HB 1060

Department of Legislative Services

Maryland General Assembly
2009 Session

FISCAL AND POLICY NOTE

House Bill 1060 (Delegate Hecht, *et al.*)
Economic Matters

Residential Solar Energy Act of 2009

This bill requires electricity suppliers to purchase at least 30% of the solar renewable energy credits required under the Renewable Energy Portfolio Standard from small solar generators for calendar 2010 through 2019. A small solar generator is defined as a renewable on-site solar energy generator with a capacity not exceeding 10 kilowatts. If an electricity supplier is unable to meet this requirement, the Public Service Commission (PSC) may grant a waiver based on the availability of solar renewable energy credits from small solar generators and whether the electricity supplier made a reasonable effort to acquire such credits.

Fiscal Summary

State Effect: Potential increase in special fund revenues from compliance fees due to small solar generator Renewable Portfolio Standard (RPS) requirements. Potential increase in State expenditures due to higher electricity prices.

Local Effect: Potential increase in local government expenditures due to higher electricity prices.

Small Business Effect: Meaningful.

Analysis

Current Law: RPS is a policy that requires retail suppliers of electricity to meet a portion of their energy supply needs with eligible forms of renewable energy. An electricity supplier must meet RPS by accumulating "renewable energy credits" created from various renewable energy sources classified as Tier 1 and Tier 2 renewable sources, with a specified portion coming from solar sources.

Examples of Tier 1 sources include solar, wind, poultry litter incineration, and geothermal. Examples of Tier 2 sources include waste-to-energy and hydroelectric. A renewable energy credit is a tradable commodity representing the renewable energy generation attributes of 1 megawatt hour of electricity. An electricity supplier may recover actual dollar-for-dollar costs incurred, including a compliance fee, in meeting a State-mandated RPS.

Electricity suppliers may purchase solar renewable energy credits to meet RPS directly from an on-site solar electricity generator. If the solar generator has a capacity of less than 10 kilowatts the contract must be paid up-front for the entire length of the contract, which must be at least 15 years. PSC is responsible for determining the annual production of these systems and determining the rate of payment to the renewable on-site generator.

Background: Maryland's RPS was established in 2004 in order to recognize the economic, environmental, fuel diversity, and security benefits of renewable energy resources; establish a market for electricity from those resources in Maryland; and lower consumers' cost for electricity generated from renewable sources.

Chapter 125 of 2008 amended Maryland's RPS, by increasing the percentage requirements of the RPS to equal 20% in 2022 and beyond, as shown in **Exhibit 1.** Beginning January 1, 2012, acceptable Tier 1 renewable energy resources, which renewable energy credits may be required from, are restricted to those within the PJM region (*i.e.*, the wholesale, bulk power control area in which Maryland resides) or in a control area that is adjacent to the PJM region, if the electricity is delivered into the region. PSC may delay electric suppliers' scheduled RPS requirements for Tier 1 (nonsolar) resources under specified conditions.

Electric suppliers are not required to file an RPS compliance report with PSC for 2008 until April 1, 2009. **Exhibit 2** provides summary data for the electric supplier RPS filings in 2006 and 2007. Calendar 2007 marked the second compliance year for Maryland's RPS Program. Based on the Supplier Annual Reports filed with PSC, electric suppliers have generally been able to fulfill required RPS requirements by purchasing renewable energy credits. The aggregate total for all compliance fees paid in 2006 and 2007 was $74,583. Compliance fees are remitted to the Comptroller's Office, and then dispersed into the Maryland Strategic Energy Investment Fund for use in supplying loans and grants for in-state renewable projects.

