

PUBLIC SERVICE COMMISSION  
OF MARYLAND

The EmPower Maryland Energy Efficiency Act  
STANDARD REPORT OF 2012

With Data for Compliance Year 2011

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

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March 2012

## TABLE OF CONTENTS

Report Contents .....	1
Executive Summary .....	1
Initiative Highlights .....	2
EmPower Maryland Portfolios .....	5
EE&C Programs .....	6
BGE .....	6
Pepco .....	8
PE .....	10
DPL.....	11
SMECO .....	13
Low-Income Programs .....	15
Demand Response .....	15
Direct Load Control Events.....	17
PJM RPM Capacity Market .....	18
EmPower Maryland Funding Levels.....	19
EE&C Programs .....	19
Demand Response .....	21
Evaluation, Measurement & Verification.....	21
Overall Findings of the 2009 – 2010 EmPower EE&C and DR Programs.....	23
Energy and Peak Demand Savings.....	23
Cost Effectiveness .....	23
Advanced Metering Infrastructure Programs .....	24
Maryland Utilities Smart Grid Activity.....	24
2011 per Capita Energy Consumption and Peak Demand .....	25
Upcoming Milestones.....	45
Conclusions and Observations .....	46

## Report Contents

This document constitutes the 2012 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 Article”). PUA Article § 7-211 requires that, on or before March 1 of each year, the Commission, in consultation with the Maryland Energy Administration<sup>1</sup> (“MEA”), shall report to the General Assembly on the following:

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

In compliance with PUA Article § 7-211, topics addressed in this report include a summary of the Energy Efficiency and Conservation (“EE&C”) and Demand Response (“DR”) program achievements, progress Advanced Meter Infrastructure (“AMI”) initiatives, and information on forthcoming milestones.

## Executive Summary

In 2011, the EmPower Maryland initiative continued operating, with the five largest electric utilities<sup>2</sup> (hereinafter “utilities”) fully implementing their Commission-approved EmPower Maryland EE&C portfolios<sup>3</sup> and four utilities offering DR programs.<sup>4</sup> Although each utility has seen marked improvement in participation quarter over quarter, energy savings and demand reductions remain considerably lower than targeted in the utilities’ plans, and even more modest against the EmPower Maryland 2011 and 2015 goals. Much of the energy savings achieved to date is due to the economic downturn, mostly moderate weather in the winter and summer, and other activities outside the scope of the utility-run EmPower Maryland programs.<sup>5</sup>

Additionally, 2011 marked the development of the 2012-2014 EmPower Maryland plan cycle. The 2011 planning phase began in the summer of 2010 with requests for stakeholder

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<sup>1</sup> MEA has been an active participant in the stakeholder process and continues to be an active participant in the ongoing EmPower Plan enhancement meetings.

<sup>2</sup> The utilities 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”).

<sup>3</sup> The five utilities with approved EE&C programs are: PE: Case 9153, Order No. 82825 dated August 6, 2009; BGE: Case 9154, Order No. 82674 dated December 31, 2008; DPL: Case 9156, Order No. 82835 dated August 13, 2009; Pepco: Case 9155, Order No. 82836 dated August 13, 2009; and SMECO: Case 1957, Order No. 82834 August 13, 2009.

<sup>4</sup> The four utilities with approved DR programs are BGE, Pepco, DPL, and SMECO.

<sup>5</sup> Examples of activities outside the scope of EmPower Maryland are distributed generation, and conservation efforts by individuals, such as lowering the thermostat or turning off lights when leaving the room.

input and progressed through various stages of discussion and refinement. All plans were required to be submitted by September 1, 2011, and hearings regarding the EmPower process took place between October 12, 2011, and October 21, 2011. On December 22, 2011, the Commission approved, with some modifications, the utilities' proposed plans in Commission Order No. 84569 (“December 22 Order”).

The Commission’s December 22 Order provided increased guidance and framework for the 2012-2014 program cycle. This included the creation of various workgroups to enhance and expand program offerings, standardization of incentive structures, the transition of Limited Income Energy Efficiency programs to the Maryland Department of Housing and Community Development, and necessary updates to budgets and surcharges associated with the EmPower Maryland program.

Commission Order No. 84569 also altered the reporting process for the 2012-2014 cycle. Previously, utility reporting was done on a quarterly basis with an annual summary report filed in January of the following year. The new requirements set forth a semi-annual, formal filing process with required metric submissions filed informally with Staff each quarter. The Commission, in consultation with the MEA, will continue to provide an annual report to the General Assembly regarding the status of the programs, a recommendation for the appropriate funding level to adequately fund the programs and services, and the per capita electricity consumption and peak demand for the previous year.

## **Initiative Highlights**

- Combined, the EmPower Maryland utilities were able to achieve the 5 percent per capita reduction goal in energy usage and peak demand reduction for 2011 as outlined in the EmPower Maryland Act. However, there were several factors that contributed to this achievement beyond the EmPower Maryland EE&C programs, like the slow economic recovery and moderate weather leading to less energy use than expected.
- Program-to-date, the utilities’ EmPower Maryland programs have saved a total of 1,401,751 megawatt-hours (“MWh”) and 943 megawatts (“MW”) (see Table 1<sup>6</sup> on the following page for individual utility savings), and encouraged the purchase or installation of approximately 18.6 million energy-efficient measures.
- In 2011, 5,033 low-income customers participated through the Residential Low-Income Programs.
- The average monthly residential surcharge bill impacts<sup>7</sup> for 2011 were as follows:
  - BGE: \$0.73 (EE&C) and \$1.77 (DR), totaling \$2.50.
  - Pepco: \$0.78 (EE&C) and \$1.09 (DR), totaling \$1.87.

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<sup>6</sup> Table 1 displays energy savings at the Net Wholesale level and Gross Wholesale level. Energy savings at the Net Wholesale level include the influence of Net-to-Gross ratios (free riders) on energy savings. The energy savings in the Gross Wholesale level do not include Net-to-Gross ratios and will always be higher than Net Wholesale energy savings.

<sup>7</sup> Bill impacts are calculated assuming an average monthly usage of 1,000 kilowatt-hours (“kWh”). Impact does not reflect savings produced by EmPower Maryland programs through reduced customer usage or energy rate reductions due to reduced system demand.

- PE: \$0.46 (EE&C only).
  - DPL: \$0.76 (EE&C) and \$1.06 (DR), totaling \$1.82.
  - SMECO: \$1.45 (EE&C) and \$1.79 (DR), totaling \$3.24.
- The utilities, to date, have spent over \$471 million on the EmPower Maryland programs, including approximately \$214 million on EE&C programs, and \$244.5 million on DR programs.<sup>8</sup>

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<sup>8</sup> In 2011, approximately \$12.5 million was spent collectively by the utilities on general awareness campaigns.

**Table 1. EE&C and Demand Response Reported Achievements\***

	Net Wholesale				Gross Wholesale	
	2011 Reduction	Percentage of 2011 Interim Target **	Program-to-Date Reduction ***	Percentage of 2009-2011 Target	Program-to-Date Reduction ***	Percentage of 2011 Goal
<b>BGE</b>						
Electric Consumption Reduction (MWh)	237,518	59%	696,211	68%	895,301	44%
Demand Reduction (MW)	76.127	22%	676.878	57%	704	137%
<b>Pepeco</b>						
Electric Consumption Reduction (MWh)	73,662	41%	233,212	48%	289,931	42%
Demand Reduction (MW)	53.880	46%	122.981	42%	136.075	59%
<b>PE</b>						
Electric Consumption Reduction (MWh)	69,234	133%	85,888	95%	103,527	87%
Demand Reduction (MW)	9.867	59%	13.477	40%	16.350	33%
<b>DPL</b>						
Electric Consumption Reduction (MWh)	18,395	45%	42,758	38%	52,582	26%
Demand Reduction (MW)	11.661	32%	30.060	38%	32.207	44%
<b>SMECO</b>						
Electric Consumption Reduction (MWh)	22,535	97%	42,133	61%	60,410	64%
Demand Reduction (MW)	24.623	137%	43.729	74%	52.28	180%
<b>All Utilities</b>						
Electric Consumption Reduction (MWh)	421,344	60%	1,100,200	62%	1,401,751	44%
Demand Reduction (MW)	176.158	33%	887.13	54%	941.05	105%

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

\*\* Percentage of energy savings forecasted to be achieved in 2011 minus 2010 forecast from individual utility plans.

\*\*\* Program-to-date reported reduction includes savings contributions from Fast Track beginning January 1, 2008.

## EmPower Maryland Portfolios

The Commission directed Maryland's investor-owned utilities and SMECO to meet EmPower Maryland's 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 opportunities. The requirement that programs be cost-effective is an important point of context, as it explains why the Companies' approved plans were not expected to meet or surpass the EmPower Maryland goals.

Prior to approving the initial EmPower Maryland plans, the Commission estimated the share of the EmPower Maryland energy and demand savings goals per utility service territory.<sup>9</sup> Based on each utility's plan, Table 2 illustrates the utility's forecasted 2011 peak demand reductions and energy savings achievements for the Commission-approved EE&C and DR programs as a percentage compared against the EmPower Maryland targets. Overall, the forecasted reductions in the utility plans indicate that the utilities are expected to easily meet their peak demand reduction goals for 2011, but only reach approximately 63 percent of the energy savings. Forecasted achievements significantly decline in 2015, as targets more than double from 894 MW in peak demand and 3,161,065 MWh of energy savings necessary in 2011 to 2,622 MW and 7,268,540 MWh in 2015. The majority of peak demand savings is derived from the direct load control programs, which utilities with such programs expect to maximize participation in the next few years. For all programs, consumer participation (estimated conservatively in the utilities' plans) will be a huge variable in how quickly energy savings and demand reductions accrue, but it should be noted that additional programs or initiatives are necessary to achieve the 2015 energy savings goals.

**Table 2. EE&C and Demand Response Estimated Forecasted Achievements in 2009-2011 EmPower Plans (as Percentage Against EmPower Maryland Target)**

	Percentage of EmPower Maryland Goal			
	2011		2015	
	Peak Demand Reduction (MW)	Electric Consumption Reduction (MWh)	Peak Demand Reduction (MW)	Electric Consumption Reduction (MWh)
BGE	232%	52%	121%	62%
Pepco	150%	65%	107%	64%
PE	72%	90%	53%	93%
DPL	124%	54%	101%	59%
SMECO	206%	88%	87%	72%
<b>All Utilities</b>	<b>216%</b>	<b>63%</b>	<b>110%</b>	<b>66%</b>

Table 1 reflects that the reported energy and peak demand reductions to date are significantly lower than the achievements projected in Table 2 for 2011 in the 2009-2011 utility plans. The most important element in achievement shortcomings to date appears to be the late start of the programs.<sup>10</sup>

In 2011, all of the utilities' approved EmPower Maryland programs were operational for the entire year, which resulted in an increase of reported energy savings of over 8 percent compared to 2010. Consequently, program performance during 2011 did not fall as short of the original program estimates for annual savings as a comparison to the 2011 goal implies. Table 1

<sup>9</sup> Notice of EmPower Maryland Plan Consumption and Demand Reduction Targets, issued August 15, 2008.

<sup>10</sup> The late start for some of the utilities is because the Commission directed Pepco, PE, DPL, and SMECO to refile the plans with updated cost information based on final selection of implementation contractors to better judge the overall costs and cost effectiveness of the proposals.

illustrates program success against the 2011 Interim Target and then against the 2011 EmPower Maryland goal.

In order to verify the utilities' energy and peak demand savings resulting from each utility's EE&C and DR programs, the Commission has developed an Evaluation, Measurement & Verification ("EM&V") process for the EmPower programs. 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 percent reduction in the State's energy consumption<sup>11</sup> and all of the 15 percent of the required demand reductions by 2015. The initial goal for 2011 is a 5 percent reduction in per capita energy usage and peak demand compared to 2007 base year levels. To generate a portion of this savings, the five utilities each developed EE&C portfolios, based on a three-year planning cycle beginning with the Program Planning Year ("PY") 2009 – 2011 and then the PY 2012-2014. Subsequent plans will be developed for later years.

The utilities' EmPower Maryland portfolios were similarly designed with some variation in execution based upon the demographic of the service territory. Residential EE&C programs include discounted compact fluorescent lights ("CFLs") and appliances, heating, ventilation, and air conditioning ("HVAC") rebates, home energy audits, weatherization, and low-income programs.<sup>12</sup> Commercial EE&C programs are designed to encourage businesses to upgrade to more efficient equipment, such as lighting, HVAC or motors, or improve their building performance through weatherization or building shell upgrades. For larger commercial buildings or industrial facilities, a utility can customize its incentives for cost-effective improvements.

## **BGE**

BGE's portfolio was approved by Order No. 82384 on December 31, 2008, and began implementing six residential<sup>13</sup> and three commercial<sup>14</sup> EE&C programs throughout 2009, which were designed to save approximately 1,024,416 MWh by 2011 and 2,611,902 MWh by 2015. Since BGE was the first to receive full authorization to implement its EE&C programs, the Company continues to achieve the most energy savings and demand reduction to date.

BGE's Residential Retrofit program, the Quick Home Energy Check-up ("QHEC") Program, continued to be one of BGE's best performing programs. In 2011, the QHEC program reported 19,116 participants and over 193,000 measures installed and energy savings of 7,190 MWh, easily surpassing the 2011 energy target of 5,216 MWh. The Home Performance with

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<sup>11</sup> The EmPower Maryland Act calls for MEA to provide 5 percent of 15 percent per capita energy consumption reduction goal by 2015. At the time of this Report, MEA had not provided its plan to achieve the 5 percent energy consumption reduction as required by the EmPower Maryland Act.

<sup>12</sup> Other than the surcharge amount charged to ratepayers, low-income programs are offered at no additional cost for those who qualify.

<sup>13</sup> Approved residential programs include: the Lighting and Appliance Program; Energy Star for New Home; Home Performance with Energy Star; Quick Home Energy Check-up; Online Energy Calculator; Residential HVAC Rebate Program; and Limited Income Energy Efficiency Program.

<sup>14</sup> Approved commercial programs include: Energy Solutions for Small Business; Small Business Lighting Solutions Program; and Retrocommissioning Program for industrial and commercial businesses.



ENERGY STAR Program, a more intensive Residential Retrofit program, showed improvement over 2010 results, but was still trailing in its forecasted targets. Most likely, this is due to the higher costs to participants, which may act as a strong deterrent to consumers.

