Department of Legislative Services

Maryland General Assembly
2009 Session

FISCAL AND POLICY NOTE
Revised

House Bill 315 (Delegate Barve and the Speaker, *et al.*) (By Request - Administration)

Economic Matters and Environmental Matters | Education, Health, and Environmental Affairs

Greenhouse Gas Emissions Reduction Act of 2009

This Administration bill requires the State to develop plans, adopt regulations, and implement programs to reduce greenhouse gas (GHG) emissions 25% from 2006 levels by 2020. The Maryland Department of the Environment (MDE) is required to implement various measures designed to ensure that the GHG reductions produce economic benefits for the State and do not adversely affect specified communities or economic interests. MDE must publish a GHG emissions inventory for the year 2006, a "business as usual" projection of GHG emissions for the year 2020, and a triennial inventory update beginning in 2011. The bill also requires an academic study of the economic impact of the GHG emissions reductions on the manufacturing sector, with oversight provided by a newly created task force. Finally, the bill requires several reports on the need for, and progress toward, the 2020 GHG reduction goal and any additional goal later prescribed by law.

The goal to reduce GHG emissions 25% below 2006 levels by 2020 terminates on December 31, 2016.

Fiscal Summary

State Effect: General and special fund expenditures increase by $557,500 in FY 2010 for the cost of hiring five new staff at MDE and retaining the contractual assistance necessary to develop a new program to implement the bill. Future years reflect annualization, inflation, the cost for hiring five additional staff members at MDE, and additional contractual services and operating costs for the new program. Expenditures may further increase to the extent that MDE needs additional contractual assistance to

consider the effect of the plan on communities and interests specified in the bill. Revenues are not affected.

(in dollars)	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Revenues	$0	$0	$0	$0	$0
SF Expenditure	20,000	30,000	20,000	10,000	35,000
GF/SF Exp.	537,500	734,100	1,342,300	777,500	809,600
Net Effect	($557,500)	($764,100)	($1,362,300)	($787,500)	($844,600)

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

Local Effect: Minimal increase in workloads that can likely be handled with existing resources.

Small Business Effect: The Administration has determined that this bill has minimal or no impact on small business (attached). Legislative Services concurs with this assessment. (The attached assessment does not reflect amendments to the bill.)

Analysis

Bill Summary: The bill requires the State to reduce GHG emissions by 25% from 2006 levels. Various State agencies must develop the plans, adopt the regulations, and implement the programs necessary to do so. The bill establishes several deadlines for the development of measures to achieve the required reductions; the adoption of specified regulations; and the submission of inventories, plans, and reports. **Exhibit 1** provides a timeline for these activities and other key dates specified in the bill.

MDE must submit its proposed GHG reduction plan to the Governor and the General Assembly by December 31, 2011. The proposed plan is to be publically available and MDE must convene public workshops to provide interested parties with an opportunity to comment on the proposed plan. After consultation with appropriate State and local agencies, MDE has to adopt the final reduction plan by December 31, 2012. This final plan must include adopted regulations that implement all of the plan's measures and a timeline for seeking additional legislative authority.

Exhibit 1
Key Dates under the Greenhouse Gas Emissions Reduction Act of 2009

Date	Action
June 1, 2011	Publish 2006 inventory and 2020 business as usual projection
December 31, 2011	MDE deadline to submit proposed reduction plan to Governor and General Assembly, following public workshops
Calendar 2011	MDE to publish 2011 inventory
January 1, 2012	MDE deadline to approve manufacturer GHG reduction plans for voluntary early action credits
December 31, 2012	MDE deadline to adopt final reduction plan
Calendar 2014	MDE to publish 2014 inventory
October 1, 2015	Deadline for submission of independent academic study of economic impact on manufacturing sector
October 1, 2015	MDE deadline for submission of report on progress toward 2020 reduction goal and other recommendations and analyses
December 31, 2016	Termination of the 2020 reduction goal
Calendar 2017	MDE to publish 2017 inventory
October 1, 2020	MDE deadline for submission of report on progress toward 2020 reduction goal, and toward achieving reductions needed by 2050 based on contemporary science
December 31, 2020	State deadline to reduce GHG emissions by 25% below 2006 level, unless otherwise specified
Calendar 2020	MDE to publish 2020 inventory
Calendar 2023	MDE to publish 2023 inventory
October 1, 2025	MDE deadline for submission of report on progress toward any further reduction goals required, if applicable, and toward achieving reductions needed by 2050 based on contemporary science

