

**Department of Legislative Services**  
Maryland General Assembly  
2006 Session

**FISCAL AND POLICY NOTE**

Senate Bill 1006

(Senator Ruben)

Education, Health, and Environmental Affairs

Environmental Matters

**Mercury Switch Removal from Vehicles**

This bill requires a vehicle manufacturer that sells motor vehicles in the State to develop a “mercury minimization plan” relating to mercury switch removal from vehicles. By December 31, 2006, the plan must be submitted to the Maryland Department of the Environment (MDE) for review and approval. The bill establishes requirements for the plan and provisions regarding plan approval and implementation. Among other things, manufacturers must pay at least \$4 per switch removed (\$1 to MDE and a minimum of \$3 to recyclers). MDE is authorized to adopt regulations regarding plan development and approval, and required to adopt regulations regarding plan implementation. Finally, the bill establishes enforcement provisions.

**Fiscal Summary**

**State Effect:** Special fund revenues would increase by \$1 for each switch removed; although a reliable estimate cannot be made, fee revenues would likely offset MDE’s costs. General fund revenues could increase due to the bill’s penalty provisions. Special fund expenditures could increase by \$47,200 in FY 2007 for MDE to administer the program. Future year expenditures reflect annualization and ongoing operating costs.

(in dollars)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
GF/SF Revenue	-	-	-	-	-
SF Expenditure	47,200	59,800	63,200	66,800	70,600
Net Effect	-	-	-	-	-

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

**Local Effect:** Local revenues could increase due to the bill’s penalty provisions for those cases heard in the circuit courts.

**Small Business Effect:** Meaningful.

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## Analysis

### Bill Summary:

#### *Plan Development and Approval*

The mercury minimization plan must contain:

- information identifying the make, model, and year of vehicles that may contain a mercury switch;
- educational material to assist a vehicle recycler or a scrap recycling facility to undertake a safe method for removal of mercury switches and assemblies;
- a proposal for the method of storage or disposal of mercury switches and assemblies, including the method of packaging and shipping;
- a proposal for the storage of mercury switches and mercury switch assemblies collected and recovered in the event that appropriate management technologies are not available;
- a plan for implementing and financing the system; and
- information that establishes the financing of the removal, collection, and recovery system for mercury switches.

Among other items that must be included in the information that establishes the financing, a vehicle manufacturer must pay for the costs associated with the removal, collection, and recovery of mercury switches and must establish a method to ensure the prompt payment to a vehicle recycler, a scrap recycling facility, and MDE. Costs paid by a manufacturer must include the following:

- a minimum of \$3 for each mercury switch or assembly removed by a vehicle recycler or scrap recycling facility, as partial compensation for the labor and other costs incurred; and
- \$1 for each mercury switch or assembly removed by a vehicle recycler or scrap recycling facility, as partial compensation for MDE for costs incurred in administering and enforcing the bill.

Within 60 days after receiving a mercury minimization plan, MDE must approve, disapprove, or conditionally approve the entire plan. If approved, the vehicle manufacturer must begin implementation within 120 days, or as otherwise determined by

MDE. If the plan is disapproved, MDE must inform the manufacturer of the reasons for the disapproval, and the manufacturer has 30 days to submit a new plan.

MDE may approve parts of plans. The bill establishes provisions regarding the submission of revised plans for the disapproved parts. MDE must review and approve, conditionally approve, or disapprove a revised plan within 30 days.

After 120 days, if MDE has neither approved nor disapproved a plan, it would be considered conditionally approved. MDE may complete any portion of a plan that has not been approved by May 31, 2007. In addition, MDE may review an approved plan and recommend modifications at any time.

### *Plan Implementation*

Unless a mercury switch or assembly is inaccessible due to damage, within 120 days after plan approval, a vehicle recycler that sells, gives, or otherwise conveys ownership of an end-of-life vehicle to a scrap recycling facility for recycling must remove all mercury switches or assemblies identified in the plan from the vehicle before delivery to the scrap recycling facility. The capture rate goal must be at least 90%.

A scrap recycling facility may agree to accept an end-of-life vehicle that contains mercury switches under specified conditions. Such a facility must be responsible for removing the mercury switches or assemblies before the end-of-life vehicle is intentionally flattened, crushed, baled, or shredded.

