

**Department of Legislative Services**  
Maryland General Assembly  
2011 Session

**FISCAL AND POLICY NOTE**  
**Revised**

Senate Bill 179  
Finance

(The President, *et al.*) (By Request - Administration)

Economic Matters

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**Electric Companies - Pilot Program for Charging Electric Vehicles**

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This Administration bill requires the Public Service Commission (PSC) to establish by regulation or order, by June 30, 2013, a pilot program for electric customers to recharge electric vehicles during off-peak hours. PSC must make every effort to involve at least two electric companies in the pilot program, and an electric company may request to participate. The pilot program must include incentives for residential, commercial, and governmental customers to recharge electric vehicles. The incentives should increase the efficiency and reliability of the electric distribution system and lower electricity uses at times of high demand. The incentives may include time-of-day pricing; credits on distribution charges; rebates on the cost of charging systems; demand response programs; or other incentives approved by PSC. PSC must promptly consider and act upon each proposal for a pilot program and must report to the Governor and the General Assembly on the experience of the pilot program and its findings by February 1, 2015. PSC is authorized to receive, consider, and approve proposals for a pilot program prior to the date by which it is required to act (June 30, 2013).

The bill takes effect July 1, 2011.

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**Fiscal Summary**

**State Effect:** PSC can implement the pilot program with existing budgeted resources. Revenues are not affected.

**Local Effect:** None.

**Small Business Effect:** The Administration has determined that this bill has minimal or no impact on small business (attached). Legislative Services concurs with this assessment. (The attached assessment does not reflect amendments to the bill.)

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## Analysis

**Current Law:** PSC has authority to regulate public service companies in the State to promote adequate, economical, and efficient delivery of utility services without unjust discrimination. PSC relies on several of the divisions in the Office of the Executive Director (Integrated Resource Planning, Engineering, and Demand Side Management) to evaluate utility alternatives when it considers options for maintaining a reliable electric system. These alternatives include new generating capacity, power purchases, energy conservation and efficiency, cogeneration, and renewable energy resources. The commission evaluates these alternatives in an effort to ensure that adequate and reliable service is provided to electric customers at the lowest system cost.

Under State law, subject to review and approval by PSC, gas and electric companies are required to develop and implement programs and services to encourage and promote the efficient use and conservation of energy by consumers, gas companies, and electric companies.

### **Background:**

#### *Electric Vehicles and Charging Requirements*

Generally, there are two types of vehicles capable of drawing energy from an electrical outlet: (1) electric vehicles (EVs); and (2) plug-in hybrid electric vehicles (PHEVs). The difference between the two vehicles is that a PHEV is capable of operating using a gasoline or other fuel-powered internal combustion engine in combination with, or separate from, an electric motor. While EVs have been around for more than a century and are experiencing a resurgence in popularity and sales, PHEVs have only been produced in limited quantities for purchase by the public. Many major automobile manufacturers are planning to make EVs and PHEVs available for purchase in 2011 and 2012. One PHEV model, the Chevy Volt, and one EV model, the Nissan Leaf, are currently available for purchase in limited areas of the country. In addition, there are dozens of smaller manufacturers of EVs and PHEVs as well as companies that convert standard hybrid electric vehicles to PHEVs. The majority of hybrid vehicles currently on the market cannot be plugged-in.

According to the Administration, most electric vehicles will be charged using level 2 charging systems, which require 240 volts and can fully recharge a vehicle in about four hours. The long-term challenge for utility companies is to get consumers and businesses to recharge their vehicles during off-peak hours when the electric grid has excess capacity and energy is cheaper (typically from 10:00 p.m. to 6:00 a.m.).

Implementing a pilot program for charging EVs will allow the owners of such vehicles to ensure that the batteries for their vehicles are charged at a time where the price of electricity is lowest for the consumer and at a time that places the least strain on the electric grid. Fully implementing EVs or PHEVs into a demand response program may also allow these vehicles to act as distributed generation by using their batteries for electricity storage when they are not in use. Using EVs and PHEVs as distributed generation will also allow electric utilities to increase the amount of electricity available to the grid during times of peak demand.

### *Promotion of Electric Vehicles in Maryland*

Numerous efforts are currently underway to promote electric vehicles in Maryland, and, in addition to this bill, the Administration has introduced two other legislative proposals related to electric vehicles.

