

Department of Legislative Services
Maryland General Assembly
2021 Session

FISCAL AND POLICY NOTE
First Reader

Senate Bill 549
Finance

(Senators Hershey and Edwards)

Renewable Energy Portfolio Standard - Thermal Biomass Systems

This bill authorizes thermal biomass systems, for purposes of the State's Renewable Energy Portfolio Standard (RPS), to use food waste, qualifying biomass, or animal manure as a source of fuel, regardless of the relative mix of those fuel sources. Other eligibility requirements related to thermal biomass systems and their fuel components are unchanged.

Fiscal Summary

State Effect: The Public Service Commission (PSC) can implement the bill with existing budgeted resources. The bill does not otherwise materially affect State finances or operations.

Local Effect: Minimal.

Small Business Effect: Potential meaningful.

Analysis

Current Law: A thermal biomass system means a system that uses (1) primarily animal manure, including poultry litter and associated bedding to generate thermal energy, and food waste or qualifying biomass for the remainder of the feedstock; (2) is used in the State; and (3) complies with all applicable State and federal statutes and regulations as determined by the appropriate regulatory authority.

Energy from a thermal biomass system is an eligible Tier 1 resource under the State's RPS, subject to additional specified requirements for a system that uses a thermochemical

process. Energy is converted from British Thermal Units (“BTUs”) to megawatt-hours for purposes of allocating renewable energy credits.

“Food waste” is not a defined term in the Public Utilities Article. “Qualifying biomass” means a nonhazardous, organic material that is available on a renewable or recurring basis, and is waste material that is segregated from inorganic waste material and is derived from specified sources.

For additional information on Maryland’s RPS, see the **Appendix – Renewable Energy Portfolio Standard**.

Small Business Effect: According to the most recent RPS annual report from PSC, as of 2019, there were no thermal biomass systems in Maryland. However, the bill may lead to the construction, operation, and eventual supply chain support of such facilities by small businesses.

Additional Information

Prior Introductions: None.

Designated Cross File: HB 682 (Delegate Buckel) - Economic Matters.

Information Source(s): Maryland Department of Agriculture; Maryland Department of the Environment; Office of People’s Counsel; Public Service Commission; Department of Legislative Services

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an/lgc

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Appendix – Renewable Energy Portfolio Standard

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 and offshore wind. Electric companies (utilities) and other electricity suppliers must submit renewable energy credits (RECs) equal to a percentage specified in statute each year or else pay an alternative compliance payment (ACP) equivalent to their shortfall. Historically, the requirements have been met almost entirely through RECs, with negligible reliance on ACPs. The Maryland Energy Administration must use ACPs to support new renewable energy sources.

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. In 2021, the requirements are 30.8% for Tier 1 sources, including at least 7.5% from solar. Tier 2, which has been extended several times, terminated after 2020.

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 three-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.

Tier 1 sources include wind (onshore and offshore); 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; waste-to-energy; refuse-derived fuel; and thermal energy from a thermal biomass system. Eligible solar sources include photovoltaic cells and residential solar water-heating systems commissioned in fiscal 2012 or later. Tier 2, when it was in effect, eventually included only large hydroelectric power plants.

RPS Compliance

According to the most recent RPS compliance [report](#) on PSC’s website, electricity suppliers retired 11.4 million RECs at a cost of \$134.5 million in 2019, as average REC prices rose from their 2018 levels, as shown in **Exhibit 1**.

Exhibit 1
RPS Compliance Costs and REC Prices
2015-2019

	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Compliance Costs (\$ Millions)					
Tier 1 Nonsolar	\$85.1	\$88.2	\$50.0	\$56.4	\$79.3
Tier 1 Solar	39.1	45.6	21.3	27.4	55.2
Tier 2	<u>2.6</u>	<u>1.4</u>	<u>0.7</u>	<u>1.0</u>	<u>.06</u>
Total	\$126.7	\$135.2	\$72.0	\$84.8	\$134.5
Average REC Price (\$)					
Tier 1 Nonsolar	\$13.87	\$12.22	\$7.14	\$6.54	\$7.77
Tier 1 Solar	\$130.39	\$110.63	\$38.18	\$31.91	\$47.26
Tier 2	\$1.71	\$0.96	\$0.47	\$0.66	\$1.05

REC: renewable energy credit

RPS: Renewable Energy Portfolio Standard

Note: Numbers may not sum to total due to rounding.

Source: Public Service Commission

In 2019, wind (43%), black liquor (23%), small hydroelectric (11%), municipal solid waste (11%), and wood and waste solids (7%) were the primary energy sources used for Tier 1 RPS compliance. Maryland facilities generated 4.7 million RECs in 2019: approximately 2.5 million Tier 1 RECs and 2.2 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.

Pursuant to Chapter 393 of 2017, the Power Plant Research Program in the Department of Natural Resources has released its final report on a comprehensive study of the RPS. The report contains historical data but also looks at future scenarios. The report can be found [here](#) or on the department's website.