On removal, mercury switches and assemblies must be collected, stored, transported, and otherwise handled as required by the approved plan and in accordance with specified provisions and regulations.

The bill establishes record-keeping requirements for vehicle recyclers and scrap recycling facilities that remove mercury switches or assemblies. The bill establishes annual reporting requirements for vehicle manufacturers regarding plan implementation. MDE may discontinue that reporting requirement if it determines that mercury switches in end-of-life vehicles no longer pose a significant threat to the environment or to public health.

### *Enforcement*

If a person violates any provision or regulation adopted in accordance with the bill's provisions relating to plan implementation, MDE may issue an order, impose an administrative penalty (of up to \$7,500 for a first offense, \$10,000 for a second offense, and \$25,000 for a third or subsequent offense), bring an action for injunction, and petition the Attorney General to bring a criminal action. The bill establishes notice requirements

for MDE regarding such violations and establishes provisions regarding the request for a hearing. Any penalty imposed may be collected, with costs, in a summary proceeding in accordance with the procedures of the court. In any action for an injunction, the court may grant temporary or interlocutory relief.

A person who willfully or negligently violates the provisions regarding plan implementation is guilty of a misdemeanor and on conviction of a first offense, is subject to a fine of at least \$2,500 but not more than \$25,000. For a second offense, the violator would be subject to a fine of at least \$5,000 but not more than \$50,000.

A person that knowingly makes a false statement, representation, or certification in any document filed or required to be maintained under the bill or that falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained is guilty of a misdemeanor and on conviction is subject to a fine of up to \$10,000.

**Current Law:** MDE's mercury program relates primarily to mercury-added products (dyes or pigments, electric switches, fluorescent lamps, and thermostats), mercury fever thermometers, mercuric-oxide batteries, the use of mercury in schools, and public outreach and education. Chapter 494 of 2004 establishes prohibitions and requirements relating to the sale and reclamation or destination of mercury-added products. In general, beginning April 1, 2006, unless a mercury-added product is labeled, a manufacturer or wholesaler may not sell the product at retail in the State or to a retailer in the State. Unless properly labeled, a retailer may not knowingly sell a new mercury-added product in the State.

**Background:** Mercury is a naturally occurring element that is found in air, water, and soil. In small quantities, it can conduct electricity, measure temperature and pressure, and act as a catalyst in industrial processes. However, it does not degrade and is not destroyed by combustion; rather, it is a persistent and toxic pollutant that bioaccumulates in the environment. Accordingly, mercury can reach dangerous levels in fish, even when released in small quantities. Consumption of mercury-contaminated fish poses a significant health threat.

Federal and state agencies across the nation are exploring efforts to curtail the use of mercury in order to focus on prevention opportunities. Efforts are also being made to encourage recycling of mercury-containing products.

According to the Clean Car Campaign, mercury-containing switches account for more than 99% of the mercury used in automobiles, with each switch containing nearly one gram of mercury. Estimates of the average number of mercury switches used in vehicles on the road today vary. A 2001 report entitled *Toxics in Vehicles: Mercury* notes that the

average number of mercury switches in the 1996 U.S.-built fleet was 1.06 per vehicle. A 2002 report entitled *Michigan Mercury Switch Study* cites an average of 0.54 switches per vehicle for vehicles produced between 1971 and 2003. A 2004 report by the Clean Car Campaign estimated the number of switches in vehicles retired in Maryland in 2003 at 146,931.

Each year, some 12 million vehicles are retired from useful life in North America. According to a 2004 analysis by the Clean Car Campaign, in the U.S. alone, automobiles will be responsible for the environmental release of up to 493,000 pounds of mercury from the estimated 217 million switches installed in vehicles from 1974 through 2003. These releases will slowly decrease due to the phase-out of mercury switches in recent years. U.S. automakers indicate that all mercury switches were eliminated from new vehicles by the end of the 2002 model year.

According to the Clean Car Campaign, international automakers stopped using mercury switches by 1993, following a ban on such uses in Europe. The European Union adopted a directive in 2000 which, among other things, establishes producer responsibility for the management of end-of-life vehicles and sets increased recycling requirements.

In 2002, the Partnership for Mercury-Free Vehicles issued model state legislation addressing mercury switch removal from vehicles. Several states have enacted legislation addressing this issue (including New Jersey, North Carolina, and Virginia), and several others have proposed legislation. This bill was modeled after legislation enacted in Maine and New Jersey.

