HB 338

Department of Legislative Services
Maryland General Assembly
2008 Session

FISCAL AND POLICY NOTE

House Bill 338 (Delegate Cardin, *et al.*)
Ways and Means

Energy Efficiency Tax Credit and Surcharge Act

This bill requires the Maryland Department of the Environment (MDE), by July 1, 2010, to develop • energy-efficient replacement tire testing procedures; • a related database; and • a rating system to inform consumers of energy efficiency standards when purchasing tires. MDE must adopt regulations requiring a tire manufacturer that sells tires in Maryland to report on the number of energy-efficient tires sold annually. By July 1, 2011, MDE must adopt regulations to implement a program for energy-efficient replacement tires; the bill establishes requirements for the program.

The bill also creates a sales tax credit and premium fee structure for vehicles, energy systems, and tires based upon energy efficiency standards. The excise tax credit on qualifying motor vehicles expires June 30, 2012.

The bill takes effect July 1, 2008.

Fiscal Summary

State Effect: General fund revenues could increase by $649,300 in FY 2009 due to the energy efficiency surcharge/tax credit structure. Transportation Trust Fund revenues could decrease by $144,800 in FY 2009 and by $485,800 in FY 2012 until the excise tax credit expires for FY 2013. General fund expenditures could increase by $1.1 million in FY 2009 for MDE to implement the bill, which includes a one-time $900,000 cost for an MDE contractor for program implementation. Transportation Trust Fund expenditures could increase by $450,000 in FY 2009. Future year expenditures are annualized, adjusted for inflation, and reflect ongoing costs.

(in dollars)	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
GF Revenue	$649,300	$681,700	$715,800	$751,600	$789,200
SF Revenue	(144,800)	(266,000)	(378,800)	(485,800)	866,700
GF Expenditure	1,090,500	242,400	354,600	267,300	380,800
SF Expenditure	450,000	0	0	0	0
Net Effect	($1,036,000)	$173,300	($17,600)	($1,500)	$1,275,100

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

Local Effect: Local highway user revenues would decrease by $47,500 in FY 2009 and by $134,500 in FY 2012. Local revenues would increase by $203,000 beginning in FY 2013 due to the termination of the motor vehicle excise tax credit on June 30, 2012. Potential increase in local expenditures to purchase energy-efficient replacement tires; however, any increase in costs would likely be offset by fuel savings.

Small Business Effect: Potential meaningful. Small businesses that purchase vehicles, energy systems, and tires based upon energy efficiency standards will receive price reductions for their purchases; while small businesses that do not will realize price increases. However, any increases in up-front costs would likely be offset by long-term energy savings.

Analysis

Bill Summary: This bill requires MDE to establish a program for energy-efficient replacement (EER) tires. The bill also creates a sales tax credit and premium fee structure for energy-efficient and nonenergy-efficient vehicles, energy systems, and tires.

MDE Energy-efficient Replacement (EER) Tire Program

Before adopting regulations establishing a program, MDE must conduct a series of public workshops. The regulations for the program must take effect January 1, 2012, and must be designed to ensure that replacement tires sold in the State are at least as energy efficient, on average, as the original tires provided by the automobile manufacturer. The program must include the development of minimum energy efficiency standards for replacement tires that meet specified conditions as well as the development of consumer information requirements. Standards must be based on results from laboratory testing, but MDE is authorized to use on-road fleet testing conducted by manufacturers as determined necessary. Testing must be complete by January 1, 2009.

The bill provides for an exemption to the use of energy-efficient replacement tires for emergency vehicles under specified conditions.

MDE has to review and revise the program as determined necessary but must do so at least every three years. However, MDE is prohibited from revising the program or standards in a way that reduces the average energy efficiency of replacement tires.

Sales Tax

The bill also provides for (1) a maximum $100 tax credit against the sales and use tax imposed on the sale of a specified energy-efficient residential heating or cooling system or solar energy property; (2) a $100 surcharge on the sale of any residential heating or cooling system other than an energy-efficient heating or cooling system or solar energy property; (3) a maximum $10 tax credit against the sales and use tax imposed on the sale of a specified energy-efficient tire, beginning January 1, 2012; and (4) a $10 surcharge on the sale of any tire other than an energy-efficient tire, beginning January 1, 2012.

