

Department of Legislative Services
 Maryland General Assembly
 2011 Session

FISCAL AND POLICY NOTE

Senate Bill 304 (Senators Manno and Garagiola)
 Finance

Renewable Energy Surcharge - Retail Residential Electric Customers

This bill establishes a Maryland Renewable Energy Benefit Fund administered by the Maryland Energy Administration (MEA) to promote energy efficiency and the development and deployment of renewable energy generation technology in the State. As a source of revenue for the fund, the bill establishes a \$0.013 per kilowatt-hour (kWh) surcharge on electricity consumption by a residential retail electricity customer that exceeds 1,000 kWh in a month. The surcharge will be added to customer bills by each electric company; however, a \$0.01 per kWh rebate is provided on customers' electric bills that are subject to the surcharge if the customer purchases electricity generated from a Tier 1 renewable source. The bill specifies how revenue from the surcharge must be allocated.

Fiscal Summary

State Effect: Special fund revenues to the Maryland Renewable Energy Benefit Fund increase by \$71.4 million in FY 2012. Future years reflect annualization and changes in electricity consumption. Special fund expenditures for clean energy grants increase correspondingly. Special fund expenditures increase by an additional \$51,000 in FY 2012 for MEA to hire one additional staff to administer grants. Future year administrative expenditures reflect annualization and inflation.

(in dollars)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
SF Revenue	\$71,375,100	\$101,471,000	\$100,685,200	\$100,605,300	\$100,943,700
SF Expenditure	\$71,426,100	\$101,540,400	\$100,758,000	\$100,681,600	\$101,023,800
Net Effect	(\$51,000)	(\$69,400)	(\$72,800)	(\$76,300)	(\$80,100)

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

Local Effect: Local governments that seek to install clean energy projects may benefit from an increase in the availability of grants and loans from MEA and the Maryland Clean Energy Center (MCEC).

Small Business Effect: Potential meaningful.

Analysis

Bill Summary: The Maryland Renewable Energy Benefit Fund consists of revenue from the surcharge on electric customers; money appropriated in the State budget; money received from any public or private source for the benefit of the fund; and interest and investment earnings.

Up to \$4.0 million of the revenue from the fund must be allocated to the Solar Energy Grant Program, the Geothermal Heat Pump Grant Program, and the Windswept Grant Program in MEA. The remainder of the money in the fund must be awarded by MEA in an annual grant to MCEC to support the Maryland Home Energy Loan Program, the Clean Energy Innovation Fund, and other programs administered by MCEC that promote the purchase of power generated by renewable sources, energy efficiency, and job creation and business development related to commercially available renewable energy products and services.

Current Law:

State Funding for Renewable Energy – Strategic Energy Investment Fund

State funding for renewable energy and efficiency projects is primarily funded through the Maryland Strategic Energy Investment fund (SEIF). SEIF revenues are comprised of proceeds from the sale of carbon dioxide (CO₂) allowances under the Regional Greenhouse Gas Initiative (RGGI) and alternative compliance payments (ACPs) made by electricity suppliers who fail to meet the Renewable Energy Portfolio Standards (RPS).

RPS requires that renewable sources generate specified percentages of Maryland's electricity supply each year, increasing to 20%, including 2% from solar power, by 2022. Electricity suppliers must submit renewable energy credits (RECs) equal to the percentage mandated by statute each year, or pay the ACP equivalent to the supplier's shortfall. RECs are classified as Tier 1, Tier 2, or solar RECs (SRECs). Examples of Tier 1 sources include solar; wind; 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 a Tier 1 renewable source; and a small hydroelectric plant of less than 30 megawatts and poultry litter-to-energy. Examples of Tier 2 sources include hydroelectric and waste-to-energy.

ACPs made by electricity suppliers to SEIF must be accounted for separately in the fund and are used only to make loans and grants to support the creation of Tier 1 renewable resources.