Measures to Protect the Maryland Economy and Manufacturing Sector

The final GHG reduction plan may not require emissions reductions for the State's manufacturing sector or otherwise impose additional costs to the sector that are not already required under current law or associated with the Regional Greenhouse Gas Initiative (RGGI). In developing and implementing the plan MDE must (1) consider the impact on rural communities of any transportation-related measures; (2) consider whether the measures would result in an increase in electricity costs to consumers in the State; and (3) consider the impact of the plan on the ability of the State to attract, expand, and retain commercial aviation services and to conserve, protect, and retain agriculture. In addition, MDE must ensure that:

- the reductions do not directly cause a loss of existing jobs in the manufacturing sector;
- the GHG reductions are implemented in a cost-effective manner, produce a net benefit to the State economy, and create new jobs, including new employment opportunities related to energy conservation, alternative energy, and GHG reduction technologies;
- the reduction plan does not decrease the likelihood of reliable and affordable electrical service and fuel supplies, or disproportionately impact rural, lower-income, or minority communities or any particular class of electricity ratepayer; and
- credit is provided to those who engage in early and voluntary action and for those undertaking alternative compliance mechanism projects.

In developing and implementing the final plan, MDE must include the Maryland Department of Agriculture as well as several specified agricultural organizations to discuss the role of agriculture in reducing GHG emissions.

A voluntary early action credit is provided to a GHG emissions source within the State's manufacturing sector that implements a voluntary GHG reduction plan approved by MDE by January 1, 2012. The credit would be used under a future State law requiring the manufacturing sector to reduce GHG emissions reductions. A voluntary GHG reduction plan could include measures to reduce energy use, increase process efficiency, or facilitate GHG reduction research and development.

Inventory

By June 1, 2011, MDE must publish its inventory of statewide 2006 GHG emissions, as well as its projection of statewide "business as usual" emissions for the year 2020; this projection takes into account currently existing GHG emissions control measures

implemented in Maryland. MDE is then required to publish an updated inventory every three years, with the first updated inventory thus due in 2014.

Progress Reports and Studies

The bill requires an institution of higher education (public or private) in Maryland to conduct an independent study of the economic impact of GHG emission reductions on the State manufacturing sector. This study is to be overseen by a task force appointed by the Governor that includes representatives of labor unions, affected industries, environmental organizations, and low-income and minority communities, and that represents the geographic, racial, and gender diversity of the State, to the extent practicable. The independent academic study is to be submitted to the Governor and the General Assembly by October 1, 2015.

Also by October 1, 2015, MDE is required to submit a progress report to the Governor and the General Assembly. This report is subject to a public hearing and comments and must summarize the progress made toward the 2020 reduction goal. If a federal GHG reduction program has been developed by that date, MDE must report on its status and on the State's transition from RGGI to the federal program. The report must also provide an update on the level and pace of GHG emissions reductions and/or sequestration needed to avoid dangerous changes to the climate according to the best available contemporary science, and provide an update on any emerging technologies that may help achieve these reductions. MDE must make recommendations on the need to adjust the 2020 reduction goal and any additional or revised regulations necessary to achieve the original or modified goal. The report must include an analysis of the costs and benefits of the original or modified 2020 reduction goal on the State's economy, environment, and public health.

On October 1, 2020, and every five years thereafter, MDE must continue to report on the progress toward reaching the 2020 reduction goal and further reductions needed by 2050 to avoid dangerous changes to the climate.