Exhibit 1
Renewable Energy Portfolio Standards

Year	Tier 1 (current)	Tier 1 Solar (current)	Tier 1 Small Solar (proposed)	Tier 2 (current)
2009	2.01%	0.010%	n/a	2.50%
2010	3.03%	0.025%	0.008%	2.50%
2011	5.00%	0.040%	0.012%	2.50%
2012	6.50%	0.060%	0.018%	2.50%
2013	8.20%	0.100%	0.030%	2.50%
2014	10.30%	0.150%	0.045%	2.50%
2015	10.50%	0.250%	0.075%	2.50%
2016	12.70%	0.350%	0.105%	2.50%
2017	13.10%	0.550%	0.165%	2.50%
2018	15.80%	0.900%	0.270%	2.50%
2019	17.40%	1.200%	0.360%	0%
2020	18.00%	1.500%	n/a	0%
2021	18.70%	1.850%	n/a	0%
2022	20.00%	2.000%	n/a	0%

Exhibit 2
RPS Supplier Annual Report Results

Electricity Broker/Supplier Utility	RPS Obligation		RPS Compliance Method		
	Tier 1	Tier 2	Tier 1 RECs	Tier 2 RECs	Compliance Fee
Total for compliance year 2006	520,073	1,300,201	552,874	1,322,069	$38,209
Total for compliance year 2007	553,612	1,384,029	553,374	1,382,874	$36,374

Typical residential solar installations range in size from under 1 kilowatt to over 3 kilowatts with a cost range from under $9,000 to over $30,000. Because solar installations only generate electricity when the sun is shining, systems of this size are interconnected or grid-tied systems. Grid-tied systems feed any excess generation onto the utility grid during periods of peak production and may utilize net metering. For a

solar installation to allow a house to be fully independent of utility lines, also known as an off-grid system, a solar installation of at least 4 kilowatts is needed and must be used in combination with a backup power source which may include battery storage or a diesel generator.

According to the most recent *Ten-Year Plan of Electric Companies in Maryland*, as published by PSC (December, 2007), the Maryland energy sales forecast is 69,637 gigawatts in 2010. Assuming that the average small solar generator operates a 3 kilowatt system generating 4,000 kilowatts a year, to meet the small solar generator requirements of the bill, the equivalent of 1,300 small solar generators would have to sell renewable energy credits to electricity suppliers in Maryland in 2010. Beginning in 2012, these small solar generators must be connected to the PJM network for the renewable energy credits to count towards RPS requirements. Assuming a 1% annual increase in the Maryland energy forecast, in 2019, 68,545 small solar generators of this size need to be connected to the PJM network and must sell renewable energy credits to meet the small solar generator requirement.

Requiring electric suppliers to obtain a specific percentage of renewable energy credits from small residential generators may increase demand for such renewable energy credits. An increase in the price of a renewable energy credits owned by small solar generators creates an incentive for individuals to install small solar generation because selling the associated renewable energy credit will help to offset the cost of the installation.

State Fiscal Effect: To the extent that requiring a specific portion of the solar RPS requirement be purchased from small solar generators results in additional compliance fees paid by electric suppliers, revenue to the Strategic Energy Investment Fund increases. Expenditures from the Strategic Energy Investment Fund also increase as additional funds are available for renewable energy grants.

Requiring electric suppliers to acquire renewable energy credits from small solar generators will, at least in the short term, increase the cost of complying with RPS in the State. The increased cost of complying with RPS may raise the cost of providing electricity which is ultimately paid by all electric customers in the State. The State government spends $204.4 million annually for electricity costs at State agencies. Accordingly, State expenditures will increase by $2 million for each 1% increase in cost.

Small Business Effect: The bill provides a significant benefit to small businesses that sell and install small solar generation systems. An increase in the value of a renewable energy credit associated with a small solar generator provides additional revenue to an individual who owns a solar generating system. The renewable energy credits may be sold to offset a portion of the cost of installing such a system. Small businesses that

install residential solar generating systems benefit because the sale of the renewable energy credits for each system lowers the total expense to the customer.

Additional Information

Prior Introductions: None.

Cross File: None.

Information Source(s): Maryland Energy Administration, Public Service Commission, Department of Legislative Services

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