Utilities' progress toward achieving Commission-established energy efficiency goals will no longer be measured on a per capita basis. *See* Order No. 87082.

[48] The competitive service providers offer demand response services to primarily commercial customers in the EmPOWER Maryland utility service territories.

Table 29. 2015 Per Capita Energy Use Compared to 2015 EmPOWER Maryland Goal

EmPower Maryland - 10 Percent Reduction in Maryland Energy Sales 2015													
2015 Utility Company Data Request Information													
Maryland Utility	**2007 per Capita Energy Use MWh**	**2015 per Capita Energy Use Goal MWh**	**2015 per Capita Energy Reduction Target MWh (1)**	**2015 Energy Sales Gross-Up by Loss Factor MWh**	**2015 Estimated Population (2)**	**2015 per Capita Energy Use MWh**	**Percentage Reduced from 2007 Baseline (3)**	**Percentage of Per Capita Energy Savings Achieved Towards 2015 Reduction Target (4)**		**2015 Energy Sales Goal MWh**	**Difference Between 2015 Use and 2015 Goal MWh**	**2015 Energy Reduction Goal MWh**	**Utility Reported Savings Program-to-Date**
BGE	13.41	12.07	1.34	32,452,949	2,746,250	11.82	11.9%	118.6%		33,525,028	-1,072,079	3,593,750	2,638,975
Pepco	9.32	8.39	0.93	15,373,013	1,936,350	7.94	14.8%	148.2%		15,892,578	-519,565	1,239,108	1,600,813
PE	18.46	16.62	1.85	7,856,178	451,755	17.39	5.8%	58.1%		7,718,695	137,483	415,228	529,519
Delmarva	13.70	12.33	1.37	4,675,443	359,546	13.00	5.1%	50.8%		4,517,572	157,871	143,453	382,605
SMECO	11.22	10.09	1.12	3,716,543	362,650	10.25	8.6%	86.3%		3,752,609	-36,067	83,870	242,174
Choptank	13.70	12.33	1.37	1,079,040	82,752	13.04	4.8%	48.2%		1,080,769	-1,729	18,654	
Hagerstown	9.33	8.39	0.93	311,009	40,807	7.62	18.3%	182.7%		356,509	-45,500	36,660	
Easton	20.25	18.23	2.03	271,534	16,411	16.55	18.3%	183.0%		303,288	-31,754	-3,018	
Thurmont	15.08	13.58	1.51	82,956	6,063	13.68	9.3%	92.9%		92,632	-9,676	3,152	
Berlin	11.05	9.95	1.11	46,357	4,368	10.61	4.0%	39.7%		47,164	-807	411	
Williamsport	9.54	8.59	0.95	21,414	2,132	10.04	-5.2%	-52.4%		19,680	1,734	1,796	
Somerset	4.22	3.80	0.42	-	793	N/A	N/A	N/A		7,192	-7,192	1,677	
A&N Coop	9.25	8.33	0.93	-	273	N/A	N/A	N/A		3,215	-3,215	570	
Total	**12.38**	**11.14**	**1.24**	**65,886,437**	**6,010,150**	**10.96**	**11.4%**	**114.3%**		**67,316,932**	**-1,430,494**	**5,535,310**	**5,394,086**

(1) The 2015 per Capita Energy Reduction Target Column is the difference between the 2007 per Capita Energy Use and 2015 per Capita Energy Use Goal. For example, for BGE to reach its 2015 per capita energy use goal of 12.07 MWh, BGE would have to achieve a reduction of 1.34 MWh off the 2007 baseline per capita energy use of 13.41.

(2) Sources: U.S. Census Bureau and Maryland Department of Planning.

(3) Percentage Reduced from the 2007 Baseline Column, calculates the percentage the 2015 per Capita Energy Use is from the 2007 per Capita Energy use Column. For example, BGE's 2015 per Capita Energy use is 11.9 % lower than BGE's 2007 per capita energy use.

(4) Percentage of Per Capita Energy Savings Towards 2015 Reduction Target Column, calculates the Percentage Reduced from 2007 Baseline as a percentage of the 10% EmPower Maryland goal. For example, in 2015 BGE's per capita energy use was 11.5% lower than the 2007 per capita energy use baseline. In other words, in 2014, BGE achieved 11.9% of the 10% EmPower Maryland goal, which is equivalent to reaching 118.6% of the 2105 per capita energy reduction target.