As noted in Table 3, in 2011, BGE’s EE&C programs achieved 59 percent, or 237,518 MWh, of its 2011 EE&C electric consumption reduction target. BGE’s portfolio of programs, including demand response, achieved 22 percent, or 76 MW of its 2011 peak demand reduction target, as noted in Table 4. Due to shortfalls over the program cycle, BGE fell below its 2009 through 2011 energy savings and demand reduction targets, reaching only 68 percent and 57 percent for energy savings and demand, respectively.

**Table 3. BGE EE&C Interim Reported<sup>15</sup> Achievements**

	<b>2011 Electric Consumption Reduction (MWh)</b>	<b>Percentage of 2011 Interim Target*</b>	<b>Program-to-Date Electric Consumption Reduction (MWh)***</b>	<b>Percentage of 2009 - 2011 Target**</b>
EmPower Maryland Targets**	402,646		1,024,416	
BGE Portfolio of Programs	237,518	59%	696,211	68%

\*Percentage of energy savings forecasted to be achieved in 2011 minus 2010 forecasts.

\*\*EmPower Maryland Targets are based upon the utility’s individual EmPower Maryland filing which reflects the level of reduction the utility forecasted it could achieve.

\*\*\* Program-to-date reported reduction includes savings contributions from Fast Track beginning January 1, 2008.

<sup>15</sup> Reported savings are unverified energy savings and demand reductions based on the utilities’ quarterly programmatic reports. An independent verification of savings is conducted annually.

**Table 4. BGE Peak Demand Reduction Interim Reported Achievements<sup>16</sup>**

	<b>2011 Peak Demand Reduction (MW)</b>	<b>Percentage of 2011 Interim Target*</b>	<b>Program-to-Date Peak Demand Reduction (MW)***</b>	<b>Percentage of 2009 - 2011 Target**</b>
EmPower Maryland Targets**	344	22%	1,190	57%
BGE Portfolio of Programs	76.127		676.878	

Percentage of demand savings forecasted to be achieved in 2011 minus 2010 forecast.

\*\*EmPower Maryland Targets are based upon the utility’s individual EmPower Maryland filing which reflects the level of reduction the utility forecasted it could achieve.

\*\*\* Program-to-date reported reduction includes savings contributions from Fast Track beginning January 1, 2008.

## **Pepco**

Pepco’s portfolio was approved with regard to program design by Order No. 82385 on December 31, 2008 and approved for implementation by Order No. 82836 on August 13, 2009. Pepco’s approved plan included four residential<sup>17</sup> and four non-residential<sup>18</sup> EE&C programs, which were designed to save 447,614 MWh by 2011 and 1.134 Million MWh by 2015.<sup>19</sup> Opportunities range from using the information provided through customer information and education, to incentives to purchase lighting and energy-efficient HVAC and housing or building upgrades.

Pepco’s most successful program to date continued to be the Lighting and Appliance program among the residential offerings. Despite the conclusion of the MEA’s State Energy Efficiency Appliance Rebate Program,<sup>20</sup> Pepco’s Appliance Program surpassed its forecasted appliance rebates by 51 percent for a total of 3,347 rebated appliances during 2011. Among its commercial and industrial programs, the Prescriptive Program continued to contribute the most savings. This program offers rebates on standard commercial items such as overhead lighting, occupancy sensors and motors.

In 2011, the Company significantly ramped up enrollment in its Quick Home Energy Check-up Program. In addition to single family homes, the utility reached out to individually

<sup>16</sup> Demand Reduction Goals and Achievements include peak demand reduction generated by both EE&C and Demand Response Programs, as both components contribute towards achieving the overall 2011 and 2015 peak reduction goals.

<sup>17</sup> Approved residential programs include: the Lighting and Appliance Program; the Home Performance with Energy Star Program which includes Quick Home Energy Check-up and the Online Audit Calculator; the Income Eligible Energy Efficiency Program; and the HVAC Program.

<sup>18</sup> Approved commercial programs include: the Prescriptive Program; the Heating, Ventilation, and Air-Conditioning Program; Custom Incentive Program; and the Building Commissioning and Operations & Maintenance Program.

<sup>19</sup> Plan at 115851, Table ES-1.

<sup>20</sup> Program was funded by a grant from the U.S. Department of Energy as part of incentives made available by the American Reinvestment and Recovery Act.

metered multi-family properties through neighborhood sweeps. During sweeps, residents are notified that Pepco will be in the area performing check-ups during a specified period of time and individuals are encouraged to sign up.

As noted in Table 5, in 2011, Pepco's EE&C programs achieved 41 percent, or 73,662 MWh, of its 2011 EE&C electric consumption reduction target. Pepco's portfolio of programs, including Demand Response, achieved 46 percent, or 54 MW of its 2011 peak demand reduction target, as noted in Table 6. Because the Company was still ramping up its programs well into 2010, Pepco fell below its 2009 through 2011 energy savings and demand reduction targets, reaching only 49 percent and 42 percent for energy savings and demand, respectively.

**Table 5. Pepco EE&C Energy Savings Interim Reported<sup>21</sup> Achievements**

	<b>2011 Electric Consumption Reduction (MWh)</b>	<b>Percentage of 2011 Interim Target*</b>	<b>Program-to-Date Electric Consumption Reduction (MWh)***</b>	<b>Percentage of 2009 - 2011 Target**</b>
EmPower Maryland Targets**	178,675	41%	487,615	48%
Pepco Portfolio of Programs	73,662		233,212	

\*Percentage of energy savings forecasted to be achieved in 2011 minus 2010 forecast.

\*\*EmPower Maryland Targets are based upon the utility's individual EmPower Maryland filing which reflects the level of reduction the utility forecasted it could achieve.

\*\*\* Program-to-date reported reduction includes savings contributions from Fast Track beginning January 1, 2008.

**Table 6. Pepco Peak Demand Reduction Interim Reported Achievements<sup>22</sup>**

	<b>2011 Peak Demand Reduction (MW)</b>	<b>Percentage of 2011 Interim Target*</b>	<b>Program-to-Date Peak Demand Reduction (MW)***</b>	<b>Percentage of 2009 - 2011 Target**</b>
EmPower Maryland Targets**	116	46%	295	42%
Pepco Portfolio of Programs	53.88		122.981	

\*Percentage of demand reduction forecasted to be achieved in 2011 minus 2010 forecast.

\*\*EmPower Maryland Targets are based upon the utility's individual EmPower Maryland filing which reflects the level of reduction the utility forecasted it could achieve.

\*\*\* Program-to-date reported reduction includes savings contributions from Fast Track beginning January 1, 2008.

<sup>21</sup> Reported savings are unverified energy savings and demand reductions based on the utilities' quarterly programmatic reports. An independent verification of savings is conducted annually.

<sup>22</sup> Demand Reduction Goals and Achievements include peak demand reduction generated by both EE&C and Demand Response Programs, as both components contribute towards achieving the overall 2011 and 2015 peak reduction goals.

## PE

PE's portfolio was approved with regard to program design by Order No. 82383 on December 31, 2008, and approved for implementation by Order No. 82825 on August 6, 2009. The approved plan includes a portfolio of six residential<sup>23</sup> and five commercial<sup>24</sup> EE&C programs. PE's programs are designed to save 79,377 MWh by the end of 2011 and 261,117 MWh by the end of 2015.

In 2011, PE continued to operate its suite of programs even as it transitioned to new management.<sup>25</sup> Many PE programs continued to perform well, especially the Lighting and Limited Income programs. PE implemented a new initiative in 2011 with the distribution of energy-efficiency kits. The kits are designed to serve as an entry into the energy-efficiency market. The initiative was approved on a limited basis by the Commission. Since gaining approval, PE has quickly surpassed its original distribution targets and ended 2011 with 65,830 participants, which was approximately 200 percent of the original goal.

The portfolio's commercial and industrial ("C&I") programs returned mixed results for 2011. Prescriptive programs performed well under the original goals; however, PE's Custom program far exceeded forecasts. With proposed enhancements for the 2012-2014 program cycle and continued growth, the C&I programs should see significant improvement in the coming quarters.

As noted in Table 7, in 2011, PE's EE&C programs achieved 133 percent, or 69,234 MWh, of its 2011 EE&C electric consumption reduction target. PE's portfolio of programs achieved 59 percent, or 10 MW of its 2011 peak demand reduction target, as noted in Table 8. Due to shortfalls over the program cycle, PE fell slightly below its 2009 through 2011 energy savings target and significantly below its 2009 through 2011 demand reduction target, reaching only 95 percent and 40 percent for energy savings and demand, respectively.

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<sup>23</sup>Approved residential programs include: CFL Rebate Program; Energy Star Appliance Program; Home Performance Program; Limited Income Program; Air Conditioner Efficiency Program; and Heat Pump Efficiency Program.

<sup>24</sup>Approved commercial programs include: Lighting Efficiency Program; Air Conditioning Efficiency Program; Heat Pump Efficiency Program; Commercial and Industrial Efficient Motors and Drives; and Commercial and Industrial Custom Applications.

<sup>25</sup>The parent company of PE, Allegheny Energy, was acquired by FirstEnergy in 2011. See *In the Matter of the Merger of FirstEnergy Corp. and Allegheny Energy, Inc.*, Case No. 9233.

**Table 7. PE EE&C Energy Savings Interim Reported<sup>26</sup> Achievements**

	<b>2011 Electric Consumption Reduction (MWh)</b>	<b>Percentage of 2011 Interim Target*</b>	<b>Program-to-Date Electric Consumption Reduction (MWh)</b>	<b>Percentage of 2009 - 2011 Target**</b>
EmPower Maryland Targets**	51,930		89,988	
PE Portfolio of Programs	69,234	133%	85,888	95%

\*Percentage of energy savings forecasted to be achieved in 2011 minus 2010 forecast.

\*\*EmPower Maryland Targets are based upon the utility's individual EmPower Maryland filing which reflects the level of reduction the utility forecasted it could achieve.

**Table 8. PE Peak Demand Reduction Interim Reported Achievements<sup>27</sup>**

	<b>2011 Peak Demand Reduction (MW)</b>	<b>Percentage of 2011 Interim Target*</b>	<b>Program-to-Date Peak Demand Reduction (MW)</b>	<b>Percentage of 2009 - 2011 Target**</b>
EmPower Maryland Targets**	17		34	
PE Portfolio of Programs	9.867	59%	13.477	40%

\*Percentage of demand reduction reported to be achieved in 2011 minus 2010 forecast.

\*\*EmPower Maryland Targets are based upon the utility's individual EmPower Maryland filing which reflects the level of reduction the utility forecasted it could achieve.

## **DPL**

DPL's portfolio was approved with regard to program design by Order No. 82386 on December 31, 2008 and approved for implementation by Order No. 82835 on August 13, 2009. DPL's approved plan included four residential<sup>28</sup> and four non-residential<sup>29</sup> EE&C programs, which were designed to save 105,469 MWh by 2011 and 270,552 MWh by 2015. DPL's portfolio of EE&C programs is applicable across the residential, commercial, government, and institutional customer base. DPL's plan consists of a traditional set of programs, such as market

<sup>26</sup> Reported savings are unverified energy savings and demand reductions based on the utilities' quarterly programmatic reports. An independent verification of savings is conducted annually.

<sup>27</sup> PE is the only utility whose Peak Demand Reduction Goals are solely based upon its EE&C Programs. Currently, PE does not have a demand response program.

<sup>28</sup> Approved residential programs include: the Lighting and Appliance Program; the Home Performance with Energy Star Program, which includes Quick Home Energy Check-up and the Online Audit Calculator; the Income Eligible Energy Efficiency Program; and the HVAC Program.

<sup>29</sup> Approved commercial programs include: the Prescriptive Program; the Heating, Ventilation, and Air-Conditioning Program; Custom Incentive Program; Small Commercial; and the Building Commissioning and Operations & Maintenance Program.

buy-down or other incentives for the purchase and/or installation of energy efficient products or measures.

DPL’s most successful program to date continued to be the Lighting and Appliance program among the residential offerings. Despite the conclusion of the MEA’s State Energy Efficiency Appliance Rebate Program,<sup>30</sup> DPL’s Appliance Program surpassed its forecasted appliance rebates by 58 percent for a total of 1,311 rebated appliances during 2011. Among its commercial and industrial programs, the Prescriptive Program continued to contribute the most savings. This program offers rebates on standard commercial items such as overhead lighting, occupancy sensors, and motors.

In 2011, the Company significantly ramped up enrollment in its Quick Home Energy Check-up Program. In addition to single family homes, the utility reached out to individually metered multi-family properties through neighborhood sweeps. During sweeps, residents are notified that DPL will be in the area performing check-ups during a specified period of time and individuals are encouraged to sign up.

As noted in Table 9, in 2011 DPL’s EE&C programs achieved 45 percent, or 18,395 MWh, of its 2011 EE&C electric consumption reduction target. DPL’s portfolio of programs, including Demand Response, achieved 32 percent, or 12 MW of its 2011 peak demand reduction target, as noted in Table 10. Due to the fact that the Company was still ramping up its programs well into 2010, DPL fell below its 2009 through 2011 energy savings and demand reduction targets, reaching only 38 percent and 38 percent for energy savings and demand, respectively.

**Table 9. DPL EE&C Energy Savings Interim Reported<sup>31</sup> Achievements**

	<b>2011 Electric Consumption Reduction (MWh)</b>	<b>Percentage of 2011 Interim Target*</b>	<b>Program-to-Date Electric Consumption Reduction (MWh)***</b>	<b>Percentage of 2009 - 2011 Target**</b>
EmPower Maryland Targets**	41,079		112,436	
DPL Portfolio of Programs	18,395	45%	42,758	38%

\*Percentage of energy savings forecasted to be achieved in 2011 minus 2010 forecast.

\*\*EmPower Maryland Targets are based upon the utility’s individual EmPower Maryland filing which reflects the level of reduction the utility forecasted it could achieve.

\*\*\* Program-to-date reported reduction includes savings contributions from Fast Track beginning January 1, 2008.

<sup>30</sup> The Program was funded by a grant obtained from the U.S. Department of Energy as part of the incentives made available by the American Reinvestment and Recovery Act.

<sup>31</sup> Reported savings are unverified energy savings and demand reductions based the utilities’ quarterly programmatic reports. An independent verification of savings is conducted annually.

**Table 10. DPL Peak Demand Reduction Interim Reported Achievements<sup>32</sup>**

	<b>2011 Peak Demand Reduction (MW)</b>	<b>Percentage of 2011 Interim Target*</b>	<b>Program-to-Date Peak Demand Reduction (MW)***</b>	<b>Percentage of 2009 - 2011 Target**</b>
EmPower Maryland Targets**	36		80	
DPL Portfolio of Programs	11.661	32%	30.060	38%

\*Percentage of demand reduction forecasted to be achieved in 2011 minus 2010 forecast.