Motor Vehicle Excise Tax

The bill provides a $250 tax credit against the motor vehicle excise tax for each new automobile that has a fuel economy rating of • greater than 45 miles per gallon for an automobile with a weight of 3,700 pounds or less; and • greater than 30 miles per gallon for an automobile with a weight of more than 3,700 pounds. The tax credit does not apply to an automobile titled on or after July 1, 2012.

The bill imposes a fuel efficiency surcharge of $250 for each new automobile that is subject to the excise tax if the fuel economy rating of the automobile is less than or equal to 15 miles per gallon.

The bill defines qualified hybrid vehicles as vehicles that meet applicable regulatory requirements, meet the current vehicle exhaust standards set under the federal Tier 2 program for gasoline-powered passenger cars, and use gasoline or diesel fuel and a rechargeable energy storage system.

Current Law:

Tires

The Air and Radiation Management Administration within MDE operates the State's air pollution control programs under the framework established by the federal Clean Air Act. MDE does not currently administer any programs that relate to the energy efficiency of replacement tires.

The recently enacted federal Energy Security and Independence Act, signed by President Bush on December 19, 2007, contains provisions regarding the establishment of a "national tire fuel efficiency consumer information program." This national program is to be developed two years from the date of enactment. Specific provisions with the federal legislation include a requirement that a tire rating system be created, the program be designed to inform and educate consumers, and testing methods be established for energy-efficient tires. The Act also contains a section discussing the ability of states to implement their own regulations and programs.

Home Heating and Cooling Systems

The Maryland Energy Efficiency Standards Act, Chapters 2 and 5 of 2004, became effective March 1, 2005. Nine separate products became subject to State-mandated efficiency standards. Regulations were promulgated June 19, 2006. Chapter 568 of 2007 added several additional products, including residential furnaces (except natural gas or propane furnaces installed as a replacement of a previous furnace). Standards have been implemented; however, MEA has determined that the standards for a number of products have been preempted by the federal Energy Policy Act of 2005 and others will be in the future. The State is currently requesting a waiver for the State gas furnace efficiency standard; currently preempted by federal regulations.

Motor Vehicles

A motor vehicle excise tax is imposed for each original and subsequent certificate of title issued in Maryland for a motor vehicle, trailer, or semi-trailer. The vehicle excise tax is applied to the purchase price or fair market value of all new and used motor vehicles at the time of sale. Chapter 6 of the 2007 special session increased the vehicle excise tax rate from 5% to 6%, and the Motor Vehicle Administration is responsible for its administration and collection.

The State enacted a tax credit against the motor vehicle excise tax for owners of hybrid vehicles, which are more fuel efficient than conventional cars, under the Maryland Clean Energy Incentive Act of 2000. The credit ranged from $125 to $1,000 depending on the type of hybrid purchased. That credit has since expired.

The Maryland Clean Cars Act of 2007 (Chapter 112) requires MDE, in conjunction with MVA, to establish by regulation a Low Emissions Vehicle (LEV) program applicable to vehicles of the 2011 model year and each model year thereafter. Through model year 2010, new vehicles in Maryland will have to comply with the federal Tier 2 emissions standards; however, beginning in model year 2011 and continuing thereafter, new

vehicles in Maryland will have to comply with the standards established in the Environment Article, Low Emissions Vehicle program.

Background:

Replacement Tires

According to Environment Maryland, energy efficiency standards for replacement tires can improve the fuel economy of the existing vehicle fleet at a net savings to consumers. Automobile manufacturers generally include gasoline-saving low-rolling resistance tires on new vehicles in order to meet federal fuel economy standards. However, energy-saving tires may not be selected or available to consumers when they replace their original tires. As a result, vehicles with replacement tires do not achieve the same fuel economy as vehicles with original tires. According to MDE, most replacement tires are typically about 20% less fuel efficient than the original tires. Because each 10% reduction in tire rolling resistance leads to roughly a 2% increase in fuel economy, if aftermarket tires were as efficient as the average tires on new vehicles, vehicle fuel economy could improve by approximately 4%.