Table 30. 2015 Per Capita Peak Demand Compared to 2015 EmPOWER Maryland Goal

EmPower Maryland - 15 Percent Reduction in Maryland Peak Demand 2015													
2015 Utility Company Data Request Information													
Maryland Utility	**2007 per Capita Peak Demand MW**	**2015 per Capita Peak Demand Goal MW**	**2015 per Capita Demand Reduction Target MW (1)**	**2015 Peak Demand Weather Normalized**	**2015 Estimated Population (2)**	**2015 per Capita Peak Demand MW**	**Percentage Reduced from 2007 Baseline (3)**	**Percentage of Per Capita Peak Demand Savings Achieved Towards 2015 Reduction Target (4)**		**2015 Peak Demand Goal MW**	**Difference Between 2015 Use and 2015 Goal**	**2015 Peak Demand Reduction Goal**	**Utility Reported Savings Program-to-Date**
BGE	0.0028	0.0024	0.0004	6,490	2,746,250	0.0024	14.8%	98.4%		6,547	-57	1,267	1,156
Pepco	0.0020	0.0017	0.0003	3,634	1,936,350	0.0019	4.2%	27.8%		3,154	480	672	640
PE	0.0034	0.0029	0.0005	1,662	451,755	0.0037	-9.5%	-63.6%		1,326	336	21	82
Delmarva	0.0032	0.0027	0.0005	950	338,395	0.0028	11.2%	74.5%		993	-43	18	147
SMECO[5]	0.0023	0.0019	0.0003	1,003	362,650	0.0028	-21.3%	-142.2%		720	283	139	92
Choptank[5]	0.0032	0.0027	0.0005	292	103,903	0.0028	11.2%	74.5%		227	65	3	
Hagerstown[5]	0.0019	0.0016	0.0003	68	40,807	0.0017	11.4%	75.9%		68	0	7	
Easton[5]	0.0045	0.0039	0.0007	70	16,411	0.0043	5.8%	38.9%		64	6	3	
Thurmont[5]	0.0027	0.0023	0.0004	26	6,063	0.0043	-57.9%	-386.1%		15.9	10	5	
Berlin[3]	0.0023	0.0020	0.0003	10	4,368	0.0023	0.4%	2.4%		9.3	1	2	
Williamsport[5]	0.0018	0.0015	0.0003	5	2,132	0.0025	-38.6%	-257.5%		3.5	2	1	
Somerset[5]	0.0011	0.0009	0.0002	-	793	N/A	N/A	N/A		1.8	-2	0	
A&N Coop[5]	0.0021	0.0018	0.0003	-	273	N/A	N/A	N/A		0.7	0	0	
Total	**0.0026**	**0.0022**	**0.0004**	**14,209.759**	**6,010,150**	**0.0024**	**7.5%**	**50.2%**		**13,130**	**1,079**	**2,139**	**2,117**

(1) The 2015 per Capita Peak Demand Reduction Target Column is the difference between the 2007 per Capita Peak Demand and 2015 per Capita Peak Demand Goal. For example, for BGE to reach its 2015 per capita Peak Demand goal of 0.0024 MW, BGE would have to achieve a reduction of 0.0004 MW off the 2007 baseline per capita peak demand of 0.0028 MW.

(2) Sources: U.S. Census Bureau and Maryland Department of Planning.

(3) Percentage Reduced from the 2007 Baseline Column, calculates the percentage the 2015 per Capita Peak Demand is from the 2007 per Capita Peak Demand Column. For exmple, BGE's 2015 per Capita Peak Demand is 14.8% lower than BGE's 2007 per Capita Peak Demand.

(4) Percentage of Per Capita Peak Demand Savings Towards 2015 Reduction Target Column, calculates the Percentage Reduced from 2007 Baseline as a percentage of the 15% EmPower Maryland goal. For example, in 2015 BGE's per capita peak demand was 14.8% lower than the 2007 per capita peak demand baseline. In other words, in 2015, BGE achieved a 14.8% reduction in comparison to the 15% EmPower Maryland goal, which is equivalent to reaching 98.4% of the 2015 per capita peak demand target.