*Electric Vehicle Infrastructure Council:* The Administration is proposing legislation (SB 176/HB 167) to create an Electric Vehicle Infrastructure Council to help prepare the State for the rapid integration of electric vehicles into Maryland communities. As proposed, the council would develop strategies relating to the development of metering and charging infrastructure, home charging requirements, streamlining permits, updating building codes and parking rules, electricity demands and grid stability, incentives to increase consumer adoption of electric vehicles, and public education.

*Tax Credits for Electric Vehicle Charging Equipment:* Given the range limitations of first generation electric vehicles, one of the most likely markets for electric vehicles in the early years of adoption will be businesses with vehicle fleets that travel less than 100 miles per day and can be recharged at night. The Administration is proposing legislation (SB 177/HB 163) to establish a State income tax credit of 20% of the cost of electric vehicle recharging equipment that, along with the federal tax credit, will incentivize individuals and companies to invest in electric vehicle technology.

In order to incentivize the purchase of EVs in Maryland, Chapter 490 of 2010 established a three-year motor vehicle excise tax credit of up to \$2,000 for the purchase of plug-in electric vehicles. In addition, Chapters 491 and 492 of 2010 authorize EVs to ride in high-occupancy vehicle (HOV) lanes regardless of the number of occupants.

*Other Efforts:* The Maryland Energy Administration awarded \$1.0 million in federal stimulus funds in 2010 to build approximately 65 EV charging stations throughout the State.

At the federal level, Congress has authorized a federal income tax credit of up to \$7,500 for qualified electric vehicles purchased between 2009 and 2014. In addition, there is a

federal tax credit equal to 30% of the cost of an EV charging station that is currently set to expire at the end of 2011.

### *Demand Response in Maryland*

Demand response programs promote changes in electric usage by customers from their normal consumption patterns by allowing retail customers to respond to prices as they change over time or by providing monetary incentives to reduce consumption of electricity at times of high wholesale market prices or when system reliability is jeopardized.

When fully implemented, many components of a demand response program rely on smart grid technology. Smart grid technology refers to a sophisticated communications network among the entities that generate, deliver, and consume electricity. As such, smart grid technology allows the electricity grid to rely on real-time accurate information to act as a self-monitoring system – regulating power flows in the interest of increasing energy reliability and promoting efficiency. Smart grid technology can curtail the need to dispatch generation facilities at peak electric usage periods and reduce congestion costs, while also assisting to forestall power plant construction.

Currently, the smart-metering infrastructure needed for all electric companies in the State to offer time-of-use pricing for EV owners is not in place. BGE and Pepco have received PSC approval to begin widespread installation of smart meters, but the Delmarva Power plan has not yet been approved. Potomac Edison (formerly Allegheny Power) has not submitted a plan for widespread implementation of smart metering technology.

Implementation of the BGE plan is expected to be completed in 2014 or 2015 (Case Number 9208). Implementation of the Pepco plan will begin in the second half of 2011, and is expected to take 18 months (Case Number 9207).

**State Fiscal Effect:** PSC has been considering the impact of EVs on utility distribution systems and has also examined demand response programs of the five major utilities in Maryland. As a result, establishing a pilot program for EVs can be accomplished by PSC with existing budgeted resources.

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## **Additional Information**

**Prior Introductions:** None.

**Cross File:** HB 164 (The Speaker, *et al.*) (By Request - Administration) - Economic Matters.

**Information Source(s):** Governor's Office, Public Service Commission, Department of Legislative Services

**Fiscal Note History:** First Reader - February 7, 2011  
ncs/lgc Revised - Senate Third Reader - March 26, 2011  
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## ANALYSIS OF ECONOMIC IMPACT ON SMALL BUSINESSES

TITLE OF BILL: Electric Companies-Demand response Pilot Program for Charging Electric Vehicles

BILL NUMBER: SB 179/HB 164

PREPARED BY: Governor's Legislative Office

### PART A. ECONOMIC IMPACT RATING

This agency estimates that the proposed bill:

☒ WILL HAVE MINIMAL OR NO ECONOMIC IMPACT ON MARYLAND SMALL BUSINESS

OR

☐ WILL HAVE MEANINGFUL ECONOMIC IMPACT ON MARYLAND SMALL BUSINESSES

### PART B. ECONOMIC IMPACT ANALYSIS

The proposed legislation will have no impact on small business in Maryland.