

Department of Legislative Services
 Maryland General Assembly
 2024 Session

FISCAL AND POLICY NOTE
First Reader

Senate Bill 1082 (Senator Hester)
 Education, Energy, and the Environment and
 Budget and Taxation

Solar Energy and Energy Storage - Development and State Procurement

This bill makes several changes to State law relating to development of solar energy and energy storage in the State, relating to (1) county conservation and restoration funds; (2) a Utility-scale Solar Design and Siting Advisory Commission; (3) cover crops on solar energy generating station land; (4) standards and requirements for energy storage devices; (5) State purchases of solar energy; (6) land suitable for solar energy development; and (7) support and guidance, on the solar energy development permitting process, provided to local governments by the Department of Natural Resources’ (DNR) Power Plant Research Program (PPRP). **The bill takes effect July 1, 2024.**

Fiscal Summary

State Effect: State expenditures are significantly affected, as summarized in the table below and discussed and shown in more detail in the Analysis section. State revenues are not directly affected.

(in dollars)	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Revenues	\$0	\$0	\$0	\$0	\$0
GF Expenditure	421,200	393,900	406,900	420,400	434,400
SF Expenditure	812,900	103,600	108,200	112,900	117,900
GF/SF Exp.	432,000	415,200	426,700	438,500	450,700
Higher Ed Exp.	250,300	231,600	241,300	251,200	261,600
Exp. (multiple)	-/(-)	-/(-)	-/(-)	-/(-)	-/(-)
Net Effect	(\$1,916,400)	(\$1,144,300)	(\$1,183,100)	(\$1,223,000)	(\$1,264,600)

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

Local Effect: Local government finances may be affected, as discussed below.

Small Business Effect: Potential meaningful.

Analysis

Bill Summary: The provisions discussed below are numbered for purposes of reference in the State Fiscal Effect, Local Fiscal Effect, and Small Business Effect sections of this fiscal and policy note.

The bill makes the following changes to State law relating to solar energy and energy storage development:

- (1) ***County Conservation and Restoration Funds*** – The bill authorizes a county to enact a local law to (1) create a conservation and restoration fund; (2) require a developer of a solar generating station to pay a reasonable amount into a conservation and restoration fund if the solar generating station is on land zoned for agricultural or silvicultural use; and (3) require that the fund be used for conservation or restoration of agricultural, environmental, or historically sensitive areas, and for incentives for solar development.
- (2) ***Utility-scale Solar Design and Siting Advisory Commission*** – The bill establishes a Utility-scale Solar Design and Siting Advisory Commission in PPRP. DNR must provide staff for the commission. By December 1, 2024, the commission must provide recommendations relating to balancing the competing goals of solar energy development and land conservation and preservation (including preservation of forests, soils, and natural resources). By December 1, 2025, the commission must provide recommendations relating to siting and decommissioning of solar energy generating stations and local jurisdictions’ management of solar energy development. The commission must also convene at least once every 10 years to provide recommendations on best practices for solar energy generating station siting, adapting to changes in technology, meeting State energy goals, and any other appropriate issue.
- (3) ***Cover Crops on Solar Energy Generating Station Land*** – The bill requires the owner or operator of a ground-mounted solar energy generating station that is located in the State, has the capacity to produce more than two megawatts (MW) of electricity, and is designed to produce electricity for sale on the wholesale market to (1) in consultation with the University of Maryland Extension (UME), plant and maintain on land on which the station is located a cover crop that is beneficial to soil health and regeneration and provides carbon sequestration and (2) submit to UME a vegetation management plan designed to mitigate harm to native vegetation and pollinator habitats. The cover crop planting requirement does not apply to land adjacent to the land on which the solar energy generating station is located.

