

Department of Legislative Services  
 Maryland General Assembly  
 2026 Session

FISCAL AND POLICY NOTE  
 Third Reader - Revised

Senate Bill 270

(Senator Carozza, *et al.*)

Education, Energy, and the Environment

Environment and Transportation

Public Service Commission - Full Costs and Benefits Analysis of Sources of  
 Electricity Generation

This bill requires the Public Service Commission (PSC) to conduct a full costs and benefits analysis of sources of electricity generation in the State as it pertains to natural gas, nuclear, offshore wind, solar, and energy storage, as specified. By December 1, 2027, PSC must report its findings and recommendations to the Senate Committee on Education, Energy, and the Environment and the House Environment and Transportation Committee.

Fiscal Summary

**State Effect:** Special fund expenditures for PSC increase by approximately \$250,000 in both FY 2027 and 2028 for consultants, under the assumptions discussed below. Special fund revenues increase correspondingly from assessments imposed on public service companies.

(in dollars)	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
SF Revenue	\$250,000	\$250,000	\$0	\$0	\$0
SF Expenditure	\$250,000	\$250,000	\$0	\$0	\$0
Net Effect	\$0	\$0	\$0	\$0	\$0

*Note:() = decrease; GF = general funds; FF = federal funds; SF = special funds; - = indeterminate increase; (-) = indeterminate decrease*

**Local Effect:** None.

**Small Business Effect:** None.

## Analysis

**Bill Summary:** The analysis must:

- identify the costs of electricity to ratepayers assuming that the State electricity market is served by the following generation mixes: (1) natural gas energy at its current capacity; (2) nuclear energy at its current capacity; (3) 8,500 megawatts of offshore wind energy capacity; (4) solar energy at its current capacity; and (5) energy storage at its current capacity;
- include the additional costs of electricity generation necessary to offset reliability issues and the intermittency of offshore wind energy and solar energy;
- use the “Levelized Full System Cost of Electricity” model to analyze the costs of meeting the State’s electricity needs from (1) only natural gas energy and energy storage; (2) only nuclear energy and energy storage; (3) only offshore wind energy and energy storage; and (4) only solar energy and energy storage;
- identify the costs for natural gas energy, nuclear energy, offshore wind energy, and solar energy if energy storage is available to offset reliability and intermittency issues; and
- include recommended policy changes to support the development of the energy sources with the lowest costs and greatest benefits to the ratepayers of the State.

“Levelized Full System Cost of Electricity” means a formula that calculates the costs of serving the entire State electricity market using only one energy source plus energy storage and uses the following inputs: (1) capital costs of the generating facility; (2) distribution system costs; (3) maintenance and operating costs; (4) the cost of capital; (5) capacity factors; (6) ramping up and down times; and (7) the annual electricity demand by hour in the target market.

### **Current Law:**

#### *Generation Resources*

The Electric Customer Choice and Competition Act of 1999 facilitated the restructuring of the electric utility industry in Maryland, which deregulated the generation, supply, and pricing of electricity. As part of restructuring, the State’s vertically integrated electric companies divested themselves of their generation assets. With restructuring, generation resources are considered competitive, and the competitive market is relied upon to provide new generation resources and to meet load requirements.

In order to meet long-term, anticipated demand in the State for standard offer service and other electricity supply, PSC may require or allow an investor-owned electric company to

construct, acquire, or lease, and operate, its own generating facilities, and transmission facilities necessary to interconnect the generating facilities with the electric grid, subject to appropriate cost recovery.

### *Offshore Wind – Generally*

Chapter 3 of 2013 established a carve-out in the State Renewable Energy Portfolio Standard (RPS) for offshore wind energy, requiring State electricity sales to include an amount derived from offshore wind energy beginning in 2017. The amount is set by PSC each year, based on the projected annual creation of offshore wind renewable energy credits (ORECs) by qualified offshore wind projects, and may not exceed 2.5% of total retail sales. Chapter 757 of 2019 bifurcated the application and approval process for offshore wind into “Round 1” (the process established by Chapter 3) and a “Round 2” process to allow for new applications with different specifications. PSC may also provide for additional application periods.

Chapter 95 of 2023 established a State goal of reaching 8,500 megawatts of offshore wind energy by 2031. The Act also required (1) PSC to take specified actions related to regional transmission system upgrades for offshore wind, and (2) the Department of General Services (DGS) to issue a competitive sealed procurement solicitation and authorized the department to enter into at least one contract for a power purchasing agreement to procure up to 5.0 million megawatt-hours annually of offshore wind energy and associated renewable energy credits from one or more qualified offshore wind projects.

