

Department of Legislative Services
 Maryland General Assembly
 2005 Session

FISCAL AND POLICY NOTE

House Bill 496 (Delegate Haddaway, *et al.*)
 Environmental Matters

Environment - Gasoline Containing Methyl Tertiary Butyl Ether - Prohibition

This bill prohibits, beginning January 1, 2010, a person from selling or supplying gasoline that contains more than 0.5% of methyl tertiary butyl ether (MTBE) by volume. The bill authorizes the Maryland Department of the Environment (MDE) to adopt regulations to implement the prohibition. By modifying the definition of “oil” to include ethanol and other oxygenates, the bill also provides for the regulation of those substances by MDE.

Fiscal Summary

State Effect: Beginning in FY 2010, potential significant decrease in general/special fund revenues from the motor fuel tax and special fund revenues from oil transfer fees. Special fund expenditure increase of \$19,600 in FY 2006 for outreach; future year estimates are annualized, adjusted for inflation, and reflect ongoing costs and, in FY 2010, laboratory costs related to sampling. Potential minimal general fund expenditure increase in FY 2009 to upgrade fueling equipment.

(in dollars)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
SF Revenue	\$0	\$0	\$0	\$0	(-)
GF/SF Rev.	0	0	0	0	(-)
GF Expenditure	0	0	0	-	0
SF Expenditure	19,600	12,100	12,200	12,300	157,400
Net Effect	(\$19,600)	(\$12,100)	(\$12,200)	(\$12,300)	(\$157,400)

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

Local Effect: As owners/operators of public water supply systems, local jurisdictions could benefit from a reduction in MTBE contamination. Local jurisdictions could incur increased costs to upgrade fleet fueling equipment.

Small Business Effect: Potential meaningful.

Analysis

Current Law: Federal law requires the use of reformulated gasoline in areas with unhealthy levels of air pollution; reformulated gasoline is required to contain a minimum of 2% oxygen (by weight). Federal law does not specifically require the use of MTBE. Refiners may choose to use other oxygenates, such as ethanol. Currently, there are no laws or regulations limiting the use of MTBE in gasoline sold in Maryland.

MDE's Oil Control Program regulates all oil-related activities, such as aboveground and underground oil storage facilities, oil-contaminated soil treatment facilities, oil transportation, and remediation sites. Various certifications, registrations, permits, and licenses are required.

Background: MTBE is a chemical compound used as a gasoline additive. It raises the oxygen content in gasoline, which helps engines burn cleaner, thus reducing tailpipe emissions. It was originally introduced in the late 1970s to replace lead. MTBE is being used at higher concentrations in some states, such as Maryland, to fulfill the oxygenate requirements set by Congress in the 1990 federal Clean Air Act amendments. According to MDE, reformulated gasoline is used in 14 counties in the State.

At room temperature, MTBE is a volatile, flammable, and colorless liquid that dissolves easily in water. Because MTBE is more water soluble and less biodegradable than other gasoline components, it can be introduced into groundwater from leaking underground and aboveground petroleum storage tanks. Recent studies indicate that MTBE vapors can also lead to groundwater contamination. Low levels of MTBE can make drinking water undrinkable due to its offensive taste and color. Although there is limited data on the human health effects of MTBE when ingested through drinking water, the U.S. Environmental Protection Agency (EPA) has advised that MTBE is a potential human carcinogen at high doses.

In response to the growing concerns regarding MTBE in water, EPA appointed an independent Blue Ribbon Panel to investigate the air quality benefits and water quality concerns associated with oxygenates in gasoline. In 1999, the panel made several recommendations, including removing the federal oxygenate requirement. State legislation enacted in 2000 established a task force to study the environmental effects of MTBE. In its final report the task force noted, among other things, that Maryland should

give careful consideration to a reduction or a complete phase-out of MTBE in gasoline sold in the State provided there is no backsliding on air quality benefits.

