

**Department of Legislative Services**  
 Maryland General Assembly  
 2008 Session

**FISCAL AND POLICY NOTE**

House Bill 1389 (Delegate Mizeur)  
 Economic Matters

**Maryland Smart Grid Initiative**

This bill establishes a pilot program on smart grid deployment, administered by the Public Service Commission, for the purpose of assessing and demonstrating the benefits of smart grid technology. PSC must conduct proceedings defining the pilot program to include the number of participating retail customers, the types of technology to be installed, and the geographic area. PSC must undertake deployment of smart grid technology by June 1, 2009. An electric company participating in the pilot program may recover any related costs by imposing a surcharge on affected customers. PSC must report to specified legislative committees on the costs, benefits, and the status of the pilot program by December 31 of each year beginning in 2010. To offset PSC’s program costs, PSC may use funds from the sale of carbon allowances to electricity generators under the Regional Greenhouse Gas Initiative.

The bill takes effect June 1, 2008.

**Fiscal Summary**

**State Effect:** Special fund expenditures could increase by an estimated \$500,000 in FY 2009 to hire an expert consultant. Potential increase in federal fund revenues to offset participants’ costs.

(in dollars)	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
FF Revenue	-	-	-	-	-
SF Expenditure	500,000	0	0	0	0
Net Effect	(\$500,000)	\$0	\$0	\$0	\$0

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

**Local Effect:** None.

**Small Business Effect:** Overall minimal; however, potential minimal expenditure increase for pilot participants.

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## Analysis

**Bill Summary:** As soon as federal funding is made available, the Maryland Energy Administration, together with at least one electric company and one smart grid company to be chosen by MEA, must submit a joint application to the U.S. Department of Energy for the Smart Grid Funding Programs to potentially obtain federal funds.

**Current Law:** PSC may adopt regulations that prescribe standards for safe, adequate, reasonable, and proper service for any regulated electric company. Regulated electric companies must furnish equipment, services, and facilities that are safe, adequate, just, reasonable, economical, and efficient, while considering the conservation of natural resources and the quality of the environment.

The Healthy Air Act (Chapter 301 of 2006) required the Governor to include the State as a full participant in the Regional Greenhouse Gas Initiative (RGGI). In April 2007, Governor O'Malley signed RGGI, under which Maryland became the tenth state to join the Northeast and Mid-Atlantic regional climate change and energy efficiency program. Under RGGI, funds are dedicated exclusively to three functions: • promoting energy efficiency measures; • promoting renewable or noncarbon emitting energy technologies; and/or • directly mitigating the impact on ratepayers attributable to the carbon trading program.

**Background:** “Smart grid” technology is defined as a two-way communication system and associated equipment and software, including equipment installed on an electric customer’s premises, that uses the electric company’s distribution network to provide real-time monitoring, diagnostic, and control information and services that improve the efficiency and reliability of the distribution and use of electricity. “Smart grid” technology can ameliorate the need to dispatch generation facilities at peak electric usage periods and forestall power plant construction, which therefore reduces the current and future rates of greenhouse gas emissions that result when fossil fuels are employed to generate electricity.

There are several current and completed efforts to develop, implement, and organize “smart grid” technologies and architecture. These include the U.S. Department of Energy’s (DOE) National Energy Technology Laboratory’s Modern Grid Strategy; the GridWise™ Alliance and the DOE’s Office of Electric Transmission and Distribution; and the San Diego Smart Grid Study, funded by San Diego Gas & Electric (SDG&E) and

the Utility Consumer’s Action Network, which applied the smart grid concepts developed by DOE’s Modern Grid Initiative to a specific region.

The bill is unclear with respect to the requirements for residential and business customer participation. The scope and nature of the pilot program are to be determined by PSC after conducting appropriate proceedings. Retail customers that select or are selected to participate could be required to pay a surcharge. The Maryland Energy Administration advises that a properly designed program would contain one or more pilots, each with a minimum of 10,000 homes to undertake demonstrations into the benefits of a smart grid. The undertaking would entail a minimum period of time (*e.g.*, six months), likely a suburban location, and a blend of overhead and underground distribution facilities.

MEA, together with at least one electric company and one smart grid company to be chosen by MEA, must submit a joint application to the U.S. Department of Energy to defray program costs. Without federal subsidization, MEA advises residential costs for the smart grid pilot program could range from \$27.50 to \$37.50 on a monthly basis, depending on the actual household population within a pilot, as presented in **Exhibit 1**. On a per household basis, costs decrease as the geographic scope expands.

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**Exhibit 1**  
**Smart Grid Estimated Residential Costs**

<u>Number of Homes</u>	<u>Estimated Cost</u>	<u>Monthly Cost per Household</u>
10,000	\$4.5 million	\$37.50
25,000	9.5 million	31.67
50,000	16.5 million	27.50

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*PJM Interconnection*

PJM Interconnection is the regional wholesale operator that dispatches and coordinates the flow of bulk power across the District of Columbia and all or parts of 13 states, including all of Maryland. In September 2007, PJM detailed its vision of the “Smart Grid” of the future, including the deployment of “service oriented architecture” designed to enable a multitude of devices at all points of interconnection with the transmission grid (*e.g.*, power plants, end-use customer equipment) to communicate, provide two-way interaction, and synchronously respond to needs and prices signals.

PJM also established the Smart Grid Working Group comprised of wholesale market stakeholders to formulate a cohesive approach for the PJM transmission owners to use in the development of the “smart grid,” and to provide recommendations and guidance for the implementation of the smart grid within PJM. The working group’s tasks include the creation of • an initial inventory of smart technologies; • a review the technologies with a focus on the interoperability of these systems; • a list of implementation hurdles; and • an investigation into the costs and potential benefits of investing in new/additional smart technologies for use within the transmission grid.

**State Fiscal Effect:** Based on information provided by MDE when proposing its RGGI regulations, the sale of allowances under RGGI could result in a significant increase in special fund revenues for the State. Although revenues will vary depending on the percentage of allowances sold and the price per allowance, currently MDE estimates range from about \$80.0 million annually to about \$140.0 million annually. This estimated range assumes that MDE will auction 100% of the allowances that have been allocated to the State and reflects a range in the price of allowances of \$2 to \$3 per allowance. Currently, the first RGGI auction is scheduled to be held in June 2008.

Federal fund revenues could increase to offset participants’ costs if MEA is successful in obtaining federal funds. Special fund expenditures could increase by \$500,000 for PSC to contract with outside consultants to provide advice during proceedings in order to determine the scope and nature of the smart grid pilot program. MEA can apply and write the required grant proposals to the U.S. Department of Energy with existing resources. The Office of People’s Counsel could handle the requirements of the bill with existing resources.

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### **Additional Information**

**Prior Introductions:** None.

**Cross File:** None.

**Information Source(s):** Department of Natural Resources, Maryland Energy Administration, PJM Interconnection, Public Service Commission, Office of People’s Counsel, Department of Legislative Services

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mll/hlb

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