

MARYLAND PUBLIC
SERVICE COMMISSION

STATUS OF PROGRAMS THAT SUPPORT THE
STATE'S GREENHOUSE GAS REDUCTION
EFFORTS OR ADDRESS CLIMATE CHANGE

REPORT OF 2025

For Calendar Year 2024

Pursuant to
§ 2-1305(c) of the Environmental Article
Annotated Code of Maryland



Maryland Public Service Commission

6 St. Paul Street

Baltimore, Maryland 21202

Introduction:

The Maryland Public Service Commission (“Commission”) is an independent, quasi-judicial State agency established by the Maryland General Assembly to regulate the activities of public service companies and for-hire transportation companies doing business in Maryland. The Commission is empowered under the Public Utilities Article (“PUA”), Annotated Code of Maryland, to hear and decide matters related to, among others, (1) rate adjustments, (2) applications to exercise or abandon franchises, (3) applications to modify the type or scope of service, (4) approval of issuance of securities, (5) promulgation of new rules and regulations, (6) mergers or acquisitions of electric companies or gas companies, and (7) quality of utility and common carrier service. Additionally, the Commission has the authority to issue a Certificate of Public Convenience and Necessity (“CPCN”) for the construction or modification of a new generating station, a qualified generator lead line, or an overhead transmission line designed to carry a voltage in excess of 69,000 volts.

While the Commission is not a designated lead agency for the energy sector reduction strategies or programs identified in the State’s 2030 Greenhouse Gas Reduction Act (“GGRA”) Plan,¹ the Commission submits annual reports to the Maryland General Assembly on the Renewable Energy Portfolio Standard (“RPS”)² and the EmPOWER Maryland Energy Efficiency Act (“EmPOWER Maryland”)³. Consistent with prior years, the Commission submits the 2024 RPS and EmPOWER Maryland reports, with data for Calendar Year (“CY”) 2024, pursuant to Environment Article § 2-1305, Annotated Code of Maryland, as Attachments A and B, respectively. These reports provide detailed descriptions of their respective program implementation status. Additionally, the Commission conducted adjudicatory-type proceedings in several energy-related matters in 2024 that go on to support the State’s clean energy policies and greenhouse gas emissions reductions efforts. Notable cases and activities are highlighted in the Commission’s CY2024 Annual Report, which can be found on the Commission’s website.⁴ To supplement the attached reports, the Commission highlights the total estimated greenhouse gas (“GHG”) emissions from both the EmPOWER and RPS programs for CY2024 below.

¹ The Maryland Energy Administration remains the lead agency under the 2030 GGRA Plan for EmPOWER Maryland and the RPS.

² PUA § 7-712.

³ PUA § 7-211.

⁴ <https://www.psc.state.md.us/wp-content/uploads/MD-PSC-2024-Annual-Report.pdf>

Estimated Greenhouse Gas Emissions Reductions

For CY2024, the RPS and EmPOWER Maryland achieved an estimated combined GHG emissions reduction of more than 4 million metric tons of carbon dioxide (CO₂),⁵ based on the following estimates by program:

Table 1: CY2024 Estimated Greenhouse Gas Emissions Reductions

2024 Estimated Greenhouse Gas Emissions Reductions	
Program Metric Tons of CO ₂ Avoided	
Renewable Portfolio Standard	3,578,144
EmPOWER Maryland	878,209
Total	4,456,434

Consideration of Statutory Factors

During the 2021 legislative session, the General Assembly enacted House Bill 298, which took effect on October 1, 2021, and requires the Commission to consider climate impacts, Maryland’s climate policies, and fair labor standards in exercising the Commission’s regulatory oversight over public service companies. The law also requires the Commission to consider the impact of generating stations and transmission projects on climate change prior to granting a CPCN. After the law took effect, the Commission issued a notice on October 6, 2021, advising regulated companies and other affected entities of the new factors set forth under PUA § 2-113. The Commission now considers these new factors as it evaluates matters that come before the Commission.

In 2022, the General Assembly passed the Climate Solutions Now Act (“CSNA”). This bill set forth targets to reduce statewide GHG emissions by 60 percent from 2006 levels

⁵ Estimated equivalent amounts of avoided CO₂ emissions were converted using the United States Environmental Protection Agency’s Greenhouse Gas Equivalencies Calculator, based on energy data contained in the attached 2024 RPS and EmPOWER Maryland reports. In creating this table, the Commission used the Utility reported energy savings per MWh for EmPOWER and the Renewable Portfolio Standard was calculated according to percentage of RECs retired in 2024.

by 2031 and to achieve net-zero GHG emissions by 2045. The CSNA additionally states the General Assembly's intent for the Commission to continue with the submission of plans and determinations required under prior Maryland EmPOWER legislation, including a determination of the advisability of maintaining the methodology and magnitude of the savings trajectory established in PUA § 7-211(g)(2). This takes into account changes to the reductions targets and new program cycle made under PUA § 7-211(g)(2), as enacted by Section 4 of the CSNA. It also changes the core objective of the alteration to percentages for 2025 and later years from electricity reduction to "a portfolio of mutually reinforcing goals, including greenhouse gas emissions reduction, energy savings, net customer benefits, and reaching underserved customers."

Additionally, the Commission implemented HB864 (2024) - Energy Efficiency and Conservation Plans, which was signed into law May 9, 2024. HB864 (2024) made several changes to the operations of EmPOWER including changing goals from energy reduction to greenhouse gas (GHG) reduction, cost recovery, and permitting beneficial electrification programs.

Attachment A:
2025 Public Service Commission
Renewable Energy Portfolio
Standard Report

PUBLIC SERVICE COMMISSION OF MARYLAND

RENEWABLE ENERGY PORTFOLIO STANDARD REPORT

With Data for Calendar Year 2024

In compliance with §7-712 of
the Public Utilities Article,
Annotated Code of Maryland

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I. INTRODUCTION

This document constitutes the annual report of the Public Service Commission of Maryland (the Commission) regarding the implementation of the Maryland Renewable Energy Portfolio Standard (RPS) Program with data for calendar year 2024. This report is submitted pursuant to § 7-712 of the Public Utilities Article (PUA), *Annotated Code of Maryland*, which requires the Commission to report to the General Assembly on the status of the implementation of the RPS Program on or before December 1 of each year.¹ The Maryland RPS Program is designed to support a stable and predictable market for energy generated from renewables, to reduce greenhouse gas emissions and eliminate carbon-fueled generation from the State's electric grid, and to lower the cost to consumers of electricity produced from these resources. Implementation of the RPS Program assists in overcoming market barriers seen as impediments to the development of the industry. Moreover, increasing reliance upon renewable energy technologies to satisfy electric power requirements can result in long-term emission reductions, increased fuel diversity, and economic benefits to the State.²

The calendar year 2024 electricity supplier compliance reports, as verified by the Commission, indicate that the State of Maryland RPS obligations were partly fulfilled through the submission of Tier 1 and Tier 2 Renewable Energy Credits (RECs).³ Remaining calendar year 2024 RPS obligations were satisfied by compliance fees, also known as Alternative Compliance Payments (ACPs). This year's ACPs were by far the largest in the history of the RPS.

A. Objectives of the Program

The objective of PUA § 7-701 *et seq.* (the RPS statute) is to recognize and to develop the benefits associated with a diverse portfolio of renewable energy resources to serve Maryland. The State's RPS Program does this by recognizing the environmental and consumer benefits associated with renewable energy. The RPS Program requires electricity suppliers to supply a prescribed minimum portion of their retail electricity sales with various renewable energy resources, which have been classified within the RPS statute as Tier 1 and Tier 2 renewable resources. The program is implemented through the creation, sale, and transfer of RECs.

The development of renewable energy resources is further promoted by requiring electricity suppliers to provide an ACP for failing to acquire sufficient RECs to satisfy the RPS as set forth in PUA § 7-703. Compliance fees are deposited into the Maryland Strategic Energy Investment Fund (SEIF) as dedicated funds to provide for loans and grants that spur the creation of new Tier 1 renewable energy resources in the State that are owned by or directly benefit low-

¹ Electricity suppliers must file an RPS compliance report with the Commission for the prior calendar year by April 1st of the subsequent year. Consequently, this report, which is due to the General Assembly in December 2025, highlights data from electricity suppliers' 2025 compliance reports and other relevant 2024 data. In compliance with PUA § 7-712, topics addressed in this report include the availability of Tier 1, Tier 1 Solar, and Tier 2 renewable energy sources, compliance fees collected to support in-State renewable projects, and other pertinent information.

² See PUA § 7-702, which describes the legislative intent and legislative findings in support of the enactment of the Maryland Renewable Energy Portfolio Standard.

³ See Section I.B.2 for a description of eligible Tier 1 and Tier 2 resources and requirements.

to moderate-income communities, or overburdened or underserved communities.⁴ Responsibility for developing renewable energy resources is vested with the Maryland Energy Administration (MEA).

B. Overview of the Maryland RPS Program

Under the RPS Program, Maryland electricity suppliers are required to demonstrate compliance on an annual basis with an escalating renewable energy portfolio standard. This requirement applies to both competitive retail suppliers and electric companies in the state, including those that provide Standard Offer Service.⁵ Electricity suppliers must file annual compliance reports with the Commission verifying that the renewable requirement for each entity has been satisfied.

A REC constitutes the renewable attributes associated with one megawatt-hour (MWh) of electricity generated using eligible renewable resources. As such, a REC is a uniquely-identified tradable commodity equal to one MWh of electricity generated or obtained from an eligible renewable energy resource. While RECs are often bundled and sold with the generated electricity, RECs can be traded separately. Generators and electricity suppliers may trade RECs using a Commission-approved system known as the Generation Attributes Tracking System (GATS). The GATS system is operated by PJM Environmental Information Services, Inc. (PJM-EIS) and is designed to track the ownership and trading of generation attributes.⁶ A REC has a five-year lifespan during which it may be transferred, sold, or redeemed.⁷ However, each electricity supplier must document annually the retirement of RECs equal to the percentage specified by the RPS statute or pay an ACP commensurate with any shortfalls.

⁴ See Article - State Government § 9–20B–05(i).

⁵ Standard Offer Service (SOS) is electricity supply purchased from an electric company by the company's retail customers who cannot or choose not to transact with a competitive supplier operating in the retail market. See PUA §§ 7-501(n), 7-510(c).

⁶ An attribute is "a characteristic of a generator, such as location, vintage, emissions output, fuel, state RPS Program eligibility, etc." PJM-EIS, *GATS Operating Rules* (May 2014) at 3.

⁷ This was increased to five years by Chapter 595 of the Laws of Maryland 2024.

1. Registration of Renewable Energy Facilities

Facilities eligible for the Maryland RPS Program must be in PJM (the wholesale bulk power control area in which Maryland resides)⁸ or an adjacent control area,⁹ so long as the electricity produced is delivered into the PJM region. However, facilities generating electricity from solar energy, geothermal, poultry litter-to-energy, waste-to-energy, or refuse-derived fuel are eligible only if the facility is connected to the electric distribution grid serving Maryland. Energy from a thermal biomass system must be used in Maryland to qualify for the RPS program.¹⁰ Finally, energy from raw or treated wastewater used as a heat source or sink for a heating or cooling system must be either connected with the electric distribution grid serving Maryland or process wastewater from Maryland residents.

Before recommending certification of a Renewable Energy Facility (REF), Commission Staff must determine whether the facility meets the standards set forth by the RPS statute and Code of Maryland Regulations (COMAR) 20.61. REF applicants who qualify under Maryland's RPS Program must complete the appropriate application for REF certification posted on the Commission's RPS website.¹¹ In addition to the geographic requirements, applicants must also meet the fuel source requirements associated with Tier 1 or Tier 2 (see Table 1 below). Verification of the fuel source is completed with the aid of Energy Information Administration Form 860 (EIA-860) to validate each facility's rated nameplate capacity, fuel source(s), location, and commercial operation in-service date.¹² Facilities that co-fire a REC-eligible renewable fuel source with non-eligible fuel sources must also submit a formula or methodology to account for the proportion of total electricity generated by the eligible fuel sources, which then may be credited with RECs. In addition to obtaining Commission certification, all REFs must register with GATS to track and transact business related to RECs. The PJM-GATS account must be established with the certification number issued by the Commission upon approval of the REF application.

⁸ The PJM wholesale market includes all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia.

⁹ A control area is an "electric system or systems, bounded by interconnection metering and telemetry, capable of controlling generation to maintain its interchange schedule with other Control Areas and contributing to frequency regulation. For the purposes of this document, a Control Area is defined in broad terms to include transmission system operations, market, and load-serving functions within a single organization. A Control Area operator may be a system operator, a transmission grid operator, or a utility." PJM-EIS, Generation Attribute Tracking System (*GATS*) *Operating Rules* (April 2018) at 5. For example, the multi-state area controlled by the PJM Regional Transmission Operator is one control area, as is the adjacent Midwest Independent System Operator (MISO) multi-state area, and the adjacent New York ISO.

¹⁰ There are currently no thermal biomass facilities in Maryland.

¹¹ REF applications are maintained by the Commission and are accessible online, available at: <https://www.psc.state.md.us/electricity/description-documents-maryland-renewable-energy-portfolio-standard-program/>.

¹² Submitting Form EIA-860 is a requirement under Section 13(b) of the Federal Energy Administration Act of 1974 (Public Law 93-275) for generating plants, regulated and unregulated, which have a nameplate rating of 1 MW or more, are operating or plan to operate within five years, and are connected to the transmission grid.

2. Maryland RPS Annual Percentage Requirements

To comply with the Maryland RPS Program, electricity suppliers must acquire RECs derived from Maryland-certified Tier 1 and Tier 2 renewable sources, as defined in PUA § 7-701. Eligible fuel sources for Tier 1 RECs and Tier 2 RECs are listed in Table 1; solar, geothermal and offshore wind have their own standards within Tier 1, and these carve-out are sub-sets of the Tier 1 standard.

Table 1 Eligible Tier 1 and Tier 2 Sources¹³

Tier 1 Renewable Sources	Tier 2 Renewable Sources
● Solar, including energy from photovoltaic technologies and solar water heating systems ● Wind ● Qualifying Biomass ● Methane from a landfill or wastewater treatment plant ● Geothermal ● Ocean ● Fuel Cell that produces electricity from a Tier 1 source ● Hydroelectric power plant less than 30 MW capacity ● Poultry litter-to-energy ● Waste-to-energy ● Refuse-derived fuel ● Thermal energy from a thermal biomass system ● Raw or treated wastewater used as a heat source or sink for a heating or cooling system	● Hydroelectric power other than pump storage generation <i>(Note: Tier 1 RECs may be used to satisfy Tier 2 obligations)</i>

As shown in Table 2 below, there is a different percentage schedule corresponding to each tier and carve-out requirement comprising the Maryland RPS Program.

- The Tier 1 requirements gradually increase until 2030, after which they are maintained at 2030 levels.
- The Tier 1 Solar carve-out requirement increases from six percent in 2023 to 14.5 percent by 2030.¹⁴ This ramp-up period for the solar carve-out corresponds in part with the implementation of the community solar energy generating facilities,

¹³ Waste-to-energy and refuse-derived fuel were removed from the list of eligible Tier 1 Resources effective January 1, 2025, or July 1, 2026 for a facility owned by a public instrumentality of the State. See Chapter 625 of the Laws of Maryland 2025.

¹⁴ Chapter 757 of the Laws of Maryland 2019.

which was established in 2015.¹⁵ This pilot was made into a permanent program in 2023.¹⁶ There is a potential that Solar Renewable Energy Credits (SRECs) generated by eligible community solar facilities could serve to help meet the increasing Tier 1 Solar carve-out in the coming years.

- The Brighter Tomorrow Act from 2024¹⁷ requires the Commission to establish the Small Solar Energy Generating System Incentive Program, under which eligible solar systems may generate certified SRECs that have a compliance value of 150 percent of noncertified SRECs. The Act also extends the duration of all RECs used to comply with Maryland's RPS to five years.
- Beginning in 2017, a constant Tier 1 Offshore Wind carve-out of up to 2.5 percent commenced as part of the Tier 1 portfolio.¹⁸ In Order No. 88192, the Commission established specific offshore wind carve-outs from 2021 through 2042 ranging from 0.60 percent to 2.03 percent. Senate Bill 516, enacted in May 2019, increased the RPS requirements to 50 percent by 2030, and established additional offshore wind carve-outs beginning in 2027.
- Beginning in 2023, a Tier 1 geothermal carve-out of up to 0.05 percent will commence as part of the Tier 1 portfolio, rising to 1.0 percent in 2028. Of the geothermal carve-out, 25 percent must come from systems qualifying as low to moderate income (LMI).
- Maryland's Tier 2 requirement of 2.5 percent was re-established by Senate Bill 65 in 2021.

¹⁵ Chapter 346 of the Laws of Maryland 2015.

¹⁶ Chapter 652 of the Laws of Maryland 2023.

¹⁷ Chapter 595 of the Laws of Maryland 2024.

¹⁸ The Maryland Offshore Wind Energy Act of 2013 (2013 Md. Laws, Ch. 003) established an offshore wind carve-out within the Tier 1 requirement. A project must be generating RECs in order for the obligation to begin. In the absence of a Commission-determined OREC obligation, electricity suppliers must satisfy the carve-out using RECs derived from other Tier 1 renewable sources.

Table 2 Annual RPS Requirements by Tier¹⁹

Compliance Year	Tier 1 (Excluding Carve-outs)	Solar	Offshore Wind²⁰	Geothermal	LMI Geothermal	Tier 2	Total
2024	27.05%	6.50%	N/A	0.1125%	0.0375%	2.50%	36.20%
2025	26.59%	7.00%	1.66%	0.1875%	0.0625%	2.50%	38.00%
2026	26.89%	8.00%	2.61%	0.3750%	0.1250%	2.50%	40.50%
2027	18.23%	9.50%	13.02%	0.5625%	0.1875%	2.50%	44.00%
2028	17.98%	11.00%	13.02%	0.75%	0.25%	2.50%	45.50%
2029	22.98%	12.50%	13.02%	0.75%	0.25%	2.50%	52.00%
2030+	21.48%	14.50%	13.02%	0.75%	0.25%	2.50%	52.50%

At certain renewable procurement cost thresholds, an electricity supplier can request that the Commission consider a delay in scheduled Tier 1 and Tier 1 Solar RPS percentages.²¹ To date, no such request has been made by electricity suppliers operating in the Maryland marketplace.

¹⁹ For an electric cooperative, the solar requirement is 2.5% in 2020 and later. For a municipal electric utility, in 2022 and later, the requirements are 20.4% for Tier 1, which includes 1.95% from solar, and the offshore wind requirement shown above. See PUA §7-703(e).

²⁰ This percentage includes only the Commission-approved offshore wind energy carve-out from Order No. 88192 and Order No. 90011.

²¹ PUA § 7-705(e).

3. Maryland RPS Alternative Compliance Payment Requirements

Electricity suppliers who do not meet their RPS obligation through the retirement of eligible RECs must submit an ACP for every unit of shortfall. Table 3 presents the ACP schedule separated by tiers for each compliance year of the RPS Program moving forward.

Table 3 ACP Schedule (\$/MWh)

Compliance Year	Tier 1 (Excluding Carve-outs)	Solar	Geotherma l	Tier 2	IPL²² Tier 1
2024	\$27.50	\$60	\$100	\$15	\$2
2025	\$25.00	\$55	\$100	\$15	\$2
2026	\$24.75	\$45	\$90	\$15	\$2
2027	\$24.50	\$35	\$80	\$15	\$2
2028	\$22.50	\$32.50	\$65	\$15	\$2
2029	\$22.50	\$25	\$65	\$15	\$2
2030+	\$22.35	\$22.50	\$65	\$15	\$2

II. ELECTRICITY SUPPLIER COMPLIANCE REPORTS

Calendar year 2024 marked the 19th compliance year for the Maryland RPS. The RPS compliance reports submitted to the Commission by electricity suppliers, along with information obtained from PJM-GATS, provide information regarding the retired RECs and the underlying REFs (e.g., type and location of generators) utilized by electricity suppliers to comply with Maryland RPS obligations.²³ RPS compliance reports were filed by 111 electricity suppliers, including: 74 competitive retail suppliers; 26 brokers or competitive electricity suppliers with zero retail electricity sales; and 11 electric companies, of which four are investor-owned utilities.