\*\*EmPower Maryland Targets are based upon the utility's individual EmPower Maryland filing which reflects the level of reduction the utility forecasted it could achieve.

\*\*\* Program-to-date reported reduction includes savings contributions from Fast Track beginning January 1, 2008.

## **SMECO**

SMECO's portfolio was approved with regard to program design by Order No. 82387 on December 31, 2008 and approved for implementation by Order No. 82834 on August 13, 2009. The approved plan included six residential<sup>33</sup> EE&C programs and one non-residential<sup>34</sup> EE&C program. SMECO's programs were designed to reduce energy consumption by 68,626 MWh by the end of 2011 and 165,542 MWh by the end of 2015. SMECO's plan consists of a traditional set of programs, such as market buy-down or other incentives for the purchase and/or installation of energy efficient products or measures.

Many of SMECO's Residential programs performed well during the 2011 program year, although its C&I programs struggled to return significant participation. The Lighting and Appliance, QHEC, and New Home programs performed at or above annual forecasts. The New Home program exceeded forecasts by approximately 300 percent, with a total of 354 annual participants. This was also 70 percent of the three-year participation total.

As noted in Table 11, in 2011, SMECO's EE&C programs achieved 97 percent, or 22,535 MWh, of its 2011 EE&C energy reduction target. SMECO's portfolio of programs, including Demand Response, achieved 137 percent, or 25 MW of its 2011 peak demand reduction target, as noted in Table 12. Due to the fact that the Company was still ramping up during 2010, SMECO fell below its 2009 through 2011 energy savings and demand reduction targets, reaching only 49 percent and 42 percent for energy savings and demand, respectively.

<sup>32</sup> Demand Reduction Goals and Achievements include peak demand reduction generated by both EE&C and Demand Response Programs, as both components contribute towards achieving the overall 2011 and 2015 peak reduction goals.

<sup>33</sup> Approved residential programs include: Lighting and Appliances Program; Home Performance with Energy Star; Quick Home Energy Check-up; HVAC Program; Energy Star New Home Construction; and Low-Income Energy Efficiency Program.

<sup>34</sup> The approved commercial program is the Prescriptive/Custom Program.

**Table 11. SMECO EE&C Energy Savings Interim Reported<sup>35</sup> Achievements**

	<b>2011 Electric Consumption Reduction (MWh)</b>	<b>Percentage of 2011 Interim Target*</b>	<b>Program-to-Date Electric Consumption Reduction (MWh)</b>	<b>Percentage of 2009 - 2011 Target**</b>
EmPower Maryland Targets**	23,234	97%	68,626	61%
SMECO Portfolio of Programs	22,535		42,133	

\*Percentage of energy savings forecasted to be achieved in 2011 minus 2010 forecast.

\*\*EmPower Maryland Targets are based upon the utility's individual EmPower Maryland filing which reflects the level of reduction the utility forecasted it could achieve.

**Table 12. SMECO Peak Demand Reduction Interim Reported Achievements<sup>36</sup>**

	<b>2011 Peak Demand Reduction (MW)</b>	<b>Percentage of 2011 Interim Target*</b>	<b>Program-to-Date Peak Demand Reduction (MW)</b>	<b>Percentage of 2009 - 2011 Target**</b>
EmPower Maryland Targets**	18	137%	59	74%
SMECO Portfolio of Programs	24.623		49.730	

\*Percentage of demand reduction forecasted to be achieved in 2011 minus 2010 forecast.

\*\*EmPower Maryland Targets are based upon the utility's individual EmPower Maryland filing which reflects the level of reduction the utility forecasted it could achieve.

<sup>35</sup> Reported savings are unverified energy savings and demand reductions based on the utilities' quarterly programmatic reports. An independent verification of savings is conducted annually.

<sup>36</sup> Demand Reduction Goals and Achievements include peak demand reduction generated by both EE&C and Demand Response Programs, as both components contribute towards achieving the overall 2011 and 2015 peak reduction goals.



## Low-Income Programs

The participation results of the Utility Low-Income Programs are presented in Table 13.

**Table 13 EmPower Maryland Low-Income Participation**

	2011 Participants			Program-to-Date Participants		
	<i>Forecasted</i>	<i>Reported</i>	<i>Variance</i>	<i>Forecasted</i>	<i>Reported</i>	<i>Variance</i>
BGE	1,525	2,341	154%	4,574	4,185	91%
Pepco	5,174	515	10%	15,523	561	4%
PE	1,305	1,552	119%	3,703	1,712	46%
DPL	3,031	343	11%	9,093	353	4%
SMECO	88	252	286%	264	268	102%
Total	11,123	5,003	45%	33,157	7,079	21%

The utilities as a whole only achieved 21 percent of the expected participation for their Low-Income programs over the first three years of EmPower Maryland. Because of these uneven results, the Commission, in Order No. 84569, directed that the Maryland Department of Housing and Community Development (“DHCD”) become the State-wide implementer of Low-Income programs for the 2012 – 2014 EmPower Maryland cycle.

## Demand Response

The EmPower Maryland Act requires the five utilities to implement cost-effective demand response programs designed to achieve a reduction in their per capita peak energy demand (measured in kilowatts (“kW”)) of 5 percent by 2011, 10 percent by 2013, and 15 percent by 2015. In instances of system reliability or high electricity prices during critical peak hours, these programs commonly use a switch or thermostat for a central air conditioning or an electric heat pump to briefly curtail usage. The Commission approved four residential Demand Response programs in early 2008 (BGE’s DR program was approved in December of 2007), with all of the programs operational by the end of 2009.<sup>37</sup> A significant portion of the demand reduction savings for EmPower Maryland can be attributed to these programs, with all of the utilities running such programs forecasted to exceed their 2011 demand reduction goals.<sup>38</sup>

Each DR program includes these common components: (1) all DR programs are 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) customers can choose one of three cycling choices (50%, 75%, and 100%<sup>39</sup>), except for SMECO. SMECO uses an initial 2 degree offset followed by 30 percent cycling for the thermostats and a 50 percent cycling option followed by 30 percent cycling for the switches during specified time

<sup>37</sup> 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.

<sup>38</sup> The peak demand reductions achieved by the utilities include demand reductions from DR programs and EE&C programs.

<sup>39</sup> The cycling choices of 50%, 75%, and 100% represents the air conditioner compressor working cycle reduced by 50%, 75%, and 100% under PJM- or utility-invoked emergency events during summer peak season.

periods. Utilities will invoke the cycling process when PJM calls for an emergency event or a utility’s determined event during summer peak season. The incentives vary among utilities.

Table 14 summarizes the utilities incentives to the program participants.

**Table 14. Utilities Incentive to 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.
	Installation Incentive			Annual Bill Credit			Bill Credit Month
	Thermostat	Digital Switch		Thermostat	Digital Switch		
SMECO	***	None		\$50	\$50		Jun.– Oct.

\*\*\* A participant in SMECO CoolSentry program can keep the installed thermostat for free after 12 months of the installation; otherwise, the thermostat will be removed if the participant terminates the participation less than 12 months.

Table 15 summarizes the progress in installing these devices for each utility direct load control (“DLC”) program in 2011 and program-to-date through December 31, 2011. Several barriers prevented the utilities from reaching their demand reduction goals, including permitting issues and a potential safety hazard<sup>40</sup> resulting in a temporary suspension of thermostat installations and lower than expected participation.<sup>41</sup> Additionally, BGE has reached a market saturation of approximately 40 percent of its eligible customers, resulting in a decline of installed devices from previous program years. Due to the issues previously listed, 2011 contributed approximately 19 percent of total devices installed to date.

**Table 15. Utilities Residential Direct Load Program Installation (devices)**

Utility	2011	Program-to-Date
BGE	30,391	356,701
Pepco	41,941	81,928
DPL	8,976	22,783
SMECO	13,341	32,791
Total	94,649	494,203

Table 16 summarizes the DLC program performance for 2011 and program-to-date. The total coincident peak demand reduction reported in 2011 was 140 MW, about 36 percent of the 2011 target of 392.5 MW. Program-to-date, the four utilities achieved 838 MW, about 64 percent of the 2009-2011 EmPower Maryland targets.

<sup>40</sup> The safety issue involved programmable thermostats in DPL, Pepco, and SMECO programs.

<sup>41</sup> BGE has revised its customer participation goal from 450,000 customers to 400,000.

**Table 16. DLC Program Coincident Peak Demand Reduction (MW)**

Utility	2011 Peak Demand Interim Target*	2011 Reported	Percent of 2011 Interim Target*	2009-2011 Empower Maryland Target	Program-to-Date Reported	Percent of 2009-2011 Target
BGE	272	76.127	28%	1005	667.958	66%
PEPCO	81	44.223	55%	200	118.109	59%
DPL	27	9.020	33%	56	24.517	44%
SMECO	12.5	11.060	88%	46	27.220	59%
<b>Total</b>	<b>392.5</b>	<b>140.43</b>	<b>36%</b>	<b>1,307</b>	<b>837.804</b>	<b>64%</b>

\*Percentage of demand savings forecasted to be achieved in 2011 minus 2010 forecast.

## Direct Load Control Events

July 22, 2011, was the first time PJM had declared an emergency event since the utilities' current DLC programs were approved by the Commission in 2008. BGE was the only utility in Maryland to have an emergency event declared by PJM. This was primarily due to the overheating of a transformer at one of BGE's substations (forcing BGE to take that transformer out of service) and extremely high temperatures the State was experiencing. Because of this emergency event, BGE initiated its DLC program at all three cycling levels (50%, 75%, and 100%). Consequently, it was the first time that those customers who signed up for the 75 percent and 100 percent cycling options actually had their thermostat or switch cycling at the 75 percent or 100 percent level, as applicable.<sup>42</sup> The combination of the extremely high temperatures, cycling participants for the first time at their selected cycling level, paging signals to DLC devices unable to transmit due to system overloading, and the length of the event (7.75 hours)<sup>43</sup> led to a significant increase in the volume of calls to both the BGE call center and the DLC call center, which led to longer than average wait times and increased customer dissatisfaction.

Pepco, DPL, and SMECO activated their DLC programs for economic reasons during this period, but did not experience any above-average duration times or number of calls at their call centers. Pepco, DPL, and SMECO also reported no problems with overloads on their communication systems.

The major problems of the day were due to shortcomings in participant education and communication. The following is a list of education and communication problems and the proposed corrections to avoid these issues in future activations events:

1. Participants forgot what level of cycling they were signed up for—BGE (and all the utilities) need to remind the participants of their cycling level prior to the summer season, when these devices are most likely to be activated. Additionally, BGE should describe situations when a participant might want to lower their cycling level, such as medical conditions or homes with elderly people and small children.

<sup>42</sup> For non-PJM Emergency events, BGE cycles all participants at a 50 percent level.

<sup>43</sup> This total of 7.75 hours was the average time the DLC program was activated, and consisted of two events. The first event was the PJM-declared emergency which lasted for 6 hours and 34 minutes. For the second event, BGE switched all participants to cycle at the 50 percent level in order to scale down from the emergency event. The second event lasted for 1 hour and 11 minutes.

2. Participants were unaware of the PJM emergency event—BGE should attempt to contact participants the evening prior to an event (PJM Emergency or BGE initiated), similar to the commitment BGE has made for customer contact for Smart Energy Pricing. That way a participant will be aware of the event beyond the message on the thermostat and light on the switch.
3. Participants had never been cycled at more than 50 percent prior to July 22—BGE may want to consider cycling participants at their selected cycling level during BGE declared events. Since BGE-declared events generally do not last longer than four hours, a 100 percent participant, for example, may have a better idea of the interior temperature change to expect for a potential PJM-declared emergency event.
4. Long time spent on hold while contacting call center—BGE has committed, in its report, to increase call center staff during a PJM-declared emergency.
5. Paging signals to DLC devices unable to transmit due to system overloading—BGE has indicated that it is already working with its signal vendor to configure the system to enable the prioritization of system-wide device commands.

BGE has been working on improving the education and communication issues identified during the July 22 DLC activation event in order to provide more transparency and be more responsive to program participants during future PJM declared emergency events.

### **PJM RPM Capacity Market**

The DLC programs resulted in 772 MW being bid into the PJM for Delivery Year (“DY”) 2014-2015 in the PJM Reliability Pricing Model (“RPM”) auction, a 3.9 percent decrease from 2010 PJM bid of 803 MW for DY 2013-2014. To date, these programs have accounted for 3,822 MW of the total capacity bid into the PJM capacity market. Table 17 summarizes the capacity bid into PJM’s capacity market from the DLC programs by utility and delivery year.

**Table 17. Demand Response Program RPM Bid Results (MW)**

	DY 2014-2015	DY 2013-2014	DY 2012-2013	DY 2011-2012	DY 2010-2011	DY 2009-2010	Total
Total	772	803	953	662	415	217	3,822

Table 18 illustrates the amount of capacity cleared in the May 2009 and May 2010 RPM Capacity market for the delivery years of 2012/2013 and 2013/2014, respectively. The table also calculates the amount of capacity revenue the utilities can expect to receive from PJM in the two delivery years that will be used to offset the costs of both Demand Response and EE&C programs borne by ratepayers.

Two observations of note in Table 18 are: (1) that the amount of capacity cleared in the 2014/2015 DY auction is higher than the amount of capacity cleared in 2013/2014 DY; and (2) the expected revenue from PJM is lower in the 2014/2015 DY when compared to DY 2013/2014. The reason for these seemingly contradictory results (higher capacity bid and lower expected revenue) is because the clearing price for capacity decreased by approximately 45 percent to 50 percent across the Maryland utility zones. According to PJM, the clearing price decrease was

primarily caused by the reduced reliability requirement due to lower forecasted load and to the increase in capacity transfer margin into MAAC.<sup>44</sup>

**Table 18. PJM RPM Bid Results and Expected Revenue for Delivery Year 2014/2015 and 2013/2012**

	DY 2014-2015				DY 2013-2014			
	Cleared Bids (MW)			Expected Revenue (\$Million)	Cleared Bids (MW)			Expected Revenue (\$Million)
	DR	EE&C	Total		DR	EE&C	Total	
Total	772	156	928	\$43.63	803	102	905	\$76.37

## EmPower Maryland Funding Levels

### EE&C Programs

The Commission approved a three-year budget for each utilities' EmPower Maryland proposal. Table 19 breaks down the approved budgets for 2011 for each utility. Table 20 illustrates what each utility actually spent in 2011 on their EmPower Maryland programs.

