HB 712

Department of Legislative Services

Maryland General Assembly
2008 Session

FISCAL AND POLICY NOTE

House Bill 712 (Delegate Barve, *et al.*)
Economic Matters and Environmental Matters

Global Warming Solutions - Reductions in Greenhouse Gases

This bill establishes an Office of Climate Change within the Maryland Department of the Environment. MDE must adopt regulations to reduce greenhouse gas emissions by a minimum of 25% by 2020 and 90% by 2050 (from 2006 levels). The bill establishes several provisions regarding the adoption of regulations to achieve those reductions, including regulations to establish a cap-and-trade system; regulations relating to the reporting, verification, and monitoring of reductions; and possible regulations to establish offset allowances. Auction proceeds from the Regional Greenhouse Gas Initiative (RGGI) must be used to implement the bill. If such proceeds are inadequate, MDE is authorized to establish a greenhouse gas emissions fee. Finally, the bill repeals the cap on the Maryland Clean Air Fund and modifies the revenue sources and uses of that fund.

The bill takes effect June 1, 2008.

Fiscal Summary

State Effect: Special fund expenditure increase of $2.1 million in FY 2009 to *begin* implementing the bill. Future year estimates are adjusted for inflation but do not reflect potentially significant additional costs to implement reduction measures. Potential significant special fund revenue increase beginning in FY 2008 from the repeal of the Maryland Clean Air Fund cap; corresponding general fund revenue decrease. Potential significant special fund revenue increase beginning in FY 2009 from fees and beginning in FY 2012 from the cap-and-trade system.

(in dollars)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
GF Revenue	(-)	(-)	(-)	(-)	(-)
SF Revenue	-	-	-	-	-
SF Expenditure	0	2,153,700	1,688,100	1,742,100	1,778,800
Net Effect	$0	($2,153,700)	($1,688,100)	($1,742,100)	($1,778,800)

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

Local Effect: As a greenhouse gas source, local governments could be subject to the reduction measures, the cap-and-trade system, and any greenhouse gas emissions fees established through regulation. Accordingly, costs could increase significantly, but any such increase cannot be reliably estimated at this time and could be partially or entirely offset by energy savings. **This bill imposes a mandate on a unit of local government.**

Small Business Effect: Meaningful.

Analysis

Bill Summary:

Office of Climate Change

MDE is authorized to adopt regulations to implement the office. The Secretary of the Environment must appoint a director and sufficient staff to perform the functions of the office. The office must • administer the provisions of the bill; • coordinate the efforts of the State to facilitate the implementation of the bill; • research and evaluate current methods and technologies that improve the efficiency and efficacy of greenhouse gas emissions reduction programs; • work with industry sectors, business groups, nonprofit organizations, academic institutions, and other stakeholders to determine best available information, technology, and processes for implementing the bill; • research and develop the protocols for a cap-and-trade system; • ensure that the greenhouse gas emissions reduction activities help direct public and private investment in renewable energy; • promote global warming solutions; and • promote employment opportunities in green business and clean energy industries in the State.

Emissions Reductions, Reduction Measures, and Related Regulations

MDE must adopt regulations to reduce greenhouse gas emissions by a minimum of 25% by 2020 and 90% by 2050 (from 2006 levels). The bill establishes various deadlines for MDE to develop and publish the measures that will be used to achieve the required reductions and to adopt specified regulations. **Exhibit 1** shows the timeline established for these activities.

Exhibit 1
MDE's Deadlines for Reduction Measures and Associated Regulations

Deadline	Action
September 1, 2008	Publish Phase I measures
June 1, 2009	Publish Phase II measures and adopt reporting, verification, monitoring, and enforcement regulations
September 1, 2009	Adopt Phase I implementing regulations
January 1, 2010	Publish Phase III measures and final plan
June 1, 2010	Adopt Phase II implementing regulations
June 1, 2011	Adopt Phase III/final plan implementing regulations and adopt regulations to establish a cap-and-trade system
January 1, 2012	Cap-and-trade system effective date and date by which MDE is authorized to adopt regulations to establish offsets
January 1, 2013	Effective date of offset regulations, if established