According to the filed compliance reports, there were approximately 56.2 million MWh of total retail electricity sales in Maryland for 2024; 55.2 million MWh of retail electricity sales were subject to RPS compliance and 1.1 million MWh were exempt.²⁴ Maryland electricity

²² Industrial Process Load (IPL) means the consumption of electricity by a manufacturing process at an establishment classified in the manufacturing sector under the North American Industry Classification System. Under PUA § 7-705(b)(2) and COMAR 20.61.01.06.E(5), a supplier sale for IPL is required to meet the entire Tier 1 obligation for electricity sales, including solar. However, the ACP for an IPL Tier 1 non-solar shortfall and a Tier 1 Solar shortfall is the same. For IPL, there is no ACP for Tier 2 shortfalls.

²³ According to PUA § 7-709, a REC can be diminished or extinguished before the expiration of three years by: the electricity supplier that received the credit; a nonaffiliated entity of the electricity supplier that purchased or otherwise received the transferred credit; or demonstrated noncompliance by the generating facility with the requirements of PUA § 7-704(f). In the PJM region, the regional term of art is “retirement,” which describes the process of removing a REC from circulation by the REC owner, *i.e.*, the owner “diminishes or extinguishes the REC.” PJM-EIS, *GATS Operating Rules* (January 2024) at 54-56.

²⁴ According to PUA § 7-703(a)(2), exceptions for the RPS requirement may include: IPL which exceeds 300,000,000 kWh by a single customer in a year; regions where residential customer rates are subject to a freeze or cap (*see* PUA § 7-505); or electric cooperatives under a purchase agreement that existed prior to October 1, 2004, until the expiration of the agreement. COMAR 20.61.01.06D exempts any sale of electricity that is marketed or

suppliers retired about 7.0 million RECs in 2023, fewer than the 7.9 million RECs retired for compliance in 2023 and far below the 16.1 million RECs retired in 2022. In fact, 2024 had the fewest RECs retired since 2014, while the total cost of RECs retired in 2024 was \$254.6 million, up from \$243.8 million in 2023. ACP prices were in many instances less expensive than REC prices, and as a result suppliers choose to pay the ACP rather than retire RECs.

Table 4 displays the average cost per REC retired in each tier since 2008. The overall rise in REC prices is likely attributable to the increasing RPS percentages in both Maryland and other PJM states. The rise in SREC prices may be attributable to an increase in demand for SRECs due to the effects of the Clean Energy Jobs Act.²⁵

Table 4 Average Cost of RECs per Tier (2008 – 2024)

Year	Tier 1	Geothermal *	Solar	Tier 2
2008	\$0.94	N/A	\$345.45	\$0.56
2009	\$0.96	N/A	\$345.28	\$0.43
2010	\$0.99	N/A	\$328.57	\$0.38
2011	\$2.02	N/A	\$278.26	\$0.45
2012	\$3.19	N/A	\$201.92	\$0.44
2013	\$6.70	N/A	\$159.71	\$1.81
2014	\$11.64	N/A	\$144.06	\$1.81
2015	\$13.87	N/A	\$130.39	\$1.71
2016	\$12.22	N/A	\$110.63	\$0.96
2017	\$7.14	N/A	\$38.18	\$0.48
2018	\$6.54	N/A	\$31.91	\$0.66
2019	\$7.77	N/A	\$47.26	\$1.05
2020	\$8.24	N/A	\$66.10	\$1.06
2021	\$14.36	N/A	\$72.59	\$6.45
2022	\$17.80	N/A	\$57.80	\$7.42
2023	\$24.61	\$94.47	\$56.67	\$10.50
2024	\$27.09	\$94.04	\$58.56	\$11.16

* Note geothermal is only the post-2022 carve-out and does not include the geothermal included in the Tier 1 column.

As demonstrated by Table 5, the aggregated cost of compliance with the Maryland RPS Program in 2024 displays a significant increase from 2023. While costs had been moderately increasing with time, a spike in prices occurred in 2021. This was driven in part by an increase in the requirement for retired SRECs, resulting in large quantities of ACPs needing to be purchased. Much of the increase in 2024 was driven by the ACPs, in part due to REC prices in the market being above the ACPs when many suppliers were looking to purchase RECs. REC prices may have been above the ACP due to a general shortage of Tier 1 RECs, and the fact that surrounding

otherwise represented to customers as renewable or having characteristics of a Tier 1 renewable source or Tier 2 renewable source.

²⁵ Chapter 673 of the Laws of Maryland 2021.

states such as Pennsylvania and New Jersey have higher Tier 1 ACPs than Maryland. Prior to 2021, reliance on ACPs had been limited.

Table 5 Total Cost of RECs per Year (2019 – 2024)

	Tier	2019	2020	2021	2022	2023	2024
REC Costs	Tier 1	\$79,320,505	\$99,836,127	\$187,346,301	\$246,480,883	\$124,932,208	\$90,057,757
	Solar	\$55,166,116	\$122,943,987	\$144,411,601	\$101,384,663	\$109,553,864	\$150,381,920
	Geothermal	N/A	N/A	N/A	N/A	\$104,295	\$2,176,739
	LMI Geo.	N/A	N/A	N/A	N/A	N/A	\$24,375
	Tier 2	\$58,899	\$386,590	\$959,225	\$4,382,570	\$9,254,616	\$11,973,971
	ACPs	\$7,730,223	\$52,240	\$77,129,013	\$86,584,883	\$320,363,538	\$365,034,107
	Total	\$142,277,762	\$223,220,964	\$409,848,162	\$438,832,999	\$564,208,520	\$616,906,542
RECs Retired	Tier 1	10,210,275	12,117,585	13,045,432	13,849,611	5,075,872	3,324,606
	Solar	1,167,329	1,859,976	1,989,505	1,753,987	1,933,280	2,568,159
	Geothermal	N/A	N/A	N/A	N/A	1,032	22,874
	LMI Geo.	N/A	N/A	N/A	N/A	N/A	276
	Tier 2	55,879	366,260	148,702	590,330	878,304	1,073,328
	Total	11,433,483	14,343,821	15,183,639	16,193,928	7,888,488	6,989,243
RPS (%) Required	Tier 1	15.20%	22.00%	23.30%	24.60%	25.85%	27.05%
	Solar	5.50%	6.00%	7.50%	5.50%	6.00%	6.50%
	Geothermal	N/A	N/A	N/A	N/A	0.04%	0.11%
	LMI Geo.	N/A	N/A	N/A	N/A	0.01%	0.04%
	Tier 2	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
	Total	23.20%	30.50%	33.30%	32.60%	34.40%	36.20%

Table 6 Results of the 2024 RPS Compliance Reports

RPS Results	Tier 1	Solar	Geo.	LMI Geo.	Tier 2	Total
RPS Obligation	14,917,411	3,221,782	50,728	16,886	1,159,107	19,365,914
Retired RECs	3,324,606	2,568,159	22,874	276	1,073,328	6,989,243
ACP Required	\$319,374,155	\$37,181,380	\$2,785,500	\$1,661,000	\$1,289,745	\$365,034,107

Note: Some electricity suppliers retired more RECs than required.

RECs are valid to demonstrate RPS compliance for the calendar year in which they were generated and in the following four calendar years.²⁶ Figure 1 aggregates the Maryland RPS tiers based on generation year. For the 2024 compliance year, 76.2 percent of RECs retired were generated in 2024; 12.8 percent in 2023; 3.3 percent in 2022; 1.1 percent in 2021; and 6.5

²⁶ COMAR 20.61.03.01C (unless the REC is diminished or extinguished before expiration).

percent in 2020. This data conveys that RECs are in high demand as they are most often retired in the year of their generation.

Figure 1 RECs Retired in 2024 by Generation Year

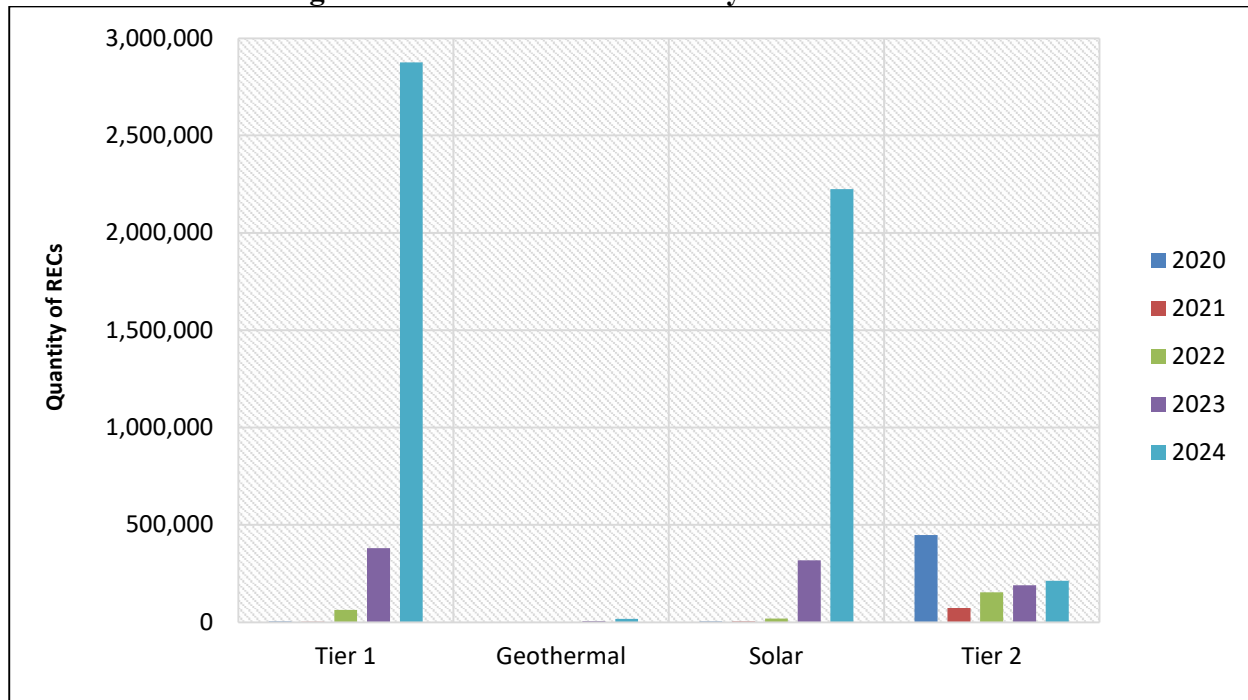
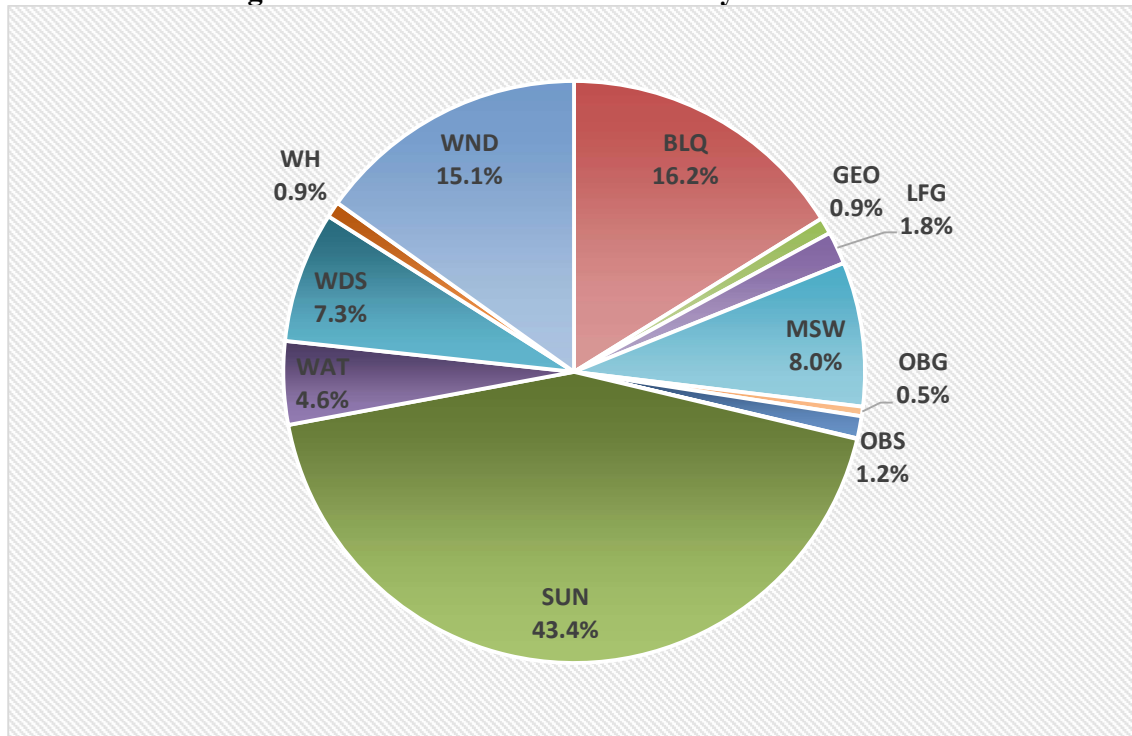


Figure 2 illustrates the fuel sources used to satisfy Tier 1 RPS requirements for the 2024 RPS compliance year. Of the Tier 1 RECs retired for 2024, the resources from which the RECs were sourced consisted primarily of solar, wind, black liquor, and municipal solid waste. Although not pictured, Tier 2 RPS requirements for the 2024 RPS compliance year were satisfied exclusively by RECs derived from hydroelectric power.

Figure 2 2024 Tier 1 Retired RECs by Fuel Source²⁷

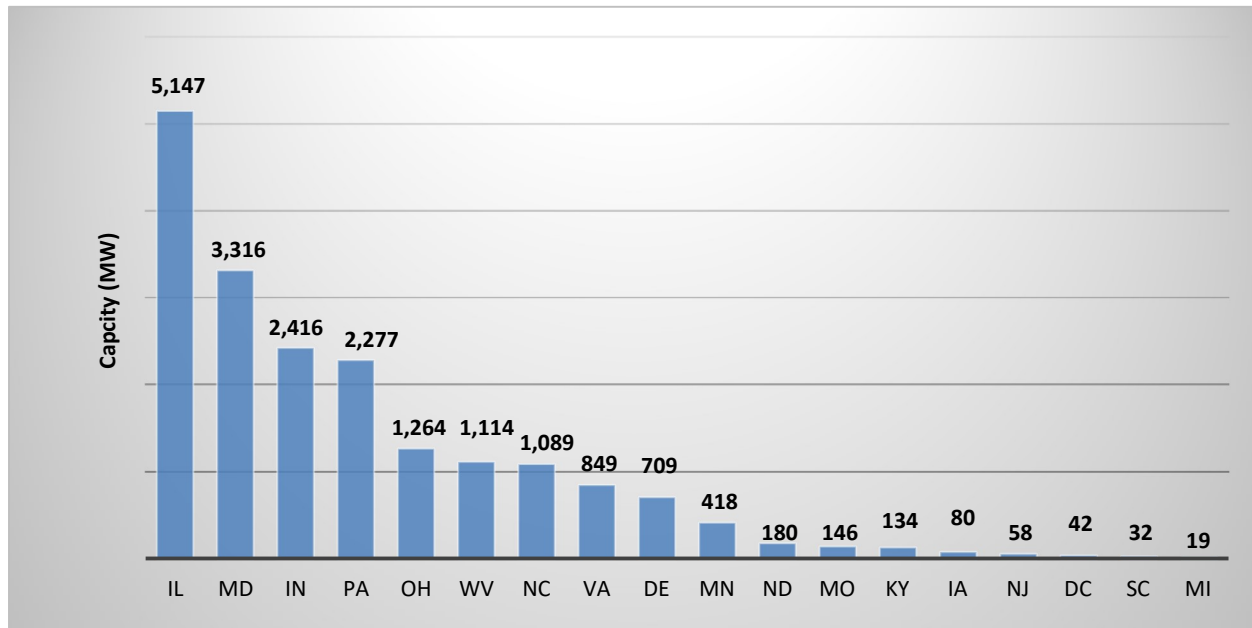


Abbreviations: BLQ, Black Liquor; LFG, Landfill Gas; GEO, Geothermal; MSW, Municipal Solid Waste; OBG, Other Biomass Gas; OBS, Biomass Solids; SUN, PV solar; WAT, Hydroelectric; WDS, WH, Waste Heat; Wood and Waste Solids; WND, Wind.

Figure 3 presents the geographical location and the total generating capacity (19,290 MW) for all Maryland RPS-certified facilities regardless of Tier. RPS requirements also exist in the surrounding states, which generally support out-of-state and regional market participation. Illinois is the largest single source, with over 99 percent of its registered capacity being wind generation.

²⁷ WAT includes Tier 1 only. Solar thermal and geothermal contributed too few RECs to be seen on the chart.

Figure 3 Total Rated Capacity by State (MW)²⁸



For the 2024 compliance year, Figure 4 displays aggregated REC data to convey general relationships among the states that contributed RECs. For the second time, Maryland supplied the largest number of RECs purchased by retail electric suppliers (45.4 percent), followed by North Carolina (16.8 percent), and Virginia (12.9 percent). The remaining 14 states were responsible for the remaining 24.9 percent of all RECs procured and retired in 2024.

²⁸ PJM-EIS, Generation Attribute Tracking System, Database query, (October 1, 2023). The information in this figure does not include Commission-authorized REFs that have not established a REC account with PJM GATS.

Figure 4 Number of RECs Retired by Facility Location (2024)

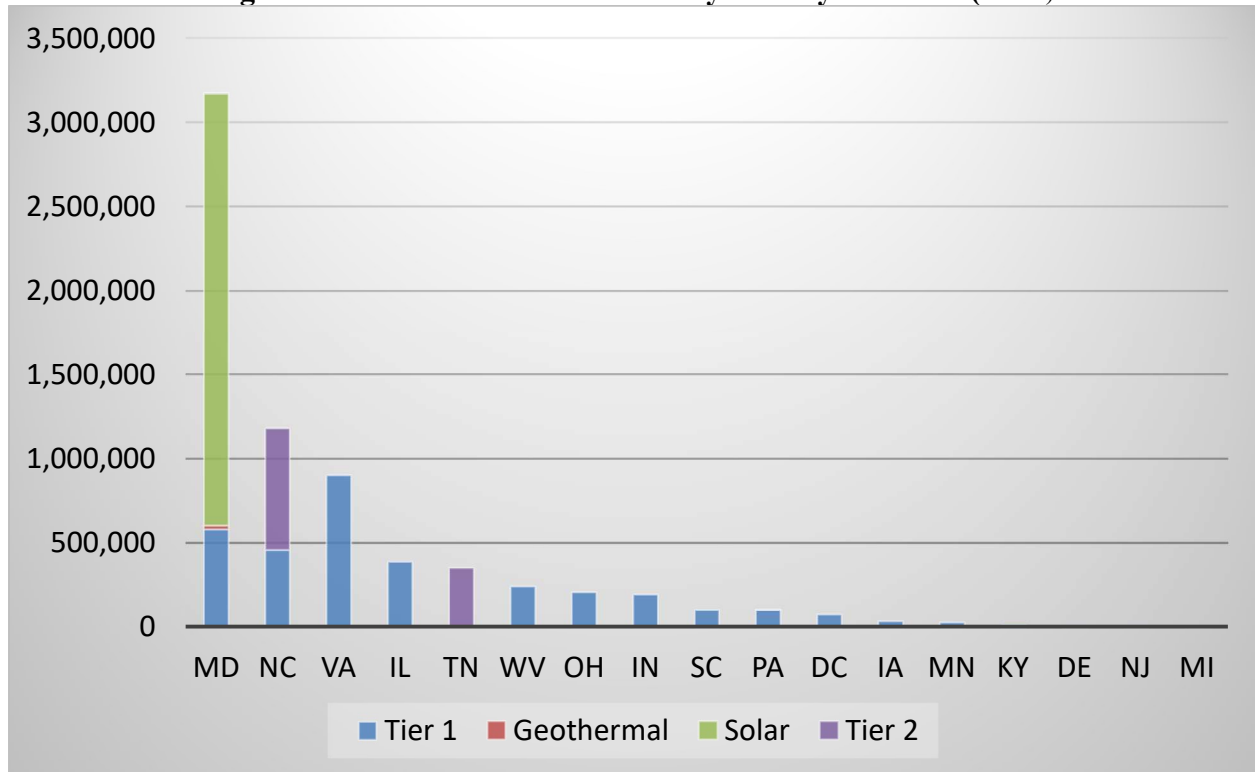


Table 7 and Table 8 provide the quantitative data in support of the previous figure. Table 7 provides the reported levels of RECs retired by Maryland electricity suppliers in 2024 on a tier and aggregate basis, whereas Table 8 provides the information on a percentage basis.