- (4) ***Standards/Requirements for Energy Storage Devices*** – The bill requires the Public Service Commission (PSC), in consultation with PPRP, the commission’s Energy Storage Working Group, and the State Fire Marshal, to develop for adoption by the State or local governments (1) model permitting standards for energy storage devices and (2) model fire suppression standards and requirements for energy storage devices.
- (5) ***State Purchases of Solar Energy*** – The bill requires the Department of General Services (DGS) to, by December 31, 2025, and each December 31 thereafter through 2035, and in consultation with PSC, procure 200 MW of solar energy to meet the State’s energy needs, the State’s renewable energy portfolio standard (RPS), and the State’s net-zero greenhouse gas (GHG) emissions reduction goals. DGS must issue a competitive sealed procurement solicitation and may enter into at least one contract for a power purchase agreement (PPA) to procure solar energy. The State must offer for sale any energy or renewable energy credits (RECs) remaining after the State has met its RPS requirements, as specified, and is exempted from the RPS if DGS procures 100% of the State’s energy needs from a solar energy PPA. Each contract entered into must meet specified requirements.
- (6) ***Land Suitable for Solar Energy Development*** – By December 1, 2025, to assist the State in meeting its solar energy commitments under the RPS, the Maryland Energy Administration’s (MEA) Solar Technical Assistance Program, in consultation with DNR and the Maryland Department of Planning (MDP), must (1) analyze land in the State to identify land suitable for solar energy development to assist the State in meeting its solar energy commitments under the RPS; (2) develop a database, sorted by county, identifying and recommending State land suitable for solar energy development, as specified; and (3) establish a goal for the amount of State land that may be used for solar energy generation to meet the State’s RPS goals for solar energy. The bill establishes the information the database must include and requires, as specified, each electric company to submit information to the Solar Technical Assistance Program by July 1, 2025, to assist in its analysis. The bill also requires the Maryland Agricultural Land Preservation Foundation (MALPF), by December 1, 2025, to submit to the program and the General Assembly a report containing specified information on real property owned and conservation easements held by MALPF.
- (7) ***Power Plant Research Program Support and Guidance for Local Governments*** – The bill expresses the General Assembly’s intent that two Position Identification Numbers (PINs) be created in DNR for two full-time positions in PPRP that will focus on providing support and guidance to local governments on the permitting process for solar energy development.

Current Law: Existing statute includes the following provisions that are relevant to the bill’s provisions:

- **“Generating Station”** – Chapter 460 of 2023 established provisions in statute (that are referred to in the bill to define “generating station”) which specify what “generating station” does not include. Specifically, “generating station” does not include a generating unit or facility that is used to produce electricity, has a capacity of up to 2 MW, and is installed with equipment that prevents the flow of electricity to the electric grid during times when the electric grid is out of service. Additionally, a generating station does not include a combination of two or more generating units or facilities, located on the same property or adjacent properties, that (1) are used to produce electricity from a solar photovoltaic system or an eligible customer-generator that is subject to the State’s net metering law; (2) have individual capacities of up to 2 MW and a cumulative capacity of more than 2 MW, but not more than 14 MW; (3) are separately metered by the electric company; and (4) do not export electricity for sale on the wholesale market under an agreement with PJM Interconnection, LLC (PJM).
- **Power Plant Research Program** – PPRP, within DNR, is responsible for managing a consolidated review of all issues related to power generation in the State, with the goal of balancing need, cost, and impact.
- **Task Force to Study Solar Incentives** – Chapter 545 of 2023 established a Task Force to Study Solar Incentives to, among other things, make recommendations regarding measures and incentives needed to ensure (1) that the State meets the solar energy goals established in the RPS and (2) the efficient use of land in the State by maximizing the production of solar energy on previously developed property, including rooftops, parking canopies, and brownfields sites or energy or transportation rights of way. Chapter 545 required the task force to report its findings and recommendations by December 15, 2023.
- **“Energy Storage Device”** – Under provisions referred to in the bill to define “energy storage device,” the term means a resource capable of absorbing electrical energy, storing it for a period of time, and delivering the energy for use at a later time as needed, regardless of where the resource is located on the electric distribution system. It includes all types of electric storage technologies, regardless of their size, storage medium, or operational purpose, including thermal storage, electrochemical storage, virtual power plants, and hydrogen-based storage.
- **Maryland Energy Storage Program** – Chapter 570 of 2023 requires PSC to establish the Maryland Energy Storage Program and set 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 MW by the end of the 2027 PJM delivery year, 1,500 MW by the end of the 2030 PJM delivery year, and 3,000 MW 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. The program must be implemented by July 1, 2025. (PSC [established](#) a Maryland Energy Storage Program Workgroup in October 2023 to develop a consensus proposal for the establishment of the program.)

- ***Renewable Energy Portfolio Standard*** – Maryland’s 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 RECs equal to a percentage of their retail electricity sales specified in statute each year or else pay an alternative compliance payment equivalent to their shortfall. In 2024, the percentage requirements are 33.7% from Tier 1 sources, including at least 6.5% from solar and 0.15% from post-2022 geothermal systems, plus 2.5% from Tier 2 sources. The Tier 1 requirements escalate over time to a minimum of 50% from Tier 1 sources, including 14.5% from solar, by 2030.
- ***Climate Solutions Now Act*** – The Climate Solutions Now Act (CSNA) (Chapter 38 of 2022) made broad changes to the State’s approach to reducing statewide GHG emissions and addressing climate change. Among other things, the Act accelerated previous statewide GHG emissions reductions targets originally established under the Greenhouse Gas Emissions Reduction Act, requiring the State to develop plans, adopt regulations, and implement programs to (1) reduce GHG emissions by 60% from 2006 levels by 2031 and (2) achieve net-zero statewide GHG emissions by 2045. CSNA also includes a requirement that, by January 1, 2030, each primary procurement unit ensure that at least 75% of the electricity supply procured by the unit for use in State facilities is derived from no- or low-carbon energy sources.
- ***State Purchase of Offshore Wind Energy*** – Under Chapter 95 of 2023 (“Promoting Offshore Wind Energy Resources Act”), DGS, in consultation with PSC, must issue a competitive sealed procurement solicitation and may enter into at least one contract for a PPA to procure up to 5.0 million MW-hours annually of offshore wind energy and associated RECs from one or more qualified offshore wind projects. Each PPA must have a minimum term of 20 years. The State must issue a procurement for offshore wind energy by July 31, 2024, and may enter into a contract or contracts for the procurement by September 1, 2025 (although the State may modify this date if an unforeseen circumstance adversely affects the procurement process).