Money received by SEIF from CO₂ auctions were originally required by statute to be distributed to energy efficiency and conservation programs (at least 46%), electricity rate relief (23%), energy assistance programs (17%), renewable and clean energy education and outreach (up to 10.5%), and administrative expenses (up to 3.5%, not exceeding \$4.0 million). The Budget Reconciliation and Financing Act of 2010 (Chapter 484) increased the allocation to energy assistance programs (up to 50%), increased the allocation to energy efficiency programs (at least 17.5%), and decreased the allocation to renewable and clean energy projects (at least 6.5%) through fiscal 2012, among other things.

Surcharges on Electric Bills

In addition to supply, distribution, and customer charges imposed by each utility, residential electric customers are subject to various surcharges on electricity consumed. Customers pay a surcharge, which varies for each service territory, to support energy efficiency and demand response programs under the EmPOWER Maryland Energy Efficiency Act of 2008 (Chapter 131). Customers also pay a surcharge to the Environmental Trust Fund (ETF) within the Department of Natural Resources to study the siting of power plants and other environmental and land use considerations. Additionally, customers pay a monthly charge to support the Electric Universal Service Program in the Department of Human Resources, which provides bill payment and arrearage assistance for certain electric customers.

Maryland Clean Energy Center

MCEC (Chapter 137 of 2008; launched in January 2009) was established to generally promote and assist the development of the clean energy industry in the State; promote the deployment of clean energy technology in the State; and collect, analyze, and disseminate industry data. MCEC is authorized to make grants to or provide equity investment financing for clean energy technology-based businesses. MCEC may accept grants, loans, and donations.

Maryland Energy Administration Clean Energy Programs

MEA is currently charged under State law with administering a number of programs aimed at encouraging energy efficiency and renewable energy projects in the State. Programs currently administered by MEA include:

- the Jane E. Lawton Conservation Loan Program – provides low-interest loans to nonprofit organizations, local jurisdictions, and eligible businesses for projects, in order to promote energy conservation, reduce consumption of fossil fuels, improve energy efficiency, and enhance energy-related economic development and stability in business, commercial, and industrial sectors;
- the Maryland Strategic Energy Investment Program – established to decrease energy demand and increase energy supply to promote affordable, reliable, and clean energy, as described above;
- the Solar Energy Grant Program – provides grants to individuals, local governments, and businesses for a portion of the costs of acquiring and installing photovoltaic (electricity generating) and solar water heating property;
- the Geothermal Heat Pump Grant Program – provides grants to individuals for a portion of the cost of acquiring and installing a geothermal heat pump; and
- the Windswept Grant Program – provides grants to offset the installation cost of small wind generation projects. (This program is not established under State law.)

EmPOWER Maryland

The EmPOWER Maryland Energy Efficiency Act of 2008 (Chapter 131) requires electric companies to procure and provide customers with energy conservation and energy efficiency programs and services that are designed to achieve targeted electricity savings and demand reductions for specified years through 2015. Electric company plans must include program descriptions, anticipated costs, projected electricity savings, and other information the Public Service Commission (PSC) requests. PSC has approved customer surcharges for each of the participating utilities.

Environmental Trust Fund

ETF was established by Chapter 31 of 1971 to fund electric power plant site evaluation and acquisition and research on environmental and land use consideration associated with power plants. ETF's revenue is generated from an environmental surcharge per kWh of electric energy distributed in the State, which is paid by electric companies. The amount of the surcharge for each account for each retail electric customer may not exceed the lesser of 0.15 mill per kWh or \$1,000 per month, and the surcharge may not continue beyond June 30, 2015, unless legislation is enacted to extend it beyond that date. The customer surcharge rate is currently at the statutorily capped level.