Table 7 2024 RECs Retired by State

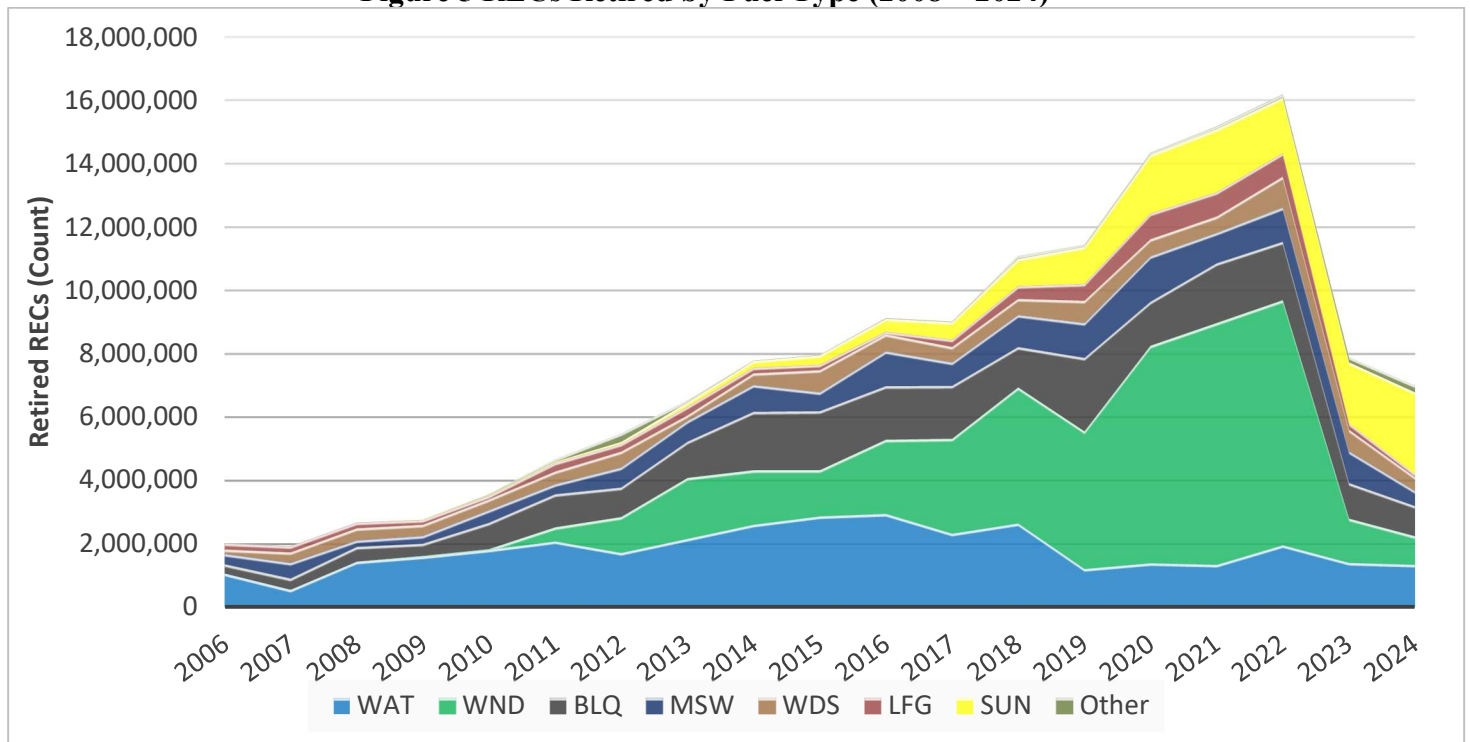
State	Tier 1	Geothermal	Solar	Tier 2	All Tiers
MD	579,134	23,407	2,568,159	1,357	3,172,057
NC	457,225	0	0	720,283	1,177,508
VA	900,911	0	0	0	900,911
IL	386,717	0	0	0	386,717
TN	0	0	0	351,598	351,598
WV	241,109	0	0	0	241,109
OH	206,046	0	0	0	206,046
IN	192,721	0	0	0	192,721
SC	101,707	0	0	0	101,707
PA	100,827	0	0	90	100,917
DC	75,086	0	0	0	75,086
IA	34,875	0	0	0	34,875
MN	27,178	0	0	0	27,178
KY	9,698	0	0	0	9,698
DE	4,287	0	0	0	4,287
NJ	3,943	0	0	0	3,943
MI	3,046	0	0	0	3,046
<i>Total</i>	3,324,510	23,407	2,568,159	1,073,328	6,989,404

Table 8 2024 RECs Retired by State (%)

State	Tier 1	Geothermal	Solar	Tier 2	All Tiers
		I			
MD	17.4%	100.0%	100.0%	0.1%	45.4%
NC	13.8%	0.0%	0.0%	67.1%	16.8%
VA	27.1%	0.0%	0.0%	0.0%	12.9%
IL	11.6%	0.0%	0.0%	0.0%	5.5%
TN	0.0%	0.0%	0.0%	32.8%	5.0%
WV	7.3%	0.0%	0.0%	0.0%	3.4%
OH	6.2%	0.0%	0.0%	0.0%	2.9%
IN	5.8%	0.0%	0.0%	0.0%	2.8%
SC	3.1%	0.0%	0.0%	0.0%	1.5%
PA	3.0%	0.0%	0.0%	0.0%	1.4%
DC	2.3%	0.0%	0.0%	0.0%	1.1%
IA	1.0%	0.0%	0.0%	0.0%	0.5%
MN	0.8%	0.0%	0.0%	0.0%	0.4%
KY	0.3%	0.0%	0.0%	0.0%	0.1%
DE	0.1%	0.0%	0.0%	0.0%	0.1%
NJ	0.1%	0.0%	0.0%	0.0%	0.1%
MI	0.1%	0.0%	0.0%	0.0%	0.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Figure 5 illustrates the growth in RECs retired in total and by fuel type from the beginning of the RPS in 2006. For the second consecutive year, solar was the largest contributor of the total number of RECs. Total wind RECs retired for compliance have fallen by 88.4 percent since 2022. Note that the contributions from qualifying biomass sourced from agricultural crops, geothermal, other biomass liquid and gas, and solar thermal are too small to be seen on this chart.

Figure 5 RECs Retired by Fuel Type (2008 – 2024)²⁹

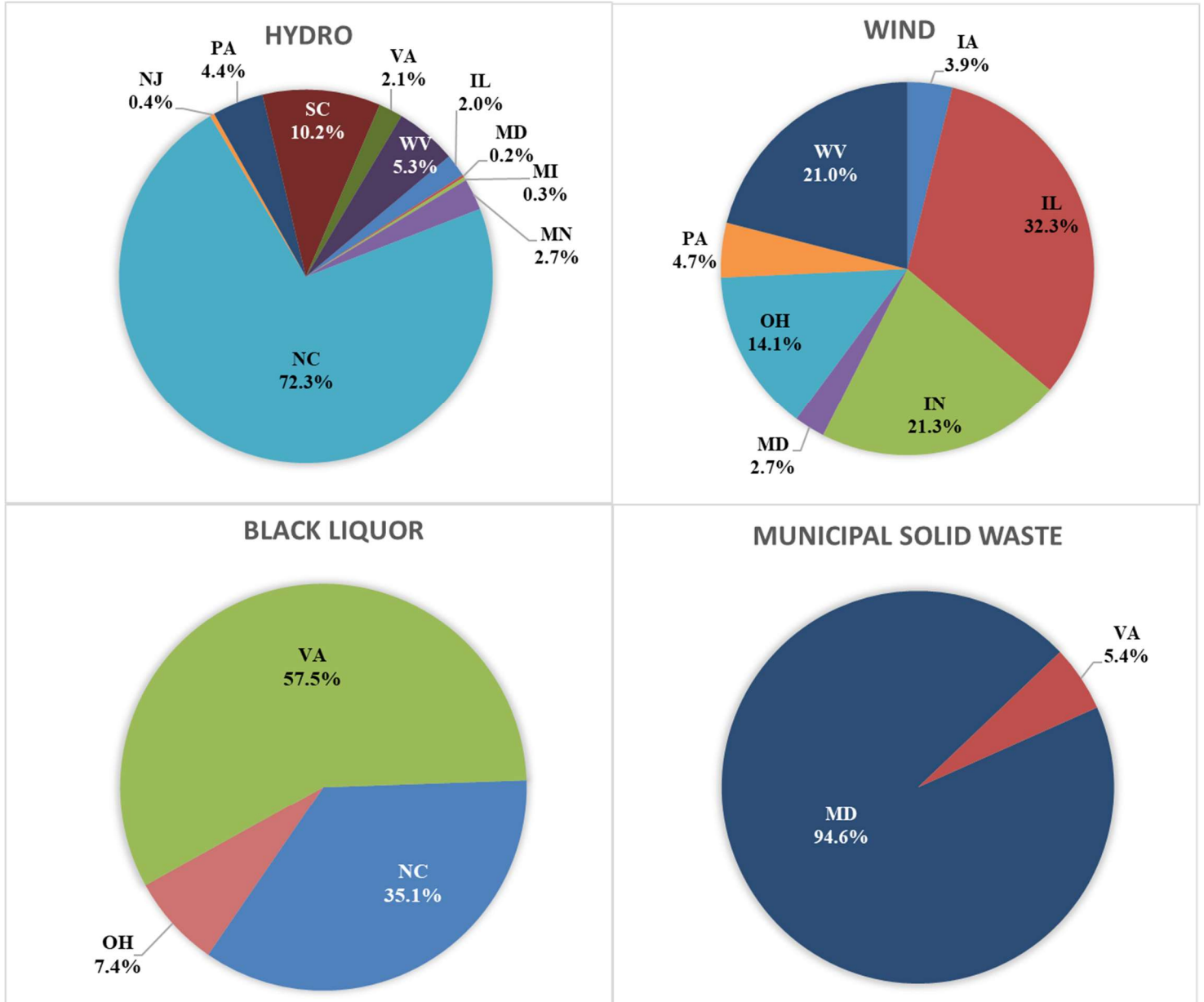


Abbreviations: BLQ, Black Liquor; LFG, Landfill Gas; MSW, Municipal Solid Waste; SUN, Solar Photovoltaic; WAT, Hydroelectric; WDS, Wood and Waste Solids; WND, Wind.

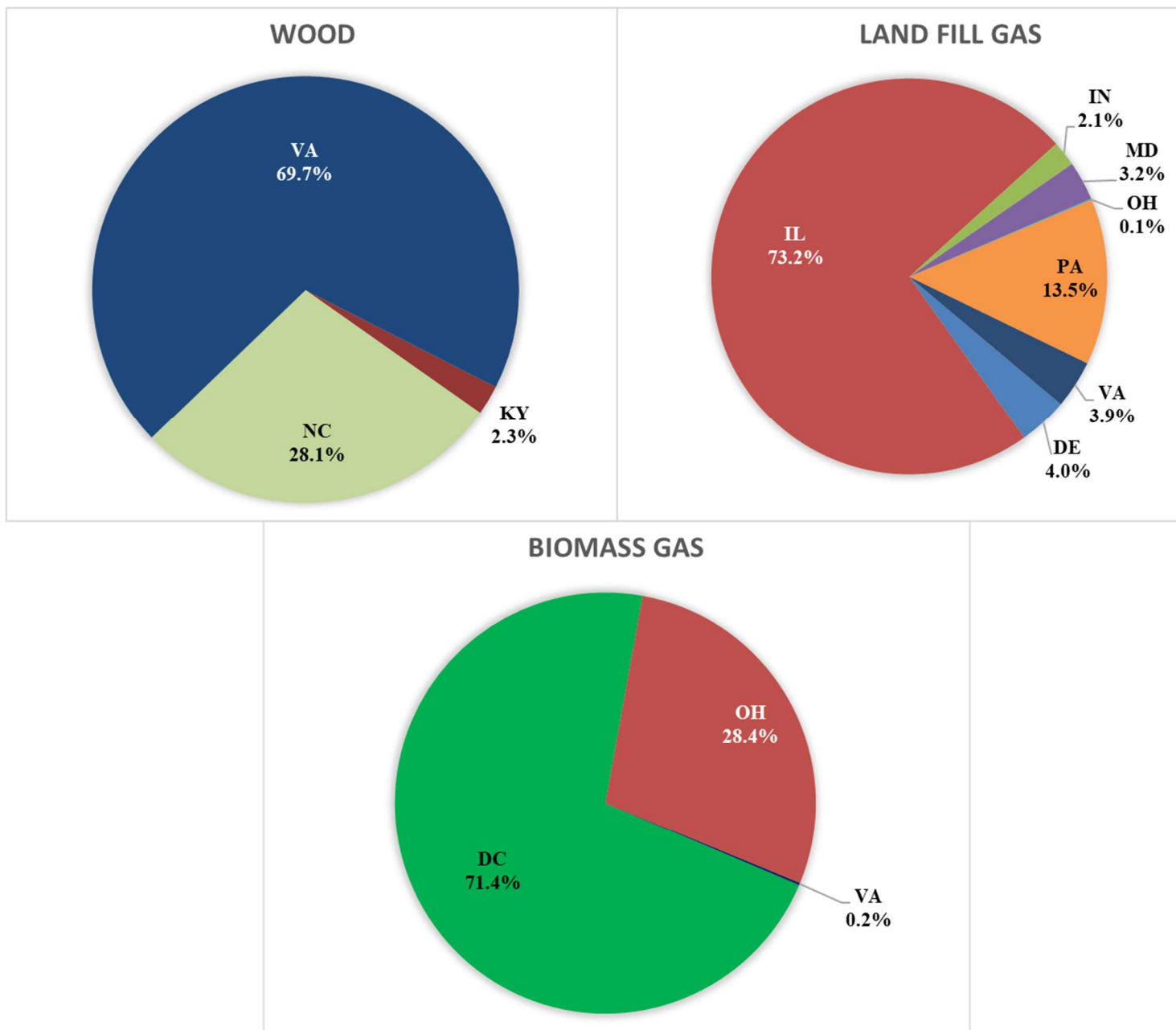
In 2024, all the RECs retired from geothermal, solar and biomass gas sources originated in Maryland, while all waste heat RECs came from the District of Columbia. The seven remaining fuels used to comply with Maryland’s 2024 RPS requirements corresponded to RECs generated in multiple other states, and Figure 7 shows the percentage contribution from each state for each of these seven fuels. Facilities located in Maryland provided 94.6 percent of municipal solid waste RECs retired for compliance in 2024. Maryland resources provided only 2.7 percent of wind RECs, 0.2 percent of hydroelectric RECs, and 3.2 percent of landfill gas RECs. Maryland produced no RECs from wood, black liquor or biomass gas.

²⁹ Senate Bill 65 of 2021 (Chapter 673) removed black liquor as an eligible resource. However, this law stated that a presently existing obligation or contract right may not be impaired in any way by this Act; so black liquor RECs will remain eligible until certain still-existing contracts expire.

Figure 6 Percentage of RECs Generated in Each State, by Fuel (2024) ³⁰



³⁰ Additional information pertaining to the source of renewable energy used to meet Maryland's 2024 RPS compliance requirements is presented in Appendices A and B. Appendix A provides a breakdown of the *number of RECs* used by electricity suppliers according to tier, fuel type, and facility location, while Appendix B presents the *number of facilities* by tier, fuel type, and facility location that provided RECs for compliance.



III. MARYLAND RENEWABLE ENERGY FACILITIES

Implementation of the Maryland RPS Program can provide an incentive for renewable generators to locate in Maryland and generate electricity. The renewable requirement establishes a market for renewable energy, and, to the extent Maryland's geography and natural resources can be utilized to generate renewable electricity, developers may locate projects within the State. This section of the report provides information about the REFs located in Maryland in 2024.³¹ Renewable energy generated in Maryland can be used both in Maryland and in other states for

³¹ Specific information pertaining to the State's REFs as described herein was made available by PJM-EIS in the GATS State Agency Report.

RPS compliance purposes, and also can be sold in support of competitive retail electricity supplier product offerings (*i.e.*, green power products).

As shown in Table 9, in 2024, eligible sources located within Maryland generated approximately 1.5 million Tier 1 non-solar RECs, 2.4 million Tier 1 SRECs, and 1.8 million Tier 2 RECs. Additional analyses pertaining to the Maryland-based renewable generators are presented in Appendices C through E. Appendix C shows the disposition of RECs generated in Maryland in 2023. Appendix D provides the number of renewable energy facilities by county that are both located in Maryland and registered with PJM-GATS to participate in any one of the PJM states' RPS programs. Appendix E provides the total capacity of these facilities, broken out by county and tier.

Table 9 2023 Maryland-Generated RECs by Fuel Source

	Fuel Type	RECs (Quantity)	RECs (Percent)
Tier 1	Geothermal	88,669	1.6%
	Landfill Gas	55,170	1.0%
	Municipal Solid Waste	684,211	12.0%
	Biomass Solids	77,161	1.4%
	Small Hydro	17,643	0.3%
	Wood Waste	0	0.0%
	Wind	566,944	10.0%
Solar	Solar PV	2,363,048	41.6%
	Solar Thermal	2,343	0.0%
Tier 2	Large Hydro	1,831,179	32.2%
Total		5,686,368	100.0%

Table 10 presents additional details regarding the disposition of Maryland-generated RECs in calendar year 2024. Approximately 22 percent of the RECs generated by renewable facilities located within Maryland during 2024 are available for potential future sale in Maryland or in other states in subsequent compliance years. Over 52 percent of all RECs generated in Maryland were retired in 2024 to meet the RPS requirements in Maryland and various other PJM states. Labeled as “Other” in Table 10, 26 percent of RECs were used for other purposes, which may include pending transfers between parties.

Table 10 Disposition of 2024 Maryland-Generated RECs

REC Tier	Available	RPS Compliance	Other	Total
Tier 1	750,183	739,615	0	1,489,798
Solar	124,157	2,237,195	4,039	2,365,391
Tier 2	369,808	1,357	1,460,014	1,831,179
Total	1,244,148	2,978,167	1,464,053	5,686,368
(%)	21.9%	52.4%	25.7%	100.0%

Source: PJM-EIS

Table 11 presents, on a state-by-state basis, the distribution of the RECs both generated in-state and retired for RPS compliance purposes. In 2024, Maryland-generated RECs were retired for compliance purposes in five jurisdictions: the District of Columbia, Delaware, Maryland, New Jersey, and Pennsylvania.

Table 11 2024 Maryland-Generated RECs Retired for RPS Compliance by State

Tier	Fuel Type	DC	DE	MD	NJ	PA	Total
Tier 1	Geothermal	-	-	32,757	-	-	32,757
	Land Fill Gas	-	-	-	-	2,945	2,945
	Municipal Waste	-	-	448,013	-	-	448,013
	Biomass Solids	-	-	72,161	-	-	72,161
	Small Hydro	-	-	725	-	-	725
	Wind	-	46,673	23,885	109,956	2,500	183,014
	Subtotal	-	46,673	577,541	109,956	5,445	739,615
	Percentage	0.0%	6.3%	78.1%	14.9%	0.7%	100.0%
Solar	Solar PV	12,307	-	2,222,194	-	649	2,235,150
	Solar Thermal	-	-	2,045	-	-	2,045
	Subtotal	12,307	-	2,224,239	-	649	2,237,195
	Percentage	0.6%	0.0%	99.4%	0.0%	0.0%	100.0%
Tier 2	Large Hydro	-	-	1,357	-	-	1,357
	Subtotal	-	-	1,357	-	-	0
	Percentage	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
All Tiers	Grand Total	12,307	46,673	2,803,137	109,956	6,094	2,978,167
	Percentage	0.4%	1.6%	94.1%	3.7%	0.2%	100.0%

Source: PJM-EIS.