- ***Maryland Agricultural Land Preservation Foundation*** – The General Assembly created MALPF to preserve productive agricultural land and woodland, limit the extent of urban development, and protect agricultural land and woodland as open space. MALPF, with the assistance and cooperation of landowners and local governments, purchases development rights easements as a means of protecting agricultural land and woodland production activities.

State Expenditures: The estimated effect of the bill on State expenditures is summarized in **Exhibit 1** and discussed further below.

Exhibit 1
Estimated State Expenditure Effect of the Bill

<u>Prov(s)</u>	<u>Description</u>	<u>Agency</u>	<u>Type</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>
2,4,7	Additional Staff and Contractual Services	PPRP	GF/SF Exp	\$432,031	\$415,211	\$426,689	\$438,465	\$450,709
			<i>GF/SF Pos's</i>	<i>2.0</i>				
3	Additional Staff	UME	Higher Ed Exp	250,279	231,608	241,275	251,223	261,624
			<i>Higher Ed Pos's</i>	<i>1.5</i>				
5	Additional Staff and Contractual Services	DGS	GF Exp	421,171	393,879	406,939	420,365	434,413
			<i>GF Pos's</i>	<i>3.0</i>				
6	Additional Staff and Contractual Services	MEA	SF Exp	812,894	103,594	108,192	112,923	117,872
			<i>SF Pos's</i>	<i>1.0</i>				
5	State Energy Costs	All/multiple	Exp (multiple)	-/(-)	-/(-)	-/(-)	-/(-)	-/(-)
			State Net Effect*	\$1,916,375	\$1,144,292	\$1,183,095	\$1,222,976	\$1,264,618
			<i>Total Pos's</i>	<i>7.5</i>				

* Excluding the bill's indeterminate effect on State energy costs.

DGS: Department of General Services
Exp: expenditures
GF: general fund
MEA: Maryland Energy Administration
Pos's: positions

PPRP: Power Plant Research Program
Rev: revenues
SF: special fund
UME: University of Maryland Extension
-/(-): indeterminate increase/decrease

Source: Department of Legislative Services

As summarized above in Exhibit 1, the bill has the following effects on State expenditures:

- ***Utility-scale Solar Design and Siting Advisory Commission (provision 2)*** – Special fund (Environmental Trust Fund (ETF)) and/or general fund expenditures increase by \$432,031 in fiscal 2025, increasing to \$450,709 by fiscal 2029. This estimate reflects the costs for (1) PPRP to hire two additional staff to handle the program’s responsibilities associated with provisions 2, 4, and 7 of the bill and (2) contractual services (which the program relies upon in the regular course of its work) for technical input. The two additional staff are hired to assist the commission, to provide input for PSC’s development of standards and requirements for energy storage devices, and to provide support and guidance to local governments pursuant to the bill’s intent provision. The contractual services are expected to provide technical expertise related to the commission’s work and potentially also the energy storage device standards and requirements. In general, ETF supports PPRP’s operations. However, general funds may be needed to cover at least part of PPRP’s costs to the extent sufficient funds are not available in ETF.
- ***Cover Crops on Solar Energy Generating Station Land (provision 3)*** – Higher education expenditures increase by \$250,279 in fiscal 2025, increasing to \$261,624 by fiscal 2029. This estimate reflects the cost for UME to hire one full-time extension agent and one part-time extension agent to assist owners/operators of ground-mounted solar energy generating stations with planting and maintaining cover crops, including initial site review and documentation, soil fertility and vegetation establishment and management recommendations, and follow up visits. UME indicates it does not have personnel available for this additional work.
- ***Standards/Requirements for Energy Storage Devices (provision 4)*** – PSC indicates that the Maryland Energy Storage Program Workgroup is planning to address standards and requirements for energy storage devices, even in the absence of the bill, and PSC can handle the development of the standards and requirements with existing resources. The State Fire Marshal is assumed to be able to consult with PSC with existing resources and, as mentioned above, the two additional staff and contractual services of PPRP (also needed for provisions 2 and 7) will be available to contribute toward the development of standards and requirements.
- ***State Purchases of Solar Energy (provision 5)*** – General fund expenditures increase by \$421,171 in fiscal 2025, increasing to \$434,413 by fiscal 2029. This estimate reflects the costs for (1) DGS to hire three additional employees to issue a competitive sealed procurement for solar energy every year for 10 years, involving drafting and issuing the procurement every year and tracking and managing the volumes of solar energy and RECs produced and (2) contractual services to manage

the distribution and accounting of energy procured under PPAs throughout the State's electric accounts. PSC can consult with DGS on the procurements with existing resources.