**Table 19. Forecasted 2011 EE&C Budgets from EmPower Filings**

	Residential	Commercial	General Awareness	Total
BGE	\$ 29,099,791	\$ 20,722,339	\$ 2,500,000	\$ 52,322,130
Pepco	\$ 11,699,289	\$ 9,663,660	\$ 1,300,000	\$ 22,662,949
PE	\$ 11,374,843	\$ 4,403,067	\$ 1,148,296	\$ 16,926,206
DPL	\$ 4,819,284	\$ 3,022,769	\$ 950,000	\$ 8,792,053
SMECO	\$ 4,086,811	\$ 1,257,115	\$ 150,000	\$ 2,291,562
Total	\$ 57,877,654	\$ 39,068,950	\$ 6,048,296	\$ 102,994,900

**Table 20. Reported 2011 EE&C Spending**

	Residential	Commercial	General Awareness	Total
BGE	\$ 36,655,099	\$ 19,981,550	\$ 3,001,411	\$ 59,638,060
Pepco	\$ 7,977,428	\$ 6,398,743	\$ 1,279,751	\$ 15,655,922
PE	\$ 8,241,002	\$ 3,260,239	\$ 946,872	\$ 12,448,113
DPL	\$ 2,788,159	\$ 1,646,439	\$ 830,551	\$ 5,265,149
SMECO	\$ 5,152,455	\$ 1,752,332	\$ 321,697	\$ 2,849,360
Total	\$ 48,196,017	\$ 29,779,064	\$ 5,433,410	\$ 83,408,491

<sup>44</sup> See PJM 2014/2015 RPM Base Residual Auction Results, PJM DOCS #645284.

Table 21 details the various EmPower Maryland surcharges and revenue requirements for each EmPower utility. The revenue requirements do not match the filed budgets because program costs are collected over a five-year period as directed by the Commission in Order No. 81637 in Case No. 9111.<sup>45</sup>

**Table 21. 2011 EE&C Surcharges and Revenue Requirements<sup>46</sup>**

	<b>Residential</b>	<b>Large C&amp;I</b>	<b>Small C&amp;I</b>	<b>Revenue Requirement</b>
BGE	\$0.000730	\$0.000290	\$0.001230	\$17,932,659
Pepco	\$0.000777	\$0.000167	\$0.000167	\$6,316,918
PE <sup>47</sup>	\$0.000460	\$0.000130	\$0.000130	\$1,153,100
DPL	\$0.000764	\$0.000216	\$0.000216	\$2,244,174
SMECO	\$0.001450	\$0.000530	\$0.000530	\$5,692,503

Each of the EmPower utilities continued the operation of each of their respective suite of energy-efficiency programs in 2011. BGE and SMECO requested surcharges for their respective revenue requirements and received approval from the Commission, effective January 1, 2011, and February 9, 2011, respectively.

PE filed its surcharge and was approved on February 9, 2011. However, in May 2011, PE re-filed its surcharge as part of the FirstEnergy merger, which had a significant contribution to EE&C programs as part of the settlement. Under the revised tariff, the \$750,000 merger settlement contribution was deducted from the revenue requirement for 2011, providing immediate rate relief to PE's customers.

DPL and Pepco requested surcharges for their respective revenue requirements in March 16, 2011; however, due to numerous issues, the companies' 2010 surcharges remained in effect throughout 2011.

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<sup>45</sup> *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.

<sup>46</sup> All surcharges are per kWh.

<sup>47</sup> PE's revenue requirement was reduced by \$750,000 as part of the Allegheny Power and FirstEnergy merger settlement.

## Demand Response

BGE, DPL, Pepco, and SMECO operated their respective DR programs in 2011. Table 22 details the surcharges and revenue requirements of each utility with an approved DR project.<sup>48</sup>

**Table 22. 2011 Demand Response Surcharges and Revenue Requirements<sup>49</sup>**

	Surcharge	Revenue Requirement
BGE	\$0.001770	\$23,306,956
Pepco	\$0.001093	\$12,067,734
DPL	\$0.001058	\$2,339,309
SMECO	\$0.001790	\$5,692,503

Table 23 details the respective forecasted and reported budgets for each of the EmPower utilities with an operational DR program. With the exception of SMECO, all utilities programs were under budget for the 2011 program year due to lower than anticipated participation.

**Table 23. Demand Response Forecasted and Reported Budgets**

	Forecasted Budget	Reported Costs	Variance
BGE	\$ 75,114,366	\$ 51,247,719	\$ (23,866,647)
Pepco	\$ 32,774,667	\$ 18,636,990	\$ (14,137,677)
DPL	\$ 7,581,810	\$ 5,135,939	\$ (2,445,871)
SMECO	\$ 3,219,331	\$ 4,212,613	\$ 993,282
Total	\$ 118,690,174	\$ 79,233,261	\$ (39,456,913)

## Evaluation, Measurement & Verification

Determining and validating electricity savings and related impacts is a critical component of such programs, particularly when evaluating how effective program delivery has been, what factors are driving or impeding customer participation in programs, characteristics of participants and non-participating customers, determinants of equipment decisions, and customer satisfaction with program delivery. Moreover, the design and depth of program data collection, monitoring, and analyses can set the tone in terms of the significance in accuracy and prudence of compliance results. Given the enormity in scale of the EmPower Maryland initiative and the likelihood of higher 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 a third-party, independent evaluator model.<sup>50</sup> In this model, each utility will direct its own primary evaluation and verification activities through its EM&V Contractor, with an independent evaluator providing independent analysis and due diligence of the EM&V process, and evaluation of broad policy

<sup>48</sup> PE did not have DR program in effect in 2010 and therefore did not file for a surcharge recovery.

<sup>49</sup> All surcharges are per kWh.

<sup>50</sup> See Commission Order Number 82869 issued on August 31, 2009 in Case Nos. 9153 – 9157.

issues, such as impacts on the environment, jobs, price mitigation, reliability, etc., as necessary, for the Commission. To implement the approved model, in January 2010, the utilities and PSC Staff issued a Request For Proposal (“RFP”) to select a PSC EM&V Independent Evaluator.<sup>51</sup> Kick-off activities commenced in April 2010 with both the utilities’ EM&V contractor (Navigant Consulting) and the Commission’s Independent Evaluator (Itron).

One of the first deliverables for the EM&V process was to develop a Strategic Plan,<sup>52</sup> which serves as a guide for the Statewide Evaluator and utilities in developing and executing their detailed evaluation plans for the 2010-2011 EmPower Maryland programs.<sup>53</sup> In addition to establishing a schedule for major milestones and deliverables, the Strategic Plan provides guidance to:

- Help allocate evaluation resources among different programs;
- Anticipate and resolve high level evaluation issues in advance;
- Proactively identify differences in philosophy or approach;
- Facilitate timely process evaluations to improve program design and implementation; and
- Strike a balance between best practices and completing the evaluation process.

Table 24 includes the key evaluation deliverables and due dates agreed upon by all stakeholders.

**Table 24. Key Evaluation Deliverables and Due Dates**

Key Dates	Deliverables
June 14, 2010	Draft Strategic Evaluation Plan
Aug 15, 2010	Final Evaluation Plans
Dec 1, 2010 and Jan 15, 2011	Draft and Final Statewide Evaluation Report of 2009-2010 Program Savings (Navigant)
Jan 10, 2011 and Feb 15, 2011	Draft and Final Verification of 2009 and 2010 Statewide Program Savings Report (Itron)
Jan 30 annually	Utility Programmatic Savings Reports - Includes reported and verified savings for previous program year (e.g., 2010 programs for the Jan 30, 2011, report)
March 1, 2011	EmPower progress report to State General Assembly
March 15, 2011	Utilities submit cost-effectiveness analysis for major programs and the entire portfolio for program years 2009, 2010, and 2011 program years. [See the alternative option of filing a minimal update on February 15, 2011, and a comprehensive update by May 15, 2011.]
May 1, 2011	Post-Installation Report to PJM for program savings bid into the market
May 1 annually	Final Process Evaluation Results and Recommended Design Changes – interim results to be provided to utilities throughout the year

<sup>51</sup> The utilities also issued an RFP for a Statewide EM&V Evaluator for their primary EM&V work for the EE&C programs only. Their Demand Response Programs will be evaluated either in-house or in conjunction with their program contractors.

<sup>52</sup> See Mail Log No. 125011.

<sup>53</sup> Due to the late start of most EmPower Maryland programs in 2009 and the finalization of contracts for EM&V, all parties felt that the EM&V that could still occur on the part of the 2009 implementation would be incorporated into the 2010 evaluation efforts.



## Overall Findings of the 2009 – 2010 EmPower EE&C and DR Programs

### Energy and Peak Demand Savings

Itron was able to verify approximately 95 percent of the energy savings and 85 percent of the peak demand savings reported by the utilities for 2009–2010 program years, considered exceptional for a jurisdiction just starting up their energy efficiency portfolios. First-year savings were estimated at 526,000 MWh per year and 77 MW by Navigant. Two utilities—BGE and Pepco—contributed approximately 90 percent of the energy and peak demand savings from the 2009-2010 programs.

Given 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 2011 should be even closer to the evaluation results.

### Cost Effectiveness

The utilities’ 2009 – 2010 EE&C portfolios were generally cost effective and expected to improve for most programs as they mature and initial start up costs are spread over future years of activity. Table 25 summarizes the utilities’ EE&C portfolio benefit-cost estimates using the Total Resource Cost (“TRC”) test.

**Table 25. Portfolio Benefit – Cost Results (through December 31, 2010)**

Utility	TRC	
	2008 Forecast	Verified 2009-2010
BGE	2.20	2.20
Pepco	3.80	2.70
PE	2.20	0.70
DPL	2.70	1.94
SMECO	2.90	2.28
Statewide	N/A	2.21

Four of the five utilities’ portfolios passed the TRC test, with the exception of Potomac Edison, which has relatively low costs in comparison to the other utilities and experienced the slowest ramp up of these programs. Comparing the results against the three-year TRCs from the 2008 plans, most utilities are well within range of their forecast.

For the DLC programs, given the variation amongst key input variables<sup>54</sup> and limited evaluation that was able to be conducted, Itron ran three sensitivity analysis: a base, low, and high case (Table 26). BGE’s DLC program held strong under all three scenarios, but Pepco and SMECO did not fare as well under the worst-case scenario, which essentially included all three variables being a considerably lower (but plausible) factor than assumed.

<sup>54</sup> These variations in key input variables included the average kW reduction in load per house, the monetary value of energy and capacity in the PJM markets, and varying levels of price mitigation.

**Table 26. Results of TRC Sensitivity Analyses for DLC Programs**

Utility	Base Case TRC	High Case	Low Case
BGE	3.79	4.93	1.25
Pepco	4.90	6.00	0.57
DPL	4.83	6.68	0.47
SMECO	1.68	2.05 (Res) 2.02 (Com)	0.42 (Res) 0.93 (Com)
Source: Itron, <i>Cost-Effectiveness Analysis of 2010 Demand Response Programs Operated in Maryland</i> , July 14, 2011			

Of all the variables, price mitigation benefits were a key component of the benefits estimated for these programs, ranging from 25 to 40 percent of the total net benefits estimated for each utility DLC program. Itron is currently developing reporting templates to develop a standard and consistent method for estimating not only the value of future capacity benefits, but also calculations used to estimate reductions on the price of electricity (*i.e.*, price mitigation).

## Advanced Metering Infrastructure Programs

AMI or “Smart Grid” technology is generally defined as a two-way communication system and associated equipment and software, including metering equipment installed on an electric customer’s premise, that uses the electric company’s distribution network to provide real-time monitoring, diagnostic, and control information and services. 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

In 2010, the Commission approved the Smart Grid Initiative (“SGI” or “Initiative”) for BGE, granted conditional approval for Pepco’s SGI, and deferred the approval of DPL’s SGI until DPL can demonstrate the cost effectiveness of a revised business case for its SGI. In 2011, the Commission authorized Pepco to deploy its SGI project and held additional evidentiary hearings on DPL’s revised business case.

In Order Nos. 83531 and 83571 in Cases Nos. 9208 and 9207, respectively, the Commission directed BGE and Pepco to develop a comprehensive set of installation, performance, benefits and budgetary metrics that will allow the Commission to assess the progress and performance of the Initiative. Additionally, the Commission directed BGE and Pepco to develop comprehensive customer education plans for Commission approval.

Following the Commission’s direction that workgroups be established to bring stakeholders together with the utilities for the development of metrics, educational programs, and security standards, a number of initiatives were undertaken in 2010 and 2011. In a letter order dated February 18, 2011, Pepco received approval from the Commission to implement its “Proposed Phase I” customer education plan. In a letter order dated July 18, 2011, BGE received approval from the Commission to implement its “Smart Grid Customer Education and Communication Plan.” In a letter order dated August 18, 2011, the Commission granted

approval for the Phase I Metrics for both BGE and Pepco. The workgroup continues to develop plans for cyber security, Phase II metrics, and Phase II customer education and communication. It is expected that consensus filings and specific plans will be filed for approval on each of these issues in 2012.

Separate from Case Nos. 9207 and 9208, SMECO has proposed a two-phase AMI Pilot Program to test the operational benefits of AMI deployment. Phase I of the pilot includes the installation of 1,000 meters in one section of the territory. During Phase I of the pilot, the Cooperative will attempt to quantify the level of operational benefits attainable through deployment of AMI, and then report results of Phase I to the Commission. Phase I of the pilot was operational during 2011. SMECO is expected to file a status report on Phase I of the project to the Commission in early 2012.

## **2011 per Capita Energy Consumption and Peak Demand**

Tables 27, 28, 29, and 30 present the per capita electricity consumption and the peak demand for all utilities in 2007, which provides the baseline in which the EmPower Maryland per capita reduction goals are based. Additionally, the tables include the EmPower Maryland per capita goals of a 5 percent reduction in energy use and peak demand in 2011 and the 10 percent per capita reduction in energy use and the 15 percent per capita reduction of peak demand. The final column in each table calculates the amount of energy use reduction and peak demand reduction necessary to achieve the applicable 2011 and 2015 per capita reduction targets. These numbers are based on energy use and demand forecasts from the 2008 PJM load forecast and population projections based on 2007 population data.