The bill establishes various requirements for MDE as it publishes and implements the Phase I, Phase II, and Phase III emissions reduction measures. Among other things, MDE must evaluate the potential costs, economic benefits, and other benefits to the State's economy, environment, and public health. The measures developed by MDE must include direct emissions reduction measures, alternative compliance mechanisms, and potential incentives for achieving the required reductions. MDE is directed to consult with other specified State agencies on the measures that relate to energy-related matters. The bill also establishes specific requirements for MDE as it adopts regulations relating to the Phase III emissions reduction measures and the final plan for achieving the required reductions. Among other things, MDE must consider the cost effectiveness of the regulations.

The bill also establishes several requirements with respect to the regulations relating to the reporting and verification of statewide greenhouse gas emissions and monitoring and enforcement. MDE must establish a greenhouse gas emissions threshold for sources below which the requirements of those regulations would not apply. MDE must review and update its emissions reporting requirements as necessary.

The bill establishes various requirements for the cap-and-trade system developed for sources that emit greenhouse gases in the State. Among other things, the system must be designed to achieve reductions through the maximum technologically feasible and cost-effective means. Revenues generated from the auction of allowances under the system must be deposited into the Maryland Clean Air Fund and be used to reduce greenhouse gas emissions and to reduce energy bills for low-income households. The bill establishes various requirements for MDE before adopting the cap-and-trade regulations.

MDE is authorized, but not required, to adopt regulations that establish offset allowances through alternative compliance mechanisms. The bill establishes related requirements and limitations.

The bill also requires MDE to adopt methodologies for the quantification of voluntary greenhouse gas emissions reductions and to adopt regulations that enable the State to monitor and verify voluntary reductions. No deadline is established.

In the event of extraordinary circumstances or catastrophic events, the Governor is authorized to adjust the applicable deadlines for regulations that are adopted in accordance with the bill. If the Governor declares an energy emergency, the Governor may adjust the deadlines for individual regulations.

Funding Provisions

Auction proceeds from RGGI must be used to implement the bill. If such proceeds are inadequate, MDE is authorized to establish and collect a greenhouse gas emissions fee to be paid by a source of greenhouse gas emissions in the State. The bill establishes a maximum fee of 4 cents per ton of carbon dioxide (CO_2) equivalent emitted. *De minimus* sources, as determined by MDE, may be exempted from the fee.

The bill modifies the revenue sources of the Maryland Clean Air Fund to include any greenhouse gas emissions fees collected pursuant to the bill. The bill also expands the uses of that fund to include • reducing greenhouse gas emissions in the State; • reducing energy bills for low-income households; • implementing the emissions reduction provisions established by the bill; • funding the Office of Climate Change; and • providing grants for investments in clean energy and renewable new technologies. Finally, the bill repeals the current $750,000 cap on the fund and provides that money in the fund may not revert or be transferred to the general fund.

Current Law: 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. Although Maryland does not have a comprehensive greenhouse gas regulatory program, the Healthy Air Act of 2006 required the Governor

to include the State in RGGI, a coalition created to discuss the design of a regional cap-and-trade program to reduce emissions of greenhouse gases from power plants in the region. As a result, the State joined RGGI in April 2007. The State also administers several other programs that relate to energy efficiency and renewable energy, such as the renewable portfolio standard and the energy efficiency standards for specified appliances. When fully implemented, the Clean Cars Act of 2007 will address greenhouse gas emissions from motor vehicles. Finally, the EmPOWER Maryland program, announced by the Governor in July 2007, is designed to reduce per capita energy consumption by 15% in 2015. The Administration has introduced legislation to codify that program, as well as several other bills relating to energy efficiency and renewable energy.

The Maryland Clean Air Fund is a special fund used by MDE for activities related to identifying, monitoring, and regulating air pollution in the State and providing grants to local governments. The fund consists of all application fees, permit fees, renewal fees, and funds collected by MDE under the Ambient Air Quality Title of the Environment Article and specified asbestos removal provisions, including any civil and administrative penalties or any fines imposed by a court. When the fund balance is at or above $750,000, any additional monies that otherwise would be deposited in the fund have to go to the general fund instead.