IV. GEOTHERMAL CARVE-OUT

In 2021, House Bill 1007³² was signed into law, which created a carve-out within Tier 1 for geothermal RECs created by a system with an in-service date of on or after January 1, 2023. The legislation refers to these as “Post–2022 Geothermal Systems” and the carve-out includes a

³² Chapter 164 of the Acts of 2021.

requirement that at least 25% of the required percentage of the RPS percentage derived from post-2022 geothermal systems be derived from LMI systems.

2024 was the second year the post-2022 geothermal carve-out was applicable, and percentage requirements were 0.1125% for non-LMI systems, and 0.0375% for LMI systems, for a total of 0.15%. This results in a REC obligation of 50,728 non-LMI GRECs and 16,886 LMI GRECs. A large majority of suppliers met these obligations by paying ACPs, with only 22,874 non-LMI GRECs being retired, and just 276 LMI GRECs. These shortfalls resulted in ACP payments of \$2,785,500 for non-LMI GREC obligations, and \$1,661,000 for LMI GREC obligations.

V. CONCLUSION

The electricity supplier compliance reports for 2024, verified by the Commission, indicate that approximately 36 percent of Maryland RPS obligations were met via the purchase and retirement of RECs, with \$365 million in ACPs. Approximately 45 percent of RECs used for compliance in 2024 came from in-state resources, up from 35 percent in 2023, RECs derived from three fuel types, solar (43.4 percent), black liquor (16.2 percent), and wind (15.1 percent), were the predominant sources of Tier 1 compliance in 2024. Throughout 2025, the Commission will continue to: review applications from facilities requesting certification as a Maryland REF, oversee the RPS Program, and verify that the electricity suppliers in Maryland procure enough electricity generated by renewable resources.

APPENDICES

Appendix A 2024 Retired REC's by Facility

Facility Name	State	Fuel	Quantity	BLQ %	Tier 1
Covington Facility - MeadWestvaco	VA	BLQ	173,757	16.11%	5.19%
Domtar Paper Co LLC	NC	BLQ	338,355	31.37%	10.11%
Franklin Mill	VA	BLQ	130,590	12.11%	3.90%
Hopewell Mill - Gen 1	VA	BLQ	77,477	7.18%	2.31%
Kapstone Kraft Paper	NC	BLQ	118,870	11.02%	3.55%
Pixelle Specialty Solutions	OH	BLQ	70,569	6.54%	2.11%
West Point Mill - GEN8-12	VA	BLQ	168,996	15.67%	5.05%
		Total	1,078,614	100.00%	32.22%
Facility Name	State	Fuel	Quantity	LFG %	Tier 1
AEP ELKHART 1 LF - 1	IN	LFG	2,204	2.06%	0.07%
BC MILLERSVILLE 1 LF - 1	MD	LFG	542	0.51%	0.02%
Beecher - Beecher	IL	LFG	4,243	3.97%	0.13%
Biodyne Pontiac - 1	IL	LFG	30,577	28.62%	0.91%
Blue Ridge LFGTE - 1	PA	LFG	223	0.21%	0.01%
Broad Mountain	PA	LFG	3,073	2.88%	0.09%
CID - LFG Turbines	IL	LFG	7,493	7.01%	0.22%
Croda Atlas Point CHP	DE	LFG	4,287	4.01%	0.13%
Greene Valley	IL	LFG	6,760	6.33%	0.20%
Lake Gas Recovery - Gas Turbines	IL	LFG	2,910	2.72%	0.09%
Lakeview Gas Recovery	PA	LFG	5,758	5.39%	0.17%
PEP OAKS 4 LF - 4	MD	LFG	2,365	2.21%	0.07%
PEP RITCHIE BROWN	MD	LFG	488	0.46%	0.01%
Rochelle Energy LLC	IL	LFG	1,037	0.97%	0.03%
Settlers Hill - LFG Turbines	IL	LFG	14,556	13.63%	0.43%
Suburban Landfill Generator	OH	LFG	105	0.10%	0.00%

Tullytown Landfill Gas-to-Energy Facility	PA	LFG	5,410	5.06%	0.16%
VP CHARLES CITY 1 CT - 1	VA	LFG	4,190	3.92%	0.13%
Woodland - LFG Engines	IL	LFG	10,599	9.92%	0.32%
					3.19%
	Total		106,820	100.00%	%
Facility Name	State	Fuel	Quantity	MSW %	Tier 1
Covanta Fairfax Energy	VA	MSW	25,744	5.43%	0.77%
Montgomery County - GEN1	MD	MSW	139,729	29.45%	4.17%
Montgomery County - Gen 2	MD	MSW	31,047	6.54%	0.93%
Wheelabrator Baltimore Refuse	MD	MSW	277,878	58.57%	8.30%
	Total		474,398	100.00%	14.17%
Facility Name	State	Fuel	Quantity	OBG %	Tier 1
Buckeye BioGas - Wooster	OH	OBG	3,841	12.06%	0.11%
Collinwood Bioenergy	OH	OBG	4,008	12.58%	0.12%
DC Water Bailey Bioenergy - GTG1	DC	OBG	4,059	12.74%	0.12%
DC Water Bailey Bioenergy - GTG2	DC	OBG	10,348	32.48%	0.31%
DC Water Bailey Bioenergy - GTG3	DC	OBG	8,353	26.22%	0.25%
Haviland Energy - Haviland	OH	OBG	1,195	3.75%	0.04%
Martinsville - IWPF 1	VA	OBG	53	0.17%	0.00%
	Total		31,857	100.00%	0.95%
Facility Name	State	Fuel	Quantity	OBG %	Tier 1
Pocomoke Drying Plant	MD	OBS	42,827	59.35%	1.28%
Salisbury Drying Plant	MD	OBS	29,334	40.65%	0.88%
	Total		72,161	100.00%	2.16%
Facility Name	State	Fuel	Quantity	WAT %	Tier 1
AEP BUCK-BYLLESBY 1 H - 1	VA	WAT	17,001	6.20%	0.51%
AEP GLEN FERRIS 1 H - 1	WV	WAT	501	0.18%	0.01%
Allegheny Lock& Dam No 6	PA	WAT	757	0.28%	0.02%
Allegheny River Lock No. 8	PA	WAT	27,068	9.87%	0.81%
Allegheny River Lock No. 9	PA	WAT	12,932	4.72%	0.39%
Buzzards Roost Hydro	SC	WAT	35,240	12.86%	1.05%
City of Rock Falls Upper Sterling Hydro	IL	WAT	10,413	3.80%	0.31%
Deep Creek - 32	MD	WAT	725	0.26%	0.02%
Dixon Hydroelectric Dam	IL	WAT	9,165	3.34%	0.27%
French Paper Co - Unit 1 - 4	MI	WAT	3,046	1.11%	0.09%

Great Falls Hydro Project - HY1	NJ	WAT	3,943	1.44%	0.12%
Holcomb Rock Hydro - Unit # 1	VA	WAT	1,103	0.40%	0.03%
Lockhart Power Hydro	SC	WAT	66,467	24.25%	1.99%
London - 1	WV	WAT	13,206	4.82%	0.39%
Marmet - 1	WV	WAT	14,950	5.45%	0.45%
Niagara - 1	VA	WAT	1,525	0.56%	0.05%
Snowden Hydro Site - Unit # 1	VA	WAT	1,214	0.44%	0.04%
Twin Cities Hydro LLC	MN	WAT	27,178	9.91%	0.81%
Winfield - 1	WV	WAT	24,403	8.90%	0.73%
Yough Hydro Power - 1	PA	WAT	3,292	1.20%	0.10%
		Total	274,129	100.00%	8.19%
Facility Name	State	Fuel	Quantity	WDS %	Tier 1
Cox Waste-to-Energy Cogeneration	KY	WDS	9,698	3.14%	0.29%
VP SOUTH BOSTON 1 F - 1	VA	WDS	299,261	96.86%	8.94%
		Total	308,959	100.00%	9.23%
Facility Name	State	Fuel	Quantity	WH %	Tier 1
Blue Plains Wastewater Treatment	DC	WH	46,395	88.67%	1.39%
DC Water Bailey Bioenergy	DC	WH	5,868	11.21%	0.18%
HQO - Sharc Wastewater	DC	WH	63	0.12%	0.00%
		Total	52,326	100.00%	1.56%
Facility Name	State	Fuel	Quantity	WND %	Tier 1
AEP BLUE CREEK 3 WF - 3	OH	WND	300	0.03%	0.01%
AEP FOWLER RIDGE 1A WF - 1	IN	WND	85,385	9.54%	2.55%
AEP FOWLER RIDGE 1C WF - 3	IN	WND	17,765	1.99%	0.53%
AEP FOWLER RIDGE 2-1 WF - 21	IN	WND	8,230	0.92%	0.25%
AEP FOWLER RIDGE 2-3 WF - 23	IN	WND	7,104	0.79%	0.21%
AEP HOG CREEK 1 WF - 1	OH	WND	105,758	11.82%	3.16%
AEP MEADOW LAKE 1 WF - 1	IN	WND	22,718	2.54%	0.68%
AEP MEADOW LAKE 6 WF - 6	IN	WND	5,000	0.56%	0.15%
AEP SCIOTO RIDGE 1 WF - 1	OH	WND	1,694	0.19%	0.05%
AEP TIMBER2 1 WF - 1	OH	WND	9,666	1.08%	0.29%
AEP WILDCAT 1A WF - 1	IN	WND	15,251	1.70%	0.46%
AEP WILDCAT 1B WF - 2	IN	WND	1,000	0.11%	0.03%
AMP Wind Farm / OMEGA JV 6	OH	WND	3,252	0.36%	0.10%
AP PINNACLE 1 WF - 1	WV	WND	188,049	21.01%	5.62%
AP ROTH ROCK 1 WF - 1	MD	WND	23,817	2.66%	0.71%
Ball Metal Beverage Container	OH	WND	881	0.10%	0.03%
COM HIGH TRAIL 1 WIND - 1	IL	WND	23,967	2.68%	0.72%
COM KELLY CREEK 1 WF - 1	IL	WND	13,162	1.47%	0.39%

COM OLD TRAIL 2 WF - 2	IL	WND	16	0.00%	0.00%
COM OTTER CREEK 1 WF - 1	IL	WND	22,740	2.54%	0.68%
COM PROVIDENCE HGTS 1 WF - 2	IL	WND	2,967	0.33%	0.09%
COM RADFORDS RUN 1 WF - 1	IL	WND	136,100	15.21%	4.07%
COM TOP CROP 1 WF - 1	IL	WND	24,691	2.76%	0.74%
COM WALNUT RIDGE 1 WF - 1	IL	WND	29,445	3.29%	0.88%
Fowler Ridge II Wind Farm	IN	WND	28,064	3.14%	0.84%
Martin Marietta Wind Project	OH	WND	2,763	0.31%	0.08%
Mendota Hills LLC - 1	IL	WND	194	0.02%	0.01%
PN ARMENIA MOUNTAIN 1 WF - 1	PA	WND	3,605	0.40%	0.11%
PN CASSELMAN 1 WF - 1	PA	WND	10,000	1.12%	0.30%
PN LOOKOUT 1 WF - 1	PA	WND	600	0.07%	0.02%
PN MEHOOPANY 1 WF - 1	PA	WND	21,159	2.36%	0.63%
PN PATTON 1 WF - 1	PA	WND	6,950	0.78%	0.21%
Settlers Trail Wind Farm- 2	IL	WND	35,682	3.99%	1.07%
Storm Lake Power Partners II	IA	WND	34,875	3.90%	1.04%
Talbot County Bio-Mass	MD	WND	68	0.01%	0.00%
Valfilm Wind Project	OH	WND	821	0.09%	0.02%
Whirlpool Corp - Ottawa Wind	OH	WND	303	0.03%	0.01%
Whirlpool Corp-Marion Wind	OH	WND	890	0.10%	0.03%
		Total	894,932	100.00%	26.73%
Facility Name	State	Fuel	Quantity	WAT %	Tier 2
AEP CALDERWOOD 1 H - 1	TN	WAT	257,271	23.97%	23.97%
AEP CHEOAH 1 H - 1	NC	WAT	108,999	10.16%	10.16%
Calderwood - Eligible - 1	TN	WAT	18,642	1.74%	1.74%
Cheoah - Eligible - 1	NC	WAT	12,337	1.15%	1.15%
Chilhowee - Eligible - 1-3	TN	WAT	75,685	7.05%	7.05%
Conowingo - 99	MD	WAT	1,357	0.13%	0.13%
Falls - IMPORT	NC	WAT	49,403	4.60%	4.60%
High Rock - IMPORT	NC	WAT	71,872	6.70%	6.70%
Narrows - IMPORT	NC	WAT	322,198	30.02%	30.02%
Safe Harbor - 6	PA	WAT	90	0.01%	0.01%
Santeetlah - Eligible - 1-2	NC	WAT	72,751	6.78%	6.78%
Tuckertown - IMPORT	NC	WAT	82,723	7.71%	7.71%
					100.00
		Total	1,073,328	100.00%	%
Tier 1 REC Total			3,347,917		
SREC Total			2,568,159		
Tier 2 REC Total			1,073,328		
Grand Total			6,989,404		

*Neither solar nor geothermal facilities are represented in this table. In 2024, 87,998 facilities accounted for 2,568,159 SRECs, and 1,134 facilities accounted for 53,721 GRECs.

Appendix B Location of Facilities that Provided RECs for 2024 RPS Compliance

	D C	DE	IA	IL	IN	K Y	MD	MI	MN	NC	NJ	OH	PA	SC	TN	VA	WV	Total
<i>Tier 1</i>																		
Black Liquor	-	-	-	-	-	-	-	-	-	2	-	1	-	-	-	4	-	7
Geothermal	-	-	-	-	-	-	1,766	-	-	-	-	-	-	-	-	-	-	1,766
Landfill Gas	-	1	-	8	1	-	3	-	-	-	-	1	4	-	-	1	-	19
Municipal Solid Waste	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	1	-	3
Other Biomass Gas	1	-	-	-	-	-	-	-	-	-	-	3	-	-	-	1	-	5
Other Biomass Solids	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2
Small Hydro	-	-	-	2	-	-	1	1	1	-	1	-	4	2	-	4	4	20
Waste Heat	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Wood Waste	-	-	-	-	-	1	-	-	-	2	-	-	-	-	-	2	-	5
Wind	-	-	1	10	5	-	2	-	-	-	-	10	5	-	-	-	1	34
<i>Tier 1 Solar</i>																		
Solar PV	-	-	-	-	-	-	87,310	-	-	-	-	-	-	-	-	-	-	87,310
Solar Thermal	-	-	-	-	-	-	688	-	-	-	-	-	-	-	-	-	-	688
<i>Tier 2</i>																		
Large Hydro	-	-	-	-	-	-	1	-	-	6	-	-	1	-	2	-	-	10
Total	4	1	1	20	6	1	89,775	1	1	10	1	15	14	2	2	13	5	89,872

Note: In order to prevent double counting, facilities using multiple fuels are only listed under their primary fuel.

Appendix C Disposition of 2024 Vintage RECs Generated in Maryland

Fuel Type and Tier	RECs Retired for RPS Compliance by State						Available	Other	Total RECs Generated
	DC	DE	MD	NJ	PA	Total			
Geothermal	-	-	32,757	-	-	32,757	55,912	-	88,669
Landfill Gas	-	-	-	-	2,945	2,945	52,225	-	55,170
Municipal Solid Waste	-	-	448,013	-	-	448,013	236,198	-	684,211
Biomass Solids	-	-	72,161	-	-	72,161	5,000	-	77,161
Small Hydro	-	-	725	-	-	725	16,918	-	17,643
Wind	-	46,673	23,885	109,956	2,500	183,014	383,930	-	566,944
<i>Tier 1 Non-solar Total</i>	-	46,673	577,541	109,956	5,445	739,615	750,183	-	1,489,798
Solar PV	12,307	-	2,222,194	-	649	2,235,150	123,859	4,039	2,363,048
Solar Thermal	-	-	2,045	-	-	2,045	298	-	2,343
<i>Tier 1 Solar Total</i>	12,307	-	2,224,239	-	649	2,237,195	124,157	4,039	2,365,391
Large Hydro	-	-	1,357	-	-	1,357	369,808	1,460,014	1,831,179
<i>Tier 2 Total</i>	-	-	1,357	-	-	1,357	369,808	1,460,014	1,831,179
<i>Grand Total</i>	12,307	46,673	2,803,137	109,956	6,094	2,978,167	1,244,148	1,464,053	5,686,368

Appendix D Number of Renewable Energy Facilities Located in Maryland

Maryland County	Tier 1	Solar	Tier 2	Total
Allegany	-	88	-	88
Anne Arundel	236	11,462	-	11,698
Baltimore	437	10,828	-	11,265
Baltimore City	18	1,620	-	1,638
Calvert	47	1,129	-	1,176
Caroline	1	453	-	454
Carroll	75	2,950	-	3,025
Cecil	58	2,171	-	2,229
Charles	35	3,873	-	3,908
Dorchester	3	486	-	489
Frederick	129	3,898	-	4,027
Garrett	6	86	-	92
Harford	324	5,154	1	5,479
Howard	212	5,817	-	6,029
Kent	8	443	-	451
Montgomery	224	16,570	-	16,794
Prince Georges	39	26,438	-	26,477
Queen Annes	17	904	-	921
Somerset	2	362	-	364
St Marys	29	1,986	-	2,015
Talbot	9	348	-	357
Washington	94	1,407	-	1,501
Wicomico	4	1,504	-	1,508
Worcester	5	650	-	655
Total	2,012	100,627	1	102,640

Note: This list includes all renewable generators that are both: 1) located within Maryland, and 2) registered to participate in any one of the PJM states' renewable energy programs as of June 1, 2025.

Appendix E Capacity of Renewable Energy Facilities Located in Maryland (MW)

Maryland County	Tier 1	Solar	Tier 2	Total
Allegany	-	35.9	-	35.9
Anne Arundel	12.6	174.1	-	186.7
Baltimore	83.7	184.8	-	268.5
Baltimore City	1.2	33.7	-	34.9
Calvert	1.8	14.4	-	16.2
Caroline	0.1	15.4	-	15.4
Carroll	3.1	76.9	-	80.0
Cecil	2.3	54.1	-	56.4
Charles	1.7	93.8	-	95.5
Dorchester	0.1	80.5	-	80.6
Frederick	5.1	115.8	-	120.9
Garrett	210.0	22.7	-	232.7
Harford	12.8	101.6	474.0	588.3
Howard	9.3	148.0	-	157.3
Kent	0.3	23.8	-	24.2
Montgomery	88.2	224.0	-	312.3
Prince George's	8.0	357.4	-	365.4
Queen Anne's	0.7	149.1	-	149.8
Somerset	3.8	154.8	-	158.6
St. Mary's	1.4	22.8	-	24.1
Talbot	69.6	15.6	-	85.2
Washington	3.7	106.3	-	110.0
Wicomico	13.4	56.1	-	69.5
Worcester	7.4	40.0	-	47.4
Total	540.2	2,301.7	474.0	3,316.0

Note: This list includes all renewable generators that are both: 1) located within Maryland, and 2) registered to participate in any one of the PJM states' renewable energy programs as of June 1, 2025.

Appendix F Maryland Certified Renewable Energy Facilities³³

Plant Name	State	Date Online	Certification No.
ACE CUMBERLAND CTY 1 LF	NJ	11/01/2008	MD-40139-LFG-01
AE ONTARIO WF	NJ	12/01/2005	MD-20166-WND-01
AEP BITTER RIDGE 1 WF	IN	09/01/2020	MD-20208-WND-01
AEP BLUE CREEK 3 WF	OH	10/01/2011	MD-20141-WND-01
AEP BLUFF POINT 2 WF	IN	09/01/2017	MD-20182-WND-01
AEP BUCK-BYLLESBY 1 H	VA	01/01/1912	MD-90204-WAT-01
AEP CLOYDS MT 1 LF	VA	12/01/2014	MD-40197-LFG-01
AEP ELKHART 1 LF	IN	10/01/2010	MD-40206-LFG-01
AEP FOWLER RIDGE 1A WF	IN	02/01/2009	MD-20112-WND-01
AEP FOWLER RIDGE 1B WF	IN	02/01/2009	MD-20112-WND-01
AEP FOWLER RIDGE 1C WF	IN	02/01/2009	MD-20112-WND-01
AEP FOWLER RIDGE 2-1 WF	IN	12/01/2009	MD-20138-WND-01
AEP FOWLER RIDGE 2-2 WF	IN	12/01/2009	MD-20138-WND-01
AEP FOWLER RIDGE 2-3 WF	IN	12/01/2009	MD-20138-WND-01
AEP FOWLER RIDGE 3 WF	IN	02/01/2009	MD-20139-WND-01
AEP FOWLER RIDGE 4 WF	IN	12/01/2015	MD-20172-WND-01
AEP FRIES HYDRO	VA	01/01/1933	MD-90177-WAT-01
AEP GLEN FERRIS 1 H	WV	12/01/2011	MD-90220-WAT-01
AEP HEADWATERS 1 WF	IN	10/01/2014	MD-20163-WND-01
AEP HEADWATERS 2 WF	IN	01/01/2021	MD-20216-WND-01

³³ This list excludes solar facilities, none of which was installed prior to 1998. Also excluded is geothermal, none of which was installed prior to 2006. A full list of facilities can be found here: <https://gats.pjm-eis.com/gats2/PublicReports/RenewableGeneratorsRegisteredinGATS>.