**Table 27. Five Percent Reduction per Capita Energy Consumption**

EmPower Maryland - 5 Percent Reduction in Maryland Energy Sales 2011										
2007 Utility Company Data Request Information										
Maryland Utility	Energy Sales MWh (1)	2007 Loss Factors (2)	Energy Sales Gross-Up by Loss Factor	2007 Estimated Population (3)	2011 Estimated Population (3)	2007 per Capita Energy Use MWh	5 Percent Reduction per Capita Energy Use MWh	Energy Use Goal 2011 MWh	PJM Derived Energy Use Forecast 2011 MWh (4)	Difference Between Goal and PJM Derived Forecast MWh
BGE	33,112,453.000	5.69%	35,109,765.179	2,621,466	2,703,746	13.39	12.72	34,401,168	36,454,116	2,052,948
Pepco	15,651,105.000	5.25%	16,518,897.197	1,758,697	1,831,254	9.39	8.92	16,340,383	17,025,761	685,378
PE	7,045,209.000	5.38%	7,445,622.100	424,471	448,396	17.54	16.66	7,472,019	7,594,683	122,664
Delmarva	4,410,698.000	5.83%	4,683,581.501	344,149	364,811	13.61	12.93	4,716,533	4,922,379	205,846
SMECO	3,464,094.089	5.99%	3,684,886.957	330,444	353,794	11.15	10.59	3,748,007	3,842,236	94,229
Choptank	957,285.184	7.11%	1,030,555.787	75,725	80,271	13.61	12.93	1,037,806	1,094,698	56,892
Hagerstown	355,623.286	3.56%	368,768.622	39,573	41,780	9.32	8.85	369,869	378,869	9,000
Easton	274,391.948	5.18%	289,372.727	13,999	14,477	20.67	19.64	284,291	307,383	23,092
Thurmont	86,870.000	4.92%	91,364.052	6,101	6,588	14.98	14.23	93,722	93,867	144.7
Berlin	40,259.553	7.94%	43,731.967	3,803	3,995	11.50	10.92	43,641	46,455	2,813.7
Williamsport	20,083.000	7.79%	21,780.261	2,230	2,354	9.77	9.28	21,845	22,377	531.6
Somerset	7,343.019	5.67%	7,783.989	1,844	1,871	4.22	4.01	7,503	8,268	765.4
A&N Coop	3,342.600	6.43%	3,572.147	354	354	10.09	9.59	3,394	3,670	276.4
								68,540,181	71,794,762	3,254,580.9

- (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 (released Dec. 2007) and jurisdictions (released March 2008). Interpolations of MDP 5-year projections scaled to December 31, 2007 population estimate based on Census Bureau annual estimates. Source: Maryland Department of Planning, Planning Data Services, July 2008. See Population Estimates - Utility Tab for more analysis.
- (4) PJM forecast is from the January 2008 load and energy forecast and is for the entire BGE, DPL, AP, 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 2011 forecast for peak demand and energy sales. For example, because Hagerstown is a part of the AP Zone, Staff applied the PJM growth rate for peak demand and energy sales to the 2007 weather normal peak demand and weather normal energy sales provided by Hagerstown in response to DR No. 3.

**Table 28. Five Percent Reduction per Capita Peak Demand**

EmPower Maryland - 5 Percent Reduction in Maryland Peak Demand 2011								
2007 Utility Company Data Request Information								
Maryland Utility	2007 Peak Demand Weather Normalized (1)	2007 Estimated Population (2)	2011 Estimated Population (2)	2007 per Capita Peak Demand MW	5 Percent Reduction per Capita Peak Demand MW	Peak Demand Goal 2011 MW	PJM Derived Peak Demand Forecast 2011 MW (3)	Difference Between Goal and PJM Derived Forecast MW
BGE	7,260.000	2,621,466	2,703,746	0.0028	0.0026	7,113	7,626	513
Pepco	3,471.000	1,758,697	1,831,254	0.0020	0.0019	3,433	3,663	230
PE	1,418.000	424,471	448,396	0.0033	0.0032	1,423	1,472	49
Delmarva	1,068.000	340,197	360,622	0.0031	0.0030	1,076	1,149	73
SMECO	748.700	330,444	353,794	0.0023	0.0022	762	790	29
Choptank	250.134	79,677	84,460	0.0031	0.0030	252	269	17
Hagerstown	73.992	39,573	41,780	0.0019	0.0018	74	77	3
Easton	64.820	13,999	14,477	0.0046	0.0044	64	70	6
Thurmont	16.600	6,101	6,588	0.0027	0.0026	17.0	17.2	0.2
Berlin	9.143	3,803	3,995	0.0024	0.0023	9.1	9.8	0.7
Williamsport	4.086	2,230	2,354	0.0018	0.0017	4.1	4.2	0.1
Somerset	2.055	1,844	1,871	0.0011	0.0011	2.0	2.1	0.2
A&N Coop	0.810	354	354	0.0023	0.0022	0.8	0.9	0.1
						14,230	15,150	921

- (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 (released Dec. 2007) and jurisdictions (released March 2008). Interpolations of MDP 5-year projections scaled to December 31, 2007 population estimate based on Census Bureau annual estimates. Source: Maryland Department of Planning, Planning Data Services, July 2008. See Population Estimates - Utility Tab for more analysis.
- (3) PJM forecast is from the January 2008 load and energy forecast and is for the entire BGE, DPL, AP, 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 2011 forecast for peak demand and energy sales. For example, because Hagerstown is a part of the AP Zone, Staff applied the PJM growth rate for peak demand and energy sales to the 2007 weather normal peak demand and weather normal energy sales provided by Hagerstown in response to DR No. 3.

**Table 29. 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	33,112,453.000	5.69%	35,109,765.179	2,621,466	2,769,412	13.39	12.05	33,382,109	37,679,204	4,297,095
Pepco	15,651,105.000	5.25%	16,518,897.197	1,758,697	1,897,157	9.39	8.45	16,037,468	17,912,125	1,874,656
PE	7,045,209.000	5.38%	7,445,622.100	424,471	472,031	17.54	15.79	7,451,881	7,790,641	338,760
Delmarva	4,410,698.000	5.83%	4,683,581.501	344,149	386,323	13.61	12.25	4,731,788	5,234,990	503,202
SMECO	3,464,094.089	5.99%	3,684,886.957	330,444	377,378	11.15	10.04	3,787,437	4,042,264	254,827
Choptank	957,285.184	7.11%	1,030,555.787	75,725	85,005	13.61	12.25	1,041,163	1,164,220	123,057
Hagerstown	355,623.286	3.56%	368,768.622	39,573	44,033	9.32	8.39	369,300	388,645	19,345
Easton	274,391.948	5.18%	289,372.727	13,999	14,950	20.67	18.60	278,135	326,905	48,769
Thurmont	86,870.000	4.92%	91,364.052	6,101	7,061	14.98	13.48	95,166	96,288	1,122.2
Berlin	40,259.553	7.94%	43,731.967	3,803	4,185	11.50	10.35	43,314	49,405	6,091.3
Williamsport	20,083.000	7.79%	21,780.261	2,230	2,481	9.77	8.79	21,812	22,954	1,142.6
Somerset	7,343.019	5.67%	7,783.989	1,844	1,906	4.22	3.80	7,243	8,482	1,239.1
A&N Coop	3,342.600	6.43%	3,572.147	354	354	10.09	9.08	3,215	3,903	688.1
								67,250,030	74,720,024	7,469,994.1

- (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 (released Dec. 2007) and jurisdictions (released March 2008). Interpolations of MDP 5-year projections scaled to December 31, 2007 population estimate based on Census Bureau annual estimates. Source: Maryland Department of Planning, Planning Data Services, July 2008. See Population Estimates - Utility Tab for more analysis.
- (4) PJM forecast is from the January 2008 load and energy forecast and is for the entire BGE, DPL, AP, 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 2011 forecast for peak demand and energy sales. For example, because Hagerstown is a part of the AP Zone, Staff applied the PJM growth rate for peak demand and energy sales to the 2007 weather normal peak demand and weather normal energy sales provided by Hagerstown in response to DR No. 3.

**Table 30. 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	2,621,466	2,769,412	0.0028	0.0024	6,519	7,930	1,411
Pepco	3,471.000	1,758,697	1,897,157	0.0020	0.0017	3,183	3,868	685
PE	1,418.000	424,471	472,031	0.0033	0.0028	1,340	1,526	186
Delmarva	1,068.000	340,197	375,644	0.0031	0.0027	1,002	1,236	234
SMECO	748.700	330,444	377,378	0.0023	0.0019	727	834	107
Choptank	250.134	79,677	82,655	0.0031	0.0027	221	286	66
Hagerstown	73.992	39,573	44,033	0.0019	0.0016	70	80	10
Easton	64.820	13,999	14,950	0.0046	0.0039	59	74	15
Thurmont	16.600	6,101	7,061	0.0027	0.0023	16.3	17.9	1.5
Berlin	9.143	3,803	4,185	0.0024	0.0020	8.6	10.5	1.9
Williamsport	4.086	2,230	2,481	0.0018	0.0016	3.9	4.4	0.5
Somerset	2.055	1,844	1,906	0.0011	0.0009	1.8	2.2	0.4
A&N Coop	0.810	354	354	0.0023	0.0019	0.7	0.9	0.2
						13,152	15,870	2,717.7

- (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 (released Dec. 2007) and jurisdictions (released March 2008).  
Interpolations of MDP 5-year projections scaled to December 31, 2007 population estimate based on Census Bureau annual estimates.  
Source: Maryland Department of Planning, Planning Data Services, July 2008. See Population Estimates - Utility Tab for more analysis.
- (3) PJM forecast is from the January 2008 load and energy forecast and is for the entire BGE, DPL, AP, 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 2011 forecast for peak demand and energy sales. For example, because Hagerstown is a part of the AP Zone, Staff applied the PJM growth rate for peak demand and energy sales to the 2007 weather normal peak demand and weather normal energy sales provided by Hagerstown in response to DR No. 3.

Tables 31a and 31b present the per capita electricity consumption for all utilities in 2011, and compare the reported 2011 per capita values to the 2007 per capita baseline values to gauge the progress that has been made towards achieving the 2011 EmPower Maryland per capita energy use goals. In both tables, it is important to note that electricity sales are not weather normalized, and therefore, will fluctuate depending upon the weather. Other variables, such as the economic activity and energy prices, may also influence electricity sales which may make it difficult to calculate EmPower Maryland's energy savings. The Act measures success based on a per capita basis of the 2007 energy use baseline.

The primary difference between Tables 31a and 31b is that Table 31a was developed using the 2011 EmPower goals that were calculated using the 2007 and 2011 population projections based on population data available in 2008, and the energy use forecast was derived using energy use forecast data from the 2008 PJM Load Forecast report. Table 31b was developed using revised 2007 and 2011 population data based on the interpolation of U.S. Census Bureau 2010 Census Data by Maryland County, data from City-Data.com, and the Maryland Department of Planning. Additionally, the energy use forecast was revised based on data from the 2011 PJM Load Forecast report. The revised data used to develop Table 31b are provided to illustrate the effect of changes to the PJM Load Forecast and population estimates have on projected usage totals; and, thus, the utilities' energy sales and peak demand reduction goals. It is important to note that the 2011 5 percent reduction in per capita energy use and peak demand goals are unchanged, and are based on the data presented in Table 31a.

Comparing the two tables yields several observations. The first is that the percentage of per capita energy use reduced is not dramatically different between the two tables. However, there are certain categories that have a significant difference between the original estimates in Table 31a and the revised data in Table 31b. The prime example of this is to observe the changes to Pepco's 2011 energy reduction goal in 2011 in Tables 31a and 31b. In Table 31a, Pepco's energy reduction goal for 2011 is 685,376 MWh based on PJM's 2008 Load Forecast projected to 2011. What this says is that based on the 2008 PJM Load Forecast, Pepco had to reduce its 2011 energy use by 685,376 MWh to achieve the five percent per capita reduction goal. In Table 31b, Pepco's energy reduction goal for 2011 is -36,578 MWh based on PJM's 2011 Load Forecast. This would appear that Pepco (and any other utility with a negative energy reduction goal) has achieved the EmPower Maryland goal. This negative number does not mean that Pepco has met its EmPower Maryland goal. The actual achievement or failure to meet the 2011 EmPower Maryland goals can only be ascertained after the review of actual 2011 energy use is calculated along with the actual 2011 population data.

The reason for this negative number is that there appears to be a disconnect between the population projection and the 2011 PJM energy use forecast. The population in the Pepco territory is projected to increase by approximately 4 percent from 2007 to 2011. However, the projected PJM energy use forecast between 2007 Load Forecast report and 2011 Load Forecast report is lower in 2011. Typically, energy usage will increase proportionally to population growth, so there appears that the faster growing population in the Pepco territory coupled with non-proportional increase in the energy use forecast for 2007 and 2011 leads to the negative number for Pepco's energy reduction target.<sup>55</sup>

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<sup>55</sup> The Commission has no control over how PJM forecasts the energy use and peak demand or the population data provided by the U.S. Census Bureau or the Maryland Department of Planning.