California enacted legislation in 2003 to require that replacement tires sold to consumers beginning in July 2008 have the same average energy efficiency as the original tires provided by automakers. Segments of this bill are modeled after the California legislation. MDE reports that a study completed by the California Energy Commission (CEC) found that a set of four low-rolling resistance tires would cost consumers an estimated $5 to $12 more than a set of conventional replacement tires, but that the efficient tires would reduce gasoline consumption by 1.5% to 4.5%, saving the typical driver $50 to $150 over the 50,000 mile life of the tires. MDE reports that CEC has ongoing technical issues related to the testing of tires, standards development, and labeling – all of which are considerably more complex and costly than originally envisioned. Under the 2003 legislation, California is currently in the process of developing a database of approximately 120 tires, which is expected to be available in 2008. However, MDE reports that there are approximately 625 different tires available on the consumer marketplace.

Low-emission and Hybrid Vehicles

According to fueleconomy.gov, there is one vehicle (Toyota Prius) that meets the greater than 45 mpg/less than 3,700 pound criteria and three vehicles (Mazda Tribute Hybrid, Ford Escape Hybrid, and Mercury Mariner Hybrid) that meet the greater than 30 mpg/greater than 3,700 pound criteria. All of these vehicles are considered to be "hybrid-electric vehicles."

Heating and Cooling

Heating and cooling account for 50% to 70% of the energy used in the average American home. Generally, newer heating systems are more efficient. The most common type of heat pump for domestic use, referred to as a "conventional" heat pump, is the air-to-air system in which heat is taken from air (heat source) at one location and transferred to air (heat sink) at another location. In the winter, a heat pump takes heat from outside air and transports the heat inside a home. In the summer, the heat pump reverses the process, removing heat from the home and transporting it to the outside air, cooling the house in the process. Conventional heat pumps lose efficiency in providing heat when outside temperatures drop below 20 to 30°F and switch to a higher cost electric resistance back-up heating system.

DLS estimates that nearly 13,000 Maryland homes install the Energy Star systems annually. This estimate is based on residential heating and cooling systems being replaced on a 20- to 25-year basis and an estimate provided by MEA indicating that 12% of the State's homeowners purchase and install energy efficiency Energy Star heating and cooling systems.

Solar Energy

MEA administers the Solar Energy Grant program created by Chapter 128 of 2004, which converted an existing tax credit program into a grant program. The program provides grants to individuals, local governments, and businesses for a portion of the costs of purchasing and installing photovoltaic property and solar water heating property. The State budget includes $675,000 for the program in fiscal 2008 and $590,500 in fiscal 2009.

State Revenues: General fund revenues could increase by $649,260 in fiscal 2009 and $789,179 in fiscal 2013, as shown in **Exhibit 1**. Transportation Trust Fund revenues could decrease by $144,764 in fiscal 2009 and $485,794 in fiscal 2012. TTF revenues could increase by $866,687 in fiscal 2013 with the termination of the excise tax credit on June 30, 2012.

Exhibit 1
Net Revenue Effect

	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Excise Tax Credit					
TTF	($939,900)	($1,078,350)	($1,208,850)	($1,333,950)	$0
Fuel Efficiency Surcharge					
TTF	$750,000	$765,000	$780,300	$795,906	$811,824
Energy Efficiency Net Surcharge/Tax Credit					
GF	$649,260	$681,723	$715,809	$751,599	$789,179
TTF	$45,136	$47,392	$49,762	$52,250	$54,863
Total					
GF	**$649,260**	**$681,723**	**$715,809**	**$751,599**	**$789,179**
TTF	**($144,764)**	**($265,958)**	**($378,788)**	**($485,794)**	**$866,687**

Additional details regarding information and assumptions used in Exhibit 1 for general fund and TTF revenues are provided in the subsections below.

Excise Tax Credit

TTF revenues could decrease by an estimated $939,900 in fiscal 2009 and $1.3 million in fiscal 2012 due to the excise tax credit of $250 per fuel efficient vehicle, as shown in **Exhibit 2**. This estimate, which reflects the bill's July 1, 2008 effective date, is based on the following information and assumptions:

- MVA's Operations Research Division's projected future hybrid sales;
- 75% of the new hybrid market will meet the criteria for the excise tax credit; and
- 80% allocation to the TTF and 20% allocation to local jurisdictions.

The excise tax credit terminates June 30, 2012, which results in no impact for fiscal 2013.