Background:

Strategic Energy Investment Fund

Recent budget reconciliation measures have reduced the amount of revenue generated from the RGGI auctions that is allocated to MEA and its clean energy programs. Pursuant to statute, the RGGI auction revenue is deposited in SEIF and distributed among low-income electricity assistance programs, rate relief for residential electricity customers, climate change programs, clean energy programs, and MEA administrative costs. In order to reduce general fund expenditures for electricity assistance, budget reconciliation legislation passed in the 2009 session adjusted the statutory allocation established when SEIF was created in 2008, reducing the amount of funding allocated to MEA and its programs and increasing the amount allocated to electricity assistance programs. Budget reconciliation legislation passed in the 2010 session extended that adjusted allocation through fiscal 2012. The proposed Budget Reconciliation and Financing Act of 2011 (SB 87/HB 72) proposes to increase the allocation for renewable and clean energy projects to at least 20% of auction proceeds for fiscal 2012 through 2014, after which the allocation would return to the original statutory allocation of up to 10.5%

The impact on MEA of the recent changes in the allocation of the SEIF funding has been compounded by the fact that the price CO₂ emissions allowances sold at RGGI auctions has declined from a high of \$3.51 per allowance in the March 2009 auction to a low of \$1.86 per allowance in the most recent December 2010 auction. Through December 2010, the RGGI auctions have generated \$147.5 million in revenue for SEIF. Also, in fiscal 2012, MEA is expected to face a significant reduction in federal funding, as funds received under the American Recovery and Reinvestment Act of 2009 (ARRA) expire; ARRA funding accounted for a significant portion of the agency's budget in fiscal 2010 and 2011 (27% and 59%, respectively).

Although revenues from RGGI auctions are expected to decrease in future years, ACPs from RPS are expected to increase significantly. To date, electricity suppliers generally have been able to meet their RPS obligations through the submission of RECs, with little reliance on ACPs. By contrast, initial compliance with the solar RPS obligation has broadly been met with ACP payments, generating \$1.2 million in 2008 and \$1.1 million in 2009. This appears to be due, in part, to the timing of electricity supply contracts preventing some utilities from initially complying with the solar RPS obligation with solar RECs and, in part, to the limited availability of SRECs. Legislation enacted in 2010 (Chapter 494) increased the solar RPS percentages and the ACP payment amounts for the solar RPS from 2011 through 2016, accelerating the ramp up of the solar RPS obligation and increasing the incentive for the installation of solar capacity. To meet the 2% solar obligation in 2022 with SRECs, the installed solar capacity in the State will need to

increase from roughly 5 megawatts or less at the end of 2009 to an estimated 1,300 megawatts in 2022.

Residential Electricity Consumption

The amount of electricity consumed by a household each month depends on a multitude of factors including: (1) size and efficiency of the dwelling; (2) fuel source used for heating, hot water, and other equipment; (3) number of people in the household; (4) household behavior; and (5) weather. Based on these factors, the average monthly electric consumption varies for each Maryland service territory, as shown in **Exhibit 1**.

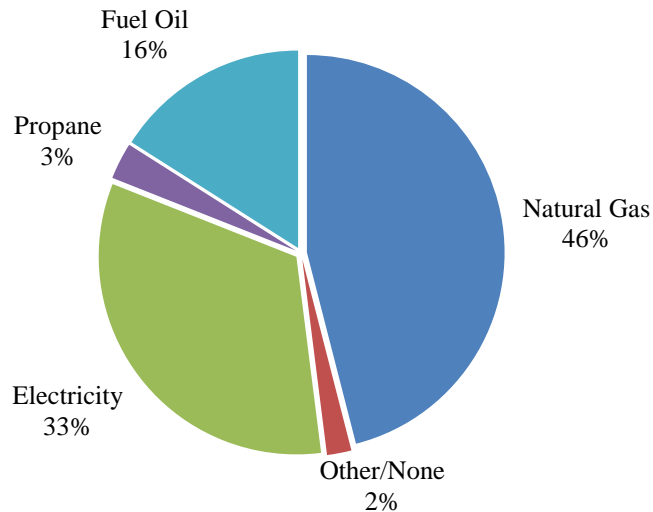
Exhibit 1
June 1, 2010 – May 31, 2011 Residential Bills

<u>Distribution Utility</u>	<u>Number of Customers</u>	<u>Average kWh Per Month</u>	<u>Estimated Annual Bill</u>
Allegheny	220,369	1,300	\$1,442
BGE	1,114,743	1,000	1,826
Delmarva	173,752	1,100	1,703
Pepco	487,076	950	1,765

Source: Public Service Commission

As shown in **Exhibit 2**, natural gas is the most common heating source in the State. In areas of the State where homes do not have natural gas pipelines nearby, other sources, such as electricity, heating oil, propane, and wood, are the primary fuel sources for heating.