**Table 31a. 2011 Per Capita Energy Use Compared to 2011 EmPower Maryland Goal**

EmPower Maryland - 5 Percent Reduction in Maryland Energy Sales 2011													
2011 Utility Company Data Request Information													
EmPower Maryland Targets and Goals Based on 2007 Population Data and 2008 PJM Load Forecast													
Maryland Utility	2007 per Capita Energy Use MWh	2011 per Capita Energy Use Goal MWh	2011 per Capita Energy Reduction Target MWh (1)	2011 Energy Sales Gross-Up by Loss Factor MWh	2011 Estimated Population (2)	2011 per Capita Energy Use MWh	Percentage Reduced from 2007 Baseline (3)	Percentage of Per Capita Energy Savings Achieved Towards 2011 Reduction Target (4)	2011 Energy Sales Goal MWh	Difference Between 2011 Use and 2011 Goal MWh	2011 Energy Reduction Goal MWh	Utility Reported Savings Program-to-Date	
BGE	13.39	12.72	0.67	33,928,810	2,682,603	12.65	5.6%	111.3%	34,401,168	-472,359	2,052,948	895,301	
Pepco	9.39	8.92	0.47	16,458,965	1,847,911	8.91	5.2%	103.5%	16,340,383	118,582	685,378	289,931	
PE	17.54	16.66	0.88	7,605,462	442,902	17.17	2.1%	42.1%	7,472,019	133,443	122,664	103,527	
Delmarva	13.61	12.93	0.68	4,557,024	350,025	13.02	4.3%	86.7%	4,716,533	-159,509	205,846	52,582	
SMECO	11.15	10.59	0.56	3,760,270	346,568	10.85	2.7%	54.0%	3,748,007	12,263	94,229	60,410	
Choptank	13.61	12.93	0.68	1,053,044	83,739	12.58	7.6%	151.9%	1,037,806	15,238	56,892		
Hagerstown	9.32	8.85	0.47	334,063	39,915	8.37	10.2%	203.8%	369,869	-35,806	9,000		
Easton	20.67	19.64	1.03	272,612	16,433	16.59	19.7%	394.9%	284,291	-11,680	23,092		
Thurmont	14.98	14.23	0.75	85,459	6,225	13.73	8.3%	166.6%	93,722	-8,263	145		
Berlin	11.50	10.92	0.57	42,703	4,587	9.31	19.1%	381.0%	43,641	-938	2,814		
Williamsport	9.77	9.28	0.49	19,933	2,166	9.20	5.8%	115.5%	21,845	-1,912	532		
Somerset	4.22	4.01	0.21	8,330	1,857	4.49	-6.3%	-125.7%	7,503	827	765		
A&N Coop	10.09	9.59	0.50	3,108	386	8.05	20.2%	404.1%	3,394	-285	276		
<b>Total</b>	<b>12.32</b>	<b>11.71</b>	<b>0.62</b>	<b>68,129,782</b>	<b>5,825,319</b>	<b>11.70</b>	<b>5.1%</b>	<b>102.1%</b>	<b>68,540,181</b>	<b>-410,399</b>	<b>3,254,581</b>	<b>1,401,751</b>	

- (1) The 2011 per Capita Energy Reduction Target Column is the difference between the 2007 per Capita Energy Use and 2011 per Capita Energy Use Goal. For example, for BGE to reach its 2011 per capita energy use goal of 12.72 MWh, BGE would have to achieve a reduction of 0.67 MWh off the 2007 baseline per capita energy use of 13.39.
- (2) Sources: U.S. Census Bureau and Maryland Department of Planning.
- (3) Percentage Reduced from the 2007 Baseline Column, calculates the percentage the 2011 per Capita Energy Use is from the 2007 per Capita Energy use Column. For example, BGE's 2011 per Capita Energy use is 5.6% lower than BGE's 2007 per capita energy use.
- (4) Percentage of Per Capita Energy Savings Towards 2011 Reduction Target Column, calculates the Percentage Reduced from 2007 Baseline as a percentage of the 5% EmPower Maryland goal. For example, in 2011 BGE's per capita energy use was 5.6% lower than the 2007 per capita energy use baseline. In other words, in 2011, BGE achieved 5.6% of the 5% EmPower Maryland goal, which is equivalent to reaching 111.3% of the 2011 per capita energy reduction target.

**Table 31b. 2011 Per Capita Energy Use Compared to 2011 EmPower Maryland Goal  
Revised 2007 Population and 2011 PJM Load Forecast**

EmPower Maryland - 5 Percent Reduction in Maryland Energy Sales 2011													
2011 Utility Company Data Request Information													
EmPower Maryland Targets and Goals Based on Revised 2007 Population Data and 2011 PJM Load Forecast													
Maryland Utility	2007 per Capita Energy Use MWh	2011 per Capita Energy Use Goal MWh	2011 per Capita Energy Reduction Target MWh (1)	2011 Energy Sales Gross-Up by Loss Factor MWh	2011 Estimated Population (2)	2011 per Capita Energy Use MWh	Percentage Reduced from 2007 Baseline (3)	Percentage of Per Capita Energy Savings Achieved Towards 2011 Reduction Target (4)	2011 Energy Sales Goal MWh	Difference Between 2011 Use and 2011 Goal MWh	2011 Energy Reduction Goal MWh	Utility Reported Savings Program-to-Date	
BGE	13.41	12.74	0.67	33,928,810	2,682,603	12.65	5.7%	113.3%	34,168,016	-239,207	1,228,017	895,301	
Pepco	9.32	8.85	0.47	16,458,965	1,847,911	8.91	4.4%	88.8%	16,362,533	96,432	-36,578	289,931	
PE	18.46	17.54	0.92	7,605,462	442,902	17.17	7.0%	139.9%	7,768,420	-162,958	-9,942	103,527	
Delmarva	13.70	13.02	0.69	4,557,024	350,025	13.02	5.0%	99.4%	4,555,679	1,345	-44,047	52,582	
SMECO	11.22	10.66	0.56	3,760,270	346,568	10.85	3.3%	65.3%	3,692,769	67,501	-36,725	60,410	
Choptank	13.70	13.02	0.69	1,053,044	83,739	12.58	8.2%	164.2%	1,089,886	-36,842	-25,701		
Hagerstown	9.33	8.86	0.47	334,063	39,915	8.37	10.3%	205.1%	353,620	-19,557	21,402		
Easton	20.25	19.24	1.01	272,612	16,433	16.59	18.1%	361.6%	316,144	-43,533	-25,498		
Thurmont	15.08	14.33	0.75	85,459	6,225	13.73	9.0%	179.8%	89,205	-3,746	2,158		
Berlin	11.05	10.50	0.55	42,703	4,587	9.31	15.8%	315.4%	48,165	-5,461	-2,115		
Williamsport	9.54	9.07	0.48	19,933	2,166	9.20	3.6%	71.6%	19,639	294	845		
Somerset	4.22	4.01	0.21	8,330	1,857	4.49	-6.3%	-125.7%	7,446	884	1,145		
A&N Coop	9.25	8.79	0.46	3,108	386	8.05	13.0%	259.8%	3,394	-285	213		
<b>Total</b>	<b>12.38</b>	<b>11.76</b>	<b>0.62</b>	<b>68,129,782</b>	<b>5,825,319</b>	<b>11.70</b>	<b>5.5%</b>	<b>110.2%</b>	<b>68,474,915</b>	<b>-345,133</b>	<b>1,073,174</b>	<b>1,401,751</b>	

- (1) The 2011 per Capita Energy Reduction Target Column is the difference between the 2007 per Capita Energy Use and 2011 per Capita Energy Use Goal. For example, for BGE to reach its 2011 per capita energy use goal of 12.74 MWh, BGE would have to achieve a reduction of 0.67 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 2011 per Capita Energy Use is from the 2007 per Capita Energy use Column. For example, BGE's 2011 per Capita Energy use is 5.7% lower than BGE's 2007 per capita energy use.
- (4) Percentage of Per Capita Energy Savings Towards 2011 Reduction Target Column, calculates the Percentage Reduced from 2007 Baseline as a percentage of the 5% EmPower Maryland goal. For example, in 2011 BGE's per capita energy use was 5.7% lower than the 2007 per capita energy use baseline. In other words, in 2011, BGE achieved 5.7% of the 5% EmPower Maryland goal, which is equivalent to reaching 113.3% of the 2011 per capita energy reduction target.

Tables 32a and 32b present the per capita peak demand for all utilities in 2011, and compare the reported 2011 per capita values to the 2007 per capita baseline values to gauge the progress that has been made towards achieving the 2011 EmPower Maryland per capita peak demand reduction goals.

The primary difference between Tables 32a and 32b is that Table 32a was developed using the 2011 EmPower goals that were calculated using the 2007 and 2011 population projections based on population data available in 2008 and the peak demand forecast was derived using peak demand forecast data from the 2008 PJM Load Forecast report. Table 32b was developed using revised 2007 and 2011 population data based on the interpolation of U.S. Census Bureau 2010 Census Data by Maryland County, data from City-Data.com and the Maryland Department of Planning. Additionally, the peak demand forecast was revised based on data from the 2011 PJM Load Forecast report. The revised data used to develop Table 32b are provided to illustrate the effect of changes to the PJM Load Forecast and population estimates have on projected peak demand. It is important to note that the 2011 5 percent reduction in per capita peak demand EmPower Maryland goals are based on the data presented in Table 32a.

Similar to Tables 32a and 32b, which demonstrated how revisions to the population data and PJM forecast change the EmPower Maryland goals for per capita energy reduction, similar changes to the per capita peak demand reduction goals can be observed in Tables 32a and 32b. The percentage of per capita peak demand reduced from the 2007 between the two tables is hardly discernible. However, the 2011 peak demand reduction goal is lower (although not in the same magnitude of the energy reduction goal) in Table 32b, which uses revised population and load forecast data, versus Table 32a.

This observation that the revised peak demand reduction targets change in a smaller proportion than the revised energy reduction targets indicates that changes in population projection have a greater impact on energy use than peak demand use.

**Table 32a. 2011 Per Capita Peak Demand Compared to 2011 EmPower Maryland Goal  
2007 Population Data and 2008 PJM Load Forecast**

EmPower Maryland - 5 Percent Reduction in Maryland Peak Demand 2011												
2011 Utility Company Data Request Information												
EmPower Maryland Targets and Goals Based on 2007 Population Data and 2008 PJM Load Forecast												
Maryland Utility	2007 per Capita Peak Demand MW	2011 per Capita Peak Demand Goal MW	2011 per Capita Demand Reduction Target MW (1)	2011 Peak Demand Weather Normalized	2011 Estimated Population (2)	2011 per Capita Peak Demand MW	Percentage Reduced from 2007 Baseline (3)	Percentage of Per Capita Peak Demand Savings Achieved Towards 2011 Reduction Target (4)	2011 Peak Demand Goal MW	Difference Between 2011 Use and 2011 Goal	2011 Peak Demand Reduction Goal	Utility Reported Savings Program-to-Date
BGE	0.0028	0.0026	0.0001	6,532	2,682,603	0.0024	12.1%	241.6%	7,113	-582	513	704
Pepco	0.0020	0.0019	0.0001	3,501	1,847,911	0.0019	4.0%	80.2%	3,433	67	230	136
PE	0.0033	0.0032	0.0002	1,415	442,902	0.0032	4.3%	86.6%	1,423	-8	49	19
Delmarva	0.0031	0.0030	0.0002	897	353,108	0.0025	19.1%	381.1%	1,076	-178	73	32
SMECO <sup>(5)</sup>	0.0023	0.0022	0.0001	786	346,568	0.0023	0.0%	-0.9%	762	24	29	52
Choptank	0.0031	0.0030	0.0002	257	80,656	0.0032	-1.7%	-33.1%	252	5	17	
Hagerstown <sup>(5)</sup>	0.0019	0.0018	0.0001	63	39,915	0.0016	15.4%	308.5%	74	-11	3	
Easton <sup>(5)</sup>	0.0046	0.0044	0.0002	62	16,433	0.0038	18.5%	370.3%	64	-2	6	
Thurmont <sup>(5)</sup>	0.0027	0.0026	0.0001	16	6,225	0.0026	5.3%	105.9%	17.0	-1	0	
Berlin <sup>(5)</sup>	0.0024	0.0023	0.0001	9	4,587	0.0020	17.5%	349.8%	9.1	0	1	
Williamsport <sup>(5)</sup>	0.0018	0.0017	0.0001	4	2,166	0.0016	10.4%	207.9%	4.1	-1	0	
Somerset <sup>(5)</sup>	0.0011	0.0011	0.0001	2	1,857	0.0010	10.4%	208.9%	2.0	0	0	
A&N Coop <sup>(5)</sup>	0.0023	0.0022	0.0001	N/A	386	N/A	N/A	N/A	0.8	0	0	
<b>Total</b>	<b>0.0026</b>	<b>0.0024</b>	<b>0.0001</b>	<b>13,544</b>	<b>5,824,933</b>	<b>0.0023</b>	<b>9.1%</b>	<b>182.5%</b>	<b>14,230</b>	<b>-686</b>	<b>921</b>	<b>943</b>

(1) The 2011 per Capita Peak Demand Reduction Target Column is the difference between the 2007 per Capita Peak Demand and 2011 per Capita Peak Demand Goal. For example, for BGE to reach its 2011 per capita Peak Demand goal of 0.0026 MW, BGE would have to achieve a reduction of 0.0001 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 2011 per Capita Peak Demand is from the 2007 per Capita Peak Demand Column. For example, BGE's 2011 per Capita Peak Demand is 12.1% lower than BGE's 2007 per Capita Peak Demand.

(4) Percentage of Per Capita Peak Demand Savings Towards 2011 Reduction Target Column, calculates the Percentage Reduced from 2007 Baseline as a percentage of the 5% EmPower Maryland goal. For example, in 2011 BGE's per capita peak demand was 12.1% lower than the 2007 per capita peak demand baseline. In other words, in 2011, BGE achieved 12.1% of the 5% EmPower Maryland goal, which is equivalent to reaching 241.6% of the 2011 per capita peak demand target.

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

**Table 32b. 2011 Per Capita Peak Demand Compared to 2011 EmPower Maryland Goal  
Revised 2007 Population and 2011 PJM Load Forecast**

EmPower Maryland - 5 Percent Reduction in Maryland Peak Demand 2011												
2011 Utility Company Data Request Information												
EmPower Maryland Targets and Goals Based on Revised 2007 Population Data and 2011 PJM Load Forecast												
Maryland Utility	2007 per Capita Peak Demand MW	2011 per Capita Peak Demand Goal MW	2011 per Capita Demand Reduction Target MW (1)	2011 Peak Demand Weather Normalized	2011 Estimated Population (2)	2011 per Capita Peak Demand MW	Percentage Reduced from 2007 Baseline (3)	Percentage of Per Capita Peak Demand Savings Achieved Towards 2011 Reduction Target (4)	2011 Peak Demand Goal MW	Difference Between 2011 Use and 2011 Goal	2011 Peak Demand Reduction Goal	Utility Reported Savings Program-to-Date
BGE	0.0028	0.0026	0.0001	6,532	2,682,603	0.0024	12.2%	243.4%	7,065	-533	323	704
Peppo	0.0020	0.0019	0.0001	3,501	1,847,911	0.0019	3.3%	65.3%	3,438	63	204	136
PE	0.0034	0.0032	0.0002	1,415	442,902	0.0032	4.8%	96.8%	1,413	2	-132	19
Delmarva	0.0032	0.0030	0.0002	897	353,108	0.0025	19.6%	391.8%	1,060	-163	-91	32
SMECO <sup>(5)</sup>	0.0023	0.0022	0.0001	786	346,568	0.0023	0.5%	10.6%	750	35	68	52
Choptank	0.0032	0.0030	0.0002	257	80,656	0.0032	-1.0%	-19.5%	242	15	-21	
Hagerstown <sup>(5)</sup>	0.0019	0.0018	0.0001	63	39,915	0.0016	15.5%	309.7%	71	-8	0	
Easton <sup>(5)</sup>	0.0045	0.0043	0.0002	62	16,433	0.0038	16.8%	336.6%	71	-9	-6	
Thurmont <sup>(5)</sup>	0.0027	0.0026	0.0001	16	6,225	0.0026	6.0%	119.5%	16.2	0	4	
Berlin <sup>(3)</sup>	0.0023	0.0022	0.0001	9	4,587	0.0020	14.1%	283.0%	10.1	-1	1	
Williamsport <sup>(5)</sup>	0.0018	0.0017	0.0001	4	2,166	0.0016	8.3%	166.2%	3.7	0	1	
Somerset <sup>(5)</sup>	0.0011	0.0011	0.0001	2	1,857	0.0010	10.4%	208.9%	2.0	0	0	
A&N Coop <sup>(5)</sup>	0.0021	0.0020	0.0001	N/A	386	N/A	N/A	N/A	0.8	0	0	
<b>Total</b>	<b>0.0026</b>	<b>0.0024</b>	<b>0.0001</b>	<b>13,544.209</b>	<b>5,824,933</b>	<b>0.0023</b>	<b>9.1%</b>	<b>181.1%</b>	<b>14,144</b>	<b>-599</b>	<b>349</b>	<b>943</b>

- (1) The 2011 per Capita Peak Demand Reduction Target Column is the difference between the 2007 per Capita Peak Demand and 2011 per Capita Peak Demand Goal. For example, for BGE to reach its 2011 per capita Peak Demand goal of 0.0026 MW, BGE would have to achieve a reduction of 0.0001 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 2011 per Capita Peak Demand is from the 2007 per Capita Peak Demand Column. For example, BGE's 2011 per Capita Peak Demand is 12.2% lower than BGE's 2007 per Capita Peak Demand.
- (4) Percentage of Per Capita Peak Demand Savings Towards 2011 Reduction Target Column, calculates the Percentage Reduced from 2007 Baseline as a percentage of the 5% EmPower Maryland goal. For example, in 2010 BGE's per capita peak demand was 12.2% lower than the 2007 per capita peak demand baseline. In other words, in 2011, BGE achieved 12.2% of the 5% EmPower Maryland goal, which is equivalent to reaching 243.4% of the 2011 per capita peak demand target.
- (5) Utilities did not provide weather normal peak demand data.