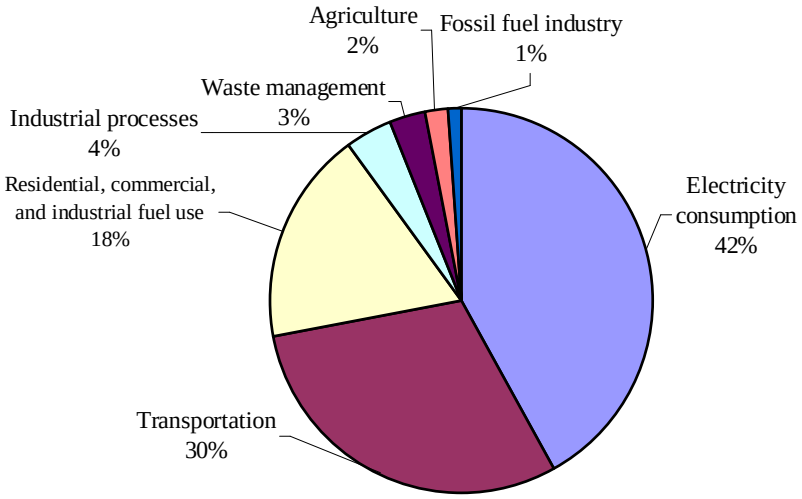
The 2020 reduction goal terminates December 31, 2016.

Current Law/Background: According to the Intergovernmental Panel on Climate Change, the world's temperatures are climbing and human activities are very likely contributing to this increase. Continued global warming is expected to affect sea levels and weather patterns, resulting in impacts on human health, the environment, and the economy.

In 2005 Maryland's GHG footprint (which includes GHG 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 carbon dioxide (CO_2) equivalent. According to the Maryland Commission on Climate Change, and as shown in **Exhibit 2**, in 2005, the largest GHG emission sources in Maryland were electricity consumption and transportation. Other sources include residential, commercial, and industrial fuel use; industrial processes; waste management; agriculture; and the fossil fuel industry. Due to increases in population and consumption, Maryland's GHG emissions are expected to continue to grow over time. Although Maryland has already taken steps to reduce GHG emissions from certain sources, without any new programs, the commission estimates that Maryland can expect to exceed emissions of 130 million metric tons of CO_2 equivalent by 2020.

Exhibit 2
Sources of GHG Emissions in Maryland, 2005



Source: Maryland Commission on Climate Change

At the federal level, climate change policy consists largely of voluntary programs and partnerships to meet a national goal of reducing the GHG intensity of the American economy by 18% from 2002 to 2012. Although several bills addressing GHG reductions have been introduced in the U.S. Congress in recent years, to date, no federal legislation has been enacted. However, the Obama Administration has indicated that it supports the implementation of a nationwide and economy-wide cap-and-trade system to reduce carbon emissions by 80% by 2050.

Because the federal government has not yet taken significant action on this issue, several states are moving ahead with their own efforts to reduce GHG emissions. In Maryland,

although legislation was introduced during both the 2007 and 2008 sessions to require reductions in GHG emissions, that legislation was not successful. Nevertheless, Maryland has implemented numerous policies and programs in recent years that address energy conservation and efficiency, renewable energy, alternative energy sources, and GHG emissions.

In 2006 the General Assembly passed the Healthy Air Act (Chapters 23 and 301), requiring Maryland to join RGGI, a regional cap-and-trade system to reduce CO_2 emissions from specified electric generating units. Under RGGI, each participating state is allocated a certain number of CO_2 allowances permits to emit one ton of CO_2 that serve as the state's respective share of a regional "cap" on CO_2 emissions. The cap will stabilize emissions through 2014 and will then be reduced by 10% from 2015 through 2018. The majority of CO_2 allowances are being distributed through regional auctions. The first three auctions were held on September 25, 2008, December 17, 2008, and March 20, 2009. At the first auction, allowances were sold at a price of $3.07 per allowance, generating $16.4 million in revenue for the State. At the second auction, allowances were sold at a price of $3.38, generating $18.0 million for the State. And at the third auction, allowances for the current compliance period were sold at $3.51, generating another $18.7 million. Revenue from the auctions is deposited into the Strategic Energy Investment Fund within the Maryland Energy Administration (MEA) and used for specified purposes including energy efficiency and conservation programs, electricity rate relief for residential customers, and clean energy programs.