AEP HOG CREEK 1 WF	OH	12/01/201 7	MD-20186-WND-01
AEP JAY COUNTY 1 LF	IN	04/01/200 5	MD-40205-LFG-01
AEP MEADOW LAKE 1 WF	IN	10/01/200 9	MD-20131-WND-01
AEP MEADOW LAKE 2 WF	IN	06/01/201 0	MD-20132-WND-01
AEP MEADOW LAKE 3 WF	IN	08/01/201 0	MD-20133-WND-01
AEP MEADOW LAKE 4 WF	IN	10/01/201 0	MD-20134-WND-01
AEP MEADOW LAKE 5 WF	IN	07/01/201 7	MD-20181-WND-01
AEP MEADOW LAKE 6 WF	IN	11/01/201 8	MD-20193-WND-01
AEP ORCHARD HILLS 1 LF	MI	01/01/201 3	MD-40201-LFG-01
AEP PAULDING 3 WF	OH	11/01/201 6	MD-20177-WND-01
AEP PAULDING 41 WF	OH	01/01/202 0	MD-20215-WND-01
AEP PAULDING 42 WF	OH	03/01/202 0	MD-20215-WND-01
AEP SCIOTO RIDGE 1 WF	OH	10/01/202 0	MD-20213-WND-01
AEP SUMMERSVILLE 1-2 H	WV	01/01/200 1	MD-90178-WAT-02
AEP TIMBER2 1 WF	OH	06/01/201 1	MD-20221-WND-01
AEP TRISHE 1 WF	OH	08/01/201 8	MD-20189-WND-01
AEP WILDCAT 1A WF	IN	10/01/201 2	MD-20158-WND-01
AEP WILDCAT 1B WF	IN	10/01/201 2	MD-20158-WND-01
Allegheny 5	PA	10/01/198 8	MD-90180-WAT-01
Allegheny Lock& Dam No 6 Hydro	PA	01/01/198 9	MD-90181-WAT-01
Allegheny River Lock and Dam No. 8	PA	11/01/199 0	MD-90799-WAT-01
Allegheny River Lock and Dam No. 9	PA	11/01/199 0	MD-90798-WAT-01
Allentown Wastewater Treatment	PA	07/01/201 4	MD-40187-OBG-01

AMP Wind Farm / OMEGA JV 6	OH	12/01/200 4	MD-20183-WND-01
AP ARDEN 1 LF	PA	01/01/200 9	MD-40145-LFG-01
AP BEECH RIDGE 1 WF	WV	01/01/201 0	MD-20137-WND-01
AP BEECH RIDGE 2 WF	WV	03/01/202 0	MD-20203-WND-01
AP BLACK ROCK 1 WF	WV	10/01/202 1	MD-20217-WND-01
AP CRITERION 1 WF	MD	12/01/201 0	MD-20124-WND-01
AP FAIR WIND 2 WF	MD	11/01/201 5	MD-20170-WND-01
AP FOURMILE RIDGE 1 WF	MD	12/01/201 4	MD-20167-WND-01
AP GREENLAND GAP 1 WF	WV	12/01/200 7	MD-20109-WND-01
AP LAUREL MOUNTAIN 1 WF	WV	05/01/201 1	MD-20136-WND-01
AP MISC HYDRO H	WV	06/01/193 8	MD-90102-WAT-01
AP PINNACLE 1 WF	WV	11/01/201 1	MD-20135-WND-01
AP ROTH ROCK 1 WF	MD	11/01/201 0	MD-20122-WND-01
AP SOUTH CHESTNUT 1 WF	PA	11/01/201 1	MD-20142-WND-01
AP TWIN RIDGES 1 WF	PA	09/01/201 2	MD-20149-WND-01
AP UPTON DG 1 F	PA	11/01/200 4	MD-40163-LFG-01
AP WILLOW ISLAND 1 H	WV	11/01/201 5	MD-90258-WAT-02
Appomattox River Associates, LP.	VA	09/01/199 2	MD-90214-WAT-01
Archbald Power Station	PA	09/01/198 8	MD-40115-LFG-01
Atlantic Treatment Plant	VA	05/01/201 3	MD-40203-OBG-01
Ball Metal Beverage Container Corp.	OH	08/01/202 0	MD-20209-WND-01
Banister Hydro, Inc	VA	01/01/191 5	MD-90212-WAT-01
Bavarian LFGTE	KY	09/01/200 3	MD-40176-LFG-01

BC ALPHA RIDGE 1 LF	MD	07/01/201 2	MD-40171-LFG-01
BC MILLERSVILLE 1 LF	MD	06/01/201 2	MD-40168-LFG-01
Beaver Valley Patterson Dam	PA	09/01/198 2	MD-90256-WAT-01
Beecher	IL	06/01/200 6	MD-40138-LFG-01
Belleville	WV	04/01/199 9	MD-90243-WAT-02
Berrien Springs	MI	01/01/199 6	MD-90229-WAT-01
Big Shoals Hydro	VA	12/01/192 5	MD-90183-WAT-01
Biodyne Pontiac	IL	12/01/199 9	MD-40199-LFG-01
Blue Plains Wastewater Treatment	DC	10/01/201 4	MD-20222-WH-01
Blue Ridge LFGTE	PA	11/01/201 2	MD-40173-LFG-01
Blue Ridge LFGTE	KY	11/01/201 3	MD-40204-LFG-01
Buchanan	MI	01/01/191 9	MD-90226-WAT-01
Buckeye BioGas	OH	04/01/201 0	MD-50500-OBG-01
Buzzards Roost Hydro	SC	01/01/194 0	MD-90260-WAT-01
CCIA BTM	NJ	10/01/200 8	MD-40139-LFG-01
CID	IL	03/01/198 9	MD-40116-LFG-01
City of Radford Hydroelectric Project	VA	08/01/193 4	MD-90249-WAT-01
City of Rock Falls Upper Sterling Hydro	IL	06/01/199 8	MD-90196-WAT-01
Coleman Falls Hydro	VA	06/01/198 3	MD-90184-WAT-01
Collinwood Bioenergy	OH	02/01/201 2	MD-40204-OBG-01
COM ADAM 1 WF	IL	10/01/200 7	MD-20160-WND-01
COM ALTA FARMS II 1 WF	IL	04/01/202 3	MD-20220-WND-01
COM BIG SKY 1 WF	IL	08/01/201 0	MD-20143-WND-01

COM BISHOP HILL 1 WF	IL	02/01/201 2	MD-20159-WND-01
COM BISHOP HILL 2 WF	IL	02/01/201 2	MD-20159-WND-01
COM BLOOMING GROVE 1 WF1	IL	10/01/202 0	MD-20212-WND-01
COM BRIGHT STALK 1 WF	IL	12/01/201 9	MD-20202-WND-01
COM CAMP GROVE 1 WF	IL	12/01/200 7	MD-20140-WND-01
COM CAMP GROVE 2 WF	IL	12/01/200 7	MD-20140-WND-01
COM CAYUGA RIDGE 1 WF	IL	12/01/200 9	MD-20117-WND-01
COM ECO GROVE 1 WF	IL	06/01/200 9	MD-20127-WND-01
COM GRAND RIDGE 1 WF	IL	10/01/200 8	MD-20144-WND-01
COM GRAND RIDGE 2 WF	IL	12/01/200 9	MD-20118-WND-01
COM GRAND RIDGE 3 WF	IL	11/01/200 9	MD-20119-WND-01
COM GRAND RIDGE 4 WF	IL	12/01/200 9	MD-20152-WND-01
COM GREEN RIVER 1 WF	IL	11/01/201 9	MD-20200-WND-01
COM GREEN RIVER 2 WF	IL	11/01/201 9	MD-20201-WND-01
COM HIGH TRAIL 1 WIND	IL	03/01/200 7	MD-20107-WND-01
COM HILLTOPPER 1 WF	IL	11/01/201 8	MD-20188-WND-01
COM KELLY CREEK 1 WF	IL	11/01/201 6	MD-20176-WND-01
COM LONE TREE 3 WF	IL	11/01/202 0	MD-20214-WND-01
COM MIDLAND 1 WF	IL	10/01/202 3	MD-20226-WND-01
COM MINONK 1 WF	IL	10/01/201 2	MD-20156-WND-01
COM OLD TRAIL 2 WF	IL	01/01/200 8	MD-20108-WND-01
COM OTTER CREEK 1 WF	IL	01/01/202 0	MD-20207-WND-01
COM PILOT HILL 1 WF	IL	07/01/201 5	MD-20164-WND-01

COM PROVIDENCE HGTS 1 WF	IL	06/01/2008	MD-20155-WND-01
COM RADFORDS RUN 1 WF	IL	10/01/2017	MD-20184-WND-01
COM SHADY OAKS 1 WF	IL	05/01/2012	MD-20218-WND-01
COM SHADY OAKS 2 WF	IL	09/01/2023	MD-20223-WND-01
COM SUBLETTE 1 WF	IL	04/01/2007	MD-20145-WND-01
COM TOP CROP 1 WF	IL	10/01/2009	MD-20125-WND-01
COM TOP CROP 2 WF	IL	07/01/2010	MD-20126-WND-01
COM WALNUT RIDGE 1 WF	IL	10/01/2018	MD-20196-WND-01
COM WBROOK 1 WF	IL	04/01/2007	MD-20145-WND-01
COM WHITNEY HILL 2 WF	IL	12/01/2019	MD-20194-WND-01
Conemaugh Hydro Plant	PA	04/01/1989	MD-90182-WAT-01
Conowingo	MD	03/01/1928	MD-90176-WAT-02
Constantine	MI	01/01/1923	MD-90255-WAT-01
Covanta Fairfax Energy	VA	03/01/1990	MD-80106-MSW-01
Covanta New Martinsville Energy	WV	10/01/1988	MD-90179-WAT-02
Covington Facility	VA	01/01/1989	MD-30010-BLQ-01; MD-30010-WDS-01
Cox Waste-to-Energy Cogeneration	KY	01/01/2001	MD-30114-WDS-01
Crescent Ridge	IL	05/01/2005	MD-20153-WND-01
Croda Atlas Point CHP	DE	08/01/2013	MD-40191-LFG-01
Croda Atlas Point CHP	DE	07/01/2021	MD-40213-LFG-01
Cushaw	VA	01/01/1930	MD-90231-WAT-01
DC Water Bailey Bioenergy Facility	DC	10/01/2014	MD-40189-OBG-01
DC Water Bailey Bioenergy Facility	DC	10/01/2014	MD-40189-OBG-01

DC Water Bailey Bioenergy Facility	DC	01/01/2016	MD-20225-WH-01
DC Water Bailey Bioenergy Facility	DC	01/01/2016	MD-20224-WH-01
DC Water Bailey Bioenergy Facility	DC	01/01/2016	MD-20226-WH-01
DC Water Bailey Bioenergy Facility	DC	01/01/2016	MD-20223-WH-01
Deep Creek	MD	07/01/1925	MD-90104-WAT-01
DEOK MELDAHL DAM 1 H	KY	08/01/2014	MD-90259-WAT-02
Dixon Hydroelectric Dam	IL	01/01/1988	MD-90195-WAT-01
Domtar Paper Co LLC Plymouth NC	NC	09/01/1952	MD-301180-BLQ-01; MD-30118-WDS-01
DPL CENTRAL 1 LF	DE	12/01/2006	MD-40113-LFG-01
DPL NEWLAND PARK 1 LF	MD	05/01/2007	MD-40167-LFG-01
DPL SOUTHERN 1 LF	DE	10/01/2006	MD-40114-LFG-01
Eastern Correctional Institution	MD	08/01/1987	MD-30117-WDS-01
Eastern LFG BTM	MD	06/01/2020	MD-40209-LFG-01
Eastern LFG BTM	MD	02/01/2021	MD-402010-LFG-01
Easton	MD	11/01/2004	MD-50001-OBL-01
Edge Moor	DE	12/01/1954	MD-40103-LFG-01
Edge Moor	DE	04/01/1966	MD-40104-LFG-01
Edge Moor	DE	08/01/1973	MD-40105-LFG-01
Elkhart	IN	01/01/1913	MD-90230-WAT-01
Falls	NC	12/01/1919	MD-90236-WAT-02
FE ERIE COUNTY 1 LF	OH	04/01/2010	MD-40174-LFG-01
FE GENEVA 1 LF	OH	07/01/2013	MD-40185-LFG-01
FE MAHONING 1 LF	OH	01/01/2013	MD-40186-LFG-01

Findlay Wind Farm	OH	12/01/2015	MD-20175-WND-01
Fowler Ridge II Wind Farm - Vectren	IN	12/01/2009	MD-20138-WND-01
FPL E Somerset Windpower LLC	PA	10/01/2001	MD-20205-WND-01
Franklin Mill	VA	11/01/1977	MD-30106-BLQ-01
Freeborn Wind Farm	MN	05/01/2021	MD-20231-WND-01
French Paper Co	MI	02/01/2000	MD-90221-WAT-01
Frey Farm Landfill	PA	01/01/2006	MD-40141-LFG-01
Gaston	NC	02/01/1963	MD-90231-WAT-02
Great Falls Hydro Project	NJ	09/01/1984	MD-90215-WAT-01
Green Valley LFGTE	KY	09/01/2003	MD-40181-LFG-01
Greene Valley	IL	05/01/1996	MD-40102-LFG-01
Hardin County LFGTE	KY	01/01/2006	MD-40178-LFG-01
Harpster Wind	OH	01/01/2016	MD-20173-WND-01
Haviland Energy	OH	04/01/2012	MD-50503-OBG-01
Haviland Wind Farm	OH	12/01/2012	MD-20161-WND-01
Haviland Wind Farm	OH	12/01/2012	MD-20161-WND-01
Haviland Wind Farm	OH	12/01/2012	MD-20161-WND-01
High Rock	NC	12/01/1927	MD-90237-WAT-02
Holcim-Paulding Wind Project	OH	08/01/2020	MD-20210-WND-01
Holcomb Rock Hydro	VA	06/01/1920	MD-90185-WAT-01
Hopewell Mill	VA	12/01/1980	MD-30101-BLQ-01; MD-30101-WDS-01
HQO	DC	01/01/2019	MD-20221-WH-01
JC OCEAN CTY 1 LF	NJ	05/01/2007	MD-40207-LFG-01

Jersey-Atlantic Wind, LLC	NJ	12/01/200 5	MD-20166-WND-01
John H Kerr	VA	12/01/195 3	MD-90250-WAT-02
Johnsonburg Mill	PA	02/01/199 3	MD-30133-BLQ-01
Kapstone Kraft Paper Corporation	NC	01/01/199 9	MD-30116-AB-01; MD-30116-BLQ-01; MD-30116-WDS-01
KC Brighton	MD	07/01/198 5	MD-90218-WAT-01
Lake Gas Recovery	IL	08/01/198 8	MD-40101-LFG-01
Lake Lynn Power Station	PA	05/01/192 6	MD-90101-WAT-02
Lakeview Gas Recovery	PA	06/01/199 7	MD-40125-LFG-01
Laurel Ridge LFGTE	KY	09/01/200 3	MD-40180-LFG-01
Lockhart Power Hydro	SC	10/01/192 1	MD-90261-WAT-01
Lockport Powerhouse Hydroelectric	IL	02/01/199 9	MD-90241-WAT-01
London	WV	12/01/193 5	MD-90200-WAT-01
Lorain County Power Station	OH	12/01/200 1	MD-40188-LFG-01
Lycoming Landfill	PA	08/01/201 2	MD-40183-LFG-01
Marmet	WV	12/01/193 5	MD-90201-WAT-01
Martin Marietta Wind Project	OH	12/01/202 3	MD-20224-WND-01
Martinsville	VA	04/01/201 7	MD-45000-OBG-01
ME NORTH LEBANON 1 F	PA	09/01/200 7	MD-40142-LFG-01
Mendota Hills LLC	IL	03/01/201 9	MD-20100-WND-01
Meyersdale Windpower	PA	12/01/200 3	MD-20105-WND-01
Midshore I Regional Solid Waste	MD	06/01/202 3	MD-40211-LFG-01
Mill Run Windpower	PA	10/01/200 1	MD-20204-WND-01
Montgomery County Resource	MD	05/01/199 5	MD-80001-MSW-01

Montgomery County Resource	MD	07/01/199 5	MD-80001-MSW-01
Moomaws Dam	VA	01/01/198 4	MD-90245-WAT-01
Morehead Generating Facility	KY	06/01/201 9	MD-40203-LFG-01
Mother Ann Lee Hydroelectric Station	KY	03/01/200 7	MD-90219-WAT-01
Mottville	MI	01/01/192 3	MD-90227-WAT-01
Mountaineer Wind Energy Center	WV	12/01/200 2	MD-20229-WND-01
Narrows	NC	12/01/191 7	MD-90238-WAT-02
Niagara	VA	06/01/195 4	MD-90202-WAT-01
O'brien Edgeboro	NJ	09/01/199 7	MD-40172-LFG-01
Ocean County Landfill	NJ	02/01/199 7	MD-40208-LFG-01
PE SE CHESTER COUNTY REFUSE 1 LF	PA	01/01/200 7	MD-40135-LFG-01
Pendleton County LFGTE	KY	02/01/200 7	MD-40177-LFG-01
Pennsauken Landfill	NJ	01/01/200 5	MD-40148-LFG-01
PEP RITCHIE BROWN 2 LF	MD	12/01/200 3	MD-40137-LFG-01
PEP RITCHIE PG COGEN 1	MD	10/01/198 7	MD-40136-LFG-01
Philpott Lake	VA	08/01/195 3	MD-90251-WAT-01
Piney	PA	06/01/192 4	MD-90103-WAT-02
Pinnacles Hydro Power Project	VA	06/01/193 8	MD-90246-WAT-01
Pixelle Specialty Solutions - Spring Grove	PA	10/01/198 9	MD-30109-BLQ-01
Pixelle Specialty Solutions -Chillicothe	OH	07/01/197 8	MD-30102-BLQ-01
PL ARCHBALD PEI 5 LF	PA	01/01/201 0	MD-40115-LFG-01
PL ARCHBALD PEI 6 LF	PA	01/01/201 0	MD-40115-LFG-01
PL LOCUST RIDGE 2 WF	PA	11/01/200 8	MD-20115-WND-01