Background: According to the U.S. Environmental Protection Agency, human activities have substantially added to the amount of greenhouse gases in the atmosphere. In response to concerns about the link between greenhouse gas emissions and global warming, in September 2006, the Governor of California signed landmark legislation to reduce greenhouse gas emissions in that state. The legislation requires the California Air Resources Board to develop regulations and market mechanisms that will reduce California's greenhouse gas emissions by 25% by 2020. A handful of other states have followed California's lead by establishing mandatory emission reductions through legislation, and several states have established statewide targets for such reductions. Although several bills addressing global warming have been introduced in Congress, to date, no federal legislation has been enacted.

In April 2007, Governor O'Malley established the Maryland Commission on Climate Change by executive order. The commission is charged with developing a plan of action to address the causes of climate change, to prepare for its likely impacts in Maryland, and to establish goals and timetables for implementation. The plan is to be submitted to the Governor and the General Assembly by April 20, 2008. The executive order emphasized Maryland's particular vulnerability to climate change impacts of sea level rise, increased storm intensity, extreme droughts and heat waves, and increased wind and rainfall events.

In January 2008, the commission presented an interim report that includes timetables and benchmarks for reducing Maryland's greenhouse gas emissions and preliminary

recommendations for legislation and executive actions. Among other things, the commission recommended that the Governor and the General Assembly work in partnership to develop and adopt legislation during the 2008 session requiring the State to develop and implement programs to reduce greenhouse gas emissions by 25% by 2020 and by 90% by 2050 (from 2006 levels). The interim report recommended that such legislation • build from SB 409/HB 890 of 2007; • require development of economy-wide or other market-based programs as tools to help achieve the goals as cost effectively as possible; • include both emission reduction efforts and sequestration projects in the trading programs developed; • include a self-sustaining fee provision to address the fiscal impact on State agencies; • establish an Office of Climate Change; and • support research and development of climate-neutral technologies, programs, and innovations to reach the 2050 reduction goal.

According to the commission, in 2005, Maryland's greenhouse gas footprint (which includes greenhouse gas emissions from sources within the State and emissions from out of state that are created by consumption in Maryland) totaled approximately 109 million metric tons of CO_2 equivalent. Due to increases in population and consumption, Maryland's greenhouse gas emissions are expected to continue to grow over time. Without any new programs, the commission estimates that Maryland can expect to exceed 122 million metric tons of CO_2 equivalent by 2020.

State Fiscal Effect:

Maryland Department of the Environment

Initial Program Costs

Special fund expenditures within MDE could increase by an estimated $2.1 million in fiscal 2009, which reflects a July 1, 2008 implementation date. This estimate reflects the cost of hiring one director (to be the director of the Office of Climate Change); one attorney (to provide legal advice and coordinate the regulations); three program managers (to manage the program, the regulation process, and the planning process); seven public health engineers (to manage and develop the technical aspects of regulation development, manage and develop the emission inventory, and provide compliance/enforcement support); two planners (to develop, research, and implement reduction programs and to write plans); and one economist (to conduct cost/benefit analyses). It includes salaries, fringe benefits, one-time start-up costs, and ongoing operating expenses, including contractual services to conduct global warming studies and research. The information and assumptions used in calculating the estimate are stated below:

- the work of the Maryland Commission on Climate Change will serve as a roadmap for the three implementation phases required by the bill;

- the commission concluded that legislation similar to this bill will require a considerable amount of research and analysis;

- contractual services will be needed to study and identify mechanisms to reduce impacts on low-income communities; develop a comprehensive greenhouse gas inventory; evaluate programmatic options; provide economic and technical assistance for the development of the cap-and-trade program; provide economic and market analysis for the design of the auction; and implement the auction; and

- California has set up a Market Advisory Board to assist with this effort in the implementation of its global warming legislation.