**State Revenues:** State revenues would increase by \$1 for each mercury switch or assembly removed by a vehicle recycler or by a scrap recycling facility. A precise estimate of the total annual increase in revenues cannot be determined at this time because the number of switches that would be removed under the bill each year cannot be reliably estimated. However, in 2004, the Clean Car Campaign estimated that the number of mercury switches in vehicles retired in Maryland in 2003 totaled 146,931. In addition, the Maryland Department of Transportation advises that an estimated 100,000 vehicles were disposed of in Maryland in fiscal 2005. Accordingly, it is possible that fee revenues could total over \$100,000 in fiscal 2007. Actual revenues would vary depending on the actual number of vehicles retired and the actual number of switches removed from each vehicle. Over time, the number of switches per vehicle would likely decrease due to efforts by manufacturers to phase out the use of mercury switches.

Legislative Services notes that the bill does not indicate where the fees collected by MDE would be deposited. However, because the stated intent of the fee is to partially compensate MDE for costs incurred in administering and enforcing the bill, it is assumed that they would be treated as special fund revenues.

General fund revenues could increase due to the bill's penalty provisions for those cases heard in the District Court. Any such increase cannot be reliably estimated at this time.

**State Expenditures:** Special fund expenditures within MDE could increase by an estimated \$47,155 in fiscal 2007, which accounts for the bill's October 1, 2006 effective date. This estimate reflects the cost of hiring one natural resources planner to review and approve mercury minimization plans, complete any plans not developed by manufacturers, draft regulations, review reports, and develop outreach materials. It includes a salary, fringe benefits, one-time start-up costs, and ongoing operating expenses. The estimate assumes that existing staff will manage the fees collected from manufacturers and conduct enforcement activities.

Positions	1
Salary and Fringe Benefits	\$40,533
Equipment/Operating Expenses	<u>6,622</u>
<b>Total FY 2007 State Expenditures</b>	<b>\$47,155</b>

Future year expenditures reflect: (1) a full salary with 4.6% annual increases and 3% employee turnover; and (2) 1% annual increases in ongoing operating expenses.

Based on the rough estimate of fee revenue described above, it is reasonable to assume that fee collections would likely offset MDE's administrative costs over the next several years. Legislative Services notes, however, that, because manufacturers have phased out the use of mercury switches in new cars, at some point, the program established by the bill would presumably be phased out.

**Small Business Effect:** Vehicle manufacturers are generally not considered small businesses. However, vehicle and scrap recyclers may be small businesses. These entities would incur costs to remove mercury switches and assemblies from end-of-life vehicles; store, transport, and handle switches once removed; and maintain associated records. In 2004, the New Jersey Department of Environmental Protection estimated the cost of mercury switch removal, handling, transportation, and proper disposal to be \$3 per switch. Accordingly, it is likely that the costs incurred by recyclers would be offset by the fees paid to them by vehicle manufacturers (at least \$3 per switch or assembly).

The extent to which vehicle and scrap recyclers currently remove mercury switches and assemblies in Maryland is unknown. According to the Clean Car Campaign, prior to the mid-1990s, auto salvage yards and shredding facilities made little effort to recover mercury switches from end-of-life vehicles. Since then, some attention has focused on

removing mercury light switches from these vehicles. MDE advises that it has just recently started a voluntary switch-removal program with a few salvage yards.

The extent to which a vehicle manufacturer would pass its compliance costs on to consumers in the form of higher prices is unknown.

**Additional Comments:** In March 2006, the Clean Car Campaign announced that representatives from the automobile and auto recycling industries, environmental community, states, and the U.S. Environmental Protection Agency reached a tentative agreement on elements of a national program for recovering mercury switches from scrapped automobiles.

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### **Additional Information**

**Prior Introductions:** None.

**Cross File:** HB 1597 (Delegates Franchot and Hixson) – Environmental Matters.

**Information Source(s):** Maryland Department of the Environment, Maryland Department of Transportation, Office of the Attorney General, Clean Car Campaign, *Michigan Mercury Switch Study*, *Toxics in Vehicles: Mercury* (Ecology Center, Great Lakes United, University of Tennessee Center for Clean Products and Clean Technologies), National Automobile Dealers Association, New Jersey Department of Environmental Protection, Department of Legislative Services

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