Chapter 431 of 2024 altered processes for Round 1, Round 2, and DGS-procured offshore wind projects. Any Round 1 offshore wind project may seek PSC approval to amend its previously approved project order to increase the maximum amount of ORECs and modify its project schedule. PSC was required to open a revised Round 2 offshore wind project proceeding limited to evaluating revised project schedules, sizes, or pricing for a previously approved Round 2 project. The DGS procurement established by Chapter 95 was modified to, among other changes, (1) remove the 5.0 million megawatt-hour annual limit and (2) require a second procurement. PSC was also required to develop a plan for achieving a total of 8,500 megawatts of offshore wind energy capacity by 2031 and submit a [report](#) on the plan to the General Assembly by January 1, 2025.

### *Solar Energy – Incentives*

State law establishes multiple incentives for solar energy generating systems of different types, sizes, and locations. For an overview of notable incentives, see the **Appendix – Incentives for Solar Energy Generating Systems**.

## *Renewable Energy Portfolio Standard*

Unlike most other sources of renewable energy, solar is eligible for inclusion in meeting the State's RPS only if the source is connected with the electric distribution grid serving Maryland. For information on the State RPS, see the **Appendix – Renewable Energy Portfolio Standard**.

## *Energy Storage*

Chapter 570 of 2023 required PSC to establish the Maryland Energy Storage Program and establish targets for the cost-effective deployment of new energy storage devices in the State with a goal of achieving at least a cumulative total of 750 megawatts by the end of the 2027 PJM Interconnection, LLC (PJM) delivery year, 1,500 megawatts by the end of the 2030 PJM delivery year, and 3,000 megawatts by the end of the 2033 PJM delivery year. If a target cannot be met cost effectively, the target must be reduced to the maximum cost-effective amount for the relevant delivery year.

**State Fiscal Effect:** PSC advises that it does not have the requisite software tools, databases, and staff expertise to conduct the study required by the bill and, therefore, requires consultants to assist with those tasks. PSC estimates the cost for such consultants is approximately \$500,000. Based on the bill's effective date and the report due date, this analysis allocates half of the cost in fiscal 2027 and half in fiscal 2028.

Accordingly, special fund expenditures for PSC increase by approximately \$250,000 in both fiscal 2027 and 2028 for PSC to procure consultants to conduct the study required by the bill. Generally, PSC is funded through an assessment on the public service companies that it regulates. As a result, special fund revenues for PSC increase correspondingly from assessments imposed on public service companies.

**Additional Comments:** In 2024, natural gas accounted for 39.3% of Maryland-generated electricity, nuclear accounted for 41.6% – by far the two largest sources of Maryland-generated electricity. Coal was third, at 7.0%; remaining amounts were hydroelectric at 5.2% and other renewables at 6.4%.

The University of Maryland's Center for Global Sustainability released a [report](#) in November 2024 that discusses the State's energy generation facilities in the context of a transition to renewable energy.

## **Additional Information**

**Recent Prior Introductions:** Similar legislation has been introduced within the last three years. See SB 675 and HB 1149 of 2025.

**Designated Cross File:** HB 674 (Delegates T. Morgan and Boyce) - Environment and Transportation.

**Information Source(s):** Public Service Commission; University System of Maryland; Department of Legislative Services

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## Appendix – Incentives for Solar Energy Generating Systems

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State law establishes multiple incentives for solar energy generating systems of different types, sizes, and locations. The following is an overview of notable State incentives, which may be combined, depending on the specifics of a particular solar energy generating system.

### *Production Incentives*

#### *Net Metering*

Under § 7-306 of the Public Utilities Article, the Public Service Commission (PSC) must require electric companies to develop and make net metering tariffs available to eligible customer-generators. Net metering is the measurement of the difference between the electricity that is supplied by an electric company and the electricity that is generated by the customer and fed back to the grid over the customer's billing period. Under net metering, the customer pays only for energy used, netted against energy generated, plus the fixed monthly customer charge. In the event that more energy is generated than used, the electric company must pay the customer the value of the difference, subject to specified requirements. Generally, net excess generation payments are made annually, although certain customers may instead choose to accrue net excess generation indefinitely.

Generally, the generating capacity of an eligible customer-generator for net metering may be up to 2 megawatts, although there are exceptions allowing for larger capacities, including for community solar. Community solar systems are those that meet specified requirements, have multiple subscribers, and engage in virtual net metering.