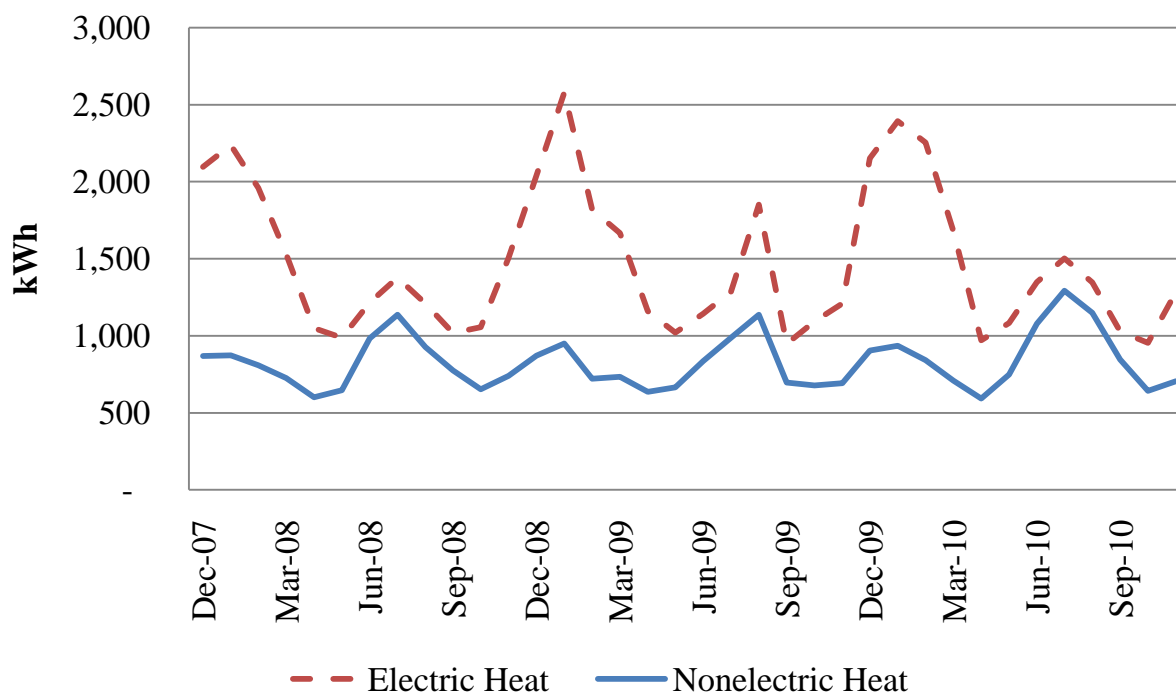
Exhibit 2
Sources of Heating for Maryland Homes



Source: 2000 U.S. Census

Depending on the source of fuel, annual electricity usage is considerably higher for certain households, specifically for electric heating. *For illustrative purposes, Exhibit 3* shows the average historical monthly electric load for a typical residential BGE customer. As shown in the exhibit, electric heat customers use considerably more electricity during winter months. Over the three-year period shown in the exhibit, average monthly consumption was 817 kWh for a nonelectric heat customer and 1,507 for an electric heat customer.

**Exhibit 3
Residential Electric Load Profile**



Note: This exhibit excludes time-of-use metered customers.
Source: BGE Historical Residential Load Data

Price of Electricity from Tier 1 Renewable Sources

All electricity suppliers in the State are required to purchase a portion of electricity from eligible Tier 1 and solar renewable sources by acquiring RECs equal to a portion of energy they supply. In addition to the percentage required by RPS, competitive suppliers in most major service territories offer customers the option of purchasing electricity produced from 100% wind, traditional sources, or a blend of the two. Depending on the supplier, purchasing 100% wind energy costs \$0.01-\$0.025 per kWh higher than traditional sources.