Positions	15
Salaries and Fringe Benefits	$1,050,296
Contractual Services	1,000,000
Equipment/Other Operating Expenses	68,432
FY 2009 MDE Expenditures	**$2,118,728**

Future year expenditures reflect • full salaries with 4.4% annual increases and 3% employee turnover; • 2% annual increases in ongoing operating expenses; • costs associated with hiring five additional employees in fiscal 2010 (one administrator to manage funds and contracts under the cap-and-trade program; two public health engineers to develop regulations, provide technical support, and provide compliance/enforcement support; one planner to develop, research, and implement reduction programs and write plans; and one administrative aide to provide administrative support); and • ongoing contractual services of $250,000 annually.

These expenditure estimates only reflect costs to *begin* implementing the bill's requirements; they do not reflect costs to actually *implement* the various programs that will be needed to meet the required reductions. Such costs could be significant.

Special Fund Revenues to Support Program

The bill specifies that auction proceeds from RGGI would be used to implement the bill. The sale of allowances under RGGI could result in a significant increase in special fund revenues for the State but any such increase cannot be reliably estimated at this time.

Revenues will vary depending on the percentage of allowances sold and the price per allowance. However, when proposing its regulations to implement RGGI, MDE estimated that proceeds could range from an estimated $9.4 million annually to about $262.5 million annually, which represents a range of possible revenues based on the lowest predicted allowance price ($0.25) to the highest price ($7). MDE now advises that allowance prices will likely run in the $2 to $3 range; using those prices, and other MDE assumptions regarding the number of allowances, the range of possible revenues narrows to approximately $80 million to $140 million annually at the start of the trading program. Currently, the first RGGI auction is scheduled to be held in June 2008.

If RGGI proceeds are inadequate to implement the bill, MDE is authorized to establish a greenhouse gas emissions fee of up to 4 cents per ton of CO_2 equivalent. According to the Maryland Commission on Climate Change, in 2005, Maryland's greenhouse gas footprint totaled approximately 109 million metric tons of CO_2 equivalent. Based on that data, if *all* sources were required to pay a fee of 4 cents per ton, fee revenues could total approximately $4.4 million annually in the short run, but would presumably decrease over time if the bill is successful in reducing emissions. It is unclear at this point, however, if and when a fee would be established. In addition, if a fee is established, *de minimus* sources could be exempt.

It is likely that, if RGGI is implemented as planned, proceeds from the sale of allowances would be sufficient to cover MDE's administrative costs as described above. However, MDE advises that the total costs to implement all of the programs that will be needed to meet the bill's goals could exceed the amount available from RGGI. Even if MDE establishes a greenhouse gas emissions fee, it is possible that as the programs are implemented over time, general funds could be needed, although this is unclear.

Revenues from Public Auction and Their Use

Beginning in fiscal 2012, special fund revenues could increase significantly as a result of proceeds from the auction of allowances under the cap-and-trade system established by the bill. A reliable estimate of any such revenues cannot be made at this time, as there are many unknown variables relating to the design of the program that could affect the potential revenue stream (including, for example, the number of allowances that would be auctioned, the price per allowance, alternative compliance mechanisms, and banking provisions). In addition, MDE advises that it is unclear at this point what sources will be subject to the cap-and-trade system established under the bill. Legislative Services notes, however, that sources already subject to RGGI would not be required to pay twice.

As required by the bill, revenues generated from the auction would be used to reduce greenhouse gas emissions and to reduce energy bills for low-income households.

Repeal of Cap on Maryland Clean Air Fund

The repeal of the limit on the amount of funds that may exist in the Maryland Clean Air Fund could result in a significant increase in special fund revenues and a corresponding decrease in general fund revenues beginning in fiscal 2008. MDE advises that the cap has not been exceeded in the past 13 years. However, when proposing its regulations to implement RGGI, MDE indicated that, in the absence of any legislation being enacted that redirects the RGGI proceeds into a different special fund, it would likely deposit the proceeds into the Maryland Clean Air Fund. If those funds are indeed deposited into the Maryland Clean Air Fund, under current law any funds over $750,000 would be paid into the general fund because of the cap.

