

Department of Fiscal Services
Maryland General Assembly

FISCAL NOTE
Revised

House Bill 869 (Delegate Rosenberg, *et al.*)
Environmental Matters

Referred to Finance

Solar Electrical Generation - Net Energy Metering

This amended bill allows residential customers of electrical utilities to produce their own electrical power with photovoltaic solar generators under specified conditions. The bill requires electric utilities to develop a standard contract or tariff for “net energy metering” and make it available to eligible customer-generators on a first-come first-served basis until the generating capacity of all customer-generators reaches 0.2% of the State’s adjusted peak load forecast for 1998.

Electrical utilities are required to provide eligible customer-generators with a meter that measures the flow of energy in two directions, and charge eligible customer-generators the same rates and charges as nonparticipants. Utilities may not require eligible customer-generators to install additional controls, perform or pay for additional tests, and purchase additional liability insurance.

Fiscal Summary

State Effect: Potential increase in general fund sales tax revenues and potential decrease in general fund gross receipts tax revenues as discussed below. Potential minimal decrease in Environmental Trust Fund revenues as discussed below. Expenditures would not be affected.

Local Effect: Indeterminate decrease in revenues in Anne Arundel, Baltimore, Montgomery, Prince George’s, and St. Mary’s counties, and Baltimore City, as discussed below. Expenditures would not be affected.

Small Business Effect: Potential meaningful impact on small utilities as discussed below.

Fiscal Analysis

Bill Summary: This bill allows residential customers of electrical utilities to produce their own electrical power by photovoltaic solar generators operating at a customer's principal residence if the customer's generator (1) does not exceed 80 kilowatts of capacity; (2) operates in parallel with the utility's transmission and distribution system; and (3) is intended primarily to offset all or part of the customer's own electrical requirements. Eligible customer-generators may be required to meet specified safety and performance standards as well as additional control and testing requirements adopted by the PSC.

Background: Based on utility records, there are currently no residential homes with photovoltaic solar generators operating in Maryland. The National Association of Home Builders does have an experimental solar home in Prince George's County that is used for demonstration purposes only. The Maryland Energy Administration advises that there are likely some vacation cabins that use solar energy, but unless they are also served by a utility, an exact count is not possible.

Residential solar generators are generally installed to produce as little as 1.6 kilowatts or as much as 10 kilowatts, and for residentially zoned farms up to 80 kilowatts. As a result, the number of participants in Maryland could vary. The most common customer-generator in pre-existing programs elsewhere is 1.6 kilowatts. The price to residential customers averages approximately \$5-\$10 per watt the system can generate. Thus, for a 1.6 kilowatt residential photovoltaic system the cost would range from approximately \$8,000 to \$16,000.

State Revenues: All revenue calculations are based on 34,722 kilowatts of adjusted projected peak demand for all electric utilities in 1998, as specified in the bill. Although the potential power produced by a generator or utility is measured in kilowatts, kilowatt hours are used to measure the consumption of energy. A one kilowatt generator could produce approximately 1,550 kilowatt hours. The State collects a gross receipts tax from utility providers based on consumption via kilowatt hour revenues. As a result of reduced electrical utility revenues, the State could experience at maximum loss of \$86,000 in gross receipts revenues annually if there were full program participation.

In addition to the minimal revenue loss, the State has the potential to experience increases in revenues from sales taxes collected on the solar equipment and installation associated with this bill. The following chart displays potential sales tax revenues at various participation levels.

Number of Participants	Kilowatt Hours Potential	Sales Tax Revenue
15	37,200	\$6,000 - \$12,000
150	372,000	\$60,000 - \$120,000

1,500	3,720,000	\$0.6 - \$1.2 million
21,701 (Maximum Allowed)	53,800,000	\$8.7 - \$17.4 million

Note: The above chart is based on a 1.6 kilowatt solar generation system at a cost estimate of \$5-\$10 per watt, or \$8,000 to \$16,000 per home system. Because the total allowable kilowatt generation is fixed, the total potential sales tax revenue would not change at a maximum participation level.

The Environmental Trust Fund also collects revenue from a surcharge levied on electric utilities. These monies are used to fund environmental studies and projects. The PSC sets the rate based on company characteristics, so the rate varies from \$0.000007838 to \$0.00015 per kilowatt hour. The fund collects a total of approximately \$7.3 million from electric utilities in the State. Calculated at the highest surcharge rate, the Environmental Trust Fund could experience a estimated \$8,000 loss annually if the consumer-generator solar program experienced full participation.

State Expenditures: There are no additional staffing costs associated with the legislation. The Public Service Commission can absorb the cost of any additional staffing demands created by this bill with existing resources.

Local Revenue: Six counties, including the City of Baltimore, collect revenue on electricity consumption by levying a per kilowatt hour charge or by taking a percentage of the cost accrued on a customer's monthly bill. These counties are Montgomery, Prince George's, St. Mary's, Anne Arundel, and Baltimore. Because there is no accurate way to estimate how many customer-generators would be located within each of these counties, the revenue impact can only be said to be negative and minimal. The maximum potential revenue loss, calculated based on population, ranges from \$3.1 thousand to \$53.2 thousand annually. The actual revenue losses will vary based on the locational distribution of participants.

Small Business Effect: To the extent that any small utilities would have customer-generators participating, these utilities may experience decreased revenues. These utilities would also experience a decrease in the amount of gross receipts tax they must pay to the State in proportion to their revenue loss. It is not possible to estimate the level of customer participation or level of electricity generated by customer-generators.

In addition to the loss of revenue, the bill requires that all electric utilities provide eligible customer-generators with a standard residential meter that registers the reverse flow of current. The cost of purchasing and installing these meters is approximately \$75 to \$100 per meter.

The bill may impact small businesses in the construction or installation trades. These

businesses may benefit from increased revenues as a result of increased demand for solar panel installation.

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

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