

Department of Legislative Services
 Maryland General Assembly
 2008 Session

FISCAL AND POLICY NOTE
 Revised

Senate Bill 309 (Senator Pinsky, *et al.*)

Education, Health, and Environmental Affairs

Economic Matters and
 Environmental Matters

Global Warming Solutions - Reductions in Greenhouse Gases

This bill requires the Maryland Department of the Environment to develop plans, adopt regulations, and implement programs to reduce greenhouse gas emissions by 25% from 2006 levels by 2020, subject to specified conditions. The bill also establishes a target of reducing greenhouse gas emissions by 90% by 2050. Various reports are required, and legislation must be enacted to authorize the implementation of each of the three phases of the reduction measures. Auction proceeds from the Regional Greenhouse Gas Initiative must be used to implement the bill; the bill is contingent upon adequate funding from that source. Finally, the bill increases the cap on the Maryland Clean Air Fund and modifies its uses.

Specified provisions take effect June 1, 2008, but most of the bill's provisions take effect after MDE determines that adequate funding is available from RGGI.

Fiscal Summary

State Effect: Special fund expenditure increase of \$1.9 million in FY 2009 to *begin* implementing the bill, assuming adequate funding is available from RGGI. 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 2012 from the cap-and-trade system.

(in dollars)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
SF Revenue	\$0	\$0	\$0	\$0	-
SF Expenditure	0	1,898,500	1,396,100	1,450,500	1,472,800
Net Effect	\$0	(\$1,898,500)	(\$1,396,100)	(\$1,450,500)	(\$1,472,800)

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 and any cap-and-trade system established as a result of this 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. **This bill imposes a mandate on a unit of local government.**

Small Business Effect: Meaningful.

Analysis

Bill Summary:

Emissions Reductions, Reduction Measures, and Related Regulations, Plans, and Reports

MDE must develop plans, adopt regulations, and implement programs to reduce greenhouse gas emissions by 25% from 2006 levels by 2020. The bill establishes various deadlines for MDE to develop and publish the measures that will be used to achieve the required reductions, to adopt specified regulations, to develop specified inventories and plans, and to submit specified reports. **Exhibit 1** shows the timeline established for these activities.

Exhibit 1 Timeline Established Under SB 309

<u>Deadline</u>	<u>Action</u>
September 1, 2008	Prepare and publish proposed Phase I measures
December 1, 2008	Submit report regarding the plan for implementing the Phase I measures
December 31, 2008	Latest date for MDE to submit determination regarding adequacy of RGGI funding, or bill terminates
May 1, 2009	Earliest date for MDE to implement the Phase I measures, subject to specified conditions ¹
June 1, 2009	Prepare and publish proposed Phase II measures and adopt regulations that require monitoring and reporting
September 1, 2009	Report on the status of implementing the Phase I measures

<u>Deadline</u>	<u>Action</u>
December 1, 2009	Submit report regarding the plan for implementing the Phase II measures
December 31, 2009	Submit specified study of resources required to fully implement the bill through 2050
January 1, 2010	Prepare and publish an inventory of statewide greenhouse gas emissions, the proposed Phase III measures, and a proposed final plan for achieving the required reductions
May 1, 2010	Earliest date for MDE to implement the Phase II measures, subject to specified conditions ¹
June 1, 2010	Report on the status of implementing the Phase II measures
December 1, 2010	Submit report regarding the plan for implementing the Phase III measures
May 1, 2011	Earliest date for MDE to implement the Phase III measures and the final plan, subject to specified conditions ¹
June 1, 2011	Adopt regulations to establish a cap-and-trade system (optional)
January 1, 2012	Adopt regulations to establish offset allowances
June 1, 2012	Develop and publish a plan to reduce greenhouse gas emissions by 90% by 2050 (from 2006 levels)

¹MDE is prohibited from implementing the Phase I, II, and III reduction measures until the General Assembly receives the required reports and enacts legislation specifically authorizing the implementation of each phase of the measures.

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 must establish a threshold of greenhouse gas emissions below which the emissions reduction requirements do not apply. 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 develops plans, implements programs, and adopts regulations relating to the Phase III emissions reduction measures and the final plan for achieving the required reductions.

The bill also establishes several requirements with respect to the regulations relating to the reporting and monitoring of greenhouse gas emissions. Beginning in calendar 2008, specified sources that are required by regulation to submit certified annual emissions statements to MDE must include greenhouse gas emissions in those statements. MDE must establish a greenhouse gas emissions threshold for sources below which those requirements 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 that MDE is authorized to develop for greenhouse gas sources. 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. However, the bill specifies that if SB 268 or HB 368 of 2008 is enacted, auction proceeds from the cap-and-trade system established under the bill must be deposited into the Maryland Strategic Energy Investment Fund instead.

The bill establishes various requirements for MDE before adopting the cap-and-trade regulations beyond participation in RGGI. If a federal law is enacted that creates a national cap-and-trade system for the reduction of greenhouse gas emissions, MDE must repeal the cap-and-trade system regulations and comply with the federal law to participate in the national system.

The bill establishes requirements and limitations regarding the regulations to establish offset allowances through alternative compliance mechanisms.