Twenty states have either partially or completely banned the use of MTBE statewide. Another 10 states have passed legislation, or have legislation pending, that signals an eventual phase-out of MTBE. Some of this legislation directs state agencies to study the effects of MTBE or creates councils and commissions to monitor the progress of a phase-out. Other legislation requires notification of property owners, public water suppliers, and health officers when groundwater contamination is discovered. Overall, partial bans are the most common form of prohibiting MTBE among these states. Partial bans permit trace amounts of MTBE in motor vehicle fuel sold or used in the state. A number of the partial bans will become complete bans within a few years.

Farmers on the Eastern Shore see ethanol as a potential substitute for MTBE. Ethanol, which is made from grains, is the most widely used substitute for MTBE. According to MDE, switching to ethanol could have drawbacks, however. First, it could reverse the air quality gains made with the use of MTBE. Second, little is known about ethanol's behavior in petroleum underground storage tank releases. MDE advises that, at high concentrations, ethanol may cause other gasoline constituents to become more soluble in water, thus contributing to groundwater pollution. Further, the breakdown of surface spills could result in consumption of dissolved oxygen, causing fish kills.

Concern regarding MTBE in Maryland increased in 2004 with the discovery of groundwater contamination in Harford County; MTBE contamination has also been found in other Maryland counties. Emergency regulations addressing MTBE contamination, which require improved release detection and site monitoring, took effect January 26, 2005.

State Revenues: General/special fund revenues from the motor fuel tax could decrease significantly beginning in fiscal 2010 to the extent the bill results in a shortage of gasoline. The motor fuel tax is currently assessed at the rate of 23.5 cents per gallon for gasoline and clean-burning fuels. Total fiscal 2006 revenues for all motor fuel taxes are estimated at \$763.4 million. According to the Motor Fuel Tax Division of the Comptroller's Office, a gasoline shortage could occur if MTBE is banned in Maryland and not in surrounding states. To date, no neighboring states have banned MTBE. The closest states with a ban are New York, Connecticut, Ohio, and Kentucky. The risk of a significant revenue loss would most likely decrease over time as more and more states ban MTBE, however.

Special fund revenues into the Oil Disaster Containment, Cleanup, and Contingency Fund from oil transfer fees could also decrease beginning in fiscal 2010. Under current

law, a license fee of \$0.03 per barrel is charged on specified petroleum products transferred into the State. (A portion of the fee (\$0.01 per barrel), which is paid into the Oil Contaminated Site Environmental Cleanup Fund, is set to expire July 1, 2005.) In fiscal 2005, MDE collected approximately \$2 million in fee revenue from gasoline containing MTBE. Although the fee could be assessed any ethanol or oxygenate being transferred into the State (due to the bill's change in the definition of oil), any ethanol or other oxygenates produced in the State could not be charged. It is anticipated, however, that the majority of the ethanol that would be used in the State would not be produced in Maryland; accordingly, any revenue loss associated with this change is not anticipated to be significant. Revenues could also decrease, however, to the extent the bill results in a shortage of gasoline, as described above.

State Expenditures: Special fund expenditures could increase by an estimated \$19,589 in fiscal 2006, which accounts for the bill's October 1, 2005 effective date. This estimate reflects the costs of outreach activities that would be needed as a result of the regulation of ethanol and other oxygenates as oil. It includes costs for mailings, travel, and contractual services for an outreach campaign (including printing brochures).

Future year special fund expenditures are annualized, adjusted for inflation, and reflect ongoing costs between fiscal 2007 and 2009. The fiscal 2010 estimate reflects a significant increase in contractual services related to outreach activities and laboratory costs (for testing groundwater) that would be incurred by MDE due to the regulation of ethanol and other oxygenates as oil. It also reflects costs for MDE to provide posters and stickers to gas stations in order to make the public aware of the presence of an alternative oxygenate in gasoline.

Operational impacts on MDE are discussed below.

Groundwater Protection

MDE's Oil Control Program has 190 cases that involve over 600 private wells impacted by MTBE over five parts per billion (ppb). Eighteen public water systems have had levels of MTBE greater than six ppb in the past two years. Although the bill would reduce the number of MTBE contamination cases requiring investigation, cleanup, and oversight by MDE, the bill would not result in an overall decrease in the number of oil spills. MDE advises that it is possible that alternative oxygenates could create new challenges for the investigation and remediation of oil spills.