In 2007 the General Assembly passed the Clean Cars Act (Chapters 111 and 112), requiring the State to establish a Low Emission Vehicle (LEV) Program and authorizing the State to adopt the strictest automobile emission standards allowable under federal law, California's LEV standards. The GHG component of this program cannot take effect without federal approval, which was denied by the Bush Administration but will likely be reconsidered by the Obama Administration. Once fully implemented, the Act is expected to reduce GHG emissions along with other air pollutants.

In addition to those efforts, in 2007 Governor O'Malley issued an executive order establishing the Maryland Commission on Climate Change to develop a plan of action to address climate change and to prepare for the likely consequences and impacts of climate change. In January 2008, the commission released an interim report. The combined recommendations of this interim report and those made by MEA in its Strategic Electricity Plan formed the basis for a range of energy-related legislation introduced during the 2008 session. The legislation that was passed during the 2008 session:

- addressed energy efficiency by codifying the EmPOWER Maryland initiative to reduce electricity consumption 15% below 2007 levels by 2015 (Chapter 131), requiring utilities to educate customers on the costs and benefits of its energy

efficiency programs (Chapter 129), and requiring the implementation of "smart" electric meters if deemed cost-effective after further study by the Public Service Commission (Chapter 131);

- required certain State government buildings and new schools to be constructed in accordance with high performance green building standards (Chapter 124);
- encouraged additional clean energy generation in Maryland by modifying the Renewable Portfolio Standard to increase the percentage of electricity required to come from renewable energy sources (Chapter 126), and by increasing the cap on grants for investments in solar and geothermal energy (Chapter 132);
- established the Maryland Clean Energy Center as a technology incubator and source for industry-wide collaboration (Chapter 137); and
- created the Strategic Energy Investment Fund within MEA to allocate revenue from the auction of CO_2 allowances under RGGI for consumer benefit and strategic energy purposes (Chapters 127 and 128).

In August 2008 the Maryland Commission on Climate Change issued its Climate Action Plan, which includes a comprehensive assessment of climate change impacts in Maryland and a review and assessment of the costs of inaction. Most notably, however, the plan recommends the adoption of goals to reduce GHG emissions by 10% by 2012; 15% by 2015; 25 to 50% by 2020; and 90% by 2050 (from 2006 levels). The plan includes a suite of 42 mitigation strategies to meet those goals; according to the commission, adoption of those strategies will achieve an approximate reduction in GHG emissions of 40 to 55% from 2006 levels by 2020. Finally, the plan includes a comprehensive strategy for reducing Maryland's vulnerability to climate change.

State Expenditures:

Maryland Department of the Environment

The Air and Radiation Management Administration (ARMA) within MDE is the primary agency impacted by the bill. ARMA has to develop the inventory and prepare the plans, reports, and regulations necessary to implement the bill's requirements. Thus, general and special fund expenditures increase by $537,451 in fiscal 2010, which accounts for the bill's October 1, 2009 effective date. This estimate reflects the cost of hiring one assistant Attorney General, one program manager, one natural resources planner, one budget specialist, and one administrative officer to staff the new program established under the bill. They are expected to publish a 2006 emissions inventory and "business as usual" emissions projections by June 2011 and then complete a draft climate plan by year-end 2011. The estimate includes salaries, fringe benefits, one-time start-up costs, ongoing operating expenses, $50,000 in grants and subsidies to encourage job creation, and $200,000 for contractual services.

In fiscal 2011, MDE will hire five additional positions, including one additional natural resources planner and four regulatory and compliance engineers to support the additional phased in responsibilities, at an additional cost of $357,360; this includes salaries and fringe benefits.

Additional significant future year expenditures at MDE include (1) approximately $15,000 in fiscal 2011 through 2013 to publish the plans and reports and ensure the public participation required under the bill; and (2) approximately $600,000 in fiscal 2012 for contractual services associated with economic analyses to ensure that the 2020 GHG reduction goal does not adversely affect the State's manufacturing sector or overall economy. Legislative Services advises that the $600,000 estimate for the cost of retaining economic consultants represents the low end of the range of cost estimates for this service based on past experience. Further, the estimate does not include study of certain factors including (1) the effect of transportation measures on rural communities, and whether implementation of the plan overall will disproportionately affect rural communities; (2) the impact of the plan in attracting, expanding, and retaining commercial aviation services; and (3) whether the plan will cause electricity costs in the State to increase. To the extent that the study of any or all of these factors requires MDE to divert resources or contract with outside vendors, MDE workload or expenditures increase further beyond the amounts reflected in the table below.