Exhibit 2
Motor Vehicle Excise Tax Credit

New Hybrid Sales Projection	Projected Sales	Qualifying Hybrids	Excise Tax Credit	Total Excise Tax Credit
FY 2009	6,266	75%	$250	$1,174,875
FY 2010	7,189	75%	$250	$1,347,938
FY 2011	8,059	75%	$250	$1,511,063
FY 2012	8,893	75%	$250	$1,667,438
FY 2013	-	-	-	-

	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
State Share (80%)	($939,900)	($1,078,350)	($1,208,850)	($1,333,950)	$0
Local Share (20%)	($234,975)	($269,588)	($302,213)	($333,488)	$0

Fuel Efficiency Surcharge

TTF revenues could increase by $750,000 in fiscal 2009 and $811,824 in fiscal 2013 as a result of the fuel efficiency surcharge, as shown in **Exhibit 3**. This estimate, which reflects the July 1, 2008 effective date, is based on the following information and assumptions:

- 375,000 new car sales in Maryland;
- 1% of new cars sold would qualify for the surcharge;
- 80% allocation to the TTF and 20% allocation to local jurisdictions; and
- MVA projected new car sales.

To the extent that the number of new car sales and the number of cars qualifying varies from what was used in the estimate, the associated revenues would vary accordingly. Future year revenue increases are annualized and reflect additional market penetration by fuel efficient vehicles.

Exhibit 3
Fuel Efficiency Surcharge

New Car Sales (2007)	375,000
New Car Sales Qualifying for the Credit	1%
Fuel Efficient Cars	$3,750
Excise Tax Credit	$250
Annual Revenues	**$937,500**
State Share (80%)	$750,000
Local Share (20%)	$187,500

	FY 2009	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**
State Share (80%)	$750,000	$765,000	$780,300	$795,906	$811,824
Local Share (20%)	$187,500	$191,250	$195,075	$198,977	$202,956

Sales Tax Credit and Surcharge for Energy-efficient Equipment

Total sales tax revenues would increase by $694,400 in fiscal 2009 resulting from the sales and use tax credit and surcharge imposed by the bill, as shown in **Exhibit 4**. In addition to increasing the sales and use tax rate from 5% to 6%, Chapter 6 of the 2007 special session also altered the distribution of sales and use tax revenues by requiring that 6.5% of revenues, after specified distributions, be diverted to the TTF beginning July 1, 2008. As a result, the credit and surcharge proposed by the bill would result in a net increase in general fund revenues of $649,300 in fiscal 2009 while increasing TTF revenues by $45,100 in fiscal 2009. The estimate is based on the following facts and assumptions:

- average price and market penetration data provide by the Maryland Energy Administration and the Energy Star web site;
- Energy Star products represent approximately 43% of sales of similarly featured conventional products;
- non-Energy Star products cost 75% of comparably featured Energy Star products when actual price data was not available; and
- sales tax revenues are projected to increase by approximately 5% annually, per the current revenue forecast.

To the extent that the cost and proportion of Energy Star equipment varies from what was used in the estimate, the associated revenues would vary accordingly. In addition, if taxable sales, as part of the same transaction as tax-free sales, would be made in Maryland that would otherwise have been made out-of-state, through the Internet, or by mail order, total sales tax revenues would increase, mitigating the revenue loss described above. Also, businesses would become more profitable and income tax revenues could increase. The amount of either such increase cannot be reliably estimated at this time.

Exhibit 4
Energy-efficient Equipment – Sales Tax Credit and Surcharge

	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Sales Tax Credit					
General Fund	($1,994,155)	($2,093,863)	($2,198,556)	($2,308,484)	($2,423,908)
TTF	(138,631)	(145,563)	(152,841)	(160,483)	(168,507)
Total	**($2,132,786)**	**($2,239,426)**	**($2,351,397)**	**($2,468,967)**	**($2,592,415)**
Sales Tax Surcharge					
General Fund	$2,643,415	$2,775,586	$2,914,365	$3,060,083	$3,213,087
TTF	183,767	192,955	202,603	212,733	223,370
Total	**$2,827,182**	**$2,968,541**	**$3,116,968**	**$3,272,816**	**$3,436,457**
Net Effect					
General Fund	$649,260	681,723	715,809	751,599	789,179
TTF	45,136	47,392	49,762	52,250	54,863
Total	**$694,396**	**$729,115**	**$765,571**	**$803,850**	**$844,042**

State Expenditures:

