SB 879

Department of Legislative Services

Maryland General Assembly
2013 Session

FISCAL AND POLICY NOTE

Senate Bill 879 (Senators Edwards and Brinkley)
Budget and Taxation

Natural Gas Severance Tax and Impact Account

This bill establishes a 2.5% severance tax imposed on the market value of natural gas produced at a wellhead, subject to specified exemptions. The bill provides for the collection and administration of the tax by the Comptroller and establishes recordkeeping and payment requirements for well owners, as well as specified misdemeanor penalties for violations. Severance tax revenues are deposited into a new Natural Gas Impact Account within the existing Oil and Gas Fund administered by the Maryland Department of the Environment (MDE). The account is to be used generally to address the impact of gas exploration and production on the environment and natural resources of the State. The bill provides for specified uses of the account and authorizes MDE to recover in a civil action costs incurred for specified remediation or mitigation activities; cost recovery revenues are directed to the new account. MDE must include information about the account in the existing Oil and Gas Fund annual report to the General Assembly.

The bill takes effect July 1, 2013.

Fiscal Summary

State Effect: Special fund revenues increase negligibly beginning in FY 2014 from the collection of severance tax revenues on gas currently produced in Maryland. However, special fund revenues may increase significantly, though not likely before FY 2016, from future production in the Marcellus Shale. Special fund expenditures from the new account increase each year to address the impact of gas exploration and production, as authorized by the bill. General fund revenues from interest earnings of the new fund increase negligibly beginning in FY 2014, but more significantly to the extent that significant Marcellus Shale production occurs. General fund expenditures for the Comptroller's Office increase by $103,000 in FY 2014 for one-time computer programming modifications. The bill's penalty provisions are not anticipated to materially affect State finances.

Local Effect: Local expenditures may decrease, particularly in Allegany and Garrett counties, to the extent that State expenditures from the Natural Gas Impact Account supplant future local expenditures. The bill's penalty provisions are not anticipated to materially affect local finances.

Small Business Effect: Potential meaningful impact on any small business engaged in natural gas well drilling and related services to the extent that the bill results in any change in the demand for their services. Small business property owners in affected areas could benefit to the extent the bill reduces remediation costs.

Analysis

Bill Summary: The bill establishes exemptions from the tax for gas that is (1) used for domestic or agricultural purposes on the real property from which the gas is produced; (2) from a well that produces an average of no more than 5,000 cubic feet of gas per day in a month; and (3) withdrawn from a storage well.

The Natural Gas Impact Account is to be used to (1) monitor for, mitigate, and remediate adverse impacts of gas exploration and production on the environment, natural resources, and infrastructure in the areas where natural gas is produced, which cannot be shown to be caused by a specific person or (2) remediate or mitigate adverse impacts of gas exploration and production that require immediate action to protect public health or safety, the environment, or natural resources that are not corrected in a timely manner. However, if during any fiscal year the balance of the account exceeds $15 million, any funds in excess of that amount may also be used for projects that benefit the areas of the State where gas is produced. The bill states the intent of the General Assembly that the balance of the account not be transferred by an Act of the General Assembly.

Current Law/Background:

The Oil and Gas Fund

Chapter 383 of 2010 (HB 72) established an Oil and Gas Fund to support MDE's administration of a regulatory program that oversees the drilling, development, production, and storage of oil and gas wells in the State. Under Chapter 383, MDE is required to set and collect permit and production fees related to oil and gas well drilling. Fees must be set at a rate necessary to (1) review, inspect, and evaluate monitoring data, applications, licenses, permits, and other reports; (2) perform and oversee assessments, investigations, and research; (3) conduct permitting, inspection, and compliance activities; and (4) develop and implement regulations to address the risks to public safety, human health, and the environment from oil and gas well drilling and development. MDE advises that the regulations to establish such fees have been drafted but are being held pending the work of the Marcellus Shale Safe Drilling Initiative and related studies.

Severance Taxes

According to the National Conference of State Legislatures, as of February 2012, 31 states levy a severance tax on the extraction of oil or gas. The term "severance tax" generally refers to taxes imposed on the extraction of a natural resource from the earth or water, though an individual tax may have a different name in statute, such as a privilege or production tax. Natural gas severance taxes are generally based on the value of the gas produced, the volume or weight of the gas, or a combination of both, but the specifics of the calculation of a tax and the tax rates vary considerably across states. In addition, there can be exemptions, reductions, or other incentives for certain types of production which can lower the amount of tax paid.

Among the states that contain the Marcellus Shale, Ohio and West Virginia currently impose severance taxes at the state level, and Virginia authorizes localities to tax natural gas production. In Maryland, Garrett and Allegany counties, the two Maryland counties that contain the vast majority of the portion of the Marcellus Shale located in the State, currently have taxes on natural gas production in their local laws. For information on severance taxes in the Marcellus Shale States and other states with high levels of gas production that are located outside of the Marcellus Shale region, see **Appendix 1 – Severance Taxes in Marcellus Shale States** and **Appendix 2 – Severance Taxes in Natural Gas-producing States Outside the Marcellus Shale Region.**

General Regulation of the Oil and Gas Industry

In Maryland, MDE is authorized to issue permits for oil and gas exploration and production and is required to coordinate with the Department of Natural Resources in its evaluation of the environmental assessment of any proposed oil or gas well. Specifically, a person must obtain a permit from MDE before drilling a well for the exploration, production, or underground storage of gas or oil in Maryland. A permit is also required for the disposal of any product of a gas or oil well.