Tables 33a and 34a present the per capita electricity consumption and the peak demand for all utilities in 2011, and compare the reported 2011 per capita values to the 2007 per capita baseline values to gauge the progress that has been made towards achieving the 2015 EmPower Maryland per capita energy use and peak demand reduction goals.

Similar to Tables 31b and 32b, Table 33b and 34b present updated energy use and peak demand targets based upon the 2011 PJM Load Forecast report and revised population projections for 2011, which are based on the interpolation of U.S. Census Bureau 2010 Census Data by Maryland County, data from City-Data.com, and the Maryland Department of Planning. These updates are provided to illustrate the effect of changes to the PJM Load Forecast and population estimates have on projected usage totals. The differences in 2011 per capita energy use and peak demand reductions that were calculated based on the revised population estimates and PJM energy use and load forecast are also observed in the 2015 per capita energy use and peak demand reductions. However, the 2015 EmPower per capita energy usage and peak demand reduction goals, that were developed using revised population data and the 2011 PJM Load Forecast report for energy use and peak demand projections will be used as the new targets for the utilities as they prepared the 2012-2014 cycle of EmPower Maryland plans.

**Table 33a. 2011 Per Capita Energy Use Compared to 2015 EmPower Maryland Goal  
2007 Population Data and 2008 PJM Load Forecast**

EmPower Maryland - 10 Percent Reduction in Maryland Energy Sales 2015													
2011 Utility Company Data Request Information													
EmPower Maryland Targets and Goals Based on 2007 Population Data and 2008 PJM Load Forecast													
Maryland Utility	2007 per Capita Energy Use MWh	2015 per Capita Energy Use Goal MWh	2015 per Capita Energy Reduction Target MWh (1)	2011 Energy Sales Gross-Up by Loss Factor MWh	2011 Estimated Population (2)	2011 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 2011 Use and 2015 Goal MWh	2015 Energy Reduction Goal MWh	Utility Reported Savings Program-to-Date	
BGE	13.39	12.05	1.34	33,928,810	2,682,603	12.65	5.6%	55.7%	33,382,109	546,700	4,297,095	895,301	
Pepco	9.39	8.45	0.94	16,458,965	1,847,911	8.91	5.2%	51.7%	16,037,468	421,497	1,874,656	289,931	
PE	17.54	15.79	1.75	7,605,462	442,902	17.17	2.1%	21.0%	7,451,881	153,581	338,760	103,527	
Delmarva	13.61	12.25	1.36	4,557,024	350,025	13.02	4.3%	43.4%	4,731,788	-174,764	503,202	52,582	
SMECO	11.15	10.04	1.12	3,760,270	346,568	10.85	2.7%	27.0%	3,787,437	-27,167	254,827	60,410	
Choptank	13.61	12.25	1.36	1,053,044	83,739	12.58	7.6%	76.0%	1,041,163	11,881	123,057		
Hagerstown	9.32	8.39	0.93	334,063	39,915	8.37	10.2%	101.9%	369,300	-35,237	19,345		
Easton	20.67	18.60	2.07	272,612	16,433	16.59	19.7%	197.4%	278,135	-5,524	48,769		
Thurmont	14.98	13.48	1.50	85,459	6,225	13.73	8.3%	83.3%	95,166	-9,708	1,122		
Berlin	11.50	10.35	1.15	42,703	4,587	9.31	19.1%	190.5%	43,314	-610	6,091		
Williamsport	9.77	8.79	0.98	19,933	2,166	9.20	5.8%	57.8%	21,812	-1,879	1,143		
Somersset	4.22	3.80	0.42	8,330	1,857	4.49	-6.3%	-62.8%	7,243	1,087	1,239		
A&N Coop	10.09	9.08	1.01	3,108	386	8.05	20.2%	202.0%	3,215	-107	688		
<b>Total</b>	<b>12.32</b>	<b>11.09</b>	<b>1.23</b>	<b>68,129,782</b>	<b>5,825,319</b>	<b>11.70</b>	<b>5.1%</b>	<b>51.1%</b>	<b>68,540,181</b>	<b>-410,399</b>	<b>3,254,581</b>	<b>1,401,751</b>	

(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 12.05 MWh, BGE would have to achieve a reduction of 1.34 MWh off the 2007 baseline per capita energy use of 13.39.

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

(3) Percentage Reduced from the 2007 Baseline Column, calculates the percentage the 2011 per Capita Energy Use is from the 2007 per Capita Energy use Column. For example, BGE's 2011 per Capita Energy use is 5.6% 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 2011 BGE's per capita energy use was 5.6% lower than the 2007 per capita energy use baseline. In other words, in 2011, BGE achieved 5.6% of the 10% EmPower Maryland goal, which is equivalent to reaching 55.7% of the 2015 per capita energy reduction target.

**Table 33b. 2011 Per Capita Energy Use Compared to 2015 EmPower Maryland Goal  
Revised 2007 Population and 2011 PJM Load Forecast**

EmPower Maryland - 10 Percent Reduction in Maryland Energy Sales 2015													
2011 Utility Company Data Request Information													
EmPower Maryland Targets and Goals Based on Revised 2007 Population Data and 2011 PJM Load Forecast													
Maryland Utility	2007 per Capita Energy Use MWh	2015 per Capita Energy Use Goal MWh	2015 per Capita Energy Reduction Target MWh (1)	2011 Energy Sales Gross-Up by Loss Factor MWh	2011 Estimated Population (2)	2011 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 2011 Use and 2015 Goal MWh	2015 Energy Reduction Goal MWh	Utility Reported Savings Program-to-Date	
BGE	13.41	12.07	1.34	33,928,810	2,682,603	12.65	5.7%	56.7%	33,525,028	403,781	3,593,750	895,301	
Pepco	9.32	8.39	0.93	16,458,965	1,847,911	8.91	4.4%	44.4%	15,892,578	566,387	1,239,108	289,931	
PE	18.46	16.62	1.85	7,605,462	442,902	17.17	7.0%	69.9%	7,748,215	-142,753	385,708	103,527	
Delmarva	13.70	12.33	1.37	4,557,024	350,025	13.02	5.0%	49.7%	4,495,919	61,105	165,106	52,582	
SMECO	11.22	10.09	1.12	3,760,270	346,568	10.85	3.3%	32.6%	3,752,609	7,660	83,870	60,410	
Choptank	13.70	12.33	1.37	1,053,044	83,739	12.58	8.2%	82.1%	1,075,589	-22,545	23,834		
Hagerstown	9.33	8.39	0.93	334,063	39,915	8.37	10.3%	102.5%	345,038	-10,975	48,131		
Easton	20.25	18.23	2.03	272,612	16,433	16.59	18.1%	180.8%	337,855	-65,244	-37,585		
Thurmont	15.08	13.58	1.51	85,459	6,225	13.73	9.0%	89.9%	87,570	-2,112	8,214		
Berlin	11.05	9.95	1.11	42,703	4,587	9.31	15.8%	157.7%	49,946	-7,242	-2,371		
Williamsport	9.54	8.59	0.95	19,933	2,166	9.20	3.6%	35.8%	19,634	299	1,841		
Somersset	4.22	3.80	0.42	8,330	1,857	4.49	-6.3%	-62.8%	7,072	1,259	1,797		
A&N Coop	9.25	8.33	0.93	3,108	386	8.05	13.0%	129.9%	3,215	-107	570		
<b>Total</b>	<b>12.38</b>	<b>11.14</b>	<b>1.24</b>	<b>68,129,782</b>	<b>5,825,319</b>	<b>11.70</b>	<b>5.5%</b>	<b>55.1%</b>	<b>67,349,340</b>	<b>780,443</b>	<b>6,615,496</b>	<b>1,401,751</b>	

(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 2011 per Capita Energy Use is from the 2007 per Capita Energy use Column. For example, BGE's 2011 per Capita Energy use is 5.7% 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 2011 BGE's per capita energy use was 5.7% lower than the 2007 per capita energy use baseline. In other words, in 2011, BGE achieved 5.7% of the 10% EmPower Maryland goal, which is equivalent to reaching 56.7% of the 2015 per capita energy reduction target.



**Table 34a. 2011 Per Capita Peak Demand Compared to 2015 EmPower Maryland Goal  
2007 Population Data and 2008 PJM Load Forecast**

EmPower Maryland - 15 Percent Reduction in Maryland Peak Demand 2015													
2011 Utility Company Data Request Information													
EmPower Maryland Targets and Goals Based on 2007 Population Data and 2008 PJM Load Forecast													
Maryland Utility	2007 per Capita Peak Demand MW	2015 per Capita Peak Demand Goal MW	2015 per Capita Demand Reduction Target MW (1)	2011 Peak Demand Weather Normalized	2011 Estimated Population (2)	2011 per Capita Peak Demand MW	Percentage Reduced from 2007 Baseline (3)	Percentage of Per Capita Peak Demand Savings Achieved Towards 2011 Reduction Target (4)	2015 Peak Demand Goal MW	Difference Between 2011 Use and 2015 Goal	2011 Peak Demand Reduction Goal	Utility Reported Savings Program-to-Date	
BGE	0.0028	0.0024	0.0004	6,532	2,682,603	0.0024	12.1%	80.5%	6,519	13	1,411	704	
Pepco	0.0020	0.0017	0.0003	3,501	1,847,911	0.0019	4.0%	26.7%	3,183	318	685	136	
PE	0.0033	0.0028	0.0005	1,415	442,902	0.0032	4.3%	28.9%	1,340	75	186	19	
Delmarva	0.0031	0.0027	0.0005	897	353,108	0.0025	19.1%	127.0%	1,002	-105	234	32	
SMECO <sup>(5)</sup>	0.0023	0.0019	0.0003	786	346,568	0.0023	0.0%	-0.3%	727	59	107	52	
Choptank	0.0031	0.0027	0.0005	257	80,656	0.0032	-1.7%	-11.0%	221	37	66		
Hagerstown <sup>(5)</sup>	0.0019	0.0016	0.0003	63	39,915	0.0016	15.4%	102.8%	70	-7	10		
Easton <sup>(5)</sup>	0.0046	0.0039	0.0007	62	16,433	0.0038	18.5%	123.4%	59	3	15		
Thurmont <sup>(5)</sup>	0.0027	0.0023	0.0004	16	6,225	0.0026	5.3%	35.3%	16.3	0	2		
Berlin <sup>(3)</sup>	0.0024	0.0020	0.0004	9	4,587	0.0020	17.5%	116.6%	8.6	1	2		
Williamsport <sup>(5)</sup>	0.0018	0.0016	0.0003	4	2,166	0.0016	10.4%	69.3%	3.9	0	1		
Somerset <sup>(5)</sup>	0.0011	0.0009	0.0002	2	1,857	0.0010	10.4%	69.6%	1.8	0	0		
A&N Coop <sup>(5)</sup>	0.0023	0.0019	0.0003	N/A	386	N/A	N/A	N/A	0.7	0	0		
<b>Total</b>	<b>0.0026</b>	<b>0.0022</b>	<b>0.0004</b>	<b>13,544.209</b>	<b>5,824,933</b>	<b>0.0023</b>	<b>9.1%</b>	<b>60.8%</b>	<b>13,152</b>	<b>392</b>	<b>2,718</b>	<b>943</b>	

(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 2011 per Capita Peak Demand is from the 2007 per Capita Peak Demand Column. For example, BGE's 2011 per Capita Peak Demand is 12.1% 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 2011 BGE's per capita peak demand was 12.1% lower than the 2007 per capita peak demand baseline. In other words, in 2011, BGE achieved 12.1% of the 15% EmPower Maryland goal, which is equivalent to reaching 80.5% of the 2015 per capita peak demand target.