State Revenues: Based on data provided by Maryland utilities and the U.S. Energy Information Administration (EIA), special fund revenues to the Maryland Renewable Energy Benefits Fund increase by \$71.4 million in fiscal 2012, which reflects the bill’s October 1, 2011 effective date. Special fund revenues increase by \$101.5 million in fiscal 2013, the first full year of implementation. The information and assumptions used in calculating the estimate are stated below:

- for a residential customer that uses over 1,000 kWh in a single month, the surcharge applies only to the amount in excess of 1,000 kWh;
- annual electricity consumption is based on long-term energy estimates by EIA and assumes normal weather; and
- 3% of residential customers in the BGE and Pepco service territories choose to purchase energy from a Tier 1 renewable source and are not subject to the full surcharge.

State Expenditures: Special fund expenditures from the Maryland Renewable Energy Benefits Fund increases by \$71.4 million in fiscal 2012 to provide renewable clean energy grants to specified MEA existing programs and to provide an annual grant to MCEC. Future year expenditures equal revenues generated from the surcharge.

Special fund expenditures for MEA increase further for administrative costs, estimated at \$51,048 in fiscal 2012, which accounts for the bill’s October 1, 2011 effective date. This estimate reflects the cost of hiring one program analyst to administer additional residential clean energy grants. It includes a salary, fringe benefits, one-time start-up costs, and ongoing expenses.

Position	1
Salary and Fringe Benefits	\$46,042
Equipment	4,065
Operating Expenses	<u>941</u>
FY 2012 MEA Administrative Expenditures	\$51,048

Because the bill does not specifically authorize the new fund to cover administrative costs, for purposes of this fiscal and policy note, it is assumed that such costs would be borne by SEIF.

Small Business Effect: Revenues from the surcharge will be used by MEA and MCEC to support grants and loans for the installation of renewable and clean energy projects. These grants reduce costs incurred by the owner to complete projects and are likely to result in an increased number of solar, small wind, geothermal heat pump, and other clean energy installations in the State. As a result, small businesses involved with the manufacturing, distribution, and installation of solar, wind, and other renewable energy sources stand to benefit.

Additional Comments: The impact of the renewable energy surcharge will increase the cost of electricity for a significant number of residential customers in the State. Although
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the average monthly electric consumption statewide is 1,026 kWh, that average usage does not accurately represent the typical customer. *For illustrative purposes*, over the past three years, the typical household in the BGE service territory using electric heat used an average of 1,507 kWh each month. Over that period the typical nonelectric heat customer averaged only 817 kWh each month. **Exhibit 4** illustrates the impact of the surcharge on residential electric customers based on average monthly usage and heating source.

Exhibit 4
Annual Increase in Residential Electric Costs

<u>Average Monthly Use (kWh)</u>	<u>Electric Heat</u>	<u>Nonelectric Heat</u>
500	\$13	\$0
1,000	121	11
1,500	253	72
2,500	516	215

Source: Department of Legislative Services

Customers that purchase electricity from Tier 1 renewable sources receive a \$0.01 per kWh refund on electric usage subject to the surcharge. Since the price premium for electricity from Tier 1 sources is generally greater than \$0.01 per kWh, these customers will pay an additional cost for all electricity consumed in addition to a \$0.003 per kWh surcharge (net of the rebate for Tier 1 electricity) for each kWh in excess of 1,000 each month.

Additional Information

Prior Introductions: None.

Cross File: None.

Information Source(s): Comptroller’s Office, Maryland Energy Administration, Office of People’s Counsel, Public Service Commission, U.S. Census Bureau, U.S. Department of Energy – Energy Information Administration, Allegheny Power, BGE, Delmarva Power and Light, Pepco, Choptank Electric Cooperative, Department of Legislative Services

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