	FY 2010	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**
New Positions	5	5			
Salaries and Fringe Benefits	$256,135	$677,906	$711,182	$746,177	$782,983
Contractual Services	200,000		600,000		
Grants and Subsidies	50,000				
Start-up/Operating Costs	31,316	56,174	31,107	31,369	26,632
Total MDE Expenditures	**$537,451**	**$734,080**	**$1,342,289**	**$777,546**	**$809,615**

Future year expenditures reflect full salaries with 4.4% annual increases and 3% employee turnover; and 1% annual increases in ongoing operating expenses.

MDE advises that it has reached an agreement with MEA in which $557,500 from the Strategic Energy Investment Fund will be transferred to MDE to implement the bill. This transfer is supported by federal stimulus moneys to be used by MEA. Legislative Services advises that the fiscal 2010 legislative appropriation does not reflect this agreement and does not appropriate any other money to implement the bill. In the absence of this proposed transfer, general funds must be used. Sufficient special funds are not currently available for ARMA to implement the bill. Moreover, if federal funds currently used for the State's implementation of the federal Clean Air Act are diverted to implement the bill, federal program grant funds may be jeopardized.

Other State Agencies

The bill requires MDE to consult with other State agencies in the development of the final GHG reduction plan to be released by the end of calendar 2011. This will result in additional workloads for several State agencies but is likely to be handled with existing resources for most of them. However, the Department of Natural Resources Power Plant Research Program expects to incur at least $115,000 in special fund expenditures associated with providing consulting services to MDE between fiscal 2010 and 2014. Additional support of $45,000 is anticipated in fiscal 2015. To the extent that the necessary regulatory development and subsequent implementation measures at other State agencies cannot be handled with existing resources, special or general fund expenditures may increase beginning in fiscal 2011.

The independent academic study required by the bill is to be conducted by an institution of higher education in the State. Because it is unclear which institution will be selected for the study and because the study may be undertaken by either a public or a private institution, a reliable estimate of expenditures associated with this study cannot be made at this time. Thus, the cost for such a study is not reflected in the above expenditure estimates.

Local Expenditures: MDE is required to consult with local governments in the development of the final GHG reduction plan. Therefore, local government workloads may increase minimally in fiscal 2010 through 2012.

Additional Comments: The Department of Legislative Services prepared a report during the 2008 interim relating to climate change. The report provides more detailed information on the scientific and economic causes and effects of climate change; the various policy approaches to addressing climate change at the State, federal, and international scales; and a discussion of possible economic impacts on Maryland of enacting legislation to reduce GHG emissions. For a copy of the report, please contact Library and Information Services.

Additional Information

Prior Introductions: None.

Cross File: SB 278 (Senator Pinsky and the President, *et al.*) (By Request - Administration) - Education, Health, and Environmental Affairs.

Information Source(s): Public Service Commission, Department of Natural Resources, Maryland Department of the Environment, Maryland Higher Education Commission, Maryland Independent College and University Association, Maryland Department of Transportation, University System of Maryland, Department of Legislative Services

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ncs/ljm Revised - Updated Information - February 25, 2009
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ANALYSIS OF ECONOMIC IMPACT ON SMALL BUSINESSES

TITLE OF BILL: Greenhouse Gas Emissions Reduction Act of 2009

BILL NUMBER: HB 315

PREPARED BY: Governor's Legislative Office

PART A. ECONOMIC IMPACT RATING

This agency estimates that the proposed bill:

__X__ WILL HAVE MINIMAL OR NO ECONOMIC IMPACT ON MARYLAND SMALL BUSINESS

OR

___ WILL HAVE MEANINGFUL ECONOMIC IMPACT ON MARYLAND SMALL BUSINESSES

PART B. ECONOMIC IMPACT ANALYSIS

The proposed legislation will have no impact on small business in Maryland.