Maryland Department of Environment

General fund expenditures could increase by as much as $1,090,500 in fiscal 2009, which accounts for the bill's July 1, 2008 effective date. Future year expenditures would increase by $242,400 in fiscal 2010 and by $380,800 in fiscal 2013. This estimate reflects one-time contractual services to support the establishment of a program for energy efficient tire replacement. This estimate also reflects the cost of hiring four public health engineers to implement and supervise the program; oversee testing; develop the database and regulations; conduct reviews and evaluations; and develop, implement, and

oversee consumer information requirements. It includes salaries, fringe benefits, one-time start-up costs, and ongoing operating expenses, including significant costs to hire an expert contractor to develop and conduct the test procedures and analyze the data.

Positions	4
Salaries and Fringe Benefits	$174,721
Contractual Services	900,000
Other Operating Expenses and Equipment	15,812
FY 2009 State Expenditures	**$1,090,533**

Legislative Services advises that the cost of contractual services, which constitutes the significant portion of the bill's costs in fiscal 2009, could be less to the extent MDE is able to benefit from the results of studies currently underway in California or will benefit from the implementation of federal tire regulations in late 2009. At this time, it is unclear if California's studies will be far enough along for MDE to benefit from them in time to meet the deadlines established in this bill.

Future year expenditures reflect • full salaries with 4.4% annual increases and 3% employee turnover; • 2% annual increases in ongoing operating expenses; • the cost to hire an environmental enforcement inspector in the middle of fiscal 2010 to conduct compliance inspections; and • contractual services of $100,000 in fiscal 2011 and 2013 to print and distribute consumer and dealer information and conduct outreach and education.

Maryland Department of Transportation

DLS estimates an increase in Transportation Trust Fund expenditures of $450,000 related to MDOT computer programming changes in fiscal 2009. The expenditures provide for modification of current programs and the development of a new automated lookup fuel economy database process guide from the Environmental Protection Agency.

Local Fiscal Impact: Local highway user revenues could decrease by $47,500 in fiscal 2009 and by $134,500 in fiscal 2012, as shown in **Exhibit 5**. Local revenues could increase by $203,000 in fiscal 2013 with the termination of the excise tax credit on June 30, 2012.

Exhibit 5
Net Revenue Effect – Local Governments

	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Excise Tax Credit					
Local Revenues	($234,975)	($269,588)	($302,213)	($333,488)	$0
Fuel Efficiency Surcharge					
Local Revenues	$187,500	$191,250	$195,075	$198,977	$202,956
Total Effect	**($47,475)**	**($78,338)**	**($107,138)**	**($134,511)**	**$202,956**

Small Business Effect: Small businesses that purchase vehicles that would be eligible for the motor vehicle excise tax credit would benefit. Small businesses purchasing vehicles on which the "fuel efficiency" surcharge would incur additional costs associated with purchasing the vehicle. However, any increase in costs would likely be offset by energy savings.

It is assumed that tire manufacturers are not small businesses. The bill's impact on tire dealers is unclear; however, assuming that dealers are able to sell off existing stocks prior to the effective date of the standards and that energy-efficient replacement tires are available in sufficient quantity so as not to impact the number of tires sold by dealers in the State, the impact on tire dealers may not be significant. Any increase in the cost of replacement tires would be passed on to consumers in the form of higher prices. Although small businesses could incur an increase in expenditures to purchase energy-efficient replacement tires; any increase in costs would likely be offset by fuel savings.

Additional Comments: Language in the bill refers to the federal Tier 2 emissions standards; however, Maryland adapted the California vehicle emission standards with the Maryland Clean Cars Act of 2007. In 2011, new vehicles will have to comply with new standards.

The federal Energy Security and Independence Act of 2007 will develop a "national tire fuel efficiency consumer information program" that includes provisions to establish a program with similar components found in the bill. This national program is to be developed two years from the date of enactment, which will be December 2009.

DLS advises that the aggressive implementation dates and timeframes required may be difficult to achieve.

Additional Information

Prior Introductions: None.

Cross File: None.

Information Source(s): CleanMPG.com, Fueleconomy.gov, Maryland Department of the Environment, Maryland Department of Transportation, Maryland Energy Administration, Environment Maryland, Department of Legislative Services

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Analysis by: Michael P. Lee

Direct Inquiries to:
(410) 946-5510
(301) 970-5510