(5) Utilities did not provide weather normal peak demand data.

Tables 31 and 32 compare the 2007 per capita energy use and peak demand with that of 2008, 2009, 2010, 2011, 2012, 2013, 2014, and 2015. In 2015, a majority of the State's electric utilities experienced an increase in per capita energy use and per capita peak demand compared to 2014 levels.

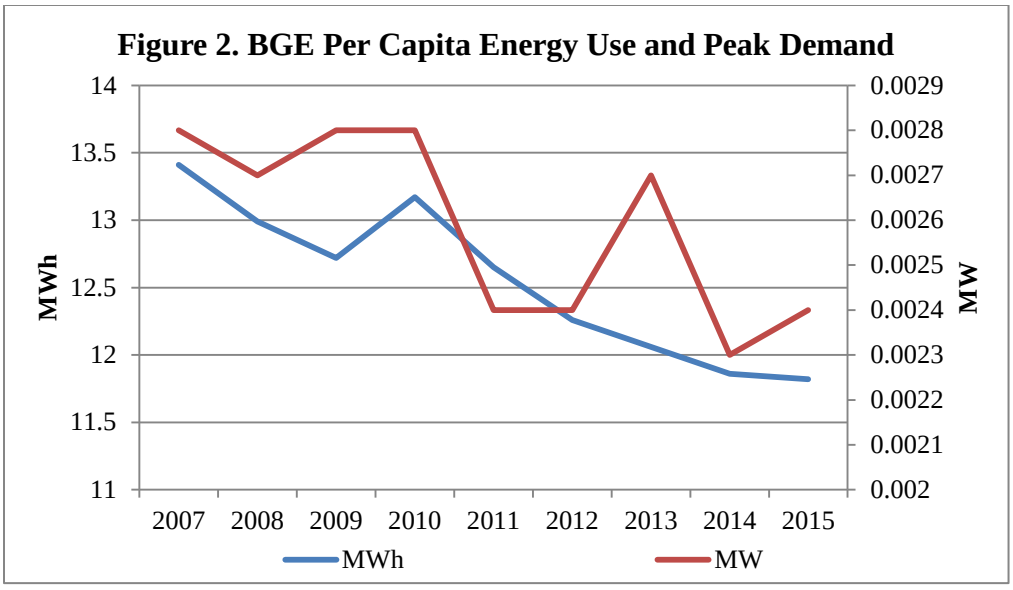
Table 31. 2007-2015 per Capita Energy Consumption

Per Capita Energy Use MWh									
	2007	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
BGE	13.41	12.99	12.72	13.17	12.65	12.26	12.06	11.86	11.82
Pepco	9.32	9.05	8.81	8.97	8.91	8.18	8.10	7.81	7.94
PE	18.46	19.49	18.86	19.39	17.17	16.93	17.53	17.64	17.39
Delmarva	13.70	12.60	12.83	13.14	13.02	12.61	12.60	12.55	13.00
SMECO	11.22	10.57	10.47	10.83	10.85	10.61	10.49	10.21	10.25
Choptank	13.70	12.65	12.79	13.06	12.58	12.31	12.92	12.55	13.04
Hagerstown	9.33	9.01	8.67	8.95	8.37	7.93	7.71	7.60	7.62
Easton	20.25	19.23	17.82	18.48	16.59	16.65	16.52	16.41	16.55
Thurmont	15.08	14.53	14.26	14.37	13.73	13.02	13.27	13.02	13.68
Berlin	11.05	10.60	9.93	10.84	9.31	9.40	9.37	9.90	10.61
Williamsport	9.54	8.92	8.37	8.56	9.20	9.44	9.87	10.06	10.04
Somerset	4.22	N/A	N/A	4.48	4.49	N/A	N/A	N/A	N/A
A&N Coop.	9.25	11.10	9.52	8.87	8.05	10.83	10.81	11.06	N/A