Legislative Services notes, however, that revenues from this source are not assumed in the fiscal 2008 budget or in the Governor's proposed fiscal 2009 budget. Legislative Services also notes that the Administration has introduced legislation (SB 268/HB 368 of 2008) to redirect the RGGI proceeds to a new fund within the Maryland Energy Administration.

Department of Natural Resources (Power Plant Research Program)

Special fund expenditures from the Environmental Trust Fund within DNR could increase by an estimated $35,000 annually from fiscal 2009 through 2011 for PPRP for contractual services to provide input to MDE on the proposed phase reduction measures and their impacts on reliability.

Maryland Energy Administration and Public Service Commission

MEA and PSC could begin to implement the bill's requirements with existing budgeted resources. However, Legislative Services notes that, depending on the programs developed by MDE under the bill, the bill could result in the need for additional staff within MEA to the extent MEA is expected to implement any programs beyond those envisioned under current law. Legislative Services notes, however, that under current law, MDE anticipates redirecting the bulk of RGGI revenues to MEA for energy efficiency programs. Accordingly, it is unclear if this bill alone would result in the need for additional staff within MEA. In addition, Legislative Services notes that the Governor's proposed fiscal 2009 budget includes seven new positions within MEA for various purposes.

Other Impacts

The extent to which the programs developed by MDE will affect the workload of other State agencies is unknown. Because MDE does not have regulatory authority over all

entities that could be considered greenhouse gas sources, however, other agencies will likely need to be involved in implementing the various programs established as a result of the bill.

In addition, as a greenhouse gas source, the State itself could be subject to the reduction measures, the cap-and-trade system, and any greenhouse gas emissions fee established as a result of the bill. Accordingly, State expenditures could increase significantly, but any such increase cannot be reliably estimated at this time and could be partially or entirely offset by energy savings.

Small Business Effect: As greenhouse gas sources, some businesses, small and large, could be subject to the reduction measures, the cap-and-trade program, and any greenhouse gas emissions fees established as a result of the bill. Accordingly, costs could increase significantly, but any such increase cannot be reliably estimated at this time and could be partially or entirely offset by energy savings.

Small businesses involved in activities relating to energy efficiency and renewable energy could benefit as a result of an increase in the demand for their services, technologies, and products.

Additional Comments: In its February 2008 report *Policy Options for Reducing CO_2 Emissions*, the Congressional Budget Office indicates that a carefully designed program to begin lowering CO_2 emissions would produce greater benefits than costs, and that incentive-based approaches can reduce emissions at a lower cost than more restrictive command-and-control approaches because they provide more flexibility about where and how emission reductions are achieved. However, CBO concludes that a tax on emissions would be the most efficient incentive-based option because a steadily rising tax could better accommodate cost fluctuations while simultaneously achieving a long-term target for emissions. CBO's report offers some suggestions, however, for designing a cap-and-trade program to achieve many of the efficiency advantages of a tax on emissions. The CBO report can be found at http://www.cbo.gov/ftpdocs/89xx/doc8934/02-12-Carbon.pdf.

The interim report of the Maryland Commission on Climate Change contains additional detail about greenhouse gas emissions in the State, the recommendation to enact State legislation to reduce greenhouse gas emissions, and an explanation of how a greenhouse gas cap-and-trade program would work. The report can be found at http://www.mdclimatechange.us/ewebeditpro/items/O40F14798.pdf.

Additional Information

Prior Introductions: Similar legislation was introduced as SB 409/HB 890 of 2007. The Senate Education, Health, and Environmental Affairs Committee held a hearing on SB 409 and the House Economic Matters Committee held a hearing on HB 890. No further action was taken on either bill.

Cross File: SB 309 (Senator Pinsky, *et al.*) − Education, Health, and Environmental Affairs.

Information Source(s): Maryland Department of the Environment, Department of Natural Resources, Maryland Energy Administration, Public Service Commission, Department of Human Resources, Department of General Services, Department of Business and Economic Development, Comptroller's Office, Maryland Commission on Climate Change, Center for Climate Strategies, Congressional Budget Office, Environment Maryland, Department of Legislative Services

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