Air Quality

MDE advises that, although the air quality impacts of switching from MTBE to ethanol are unknown, preliminary studies in California indicate that the air quality gains made with MTBE are reversed to a degree with the use of ethanol. MDE further advises that any loss of air quality benefits would have to be replaced through the use of additional control measures in order to achieve and maintain federal air quality standards. Penalties for states failing to achieve federal standards include loss of federal highway funds, limits on new industry, and imposition of a federal implementation plan.

Other Impacts

As an owner of fueling facilities, the State could incur a minimal increase in costs in fiscal 2009 to upgrade fleet fueling equipment to accommodate an alternative oxygenate. The Department of General Services advises that it is responsible for the majority of fuel pumps (91) in the State. Costs are estimated at \$110 per dispenser. As a consumer of gasoline, the State could incur additional costs to the extent the oil industry passes any increased costs along to consumers. Based on information provided by MDE, the State uses approximately 5.4 million gallons of reformulated gasoline annually at a cost of about \$1.34 per gallon. MDE advises that some states that have switched to ethanol have noted an increase in gasoline prices of 3 to 8 cents per gallon. Not all states that have banned MTBE have experienced a price increase, however.

Local Expenditures: As owners and operators of public water systems, local jurisdictions may benefit from a reduction in MTBE contamination; however, alternative oxygenates may create new challenges for investigation and remediation of oil spills.

Local jurisdictions that own and operate their own centralized fueling facilities may incur additional costs to upgrade their dispenser filtration systems. MDE advises that 90 fueling facilities are owned by local governments in the State. Costs are estimated at \$110 per dispenser, although the total number of dispensers at local facilities is unknown. As a consumer of gasoline, local jurisdictions could incur additional costs for gasoline to the extent the bill results in an increase in the price of gasoline.

Small Business Effect: Due to its affinity for water, ethanol cannot be transported by pipeline, so it must be shipped via truck, rail, or barge. MDE advises that, if ethanol is brought to terminals by barge or rail, it is handled similarly to a regular shipment of gasoline. At terminals where blending of ethanol or other alternative oxygenates must take place, equipment for handling these additives may be required to be installed. According to MDE, there are nine major gasoline terminal facilities in Maryland that would likely be required to upgrade their facilities in order to receive, store, and blend an

alternative oxygenate such as ethanol. The estimated cost of the upgrades is \$150,000 per terminal. In addition, tank owners could incur additional costs to replace tank linings and other equipment affected by ethanol as well as to drain water from tank bottoms more frequently. MDE advises that terminals are most likely not small businesses, however. Several out-of-state terminals would also have to make modifications in order to sell their gasoline product in Maryland. Businesses involved in the installation of oil terminal facility equipment could benefit from an increase in the demand for their services.

Any additional costs incurred by gasoline terminals would likely be passed onto distributors, service stations, and ultimately, consumers. According to MDE, there are approximately 1,500 gasoline service stations in areas that could be affected by the bill. Service stations would incur additional costs to upgrade their gasoline dispenser filtration systems (estimated at \$110 per dispenser, or about \$880 per station). MDE advises that vehicles manufactured prior to 1981 may have some gas tank and fuel system compatibility problems with ethanol.

Farmers would likely benefit from a ban on MTBE due to an increase in the demand for ethanol. Some states that have banned MTBE, such as Illinois, Iowa, and Minnesota, have noted positive economic impacts on agriculture. In addition, the bill could spur economic activity related to the production of alternative oxygenates such as ethanol.

Small businesses that operate public water systems could benefit from a reduction in MTBE contamination and related costs; however, alternative oxygenates may create new challenges for investigation and remediation of oil spills.

Additional Comments: Legislative Services advises that the change in the definition of “oil” is unclear. For purposes of this fiscal note, it is assumed that MDE would only be required to regulate ethanol and other oxygenates used in gasoline, not *all* ethanol and other oxygenates in the State.

Additional Information

Prior Introductions: None.

Cross File: None.

Information Source(s): Maryland Department of the Environment, Comptroller’s Office, Department of General Services, U.S. Environmental Protection Agency, Department of Legislative Services

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