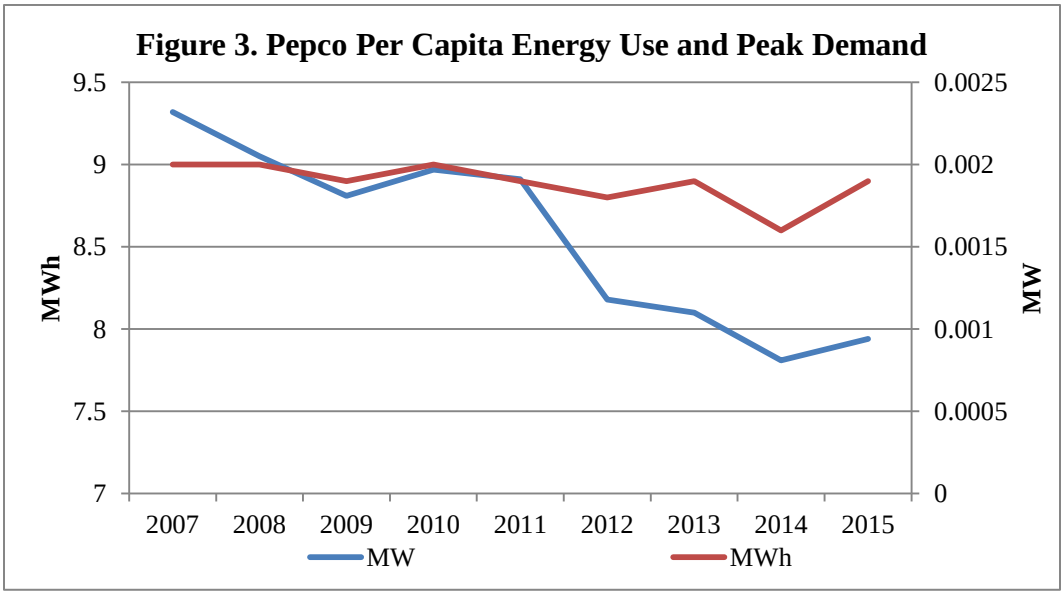
Table 32. 2007-2015 per Capita Peak Demand

Per Capita Energy Use MW									
	2007	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
BGE	0.0028	0.0027	0.0028	0.0028	0.0024	0.0024	0.0027	0.0023	0.0024
Pepco	0.0020	0.0020	0.0019	0.0020	0.0019	0.0018	0.0019	0.0016	0.0019
PE	0.0034	0.0034	0.0030	0.0029	0.0032	0.0033	0.0032	0.0026	0.0037
Delmarva	0.0032	0.0028	0.0028	0.0028	0.0025	0.0028	0.0029	0.0026	0.0028
SMECO	0.0023	0.0023	0.0022	0.0024	0.0023	0.0022	0.0024	0.0019	0.0028
Choptank	0.0032	0.0027	0.0028	0.0024	0.0032	0.0032	0.0032	0.0028	0.0028
Hagerstown	0.0019	0.0018	0.0017	0.0018	0.0016	0.0016	0.0015	0.0013	0.0017
Easton	0.0045	0.0044	0.0039	0.0041	0.0038	0.0041	0.0038	0.0033	0.0043
Thurmont	0.0027	0.0032	0.0022	0.0032	0.0026	0.0024	0.0024	0.0020	0.0043
Berlin	0.0023	0.0024	0.0023	0.0028	0.0020	0.0024	0.0021	0.0021	0.0023
Williamsport	0.0018	0.0020	0.0015	0.0019	0.0016	0.0016	0.0019	0.0015	0.0025
Somerset	0.0011	N/A	N/A	0.0011	0.0010	N/A	N/A	N/A	N/A
A&N Coop.	0.0021	0.0023	N/A	N/A	N/A	N/A	N/A	N/A	N/A