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

**Table 34b. 2011 Per Capita Peak Demand Compared to 2015 EmPower Maryland Goal  
Revised 2007 Population and 2011 PJM Load Forecast**

EmPower Maryland - 15 Percent Reduction in Maryland Peak Demand 2015													
2011 Utility Company Data Request Information													
EmPower Maryland Targets and Goals Based on Revised 2007 Population Data and 2011 PJM Load Forecast													
Maryland Utility	2007 per Capita Peak Demand MW	2015 per Capita Peak Demand Goal MW	2015 per Capita Demand Reduction Target MW (1)	2011 Peak Demand Weather Normalized	2011 Estimated Population (2)	2011 per Capita Peak Demand MW	Percentage Reduced from 2007 Baseline (3)	Percentage of Per Capita Peak Demand Savings Achieved Towards 2011 Reduction Target (4)	2015 Peak Demand Goal MW	Difference Between 2011 Use and 2015 Goal	2011 Peak Demand Reduction Goal	Utility Reported Savings Program-to-Date	
BGE	0.0027724	0.0024	0.0004	6,532	2,682,603	0.0024	12.2%	81.1%	6,547	-15	1,267	704	
Pepco	0.0019585	0.0017	0.0003	3,501	1,847,911	0.0019	3.3%	21.8%	3,154	347	672	136	
PE	0.0033584	0.0029	0.0005	1,415	442,902	0.0032	4.8%	32.3%	1,331	84	16	19	
Delmarva	0.0031604	0.0027	0.0005	897	353,108	0.0025	19.6%	130.6%	988	-91	23	32	
SMECO <sup>(5)</sup>	0.0022789	0.0019	0.0003	786	346,568	0.0023	0.5%	3.5%	720	65	139	52	
Choptank	0.0031604	0.0027	0.0005	257	80,656	0.0032	-1.0%	-6.5%	226	32	4		
Hagerstown <sup>(5)</sup>	0.0018711	0.0016	0.0003	63	39,915	0.0016	15.5%	103.2%	65	-2	10		
Easton <sup>(5)</sup>	0.0045364	0.0039	0.0007	62	16,433	0.0038	16.8%	112.2%	71	-9	-5		
Thurmont <sup>(5)</sup>	0.0027406	0.0023	0.0004	16	6,225	0.0026	6.0%	39.8%	15.0	1	6		
Berlin <sup>(3)</sup>	0.0023106	0.0020	0.0003	9	4,587	0.0020	14.1%	94.3%	9.9	-1	1		
Williamsport <sup>(5)</sup>	0.0017905	0.0015	0.0003	4	2,166	0.0016	8.3%	55.4%	3.5	0	1		
Somerset <sup>(5)</sup>	0.0011144	0.0009	0.0002	2	1,857	0.0010	10.4%	69.6%	1.8	0	0		
A&N Coop <sup>(5)</sup>	0.0020984	0.0018	0.0003	N/A	386	N/A	N/A	N/A	0.7	0	0		
<b>Total</b>	<b>0.0025567</b>	<b>0.0022</b>	<b>0.0004</b>	<b>13,544.209</b>	<b>5,824,933</b>	<b>0.0023</b>	<b>9.1%</b>	<b>60.4%</b>	<b>13,134</b>	<b>410</b>	<b>2,135</b>	<b>943</b>	

(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 2011 per Capita Peak Demand is from the 2007 per Capita Peak Demand Column. For example, BGE's 2011 per Capita Peak Demand is 12.2% 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 2011 BGE's per capita peak demand was 12.2% lower than the 2007 per capita peak demand baseline. In other words, in 2011, BGE achieved 12.2% of the 15% EmPower Maryland goal, which is equivalent to reaching 81.1% of the 2015 per capita peak demand target.

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

Table 35 compares the 2007 per capita energy use and peak demand with 2008, 2009, 2010, and 2011 per capita energy use and peak demand. A majority of the State’s electric utilities experienced a decrease in per capita energy use and per capita peak demand compared to 2010 levels. This decrease could be attributable to generally more moderate weather in the summer and winter compared to 2010. Also, 2011 marked the first year when all utilities with approved EmPower Maryland programs were operating their programs for the full year. Combined, the utilities have achieved 102 percent of the per capita energy usage reduction goal for 2011 and 182 percent of the per capita peak demand reduction goal for 2011.

**Table 35. 2007, 2008, 2009, 2010 & 2011 per Capita Energy Consumption and Peak Demand**

Maryland Utility	Per Capita Energy Use MWh					Per Capita Peak Demand MW				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
BGE	13.39	12.99	12.72	13.17	12.65	0.0028	0.0027	0.0028	0.0028	0.0024
Pepco	9.39	9.05	8.81	8.97	8.91	0.0020	0.0020	0.0019	0.0020	0.0019
PE	19.41	19.49	18.86	19.39	17.17	0.0033	0.0034	0.0030	0.0029	0.0032
Delmarva	13.61	12.60	12.83	13.14	13.02	0.0031	0.0028	0.0028	0.0028	0.0025
SMECO	11.15	10.57	10.47	10.83	10.85	0.0023	0.0023	0.0022	0.0024	0.0023
Choptank	13.61	12.65	12.79	13.06	12.58	0.0031	0.0027	0.0028	0.0024	0.0032
Hagerstown	9.32	9.01	8.67	8.95	8.37	0.0019	0.0018	0.0017	0.0018	0.0016
Easton	20.67	19.23	17.82	18.48	16.59	0.0046	0.0044	0.0039	0.0041	0.0038
Thurmont	14.98	14.53	14.26	14.37	13.73	0.0027	0.0032	0.0022	0.0032	0.0026
Berlin	11.50	10.60	9.93	10.84	9.31	0.0024	0.0024	0.0023	0.0026	0.0020
Williamsport	9.77	8.92	8.37	8.56	9.20	0.0018	0.0020	0.0015	0.0019	0.0016
Somerset	4.22	N/A	N/A	4.48	4.49	0.0011	N/A	N/A	0.0011	0.0010
A&N Coop	10.09	11.10	9.52	8.87	8.05	0.0023	0.0023	N/A	N/A	N/A

Finally, Tables 36 and 37 present the revised 2015 EmPower Maryland per capita energy goals based on updated 2015 population data from the Maryland Department of Planning and the revised PJM forecast. These revised EmPower Maryland goals were the basis for the 2012-2014 EmPower Maryland portfolios that were filed in September of 2011. Table 38 presents the 10 percent reduction in per capita peak demand the EmPower Maryland Act requires the utilities to achieve in 2013. This is the first time the 2013 EmPower Maryland goals have been developed because the year 2013 falls within the 2012 – 2014 EmPower Maryland plan cycle.

**Table 36. Revised 2015 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	33,112,453.000	5.69%	35,109,765.179	2,618,715	2,778,350	13.41	12.07	33,525,028	37,118,778	3,593,750
Pepco	15,651,105.000	5.25%	16,518,897.197	1,772,292	1,894,550	9.32	8.39	15,892,578	17,131,686	1,239,108
PE	7,045,209.000	9.63%	7,795,557.000	422,227	466,292	18.46	16.62	7,748,215	8,133,924	385,708
Delmarva	4,410,698.000	5.83%	4,683,581.501	341,860	364,624	13.70	12.33	4,495,919	4,661,025	165,106
SMECO	3,464,094.089	5.99%	3,684,886.957	328,537	371,750	11.22	10.09	3,752,609	3,836,480	83,870
Choptank	957,285.184	7.11%	1,030,555.787	75,221	87,232	13.70	12.33	1,075,589	1,099,423	23,834
Hagerstown	355,623.286	3.56%	368,768.622	39,544	41,110	9.33	8.39	345,038	393,169	48,131
Easton	274,391.948	5.18%	289,372.727	14,289	18,537	20.25	18.23	337,855	300,271	-37,585
Thurmont	86,870.000	4.92%	91,364.052	6,057	6,451	15.08	13.58	87,570	95,784	8,213.7
Berlin	40,259.553	7.94%	43,731.967	3,957	5,021	11.05	9.95	49,946	47,574	-2,371.3
Williamsport	20,083.000	7.79%	21,780.261	2,282	2,286	9.54	8.59	19,634	21,475	1,841.4
Somerset	7,343.019	5.67%	7,783.989	1,844	1,861	4.22	3.80	7,072	8,868	1,796.6
A&N Coop	3,342.600	6.43%	3,572.147	386	386	9.25	8.33	3,215	3,785	569.7
								67,340,269	72,852,242	5,511,973.0

- (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 37. Revised 2015 Fifteen Percent Reduction per Capita Peak Demand**

<b>EmPower Maryland - 15 Percent Reduction in Maryland Peak Demand 2015</b>								
<b>2007 Utility Company Data Request Information</b>								
<b>Maryland Utility</b>	<b>2007 Peak Demand Weather Normalized (1)</b>	<b>2007 Estimated Population (2)</b>	<b>2015 Estimated Population (2)</b>	<b>2007 per Capita Peak Demand MW</b>	<b>15 Percent Reduction per Capita Peak Demand MW</b>	<b>Peak Demand Goal 2015 MW</b>	<b>PJM Derived Peak Demand Forecast 2015 MW (3)</b>	<b>Difference Between Goal and PJM Derived Forecast MW</b>
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	466,292	0.0034	0.0029	1,331	1,347	16
Delmarva	1,068.000	337,934	367,836	0.0032	0.0027	988	1,011	23
SMECO	748.700	328,537	371,750	0.0023	0.0019	720	859	139
Choptank	250.134	79,147	84,020	0.0032	0.0027	226	230	4
Hagerstown	73.992	39,544	41,110	0.0019	0.0016	65	75	10
Easton	64.820	14,289	18,537	0.0045	0.0039	71	67	-5
Thurmont	16.600	6,057	6,451	0.0027	0.0023	15.0	21	5.7
Berlin	9.143	3,957	5,021	0.0023	0.0020	9.9	11	1.4
Williamsport	4.086	2,282	2,286	0.0018	0.0015	3.5	5	1.1
Somerset	2.055	1,844	1,861	0.0011	0.0009	1.8	2	0.3
A&N Coop	0.810	386	386	0.0021	0.0018	0.7	1	0.2
						13,134	15,269	2,135.0

- (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 38. 2013 Ten Percent Reduction per Capita Peak Demand**

<b>EmPower Maryland - 10 Percent Reduction in Maryland Peak Demand 2013</b>								
<b>2007 Utility Company Data Request Information</b>								
<b>Maryland Utility</b>	<b>2007 Peak Demand Weather Normalized (1)</b>	<b>2007 Estimated Population (2)</b>	<b>2013 Estimated Population (2)</b>	<b>2007 per Capita Peak Demand MW</b>	<b>10 Percent Reduction per Capita Peak Demand MW</b>	<b>Peak Demand Goal 2013 MW</b>	<b>PJM Derived Peak Demand Forecast 2013 MW (3)</b>	<b>Difference Between Goal and PJM Derived Forecast MW</b>
BGE	7,260.000	2,618,715	2,722,909	0.0028	0.0025	6,794	7,590	796
Pepco	3,471.000	1,772,292	1,873,607	0.0020	0.0018	3,302	3,749	447
PE	1,418.000	422,227	456,650	0.0034	0.0030	1,380	1,323	-57
Delmarva	1,068.000	337,934	361,998	0.0032	0.0028	1,030	987	-43
SMECO	748.700	328,537	359,185	0.0023	0.0021	737	842	105
Choptank	250.134	79,147	82,686	0.0032	0.0028	235	225	-10
Hagerstown	73.992	39,544	40,508	0.0019	0.0017	68	74	5
Easton	64.820	14,289	17,453	0.0045	0.0041	71	66	-6
Thurmont	16.600	6,057	6,337	0.0027	0.0025	15.6	20	4.8
Berlin	9.143	3,957	4,800	0.0023	0.0021	10.0	11	1.1
Williamsport	4.086	2,282	2,225	0.0018	0.0016	3.6	4	0.9
Somerset	2.055	1,844	1,859	0.0011	0.0010	1.9	2	0.2
A&N Coop	0.810	386	386	0.0021	0.0019	0.7	1	0.1
						13,649	14,895	1,245.2

- (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). 2013 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.

## Upcoming Milestones

The following issues are expected to be addressed by the Commission in 2012.

- Working Group Reports – In Order No. 84569, the Commission directed working groups be convened or continued for the following purposes:
  - To file a transition plan by February 15, 2012, that addresses and resolves matters such as reporting methods, interim milestones, software compatibility, accountability, contractual arrangements, possible budget amendment issues, and quality control procedures with regards to the Department of Housing and Community Development directing the low-income programs; and
  - With regard to meeting the EmPower Act’s 2015 statutory goals, to develop additional programs or program enhancements that would be necessary to meet the goals, and to file a progress report containing the group’s recommendations by March 1, 2012;
- Financing Programs – The Commission directed the formation of a working group to analyze financial opportunities in greater detail, as well as legislative or regulatory solutions that might overcome barriers to financing programs, while considering among other things, whether changes to the banking or debt collection laws might allow on-bill financing or utility collection of loan payments without turning the utilities into banks, and any other ways the significant streams from EmPower surcharges could be used to facilitate financing for customer participation in EmPower programs.
- Cost-Effectiveness – Proceeding will be held for the purpose of establishing the appropriate standard to be used for determining cost-effectiveness of programs.

In addition, the Commission also may consider initiating proceedings in connection with the following:

- Participation of municipal utilities and cooperatives – Per the EmPower Maryland Act, “As directed by the Commission, each municipal electric utility and each electric cooperative that serves a population of less than 250,000 in its distribution territory shall include energy efficiency and conservation programs or services as part of their service to their customers.”
- Fuel-switching – In Order No. 84569, the Commission directed that work groups be convened or continued, to develop additional programs or program enhancements that would be necessary to meet the EmPower Acts 2015 statutory goals. Fuel-switching, may be considered as part of the work group process.

## Conclusions and Observations

In 2011, all of the utilities' approved Empower Maryland programs were operational for the entire year, which resulted in an increase of reported energy savings of over 8 percent compared to 2010. Reported energy savings in 2011 (421,344 MWh) comprised over 38 percent of the program-to-date energy savings (1,100,200 MWh). The C&I programs continue to underperform with respect to forecasted participation and energy savings, as the slow recovery from the economic recession in 2008 and 2009 continues to hamper C&I customers from making an investment in energy-efficient upgrades. However, participation and energy savings from the C&I programs improved throughout 2011.

The utilities' EmPower Maryland program energy savings fell short of both the interim savings target and the 2011 EmPower Maryland goal, achieving only 62 percent and 44 percent of the targets and goals, respectively. However, the utilities' EmPower Maryland program did meet the EmPower Maryland goal for demand reduction achieving 105 percent of the goal.

On a per capita, Statewide basis, as outlined in the EmPower Maryland Act, the 5 percent reduction in per capita energy usage was achieved from the 2007 baseline. As discussed before, the EmPower Maryland programs played a small part in reaching this goal; a slowly recovering economy, combined with relatively moderate weather, were more influencing factors in meeting this goal. Additionally, the State easily surpassed the 5 percent per capita peak demand reduction goal, by achieving a 9.1 percent reduction from the 2007 baseline.

Looking ahead to the 2012-2014 EmPower Maryland plan cycle, the Commission has approved the core components of the utility-filed programs. However, in order to reach the 2015 statutory goals of a 10 percent reduction in per capita energy usage and 15 percent reduction in per capita peak demand, the Commission has directed the utilities, the Commission Staff, and other interested stakeholders to form working groups to develop new programs or program enhancements to present to the Commission as a part of the EmPower Maryland portfolio of programs.