PL PINE GROVE 1 LF	PA	08/01/200 8	MD-40165-LFG-01
PN ALLEGHENY RIDGE 1 WF	PA	06/01/200 7	MD-20106-WND-01
PN ARMENIA MOUNTAIN 1 WF	PA	11/01/200 9	MD-20114-WND-01
PN BIG LEVEL 1 WF	PA	11/01/201 9	MD-20195-WND-01
PN CASSELMAN 1 WF	PA	12/01/200 7	MD-20123-WND-01
PN HIGHLAND 1 WF	PA	06/01/200 9	MD-20211-WND-01
PN HIGHLAND NORTH 2 WF	PA	02/01/201 2	MD-20146-WND-01
PN LAUREL HILLS 1 WF	PA	09/01/201 2	MD-20154-WND-01
PN LOOKOUT 1 WF	PA	10/01/200 8	MD-20151-WND-01
PN MEHOOPANY 1 WF	PA	12/01/201 2	MD-20148-WND-01
PN MEHOOPANY 2 WF	PA	12/01/201 2	MD-20148-WND-01
PN NORTH ALLEGHENY 2 WF	PA	09/01/200 9	MD-20190-WND-01
PN NORTHERN TIER 1 D	PA	01/01/200 9	MD-40144-LFG-01
PN PATTON 1 WF	PA	11/01/201 2	MD-20150-WND-01
PN RINGER HILL 1 WF	PA	12/01/201 6	MD-20180-WND-01
PN SANDY RIDGE 1 WF	PA	03/01/201 2	MD-20157-WND-01
PN SANDY RIDGE 2 WF	PA	08/01/202 3	MD-20222-WND-01
PN SHIPPENSBURG 1 LF	PA	01/01/200 9	MD-40143-LFG-01
PN STONY CREEK 1 WF	PA	11/01/200 9	MD-20120-WND-01
Pocomoke Drying Plant	MD	03/01/200 7	MD-50508-OBS-01
PS PENNSAUKEN 1 LF	NJ	12/01/200 4	MD-40148-LFG-01
Racine	OH	01/01/198 3	MD-90217-WAT-02
Ravenna Hydroelectric Project	KY	04/01/202 1	MD-90252-WAT-01

Red Pine Wind Project, LLC	M N	12/01/201 7	MD-20232-WND-01
Reusens	VA	01/01/190 3	MD-90244-WAT-01
Roanoke Rapids	NC	09/01/195 5	MD-90232-WAT-02
Rochelle Energy LLC	IL	12/01/201 1	MD-40175-LFG-01
Safe Harbor	PA	12/01/193 1	MD-90100-WAT-02
Safe Harbor	PA	12/01/193 1	MD-90100-WAT-02
Safe Harbor	PA	01/01/193 2	MD-90100-WAT-02
Safe Harbor	PA	01/01/193 2	MD-90100-WAT-02
Safe Harbor	PA	10/01/193 3	MD-90100-WAT-02
Safe Harbor	PA	11/01/193 4	MD-90100-WAT-02
Safe Harbor	PA	10/01/194 0	MD-90100-WAT-02
Safe Harbor	PA	04/01/198 5	MD-90100-WAT-02
Safe Harbor	PA	06/01/198 5	MD-90100-WAT-02
Safe Harbor	PA	09/01/198 5	MD-90100-WAT-02
Safe Harbor	PA	02/01/198 6	MD-90100-WAT-02
Safe Harbor	PA	04/01/198 6	MD-90100-WAT-02
Salisbury Drying Plant	MD	09/01/202 0	MD-50507-OBS-01
Schoolfield Dam	VA	12/01/199 0	MD-90193-WAT-01
Settlers Hill	IL	10/01/198 8	MD-40119-LFG-01
Settlers Trail Wind Farm- 2	IL	10/01/201 1	MD-20227-WND-01
Snowden Hydro Site	VA	08/01/198 7	MD-90186-WAT-01
Storm Lake Power Partners II LLC	IA	04/01/199 9	MD-20225-WND-01
Suburban Landfill Generator	OH	01/01/201 1	MD-40212-LFG-01

Swift Creek Hydro, Inc.	VA	10/01/198 8	MD-90211-WAT-01
Talbot County Bio-Mass Facility	MD	04/01/201 1	MD-20130-WND-01
Tatanka Wind Farm	ND	01/01/200 8	MD-20169-WND-01
Tuckertown	NC	12/01/196 2	MD-90239-WAT-02
Tullytown Landfill Gas-to-Energy	PA	03/01/201 3	MD-40184-LFG-01
Twin Branch	IN	05/01/198 9	MD-90228-WAT-01
Twin Cities Hydro LLC	M N	10/01/192 4	MD-90253-WAT-01
Valfilm Wind Project	OH	09/01/201 8	MD-20191-WND-01
VP AMELIA 1 CT	VA	08/01/200 1	MD-40157-LFG-01
VP BETHEL 1 LF	VA	10/01/200 7	MD-40132-LFG-01
VP BRUNSWICK 1 LF	VA	10/01/200 7	MD-40158-LFG-01
VP CHARLES CITY 1 CT	VA	11/01/200 3	MD-40159-LFG-01
VP CHESTERFIELD 1 LF	VA	06/01/200 4	MD-40160-LFG-01
VP DESERT 1 WF	NC	11/01/201 6	MD-20178-WND-01
VP EMPORIA 1 H	VA	01/01/198 6	MD-90213-WAT-01
VP HENRICO 1 LF	VA	09/01/201 0	MD-40161-LFG-01
VP KING AND QUEEN 1 D	VA	01/01/200 8	MD-40162-LFG-01
VP KING GEORGE 1 LF	VA	05/01/201 0	MD-40149-LFG-01
VP NEW CREEK 1 WF	WV	11/01/201 6	MD-20179-WND-01
VP NORTHEAST 2 LF	VA	12/01/201 1	MD-40154-LFG-01
VP OCCOQUAN 2 LF	VA	03/01/199 3	MD-40107-LFG-01
VP PENINSULA 3 LF	VA	09/01/200 9	MD-40146-LFG-01
VP SOUTH BOSTON 1 F	VA	09/01/201 3	MD-30113-WDS-01

VP TIMBERMILL 1 WF	NC	11/01/202 4	MD-20230-WND-01
Waymart Wind	PA	10/01/200 3	MD-20206-WND-01
West Point Mill	VA	10/01/198 5	MD-30112-BLQ-01; MD-30112-WDS-01
Wheelabrator Baltimore Refuse	MD	05/01/198 5	MD-80101-MSW-01
Whirlpool Corporation - Greenville Wind Farm	OH	10/01/201 8	MD-20192-WND-01
Whirlpool Corporation - Ottawa Wind	OH	01/01/201 8	MD-20187-WND-01
Whirlpool Corporation-Marion Wind	OH	10/01/201 7	MD-20185-WND-01
Winfield	WV	01/01/193 8	MD-90203-WAT-01
Woodland	IL	05/01/199 2	MD-40121-LFG-01
XIC FARMER CITY 1 WF	M O	02/01/200 9	MD-20171-WND-01
York Haven	PA	12/01/190 5	MD-90240-WAT-01
Yough Hydro Power	PA	12/01/198 9	MD-90242-WAT-01
Zanesville Energy	OH	10/01/201 0	MD-50502-OBG-01
Zephyr Wind	OH	12/01/201 5	MD-20174-WND-01

Appendix G Price of RECs by Fuel Source

Fuel Source	Price/REC
Black Liquor	\$30.44
Geothermal	\$25.17
Post-2022 Geothermal	\$94.03
LMI Post-2022 Geothermal	\$94.47
Landfill Gas	\$26.34
Municipal Solid Waste	\$26.66
Other Biomass Gas	\$20.69
Other Biomass Solids	\$22.00
Solar Hot Water	\$58.97
PV Solar	\$58.56
Tier 1 Hydroelectric	\$23.53
Wood and Waste Solids	\$27.63
Waste Heat	\$26.75
Wind	\$25.38
Tier 2 Hydroelectric	\$11.16

Attachment B:
2025 Public Service
Commission EmPOWER
Maryland Energy
Efficiency Act Report

MARYLAND PUBLIC SERVICE COMMISSION

The EmPOWER Maryland Energy Efficiency Act REPORT OF 2025

With Data for Compliance Year 2024

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

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June 2025

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Report Contents

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

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

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

Executive Summary

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

The Commission held a legislative-style hearing on May 7, 2024 to review the semi-annual EmPOWER reports filed by the EmPOWER Maryland Utilities,¹ Washington Gas (WGL), and the Maryland Department of Housing and Community Development (DHCD), with data from the third and fourth quarters of 2023. Following these hearings, on July 2, 2024, the Commission issued Order No. 91214 which addressed program design and evaluation issues as well as future programming. Specifically, the Commission directed the Midstream Work Group to file a status report by October 15, 2024 focusing on a uniform program manual and the plan for its implementation as well as further program enhancements. The Commission also directed the Finance Work Group to file a status report by October 15, 2024 containing the identification of additional data points and reporting metrics requested by OPC on the Clean Energy

¹ The “EmPOWER Maryland Utilities” (electric) are: The Potomac Edison Company (PE); Baltimore Gas and Electric Company (BGE); Delmarva Power & Light Company (DPL); Potomac Electric Power Company (Pepco); and Southern Maryland Electric Cooperative, Inc. (SMECO).

Advantage Pilot Program. The Commission directed the Limited-Income Work Group to file status reports by October 15, 2024 focusing on increasing awareness and opportunities for limited-income customers to replace their appliances as well as a status report focusing on targeted methods for coordination between behavioral programs and DHCD programs. Further, the Commission directed the Evaluation Advisory Group to file a status report by October 15, 2024 focusing on behavior-based programs.

The Commission held its second legislative-style hearing on October 22, 2024 to consider the semi-annual EmPOWER reports filed by the Utilities, WGL, and DHCD for the first and second quarters of 2024. On December 27, 2024, the Commission issued Order No. 91461 which provided direction on programmatic improvements and modifications. Specifically, the Commission directed the Cost Recovery Disclosure Work Group to file a report by April 15, 2025 focusing on CRD messages on social media platforms and the Cost Recovery Work Group to file a status report by April 15, 2025 focusing on the development of a performance incentive mechanism (PIM). The Midstream Work Group was also directed to file a status report by April 15, 2025 focusing on the possibility of including downstream and midstream offerings. The Limited-Income Work Group was directed to file a status report by June 2, 2025 providing an update on utility and DHCD coordination on cross referencing data for behavioral programs and DHCD program combinations. Further, the Order also directed the Future Programming Work Group to file a work plan by April 15, 2025 and a final report by April 15, 2026 focusing on recommendations and improvements for the 2027-2029 program cycle.

Additionally, the Commission implemented HB864 (2024) - Energy Efficiency and Conservation Plans, which was signed into law May 9, 2024. HB864 (2024) made several changes to the operations of EmPOWER including changing goals from energy reduction to greenhouse gas (GHG) reduction, cost recovery, and permitting beneficial electrification programs. Additionally, the legislation required the Commission conduct a work group focused on moderate income programs with a report due July 1, 2025. HB 864 (2024) also required the Commission to determine whether it was in the public interest for mid-sized electric cooperatives to offer programs and services to customers as part of the EmPOWER Maryland Program beginning July 1, 2027. Staff has conducted discussions with Choptank Electric Cooperative regarding this requirement and the Cooperative will be filing its proposed plan by May 1, 2025. The Commission currently has a hearing to discuss the Cooperative's plan scheduled for July 15, 2025. An update on some of these efforts are detailed later within the report.

Initiative Highlights

- Program-to-date, the Utilities' EmPOWER Maryland programs have saved a total of 17,582,578 MWh and 3,589 MW. The expected savings associated with EmPOWER Maryland programs is over \$15.8 billion over the life of the installed measures for the EE&C programs.

- Across all Utilities, the lifecycle cost per kWh for the EE&C programs, in 2024, is \$0.043 per kWh² - significantly lower than the current cost of Standard Offer Service (SOS) which ranges from \$0.082 to \$0.125 per kWh.
- Program-to-date, the Utilities have spent over \$4.6 billion on the EmPOWER Maryland programs, including approximately \$3.2 billion on EE&C programs and \$1.2 billion on DR programs.
- EmPOWER EE&C programs continue to be cost effective on a statewide basis in 2023, with a statewide Societal Cost Test (SCT) score of 2.21 verified for program year 2023. For every dollar of reported utility or participant cost, the EmPOWER EE&C programs generate approximately \$2.21 in benefits.
- Program-to-date, 85,251 limited-income customers participated in EmPOWER Maryland through the Residential Limited-Income Programs. Of the program-to-date participants, 11,966 limited-income households participated in 2024. The average savings per participant in 2024 was 799 kWh. Program-to-date spending on limited-income energy efficiency programs is approximately \$299.0 million.
- The average monthly residential surcharge bill impacts³ for 2023 were as follows:

Table 1: Average Monthly Residential Bill Impacts from EmPOWER Maryland Surcharge in 2024

	EE&C	DR	Dynamic Pricing ⁴	Total
BGE	\$5.69	\$2.75	\$0.55	\$8.99
DPL	\$6.31	\$2.07	(\$0.16)	\$8.22
PE	\$6.82	N/A	N/A	\$6.82
Pepco	\$7.42	\$4.09	(\$0.17)	\$11.34
SMECO	\$9.11	\$2.34	N/A	\$11.45

- The reported energy savings for 2024 and program-to-date are as follows:

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

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

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

Table 2 EE&C Reported Achievements^{5,6}

	2024 Reported Energy Savings (MWh) ⁷	2024 Energy Savings as a % of 2016 Retail Sales Baseline	2024 Target Energy Savings %	Program-to- Date Reduction (MWh) ⁸
BGE	735,758	32,001,806	2.30%	9,430,019
DPL	87,155	4,205,544	2.07%	1,112,355
PE	145,192	7,412,446	1.96%	4,492,538
Pepco	258,000	14,546,641	1.77%	1,721,964
SMECO	81,044	3,388,854	2.39%	825,702

EmPOWER Maryland Portfolios

For the 2024-2026 program cycle, the Commission directed the Utilities to meet the EmPOWER Maryland goals through a diverse array of cost-effective solutions for Maryland ratepayers which can include EE&C, DR, and advanced metering infrastructure (AMI) or Smart Grid-enabled opportunities.⁹ While the EmPOWER Maryland Act mandates that the Commission require each gas and electric utility to establish energy efficiency programs, the directive is limited to those programs that the Commission deems appropriate and across the programs as a whole cost effective. Furthermore, the Commission must consider the impact on rates of each ratepayer class in determining whether to approve an energy efficiency program. Other statutory factors that the Commission must consider in determining whether an energy efficiency program is appropriate include the impact on jobs and on the environment.¹⁰

In order to verify the Utilities' energy and peak demand savings resulting from individual EE&C and DR programs, the Commission has developed an independent, third-party evaluation, measurement, and verification (EM&V) process for the EmPOWER programs, consistent with national best practices. See the "Evaluation, Measurement & Verification" section herein for further information. Beginning with the 2016 program year, the Utilities were evaluated against

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

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

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

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

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

¹⁰ PUA §7-211(i)(1). In its evaluation of a program or service, the Commission must consider the following four factors: cost effectiveness; impact on rates of each ratepayer class; impact on jobs; and impact on the environment. This citation was updated for the 2025 EmPOWER programs and onward to PUA §7-225(d)(3) - (5) and now also includes impact on emissions reductions.

the post-2015 electric energy efficiency goals established by Order No. 87082¹¹ which are designed to achieve an annual incremental gross energy savings equivalent to 2.0 percent of the individual utility's weather normalized gross retail sales baseline with a ramp-up rate of 0.20 percent per year. The Maryland General Assembly (MGA) modified the goals for the 2024 - 2026 EmPOWER cycle once in 2022 and again in 2024. The MGA passed the Climate Solutions Now Act (CSNA) in 2022 which maintained the comparison year of 2016 weather normalized gross retail sales based line but modified the annual saving percentages to be 2.0 percent from 2022 - 2024, 2.25 percent for 2025 - 2026, and 2.5 percent for 2027 and thereafter.¹² The MGA once again modified EmPOWER Maryland goals by shifting the energy reduction goals to greenhouse-gas reduction goals after January 1, 2025. The MGA also established gas savings goals for gas companies in EmPOWER based on the gas companies GHG savings from the 2021 - 2023 program cycle.¹³ The Commission had the utilities file revised 2025-2026 program plans to ensure compliance with the new goals and after receiving comments and holding a hearing both accepted and revised the utilities program plans for the new goals.¹⁴

Additionally, in 2023, HB 169¹⁵ was passed which required DHCD to submit a 2024-2026 program cycle plan designed to achieve 0.53 percent of annual gross energy savings in 2024, 0.72 percent in 2025, and 1 percent in 2026. In Order No. 90546, the Commission directed DHCD to submit a 2024-2026 program plan in line with HB 169. The MGA again amended DHCD's program goals in 2024 with HB 864 to be on a trajectory of reducing GHG 0.9 percent relative to a baseline based on 2016 low income sales in the State by 2027 for the years 2025 - 2033.¹⁶

Energy Efficiency & Conservation Programs

In Order No. 90957, issued on December 29, 2023, the Commission approved plans for the 2024-2026 program cycle. The Utilities' EmPOWER Maryland core EE&C program offerings are similarly designed with standardized customer incentives across the State, albeit with some variation in program implementation based on service territory demographics. Residential EE&C programs include appliances, heating, ventilation, and air conditioning (HVAC) rebates; home energy audits; weatherization; and limited-income programs.¹⁷ Commercial and industrial EE&C programs are designed to encourage businesses to upgrade to more efficient equipment, such as lighting or HVAC retrofits, or to improve overall building performance through weatherization or building shell upgrades. For larger commercial buildings or industrial facilities, a utility can customize its program offerings for cost-effective improvements.

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

¹² CSNA of 2022, Chapter 38, 2022, PUA §7-211(g)(2).

¹³ Energy Efficiency and Conservation Plans, Chapter 539, 2024, PUA §7-223 (B)(2).

¹⁴ Order No. 91461, Case No. 9705, Dec. 27, 2024, p. 4.

¹⁵ An Act concerning Public Utilities – Energy Efficiency and Conservation Programs – Energy Performance Targets and Low-Income Housing.

¹⁶ Energy Efficiency and Conservation Plans, Chapter 539, 2024, PUA §7-224 (A) and (B).

¹⁷ Other than the volumetric surcharge collected from all ratepayers, limited-income programs are offered at no additional cost for those who qualify.

Baltimore Gas and Electric Company (BGE)

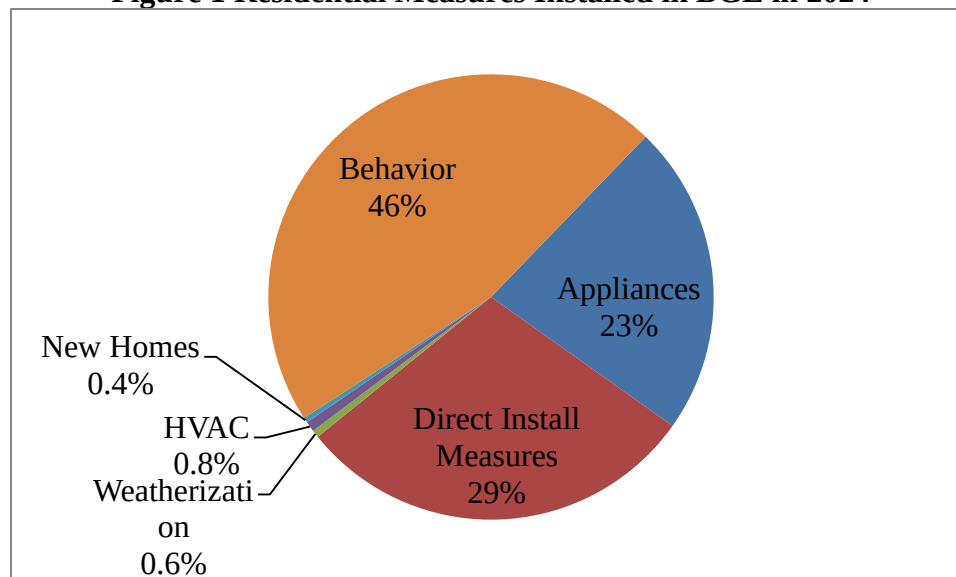
BGE EmPOWER Programs	
Residential Program	Commercial Programs
Appliance Rebates	Combined Heat and Power
Appliance Recycling	Commercial Behavior Based
Home Performance with Energy Star	Custom
HVAC	Midstream Products
Quick Home Energy Checkup	Prescriptive
Residential Behavior Based	Retrocommissioning
Residential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

BGE realized 114 percent of its 2024 annual energy savings target (or 735,758 MWh) and 115 percent of its forecasted 2024 annual summer demand reduction target (or 600 MW). BGE's programs reached almost 2.4 million participants and installed over 4.2 million measures in homes and businesses in the BGE service territory for almost \$225.3 million.

Table 3 BGE Reported Savings vs Targets for 2024

	2024 Reported Savings	2024 Target Savings ^{18,19}	% of Target Achieved
MWh	735,758	644,812	114%
MW (Summer)	600	523	115%
MW (Winter)	105	N/A	N/A

Figure 1 Residential Measures Installed in BGE in 2024



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

¹⁹ The demand reduction targets and reported achievements include peak demand reductions generated by both EE&C and DR programs, as both components are part of the total portfolio.