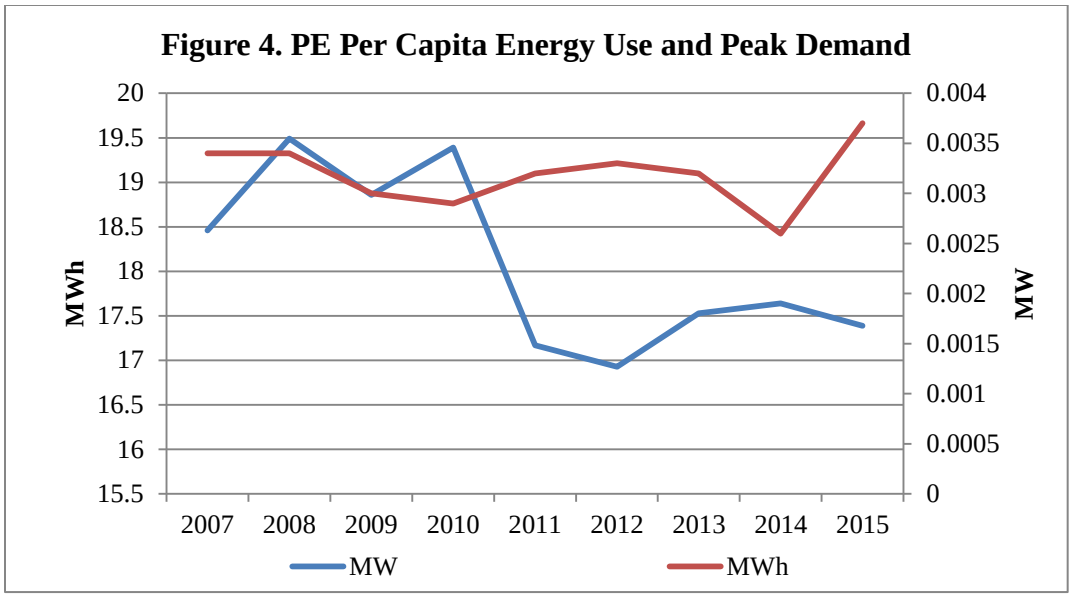
The following five charts provide a graphical representation of Tables 28 and 29 for the five EmPOWER Maryland Utilities. As discussed earlier in this report, the graphs will illustrate how the per capita energy savings value is affected by the weather, as evidenced by a spike in per capita energy use in 2010 for each utility experiencing a warmer-than-normal summer and a cooler-than-normal winter.



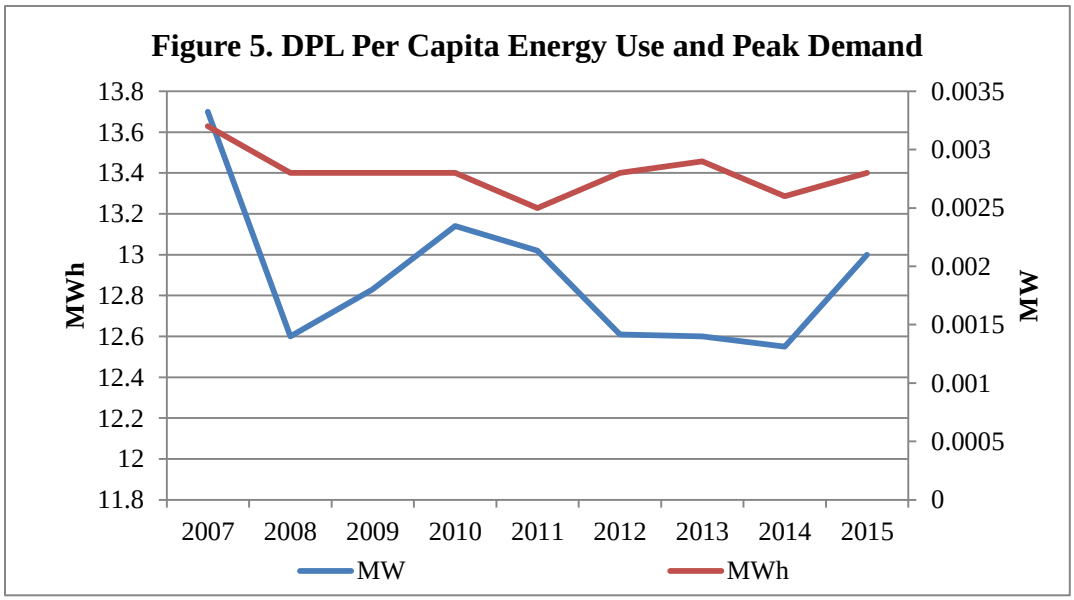
BGE's per capita goal for energy use for 2015 is 12.07 MWh
BGE's per capita goal for peak demand reduction for 2015 is 0.0024 MW