There are multiple eligible energy sources for net metering, although most of the installed capacity is solar. The statewide capacity limit is 3,000 megawatts.

#### *Renewable Energy Portfolio Standard*

Under Title 7, Subtitle 7 of the Public Utilities Article, which establishes the State Renewable Energy Portfolio Standard (RPS), utilities and other competitive energy suppliers must submit renewable energy credits (RECs) equal to a percentage of their retail electricity sales specified in statute each year or else pay an alternative compliance payment (ACP) equivalent to their shortfall. Generally, a REC is a tradable commodity equal to 1 megawatt-hour of electricity generated or obtained from a renewable energy generation source. In program compliance year 2026, RPS percentage requirements include 8.0% from solar, which must be connected to the electric distribution grid serving Maryland.

Under § 7-709.1 of the Public Utilities Article, PSC must establish a Small Solar Energy Generating System Incentive Program and begin determining eligibility by January 1, 2025. Under the program, a solar energy generating system that meets specified requirements and is certified by PSC generates certified solar RECs, which have an RPS compliance value of 150%, for 15 years. In addition to other requirements, an eligible system must be placed in service between July 1, 2024, and January 1, 2028, inclusive.

### *Grant and Loan Incentives*

Under § 9-20B-05 of the State Government Article, the Maryland Energy Administration (MEA) must administer the Strategic Energy Investment Fund (SEIF). Among other revenue sources, SEIF receives funds from the sale of carbon dioxide emissions allowances under the Regional Greenhouse Gas Initiative (RGGI) and ACP revenues through the State RPS. RGGI-sourced funding is allocated through a statutory formula that provides significant annual funding for clean energy programs and initiatives, in addition to other purposes. In practice, MEA offers a variety of residential and commercial grants and rebates for different types of solar installations. Generally, solar ACP revenues must be used to support new solar development, although there are additional requirements in certain years.

### *Tax Incentives*

#### *Solar Energy Property Generally Not Subject to State or Local Real Property Tax*

Under § 7-242 of the Tax-Property Article, solar energy property is generally not subject to State or local real property tax. “Solar energy property” means equipment that is installed to use solar energy or solar thermal electric energy to generate electricity to be used in a structure or supplied to the electric grid or provide hot water for use in a structure.

#### *Specified Nonresidential Solar Systems Exempt from Valuation or State or Local Property Taxes*

Under § 7-249 of the Tax-Property Article, specified nonresidential solar energy generating systems that are constructed on the rooftops of buildings or on parking facility canopies are not subject to valuation or to State or local property taxes. The exemption applies only to a system approved by PSC for a Certificate of Public Convenience and Necessity (CPCN) or CPCN exemption on or after July 1, 2024.

#### *Community Solar Personal Property Tax Exemption*

Under § 7-237 of the Tax-Property Article, a community solar energy generating system with up to 5 megawatts of capacity that meets specified requirements is exempt from the

county and municipal personal property tax through the life cycle of the system. To be eligible, a system must (1) be placed in service after June 30, 2022, and be approved by PSC by December 31, 2030; (2) provide at least 50% of the energy produced to low- to moderate-income customers at reduced prices, as specified; and (3) be used for agrivoltaics or be installed on a rooftop, brownfield, parking facility canopy, landfill, or clean fill.

#### *Community Solar Real Property Tax Credit*

Under § 9-111 of the Tax-Property Article, the State and local governments must grant a 50% property tax credit for a brownfield, landfill, or clean fill on which a specified community solar energy generating system is installed. To be eligible, a system must be placed in service after June 30, 2022, and have been approved by PSC by December 31, 2025.

#### *Optional Local Property Tax Credit for Solar Energy Devices*

Under § 9-203 of the Tax-Property Article, counties and municipalities are authorized to grant tax credits against county or municipal property taxes for the use of a solar energy, geothermal energy, or qualifying energy conservation device in a structure for the purposes of heating and cooling, electricity generation, or the provision of hot water. Local governments may establish related definitions in determining eligibility for the credit.

#### *Optional Local Real Property Assessment Reduction for Certain Parking Canopies*

Under § 7-250 of the Tax-Property Article, the governing body of a county or municipality may reduce or eliminate, by law, the percentage of the assessment of any real property that is subject to the county or municipal property tax if the real property includes a parking facility on which a solar energy generating system has been constructed on its canopy. These provisions apply only to real property that includes a parking facility on which a system has been approved by PSC for a CPCN or CPCN exemption on or after July 1, 2024. The provision terminates June 30, 2027.