Potomac Electric Power Company (Pepco)

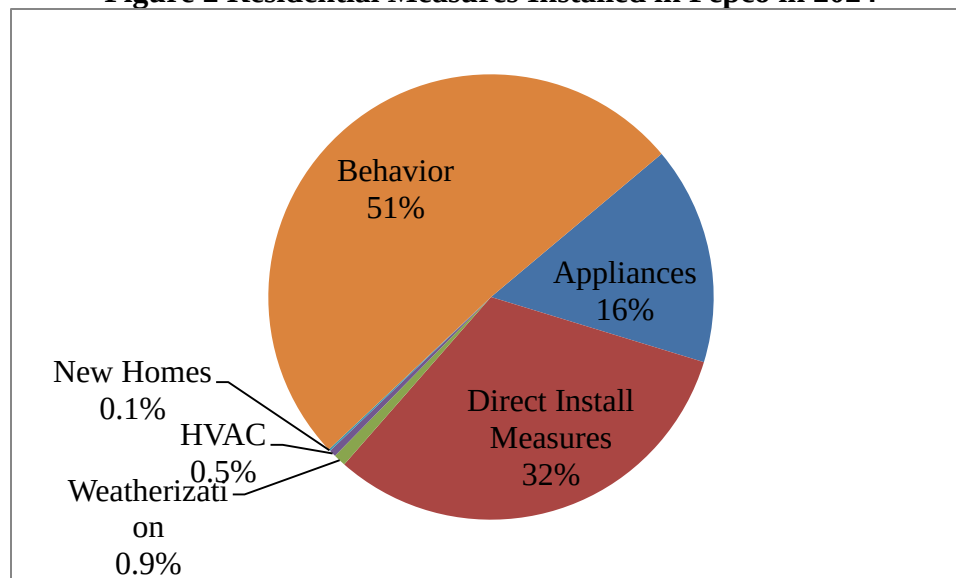
Pepco EmPOWER Programs	
Residential Program	Commercial Programs
Appliance Rebates	Combined Heat and Power
Appliance Recycling	Commercial Behavior Based
Behavior Based	Custom
Home Performance with Energy Star	Energy Efficient Communities
HVAC	Midstream Products
Quick Home Energy Checkup	Prescriptive
Residential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

Pepco realized 86 percent of its 2024 annual energy savings target (or 258,000 MWh) and 77 percent of its forecasted 2024 annual summer demand reduction target (or 311 MW). Pepco's programs reached over 760,000 participants and installed over 1.5 million measures in homes and businesses in the Pepco service territory for approximately \$91.3 million.

Table 4 Pepco Reported Savings vs Targets for 2024

	2024 Reported Savings	2024 Target Savings ^{20,21}	% of Target Achieved
MWh	258,000	299,767	86%
MW (Summer)	311	404	77%
MW (Winter)	41	N/A	N/A

Figure 2 Residential Measures Installed in Pepco in 2024



²⁰ EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of each Utility.

²¹ The demand reduction targets and reported achievements include peak demand reductions generated by both EE&C and DR programs, as both components are part of the total portfolio.

The Potomac Edison Company (PE)

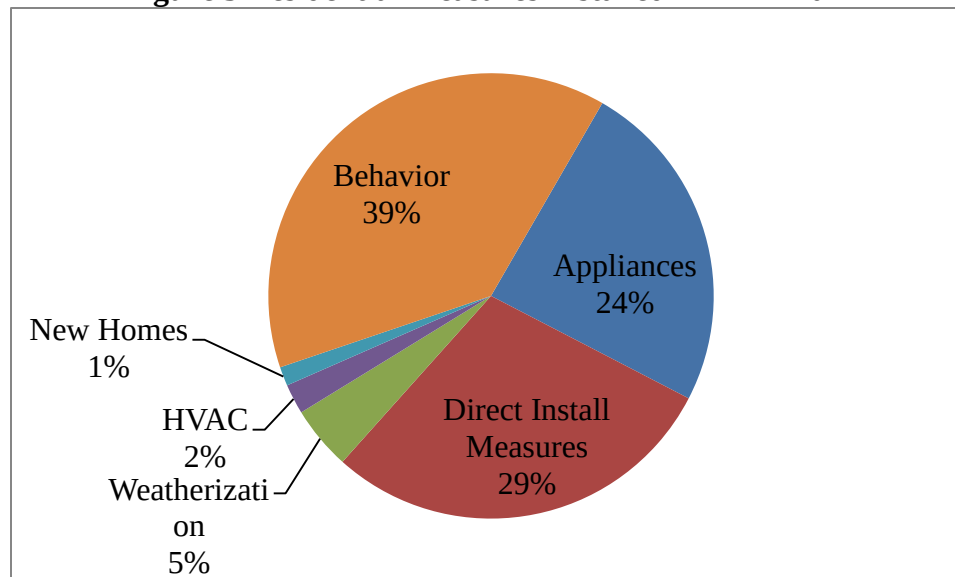
PE EmPOWER Programs	
Residential Program	Commercial Programs
Appliance Rebates	Custom
Appliance Recycling	Financing
Behavior Based	Retrocommissioning
Home Energy Improvement	Small Business
HVAC	Prescriptive
Residential New Construction	

PE realized 95 percent of its 2024 annual energy savings target (or 145,192 MWh) and 89 percent of its forecasted 2024 annual summer demand reduction target (or 26 MW). PE's programs reached 187,197 participants and installed 327,783 measures in homes and businesses in the PE service territory for approximately \$36.0 million.

Table 5 PE Reported Savings vs Targets for 2024

	2024 Reported Savings	2024 Target Savings ²²	% of Target Achieved
MWh	145,192	153,088	95%
MW (Summer)	26	29	89%
MW (Winter)	10	N/A	N/A

Figure 3 Residential Measures Installed in PE in 2024



²² EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of each Utility.

Delmarva Power & Light Company (DPL)

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

DPL realized 97 percent of its 2024 annual energy savings target (or 87,155 MWh) and 73 percent of its forecasted 2024 annual summer demand reduction target (or 56 MW). DPL's programs reached over 200,000 participants and installed over 407,000 measures in homes and businesses in the DPL service territory for approximately \$32.6 million.

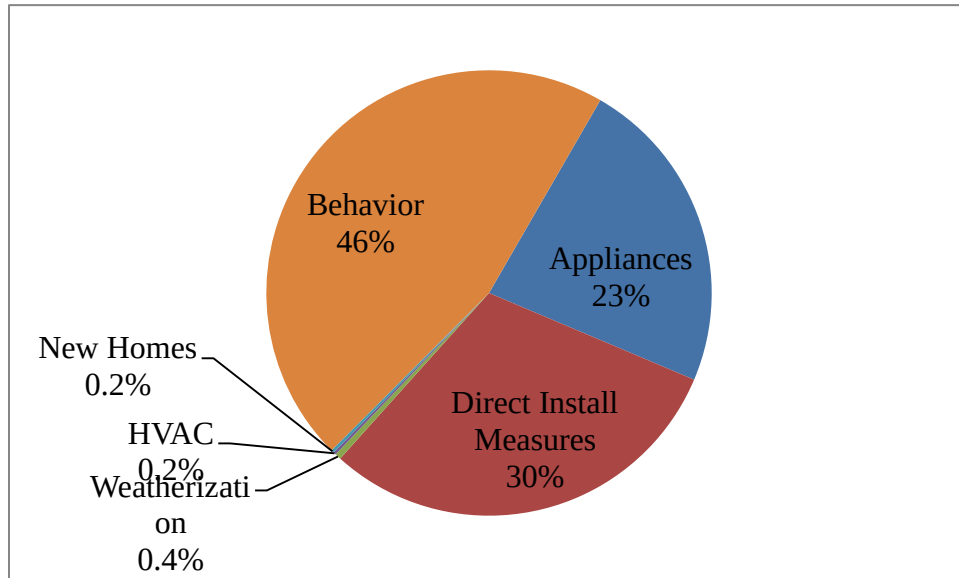
Table 6 DPL Reported Savings vs Targets for 2024

	2024 Reported Savings	2024 Target Savings ^{23,24}	% of Target Achieved
MWh	87,155	89,452	97%
MW (Summer)	56	78	73%
MW (Winter)	9	N/A	N/A

Figure 4 Residential Measures Installed in DPL in 2024

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

²⁴ The demand reduction targets and reported achievements include peak demand reductions generated by both EE&C and DR programs, as both components are part of the total portfolio.



Southern Maryland Electric Cooperative, Inc. (SMECO)

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

SMECO realized 109 percent of its 2024 annual energy savings target (or 81,044 MWh) and 17 percent of its forecasted 2024 annual summer demand reduction target (or 17 MW). SMECO's programs reached over 192,000 participants and installed over 523,000 measures in homes and businesses in the SMECO service territory for approximately \$25.9 million.

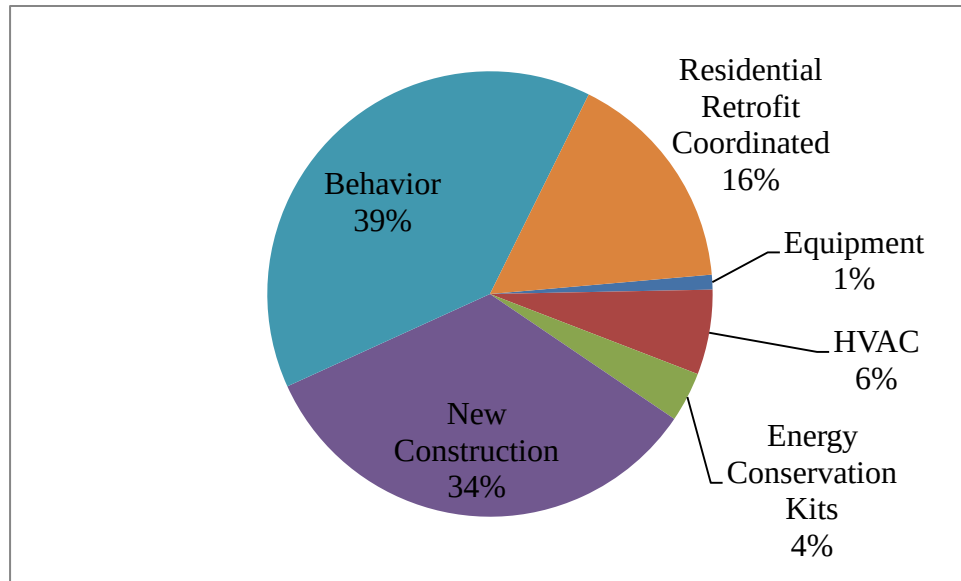
Table 7 SMECO Reported Savings vs Targets for 2024

	2024 Reported Savings	2024 Target Savings ^{25,26}	% of Target Achieved
MWh	81,044	74,168	109%
MW (Summer)	29	170	17%
MW (Winter)	4	N/A	N/A

²⁵ EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of each Utility.

²⁶ The demand reduction targets and reported achievements include peak demand reductions generated by both EE&C and DR programs, as both components are part of the total portfolio.

Figure 5 Residential Measures Installed in SMECO in 2024



Washington Gas and Light Company (WGL)

WGL EmPOWER Programs	
Residential Program	Commercial Programs
Behavior Based	C&I Prescriptive
Energy Conservation Kits	Custom
Equipment	
HVAC	
Residential New Construction	
Residential Coordinated	

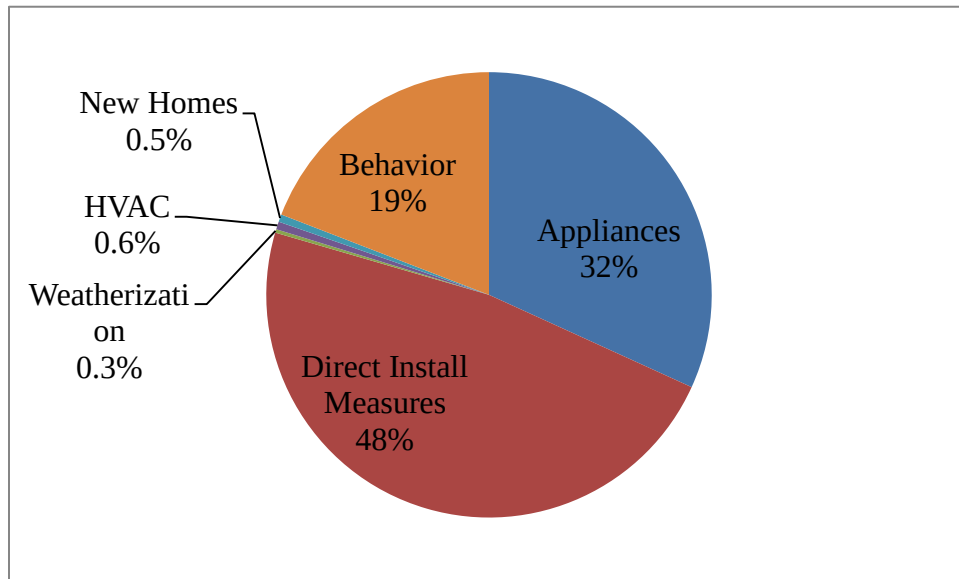
WGL realized 147 percent of its 2024 annual energy savings target (or 2,415,947 Therms). WGL's programs reached over 136,000 participants and installed over 166,000 measures in homes and businesses in the WGL service territory for approximately \$15.0 million.

Table 8 WGL Reported Savings vs Targets for 2024

	2024 Reported Savings	2024 Target Savings ²⁷	% of Target Achieved
Therms	2,415,947	1,640,019	147%

²⁷ EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of each Utility.

Figure 6 Residential Measures Installed in WGL in 2024



Limited-Income Programs

On December 22, 2011, the Commission, in Order No. 84569, designated DHCD as the sole implementer of limited-income programs for the EmPOWER Maryland Utilities. In April 2012, DHCD accepted control of the residential limited-income programs of BGE, PE, and SMECO. In July 2012, the transition was completed with DHCD accepting control of the Pepco and DPL limited-income programs. As discussed previously, the MGA codified DHCD as having EmPOWER programs and goals in 2023 and 2024.

In Order No. 86785, issued on December 23, 2014, the Commission authorized DHCD to continue its implementation of the limited-income programs in Maryland during calendar year 2015, subject to certain specified structural enhancements such as spending guidelines per household. DHCD was approved as the implementer of the limited-income programs for the remainder of the 2015-2017 program cycle in Order No. 86995. In 2023, HB 169 was passed which required DHCD to submit a 2024-2026 program cycle plan designed to achieve 0.53 percent of annual gross energy savings in 2024, 0.72 percent in 2025, and 1 percent in 2026. DHCD had not been required to have a savings goal in previous cycles. In Order No. 90546, the Commission directed DHCD to submit a 2024-2026 program plan in line with HB 169. In Order No. 90957, DHCD's 2024-2026 program cycle plan was approved.²⁸

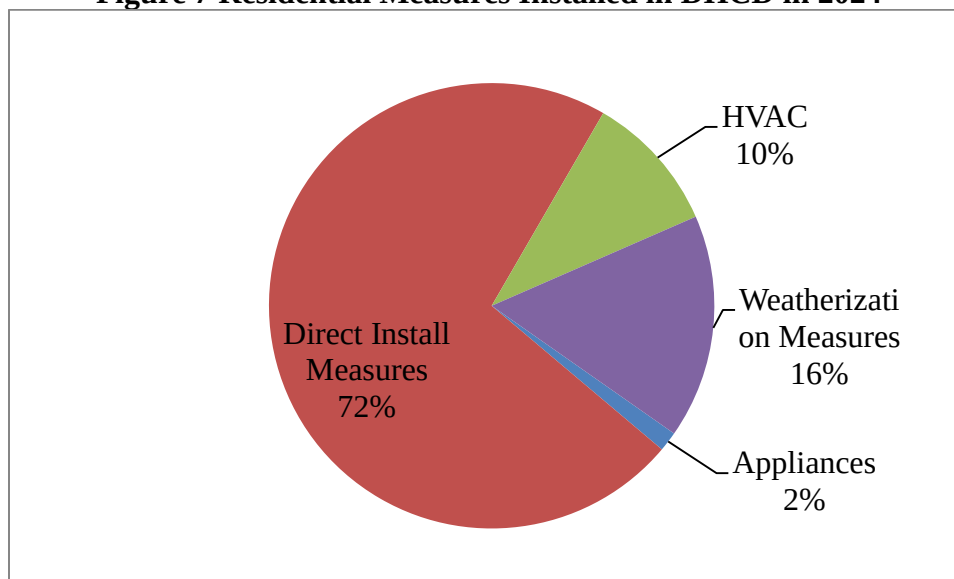
DHCD offers two programs, one for single family homes and another for multifamily properties. In 2023, DHCD weatherized approximately 8,000 limited-income homes and 3,860 multifamily properties at a total cost of \$37.8 million. The average savings per participant in 2023 was 799 kWh.

²⁸ DHCD also partners with WGL to implement limited-income programs in WGL's service territory.

Table 9 DHCD Reported Savings vs Targets for 2024

Program	Energy/Demand Savings	2024 Reported Savings	2024 Target Savings ²⁹	% of Target Achieved
Single Family	MWh	5,175	16,602	31%
	MW (Summer)	1.208	4.055	30%
	MW (Winter)	0.919	N/A	N/A
Multifamily	MWh	4,391	10,253	43%
	MW (Summer)	0.986	2.489	40%
	MW (Winter)	0.786	N/A	N/A

Figure 7 Residential Measures Installed in DHCD in 2024



Demand Response

The EmPOWER Maryland Act requires the Utilities to implement cost-effective demand response programs, although there are no current goals established for the magnitude of demand reduction that each Utility must target (following the realization of the legislatively-mandated 15 percent by 2015 targets). The Commission approved four residential demand response programs in late 2007 and early 2008,³⁰ all of which were operational by the end of 2009.³¹

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

²⁹ EmPOWER Maryland reduction targets are based upon the individual EmPOWER Maryland filings of DHCD.

³⁰ See Commission Letter Order (Nov. 30, 2007).

³¹ The Commission did not approve a DR program for PE similar to those implemented for BGE, Pepco, DPL, and SMECO because PE's proposed program was not cost effective due to lower zonal capacity prices.

programmable thermostat or a direct load control switch for a central air conditioning system or for an electric heat pump on a customer's premise; (3) the Utilities provide a one-time installation incentive and annual bill credits to the participants during the specified summer peak months; and (4) with the exception of the SMECO DR program, customers can select one of three cycling choices (50 percent, 75 percent, or 100 percent).³² Utilities will invoke the cycling process when PJM calls for an emergency event or if the Utilities individually determine that an event is necessary during summer peak season. Table 10 summarizes the incentives offered by the Utilities to the residential program participants.

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

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

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

Table 11 summarizes the number of active devices installed for each of the Utilities' direct load control programs on a program-to-date basis through December 31, 2024.

Table 11 Utilities' Residential Direct Load Program Device Installation

Utility	Residential	Commercial	Total
BGE	374,377	N/A	374,377
DPL	41,034	2,403	43,437
Pepco	239,801	6,136	245,937
SMECO	7,089	0	7,089
Total	662,301	8,539	670,840

Table 12 summarizes the demand reduction capability for the Utilities' DLC programs as of December 31, 2024.

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

Table 12 DLC Program Coincident Peak Demand Reduction (MW Summer)

Utility	Program-to-Date Reported
BGE	219.204
DPL	40.831
Pepco	247.382
SMECO	61.360
Total	568.777

Additional demand reductions are expected to stem from smart grid-enabled dynamic pricing programs, as well as from other non-EmPOWER funded programs such as conservation voltage reduction (CVR). Table 13 summarizes the reported demand reductions from the dynamic pricing programs for 2013-2024. BGE, Pepco, and DPL are currently the only Utilities that operate dynamic pricing programs. Demand reductions from dynamic pricing programs represent a snapshot for a particular time period and are dependent upon customer engagement and participation; therefore, demand reductions attributable to dynamic pricing programs could change year-to-year.