State expenditures (multiple fund types) are expected to be affected, potentially significantly, due to the bill's requirement that DGS procure 200 MW of solar energy annually for 10 years. DGS notes that 200 MW represents energy production capacity, and not an energy amount; however, if the bill requires procurement of an amount equivalent to the entire output of one or more facilities with a total production capacity of 200 MW each year, that amount equals about 20% of all power used in State government annually. The impact on State expenditures (and whether expenditures increase or decrease in a given year) cannot be reliably estimated and depends on the difference in cost of the solar energy procured and market rates over time. DGS also notes that the amount of power from wind energy that may be purchased under Chapter 95 of 2023 (discussed above under Current Law), may meet the State government's entire energy needs. In that case, solar energy presumably is not procured by the State under this bill.

- ***Land Suitable for Solar Energy Development (provision 6)*** – Special fund (Strategic Energy Investment Fund (SEIF)) expenditures increase by \$812,894 in fiscal 2025, and by lesser amounts in subsequent years (\$103,594 in fiscal 2026, increasing to \$117,872 by fiscal 2029). This estimate reflects the costs for (1) MEA to hire a program manager to manage the expanded responsibilities of the agency's Solar Technical Assistance Program and (2) one-time contractual services (in fiscal 2025 only) to develop the database required by the bill. MEA indicates that the bill's requirements relating to identifying land suitable for energy development in the State significantly expand the scope of the program's responsibilities, requiring the additional program manager. DNR and MDP can consult with MEA with existing resources, and it is assumed that MALPF can prepare and submit the required report on real property owned and conservation easements held by MALPF with existing resources.

This analysis assumes that MEA can use special funds from SEIF, MEA's primary funding source, to cover its costs of implementing the bill. While this bill does not expressly reallocate other, existing SEIF revenues/spending in order to support MEA's costs under the bill, the net impact on SEIF expenditures resulting from the bill may be less than the amount of the costs identified above if MEA correspondingly reduces other SEIF spending in order to implement the bill.

- ***Power Plant Research Program Support and Guidance for Local Governments (provision 7)*** – As described above, with respect to provision 2, special fund expenditures increase for PPRP beginning in fiscal 2025 to hire two additional staff that support the commission and the development of standards and requirements for energy storage devices, and also fulfill the General Assembly’s intent under the bill that two PINs be created for full-time positions in PPRP that provide support and guidance to local governments on the permitting process for solar energy development.

Local Fiscal Effect: Local government revenues and expenditures increase to the extent counties establish conservation and restoration funds (*provision 1*) pursuant to the bill, due to receipt of payments from solar developers and subsequent expenditures for conservation and restoration or solar development incentives. Local governments may also be affected operationally, through assistance from PPRP (*provision 7*), guidance produced by the Utility-scale Solar Design and Siting Advisory Commission (*provision 2*), and PSC’s development of energy storage device standards/requirements (*provision 4*).

Small Business Effect: Small businesses in the solar industry may be meaningfully affected by the bill’s provisions that (1) support solar energy development, such as State purchases of solar energy (*provision 5*) and the identification of land suitable for solar energy development (*provision 6*), and, conversely (2) add requirements under certain circumstances, such as payments under the bill’s authorization of the establishment of county conservation and restoration funds (*provision 1*) and the bill’s requirement of cover crop planting and maintenance (*provision 3*).

Additional Information

Recent Prior Introductions: Similar legislation has not been introduced within the last three years.

Designated Cross File: HB 1328 (Delegates Ziegler and Crosby) - Economic Matters and Appropriations.

Information Source(s): Maryland Department of Agriculture; Department of Natural Resources; Department of General Services; Department of State Police; Public Service Commission; Maryland Department of Transportation; Maryland Department of Planning; Maryland Department of the Environment; Maryland Energy Administration; Maryland-National Capital Park and Planning Commission; University System of Maryland; Anne Arundel, Baltimore, and Frederick counties; Maryland Association of Counties; City of Havre de Grace; Maryland Municipal League; Department of Legislative Services

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rh/lgc

Analysis by: Scott D. Kennedy

Direct Inquiries to:
(410) 946-5510
(301) 970-5510