#### *Sales and Use Tax Exemptions*

Under § 11-230 of the Tax-General Article, the sales and use tax does not apply to the sale of solar energy equipment, which is defined as equipment that uses solar energy to heat or cool a structure, generate electricity to be used in a structure or supplied to the electric grid, or provide hot water for use in a structure.

Under § 11-207 of the Tax-General Article, the sales and use tax does not apply to the sale of electricity generated by solar energy equipment for use in residential property owned by an eligible customer-generator under the State's net metering law.

# Appendix – Renewable Energy Portfolio Standard

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## *General Overview*

Maryland’s Renewable Energy Portfolio Standard (RPS) was enacted in 2004 to facilitate a gradual transition to renewable sources of energy. There are specified eligible (“Tier 1” or “Tier 2”) sources as well as carve-outs for solar, offshore wind, and geothermal. Electric companies (utilities) and other electricity suppliers must submit renewable energy credits (RECs) equal to a percentage of their retail electricity sales specified in statute each year or else pay an alternative compliance payment (ACP) equivalent to their shortfall. Historically, RPS requirements have been met almost entirely through RECs, with negligible reliance on ACPs; however, as discussed further below, that has not been the case more recently. Generally, the Maryland Energy Administration must use ACPs for purposes related to renewable energy, as specified.

In 2026, the requirements are 38.0% from Tier 1 sources, including at least 8.0% from solar and 0.50% from post-2022 geothermal systems, plus 2.5% from Tier 2 sources.

## *Recent Significant Changes to Overall Percentage Requirements*

- Chapter 757 of 2019 significantly increased the percentage requirements, which now escalate over time to a minimum of 50% from Tier 1 sources, including 14.5% from solar, by 2030.
- Chapter 673 of 2021 reduced the amount of solar energy required under the RPS each year from 2022 through 2029, while leaving the nonsolar requirement generally unchanged, before realigning with the previous requirements beginning in 2030. The Act also extended Tier 2 in perpetuity at 2.5%.
- Chapter 164 of 2021 created a carve-out for post-2022 geothermal systems in Tier 1 beginning in 2023.

## *Limited Applicability to Municipal Electric Utilities and Electric Cooperatives*

As RPS percentage requirements have grown over time, legislation has been enacted to limit the effect on municipal electric utilities and electric cooperatives. Tier 1 percentage requirements for municipal electric utilities are limited to 20.4% in total beginning in 2021, including at least 1.95% from solar energy and up to 2.5% from offshore wind. Municipal electric utilities are also exempt from Tier 2 after 2021. Electric cooperatives are exempt from future increases to the solar carve-out beyond 2.5%, and the RPS does not apply to Choptank Electric Cooperative.

## *Renewable Energy Credits*

Generally, a REC is a tradable commodity equal to one megawatt-hour of electricity generated or obtained from a renewable energy generation resource. In other words, a REC represents the “generation attributes” of renewable energy – the lack of carbon emissions, its renewable nature, etc. A REC has a five-year life during which it may be transferred, sold, or redeemed. REC generators and electricity suppliers are allowed to trade RECs using a Public Service Commission (PSC) approved system known as the Generation Attributes Tracking System, a trading platform designed and operated by PJM Environmental Information Services, Inc., that tracks the ownership and trading of RECs.

## *Eligible Sources*

Tier 1 sources include wind (onshore and offshore); solar (photovoltaic and certain water-heating systems); qualifying biomass; methane from anaerobic decomposition of organic materials in a landfill or wastewater treatment plant; geothermal; ocean, including energy from waves, tides, currents, and thermal differences; a fuel cell that produces electricity from specified sources; a small hydroelectric plant of less than 30 megawatts; poultry litter-to-energy; thermal energy from a thermal biomass system; and raw or treated wastewater used as a heat source or sink for heating or cooling. Tier 2 includes only large hydroelectric power plants.

Chapter 673 excluded black liquor, or any product derived from black liquor, from Tier 1 beginning in 2022, although some black liquor RECs remain eligible through the duration of certain contracts. Chapters 625 and 626 of 2025 removed waste-to-energy and refuse-derived fuel from RPS eligibility. The exclusion generally applies to all RPS compliance years starting on or after January 1, 2025, except for a facility owned by a public instrumentality of the State (*i.e.*, Montgomery County), which applies beginning July 1, 2026.