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.

The bill authorizes the Governor to adjust the deadlines for the adoption of regulations under specified conditions. After adjusting the deadlines for individual regulations, the Governor is authorized to extend the 2020 deadline for achieving the 25% mandated reduction under specified conditions. If the deadline is extended, MDE is authorized to establish a new deadline by regulation.

By June 1, 2012, MDE is required to develop and publish a plan to reduce greenhouse gas emissions by 90% from 2006 levels by 2050. The plan must include regulatory and other programs; research, development, and technological advancement initiatives; and a schedule for adopting and implementing the plan. The bill establishes other requirements relating to the plan.

Funding and Contingency Provisions

Auction proceeds received by MDE from RGGI or from any other sale of greenhouse gas allowances by MDE must be used to implement the bill. Prior to the bill's implementation, MDE must determine whether it has received adequate revenues from RGGI auction proceeds to pay for the costs of implementing the bill. If it has received adequate revenues, then the bill's provisions take effect the first day of the month after the receipt by the Department of Legislative Services of that determination. If such a determination is not received by DLS by December 31, 2008, the bill terminates.

The bill expands the uses of the Maryland Clean Air 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 an Office of Climate Change; and • providing grants for investments in clean energy and renewable new technologies. Finally, the bill increases the current cap on the fund (from \$750,000 to \$2.0 million), but specifies that if additional funding is necessary to implement the bill, a maximum limit of \$5.0 million would apply.

Other

MDE is required to create and appoint specified advisory committees.

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.

The Maryland Strategic Energy Investment Fund does not exist under current law. However, the Administration has introduced legislation (SB 268/HB 368 of 2008) to establish such a fund within the Maryland Energy Administration.

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. However, on March 27, 2008, EPA announced that it will issue an Advance Notice of Proposed Rulemaking later this spring to discuss and solicit public input on the specific effects of climate change and the potential regulation of greenhouse gas emissions from stationary and mobile sources.

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 CO₂ 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 CO₂ equivalent by 2020.

State Fiscal Effect:

Maryland Department of the Environment

Initial Program Costs

Special fund expenditures within MDE could increase by an estimated \$1.9 million in fiscal 2009, which reflects an October 1, 2008 implementation date. (Legislative Services notes that most of the bill's provisions will actually take effect on the first day of the month after MDE has made the determination that it has received adequate revenues from RGGI auction proceeds. For purposes of this Fiscal and Policy Note, it is assumed that such a determination would be made in September 2008 and that the program would thus take effect October 1, 2008, even though this date falls after the first deadline established by the bill.)

This estimate reflects the cost of hiring two attorneys (to provide legal advice, coordinate the regulations, and develop legislation); two program managers (to manage the program 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); one administrative officer (to serve as a legislative specialist); one contract administrator (to manage funds and contracts under the cap-and-trade program); and one administrative aide (to provide administrative support). 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	16
Salaries and Fringe Benefits	\$796,083
Contractual Services	1,000,000
Equipment/Other Operating Expenses	<u>67,440</u>
FY 2009 MDE Expenditures	\$1,863,523

Future year expenditures reflect ● full salaries with 4.4% annual increases and 3% employee turnover; ● 2% annual increases in ongoing operating expenses; 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. However, the bill requires that additional legislation be enacted to specifically authorize the implementation of each of the three phases of the reduction measures. Accordingly,

future fiscal and policy notes will address the specific impacts of those proposed measures.

Special Fund Revenues to Support Program

The bill specifies that auction proceeds received by MDE from RGGI or from any other sale of greenhouse gas allowances by MDE 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 expected to be held in September 2008, although the first auction will only cover a portion of the annual allowances and will thus generate only a portion of the estimated annual revenues.

Legislative Services notes that in the absence of any legislation being enacted that redirects the RGGI proceeds into a different special fund, MDE anticipates depositing the proceeds into the Maryland Clean Air Fund. However, the Administration has introduced legislation (SB 268/HB 368 of 2008) that would redirect the RGGI proceeds to a new special fund (the Maryland Strategic Energy Investment Fund) within MEA. If that legislation is enacted, it is assumed that MEA would provide MDE with sufficient funds to implement this bill.

As noted above, unless MDE determines by December 31, 2008 that RGGI proceeds are adequate to implement the bill, the bill terminates. Legislative Services advises, however, that it may be difficult for MDE to make this determination after only one auction is held, as the first auction may not be representative of how the market will respond.

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.

Legislative Services advises that under current law and under the provisions of this bill, any auction proceeds from the cap-and-trade system established under the bill would be deposited into the Maryland Clean Air Fund within MDE. However, the bill specifies that if SB 268 or HB 368 of 2008 is enacted, such proceeds would be deposited into the Maryland Strategic Energy Investment Fund instead.

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 as a result of 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 and any cap-and-trade system 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 and any cap-and-trade program 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 CO₂ Emissions*, the Congressional Budget Office indicates that a carefully designed program to begin lowering CO₂ 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: HB 712 (Delegate Barve, *et al.*) – Economic Matters and Environmental Matters.

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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Analysis by: Lesley G. Cook

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