Pepco's per capita goal for energy use for 2015 is 8.39 MWh
Pepco's per capita goal for peak demand reduction for 2015 is 0.0017 MW

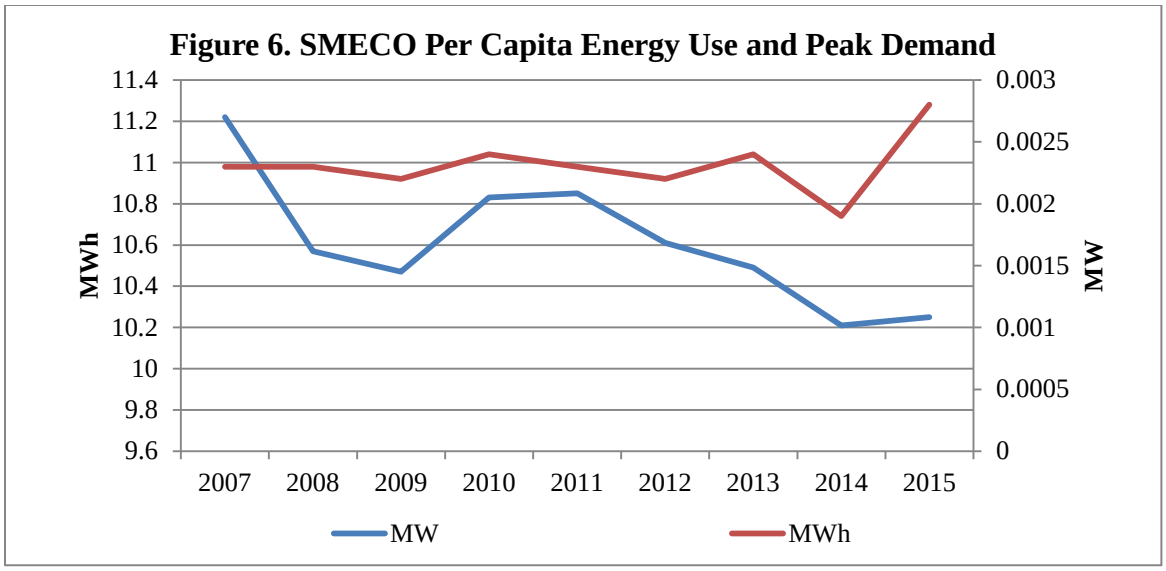


PE's per capita goal for energy use for 2015 is 16.62 MWh
PE's per capita goal for peak demand reduction for 2015 is 0.0029 MW



DPL's per capita goal for energy use for 2015 is 12.33 MWh
DPL's per capita goal for peak demand reduction for 2015 is 0.0027 MW

Figure 6. SMECO Per Capita Energy Use and Peak Demand



SMECO's per capita goal for energy use for 2015 is 10.09 MWh
SMECO's per capita goal for peak demand reduction for 2015 is 0.0019 MW

Upcoming Milestones

On December 8, 2015, the Commission issued Order No. 87285 after holding semi-annual hearings for results and programmatic adjustment requests stemming from the first half of 2015. The following directives were issued in the Order:

- EmPOWER Maryland Program Work Groups – In Order No. 87285, the Commission directed the various EmPOWER Maryland work groups to investigate 6 specific tasks for improving EmPOWER program performance ranging from the incentive structure of the small business program to reporting practices utilized by the EmPOWER Utilities. The majority of the tasks have a reporting date of April 13, 2016, and will be reviewed as part of the Commission's May semi-annual hearings.

- EmPOWER Program Modifications – The Commission will continue to review requests by the Utilities to modify the currently approved EmPOWER Maryland programs. These modifications can include, but are not limited to: changes in program design and implementation; changes to program budgets: and changes to program incentive structures.

At the May 2016 semi-annual hearings, the Commission will also review the proposals for natural gas energy efficiency goals, as well as energy efficiency goals specific to the limited income sector, that were filed by Staff on behalf of the work groups in response to Order No. 87082 issued on July 16, 2015.