Table 13 Dynamic Pricing Demand Reduction (MW)

Utility	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
BGE	0	209	309	336	330	140	111	110	125	125	125	125
DPL	0	0	143	39	31	47	0	54	64	31	0	0
Pepco	309	125	47	126	135	124	91	55	140	140	0	0
Total	309	334	499	501	496	311	202	219	329	296	125	125

PJM Reliability Pricing Model Capacity Market

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

PJM conducted the Base Residual Auction (BRA) for Delivery Years (DY) 2025/2026 in July of 2024 after the auction was postponed in 2022 as the Federal Energy Regulatory Commission (FERC) considered approving new capacity market rules recommended by PJM. In this auction, most of PJM cleared at a price of \$269.92 per MW-day which is approximately 10 times higher than the previous capacity price.

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

Table 14 Demand Response Program BRA Results

	Cleared Capacity (MW)	PJM Capacity Payment (Million \$)
DY 2009/2010	217	\$18.80
DY 2010/2011	415	\$26.40
DY 2011/2012	662	\$26.60
DY 2012/2013	953	\$46.50
DY 2013/2014	803	\$67.70
DY 2014/2015	772	\$33.90
DY 2015/2016	625	\$36.00
DY 2016/2017	554	\$24.10
DY 2017/2018	536	\$23.50
DY 2018/2019	522	\$11.50
DY 2019/2020	230	\$1.60
DY 2020/2021	265	\$9.20
Demand Response Program Bid as Price Responsive Demand		
DY 2021/2022	510	\$37.70
DY 2022/2023	230	\$10.70
DY 2023/2024	235	\$6.10
DY 2024/2025	305	\$10.30
DY 2025/2026	224	\$30.70
Total	8058	\$421.30

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

Table 15 EE&C Program BRA Results

	Cleared Capacity (MW)	PJM Capacity Payment (Million \$)
DY 2012/2013	168	\$8.2
DY 2013/2014	107	\$8.7
DY 2014/2015	179	\$8.3
DY 2015/2016	175	\$10.2
DY 2016/2017	226	\$9.5
DY 2017/2018	243	\$10.8
DY 2018/2019	172	\$10.1
DY 2019/2020	184	\$6.8
DY 2020/2021	199	\$5.8
DY 2021/2022	180	\$11.4
DY 2022/2023	49	\$2.0
DY 2023/2024	90	\$2.3
DY 2024/2025	103	\$2.8
DY 2025/2026	100	\$9.7
Total	2,114	\$103.2

Table 16 Dynamic Pricing Program BRA Results

	Cleared Capacity (MW)	PJM Capacity Payment (Million \$)
DY 2014/2015	267	\$12.2
DY 2015/2016	426	\$23.3
DY 2016/2017	461	\$20.0
DY 2017/2018	387	\$17.0
DY 2018/2019	378	\$10.0
DY 2019/2020	225	\$2.2
DY 2020/2021	425	\$13.1
DY 2021/2022	177	\$4.8
DY 2022/2023	186	\$2.5
DY 2023/2024	177	\$4.3
DY 2024/2025	200	\$13.1
DY 2025/2026	185	\$24.5
Total	3,494	\$147.0

Table 17 illustrates the amount of capacity cleared in the BRA by the EmPOWER Utilities for the delivery years of 2024/2025 and 2025/2026. The table also shows the amount of capacity revenue that the Utilities can expect to receive from PJM in the two delivery years which will be used to offset the costs of the DR, EE&C, and dynamic pricing programs borne by ratepayers. The amount of capacity cleared in the 2025/2026 DY auctions is 15 MW less than the amount of capacity cleared in the 2024/2025 DY, however, capacity revenue is higher in 2025/2026 because of the increase in the capacity price.

Table 17 Maryland Utilities’ PJM BRA Results and Expected Revenue for Delivery Years 2024/2025 and 2025/2026

DY 2024/2025					DY 2025/2026				
Cleared Bids (MW)				Value	Cleared Bids (MW)				Value
DR	DP	EE&C	Total	(\$Million)	DR	DP	EE&C	Total	(\$Million)
N/A	200	103	303	\$15.9	N/A	185	100	285	\$34.2

EmPOWER Maryland Funding Levels

EE&C Program Funding

On December 29, 2023, in Order No. 90957, the Commission approved the 2024-2026 program cycle budgets based on the EmPOWER Maryland Utilities’ proposals. Table 18 breaks down the 2024 Commission-approved budgets for each of the Utilities, while Table 19 illustrates the actual 2024 expenditures by the Utilities with respect to their EmPOWER Maryland EE&C programs.

Table 18 Forecasted 2024 EE&C Budgets

Utility	Residential	C&I	DHCD Limited-Income Program	Total
BGE	\$107,539,248	\$154,069,133	\$38,939,359	\$300,547,740
DPL	\$12,822,159	\$20,823,887	\$0	\$33,646,046
PE	\$24,565,724	\$58,265,235	\$8,226,306	\$91,057,265
Pepco	\$38,517,530	\$66,932,535	\$0	\$105,450,065
SMECO	\$21,757,878	\$10,390,279	\$0	\$32,148,157
Total	\$205,202,538	\$310,481,069	\$47,165,665	\$562,849,273

Table 19 Reported 2024 EE&C Spending

Utility	Residential	C&I	DHCD Limited-Income Program	Total
BGE	\$70,087,034	\$103,883,555	\$15,603,257	\$189,573,846
DPL	\$10,607,540	\$16,997,273	\$0	\$27,604,812
PE	\$13,600,767	\$22,316,264	\$3,020,810	\$38,937,841
Pepco	\$26,646,870	\$43,747,962	\$0	\$70,394,832
SMECO	\$15,414,179	\$7,398,183	\$4,432	\$22,816,794
Total	\$136,356,389	\$194,343,237	\$18,628,499	\$349,328,126

Table 20 details the EmPOWER Maryland EE&C program surcharges and revenue requirements for each of the Utilities. The EmPOWER Maryland surcharges are a volumetric-based charge, subject to the individual ratepayer’s monthly energy usage. The revenue requirements do not correspond to the filed budgets because some program costs are amortized and collected over a different time periods. In recent years, there have been different

modifications to EmPOWER cost recovery. Historically, costs were collected over a five-year period as directed by the Commission in Order No. 81637.³³ On December 29, 2022, the Commission issued Order No. 90456 that transitioned the recovery of EmPOWER costs to a single year by 2026 and eliminate previously amortized costs by 2030. This process of shortening and then eliminating the amortization of EmPOWER costs over five years started in 2024.³⁴ On December 29, 2023, the Commission issued Order No. 90957 extending the pay-down of the unamortized balance from five years to seven years. The Utilities filed updated EmPOWER surcharges to comply with the order which went into effect on March 1, 2024. The Commission then made further refinements to the EmPOWER surcharge on June 4, 2024 in Order No. 91175 due to the passage of HB 864, signed into law on May 9, 2024. The order included extending the period by which EmPOWER previously unamortized costs were paid off to 2031 and reducing the return on these unamortized balances to be the utility cost of debt instead of the utilities weighted average cost of capital. The Utilities filed updated EmPOWER surcharges for a second time in 2024 to comply with the changes in the order. These new rates went into effect July 1, 2024. The table below reflects the surcharges and revenue requirements that went into effect July 2024.

Table 20 2024 EE&C Monthly Surcharges (per kWh) and Revenue Requirements

Utility	Residential	Small C&I	Large C&I	Revenue Requirement
BGE	\$0.00569	\$0.01541	\$0.00490	\$106,554,028
DPL	\$0.00655	\$0.00838	\$0.00838	\$31,567,841
PE	\$0.00682	\$0.00954	\$0.01120	\$38,731,171
Pepco	\$0.00742	\$0.00691	\$0.00691	\$92,695,739
SMECO	\$0.00911	\$0.00564	\$0.00564	\$27,424,269

Table 21 2024 Unamortized Balance

Utility	2024 Unamortized Balance
BGE Electric	\$292,653,178
BGE Gas	\$43,223,174
DPL	\$68,079,103
PE	\$108,841,765
Pepco	\$183,902,895
SMECO	\$44,462,079
WGL	\$31,114,511

Demand Response Program Funding

³³ *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.

³⁴ Order on Cost Recovery and Unamortized Balance Retirement, Order No. 90456, Case No. 9648 (Dec. 29, 2022). The process to shift to an expensing model was subsequently updated in Commission Order No. 90957, Case No. 9705, and its letter orders approving the utility surcharges on February 21, 2024.

The December 29, 2023, Commission Order similarly approved three-year budgets for the demand response programs operated by BGE, DPL, Pepco, and SMECO. Table 22 details the EmPOWER Maryland demand response surcharges and revenue requirements for each of the Utilities operating an approved DR program.³⁵

Table 22 2024 Demand Response Monthly Surcharges (per kWh) and Revenue Requirements

Utility	Residential	C&I	Revenue Requirement
BGE	\$0.00275	N/A	\$32,721,752
DPL	\$0.00211	\$0.00022	\$5,000,096
Pepco	\$0.00409	\$0.00013	\$23,381,591
SMECO	\$0.00234	(\$0.00020)	\$5,018,818

Table 23 details the respective forecasted and reported budgets for each of the EmPOWER Utilities operating an approved DR program during 2024. All of the Utilities' programs were under budget for the 2024 program year.

Table 23 2024 Demand Response Forecasted and Reported Budgets

Utility	Forecasted Budget	Reported Costs	Variance
BGE	\$52,533,908	\$35,607,925	(\$16,925,983)
DPL	\$5,238,273	\$4,634,409	(\$603,864)
Pepco	\$21,233,685	\$19,021,054	(\$2,212,631)
SMECO	\$5,414,697	\$2,039,693	(\$3,375,004)
Total	\$84,420,563	\$61,303,081	(\$23,117,482)

Evaluation, Measurement & Verification

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

³⁵ PE did not operate a separate DR program during 2024 and therefore did not file for a surcharge recovery of DR program costs.

Based on EM&V best practices, the Commission adopted an independent, third-party evaluator model to review the EmPOWER portfolio results.³⁶ In this model, the Utilities direct primary evaluation and verification activities through an EM&V contractor; subsequently, the Commission's third-party, independent evaluator provides independent analysis and due diligence of the EM&V process. Because this thorough evaluation process requires up to six months following the receipt of program data from the prior calendar year to complete, this report illuminates the results of the Utilities' 2023 program year reported savings.

Overall EM&V Findings of the 2023 EmPOWER EE&C Program

Energy and Peak Demand Savings

In 2023, Guidehouse's evaluation of the first-year savings³⁷ was 1,026,842 MWh and 223.5 MW which was 96 percent and 108 percent of the Utilities' reported energy and demand savings for that year. For the 2023 program year, Guidehouse estimated an effective net-to-gross (NTG) ratio of 0.64 for annual energy savings and 0.66 for peak demand savings. The NTG ratio is used to derive savings specifically attributable to the EmPOWER programs by calculating free-ridership levels and reducing reported gross savings by that amount.³⁸ Following the application of the calculated NTG ratios, the net savings for program year 2023 were 440,138 MWh and 74.277 MW.

As the EmPOWER Maryland Independent Evaluator, Loper Energy supports the Commission's oversight of the statewide evaluation of the EmPOWER EE&C programs conducted by Guidehouse. Loper Energy's verification analysis confirmed Guidehouse's results and accepted all of the evaluated energy and demand savings estimates for program year 2023. This important result should increase ratepayer and other stakeholders' confidence that the evaluated savings from the EmPOWER Maryland programs are real and credible.

Given that the key energy assumption values and NTG ratios have been updated and other anomalies in the program tracking databases have been rectified to improve the quality of reporting, it is expected that the Utilities' reported savings estimates for 2024 should continue to be very similar to the evaluation results. Changes to evaluation parameters and codes and standards will have the effect of raising the baseline level of energy savings, therefore reducing the incremental energy savings achieved by installing efficient equipment. The EM&V contractors will monitor and reflect these changes in future evaluation cycles.

Cost Effectiveness

Table 24 presents the 2023 Societal Cost Test (SCT) cost-effectiveness results by sector for each of the Utilities.³⁹ The sector-level benefit-to-cost ratios reflect the present value of the benefits compared to the present value of the costs, aggregated from each program in the sector-

³⁶ Order No. 82869 (Aug. 31, 2009).

³⁷ "First-year savings" is the amount of energy a measure will save in the first year in which the measure is installed.

³⁸ A "free rider" is a customer who would have installed an energy efficiency measure absent the utility-provided EmPOWER incentive.

³⁹ The 2024 program year cost-effectiveness results are expected in the second half of 2025.

level sub-portfolio. As noted, SCT ratios greater than 1.0 indicate that the financial benefits that accrue over the life of the measures exceed the financial costs of the program, specifically the costs associated with: utility program administration; the provision of incentives to free riders; and customer outlays for the efficiency measures. Statewide, both the residential and C&I sub-portfolios were cost effective in 2023 with overall SCT scores of 1.82 and 2.57, respectively.

Table 24 2023 Portfolio SCT Results

	Residential	Commercial	Portfolio
BGE	1.88	3.03	2.38
Pepco	1.73	2.06	1.93
PE	2.04	2.22	2.16
DPL	1.15	2.88	2.23
SMECO	1.86	3.07	2.22
Statewide	1.82	2.57	2.21

At the statewide level, the 2023 EmPOWER residential portfolio is expected to generate approximately \$1.82 in utility and participant benefits for each dollar of utility and participant cost while the EmPOWER commercial portfolio is expected to generate approximately \$2.57 in utility and participant benefits for each dollar of utility and participant cost. For a total investment of \$362 million,⁴⁰ the state's Utilities, participants, and ratepayers will realize approximately \$799 million⁴¹ in financial benefits via electricity, fuel, and water savings generated over the lifetime of the measures installed through the EmPOWER program. These results correspond to a net benefit of approximately \$437 million.

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

2024 Per Capita Electricity Consumption and Peak Demand

Table 25 and Table 26 compare the per capita energy use and peak demand from 2014 to 2024 for all Maryland utilities. In 2024, most of the state's electric utilities experienced an increase in per capita energy use and per capita peak demand as compared to 2023 levels.

⁴⁰ The \$362 million total investment is the present value of both utility and participant costs.

⁴¹ The \$799 million in financial benefits is the present value of both utility and participant benefits.

Table 25 2014 - 2024 Per Capita Energy Consumption

	Per Capita Energy Use MWh										
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
BGE	11.86	11.82	11.57	11.31	11.44	11.25	11.17	11.10	11.10	11.02	11.75
Pepco	7.81	7.94	7.73	7.56	7.6	7.45	7.21	7.17	7.00	7.07	6.97
PE	17.64	17.39	17.57	17.6	18.1	17.47	17.04	16.52	16.59	15.98	16.70
Delmarva	12.55	13	12.73	12.65	12.89	12.52	12.1	9.79	10.31	10.28	11.06
SMECO	10.21	10.25	10.03	9.72	9.75	9.96	9.45	9.20	9.67	9.21	9.55
Choptank	12.55	13.04	12.73	13.24	13.42	12.52	12.1	N/A	N/A	N/A	11.06
Hagerstown	7.6	7.62	7.58	7.49	8.27	8.05	7.71	7.91	7.46	7.15	7.61
Easton	16.41	16.55	16.33	16.03	17.12	17.36	15.01	15.63	15.08	14.10	14.66
Thurmont	13.02	13.68	13.06	12.61	13.41	11.94	11.77	11.22	11.29	10.92	12.34
Berlin	9.9	10.61	10.15	9.86	11.06	10.13	10.05	10.21	9.71	9.12	9.57
Williamsport	10.06	10.04	9.64	9.39	9.85	9.65	9.34	9.86	9.96	9.87	9.80
Somerset	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A&N Coop.	11.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 26 2014 - 2024 Per Capita Peak Demand

	Per Capita Energy Use kW										
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
BGE	2.27	2.36	2.4	2.34	2.36	2.22	2.3	2.29	2.23	2.22	2.34
Pepco	1.57	1.88	2.03	1.62	1.62	2.73	2.6	2.58	1.58	1.51	1.51
PE	2.62	3.68	3.49	3.42	3.34	3.19	3.39	3.28	3.02	2.96	3.10
Delmarva	2.62	2.76	2.83	2.67	2.64	2.67	2.61	2.11	2.08	2.06	2.19
SMECO	1.93	2.76	2.36	2.41	2.42	2.27	2	1.94	1.98	2.07	2.28
Choptank	2.59	3.33	2.83	2.99	2.98	3.31	3.08	N/A	N/A	N/A	10.42
Hagerstown	1.28	1.66	1.5	1.52	1.55	1.49	1.56	1.52	1.59	1.39	1.50
Easton	3.24	4.27	3.73	3.63	3.63	3.6	3.42	3.42	3.36	3.30	3.42
Thurmont	2.03	4.33	3.26	2.94	3.11	3.44	2.63	2.45	3.15	2.63	3.10
Berlin	2.19	2.3	1.17	2.21	2.27	2.1	2.31	2.25	2.13	2.12	2.27
Williamsport	1.39	2.48	2.15	2.18	2.21	2.52	2.09	1.96	2.42	2.11	2.26
Somerset	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A&N Coop.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 27 illustrates the per capita electricity usage and peak demand statewide. Generally, statewide per capita energy usage has increased in 2024 compared to previous years.

Table 27 Statewide Per Capita Electricity Usage and Peak Demand 2007-2024

Year	Per Capita Energy Use MWh	Per Capita Energy Use kW
2007	12.38	2.56
2008	11.74	2.49
2009	11.73	2.53
2010	12.02	2.40
2011	11.70	2.50
2012	11.21	2.28
2013	11.13	2.18
2014	10.91	2.07
2015	10.96	2.37
2016	10.74	2.39
2017	10.53	2.21
2018	10.68	2.22
2019	10.49	2.50
2020	10.27	2.49
2021	10.02	2.42
2022	10.01	2.05
2023	9.92	2.02
2024	10.35	2.14

Upcoming Milestones

The Commission will review several Work Group reports as a result of Commission Order Nos. 91214 and 91461.

- Cost Recovery Work Group
 - A status report, filed by April 15, 2025, on its research and analysis of the PIM structure as well as the development of a permanent PIM
- Midstream Work Group
 - A status report, filed by April 15, 2025, on recommendations as to whether there should or should not be downstream and midstream offerings for certain appliances
- Limited Income Work Group
 - A status report, filed by June 2, 2025, providing an update on the utility and DHCD coordination on cross-referencing data for behavioral programs and DHCD program combinations
- Future Programming Work Group

- A work plan, filed by April 15, 2025, for program improvements for the 2027-2029 cycle
- A final report, filed by April 15, 2026, with recommendations on program improvements for the 2027-2029 cycle.
- Consider Choptank as part of the larger EmPOWER program
 - HB864 (2024) required the Commission to determine by October 1, 2025 if Choptank should be a part of the larger EmPOWER program or simply have to offer energy efficiency programs.⁴² A process has been established to make this determination and Choptank will file a report on this matter by May 1, 2025.⁴³
 - The Commission currently has a hearing to discuss the Cooperative's plan scheduled for July 15, 2025.
- Moderate income household work group
 - HB864 (2024) required the Commission to establish a working group to study and make recommendations as to programs specific to moderate income customers for EmPOWER Maryland. The Commission is required to file a report with the general assembly on this work group by July 1, 2025. The working group established by the Commission filed a report with the Commission on April 25, 2025.⁴⁴
- HB864 (2024) required the Commission to establish regulations requiring the promotion of federal and state funds for certain applications within EmPOWER programs.⁴⁵ Technical Staff was directed to develop these regulations and in the interim the utilities were directed to include in their August 15, 2024 filings how the requirements of PUA § 7–228 were covered by the utilities 2025-2026 program plans until such time as regulations were finalized by the Commission.⁴⁶ On April 1, 2025, Staff filed with the commission a petition for rulemaking to implement proposed regulations. The

⁴² PUA §7-222(C).

⁴³ Order No. 91384, Oct. 22, 2024, Case No. 9705.

⁴⁴ Moderate Income Work Group Report, Case No. 9705, Apr. 25, 2025, Maillog No. 318309.

⁴⁵ PUA §7–228.

⁴⁶ Order No. 91175, Case No. 9705, Jun. 4, 2024, pp. 5 - 6.

Commission established Rulemaking 88 and will hold a rulemaking session on Wednesday, May 21, 2025.⁴⁷

⁴⁷ Notice Initiating Rulemaking and Rulemaking Session (RM88), Case No. 9705, Apr. 2, 2025, Maillog No. 317433.