## *Trends in Compliance Costs, Renewable Energy Credit Prices, and Resources Used*

Compliance costs for electricity suppliers totaled \$616.9 million in 2024: \$254.7 million for 7.0 million RECs and \$362.3 million in ACPs. This continues a multi-year trend of increasing overall compliance costs, reliance on ACPs, and REC prices. Of note, 2024 continues the trend of 2023 that ACPs have been used in a significant way for general Tier 1 compliance. In fact, 2024 had the fewest RECs retired since 2014. ACP prices were in many instances less expensive than REC prices and, as a result, suppliers chose to pay the ACP rather than retire RECs. Compliance costs and REC prices for the most recent five-year period are shown in **Exhibit 1**.

**Exhibit 1**  
**RPS Compliance Costs and REC Prices**  
**2020-2024**

<b>Compliance Costs (\$ Millions)</b>	<b><u>2020</u></b>	<b><u>2021</u></b>	<b><u>2022</u></b>	<b><u>2023</u></b>	<b><u>2024</u></b>
<b>RECs</b>					
Tier 1	\$99.8	\$187.3	\$246.5	\$124.9	\$90.1
Tier 1 Solar	122.9	144.4	101.4	109.6	150.4
Tier 1 Geothermal	n/a	n/a	n/a	0.1	2.2
Tier 2	<u>0.4</u>	<u>1.0</u>	<u>4.4</u>	<u>9.3</u>	<u>12.0</u>
<b><i>RECs Subtotal</i></b>	<b><i>\$223.1</i></b>	<b><i>\$332.7</i></b>	<b><i>\$352.3</i></b>	<b><i>\$243.8</i></b>	<b><i>\$254.7</i></b>
<b>ACPs</b>					
Tier 1	\$0.0	\$0.2	\$0.7	\$262.4	\$319.4
Tier 1 Solar	0.0	76.9	85.9	56.0	37.2
Tier 1 Geothermal	n/a	n/a	n/a	1.6	4.4
Tier 2	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.4</u>	<u>1.3</u>
<b><i>ACPs Subtotal</i></b>	<b><i>\$0.1</i></b>	<b><i>\$77.1</i></b>	<b><i>\$86.6</i></b>	<b><i>\$320.4</i></b>	<b><i>\$362.3</i></b>
<b>Total</b>	<b>\$223.2</b>	<b>\$409.8</b>	<b>\$438.9</b>	<b>\$564.2</b>	<b>\$616.9</b>
<b>Average REC Price (\$)</b>					
Tier 1	\$8.24	\$14.36	\$17.80	\$24.61	\$27.09
Tier 1 Solar	\$66.10	\$72.59	\$57.80	\$56.67	\$58.56
Tier 1 Geothermal	n/a	n/a	n/a	\$94.47	\$94.04
Tier 2	\$1.06	\$6.45	\$7.42	\$10.50	\$11.16

ACP: alternative compliance payment  
n/a: not applicable  
REC: renewable energy credit  
RPS: Renewable Energy Portfolio Standard

Note: Numbers may not sum to total due to rounding. The post-2022 geothermal system carve-out became effective in 2023.

Source: Public Service Commission

Approximately 45% of RECs used for compliance in 2024 came from in-state resources, up from 35% in 2023. RECs derived from three fuel types, solar (43.4%), black liquor (16.2%), and wind (15.1%), were the predominant sources of Tier 1 compliance in 2024.  
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Maryland facilities generated approximately 5.7 million RECs in 2024: 1.5 million Tier 1 nonsolar RECs, 2.4 million Tier 1 SRECs, and 1.8 million Tier 2 RECs. Many RECs can be used for compliance in both Maryland and other surrounding states, although there are geographic and energy source restrictions.

### *Related Studies and Reports*

PSC must submit an RPS compliance report to the General Assembly each year. The most recent report, which contains historical data through 2024, can be found [here](#).

The Power Plant Research Program (PPRP) in the Department of Natural Resources has frequently been required to conduct RPS studies. PPRP submitted a final report on a comprehensive RPS study in December 2019, which can be found [here](#). PPRP also submitted a related required study on nuclear energy at that time, which can be found [here](#). PPRP's supplemental study on the overall costs and benefits of increasing the RPS to a goal of 100% by 2040 can be found [here](#).

The Department of Legislative Services also issued an RPS report in 2025, which can be found [here](#). The report contains additional detail on the program, significant statutory changes, and visualizations of planned and actual RPS percentage requirements over time.