Marcellus Shale Safe Drilling Advisory Commission

The bill generally conforms to the severance tax concepts presented as a discussion draft to the Legislative Committee of the Marcellus Shale Safe Drilling Initiative Advisory Commission on January 2, 2013. The draft indicates that the advisory commission did not specify a tax rate, but indicated that it supported legislation to adopt a reasonable severance tax rate. For additional information on hydraulic fracturing, the State's natural gas resources, and the Marcellus Shale Safe Drilling Advisory Initiative Commission, see **Appendix 3 – High-volume Hydraulic Fracturing in the Marcellus Shale**.

State Revenues: The severance tax established by the bill results in a negligible increase in special fund revenues beginning in fiscal 2014 from the value of natural gas that is currently produced in Maryland. Eventually, the tax could generate more significant revenues from the value of any gas extracted from the Marcellus Shale, to the extent permits are issued for that activity in the future.

Existing Gas Production in Maryland

Special fund severance tax revenues deposited into the Natural Gas Impact Account increase negligibly beginning in fiscal 2014 from the collection of severance tax revenues on the value of natural gas produced by currently producing wells. According to the U.S. Energy Information Administration (EIA), about 34 million cubic feet of natural gas was produced in Maryland in 2011. Assuming a continuation of this volume of natural gas produced each year, and under the current EIA projections of natural gas reference prices, severance tax revenues likely total less than $10,000 annually until any production of natural gas from the Marcellus Shale formation commences.

Future Development of Gas from the Marcellus Shale

A reliable estimate of any increase in special fund revenues from the severance tax imposed on the future extraction of natural gas from the Marcellus Shale cannot be made at this time, as several variables affect the amount of production that may occur in the future and the price of natural gas. However, *under one set of assumptions and for contextual purposes only*, special fund severance tax revenues for the Natural Gas Impact Account could increase by between $138,900 and $174,900 in fiscal 2016, and by between $210,400 and $425,900 in fiscal 2017. This range is based on the production scenarios shown in **Exhibit 1**, as well as high and low natural gas price scenarios derived from EIA projections.

Exhibit 1
Estimated Number of Wells and Production for Each Production Scenario
Fiscal 2016-2025

	Low Production Case		High Production Case	
Fiscal Year	**Wells**	**Gas (bcf)**	**Wells**	**Gas (bcf)**
2016	3	1.05	3	1.05
2017	3	1.51	6	2.44
2018	4	2.14	8	3.98
2019	5	2.83	11	5.90
2020	6	3.63	14	8.27
2021	7	4.57	18	11.24
2022	8	5.59	23	14.81
2023	9	6.73	29	19.02
2024	11	7.96	35	23.85
2025	12	9.22	41	29.18
Total	**66**	**45.24**	**188**	**119.72**

bcf: billion cubic feet
Note: Numbers may not sum to total due to rounding.
Source: Department of Legislative Services

Exhibit 1 shows the number of wells and amount of gas extraction that might occur under a low- and high-production scenario, which is based on a recent U.S. Geological Survey resource projection and several assumptions made regarding the accessibility of the gas resource in Western Maryland and the pace of well development. As shown in the exhibit, it is assumed that the initial extraction of gas does not occur until fiscal 2016, which is based on the assumption that initial gas well permits are granted by MDE on August 1, 2014, the deadline for the final Marcellus Shale Safe Drilling Initiative report, and based on the anticipated period following permit issuance before gas is actually extracted. Under these scenarios, peak production is not likely to occur until after 2030.

Exhibit 2 shows the fiscal 2016 to 2018 revenue estimates under each of six production-price scenarios with the application of a 2.5% severance tax rate, assuming that the tax rate itself does not affect production. The exhibit also shows the potential range of total revenues over the fiscal 2019 to 2025 period, which is significantly higher due to the anticipated increase in production over this time period.

Exhibit 2
Estimated Severance Tax Revenue Totals
($ in Millions)

Scenario	FY 2016-2018	FY 2019-2025
Low Price/Less Gas	$0.6	$6.2
Mid Price/Less Gas	0.7	7.2
High Price/Less Gas	0.8	8.6
Low Price/More Gas	1.0	17.4
Mid Price/More Gas	1.1	20.3
High Price/More Gas	1.3	24.2

Source: Department of Legislative Services

The estimates do not account for any income from the reinvestment of money within the Natural Gas Impact Account or interest earned, which accrues to the general fund. This analysis also does not account for the collection of any penalties imposed under the bill for failure to file the required tax returns or to pay the tax. It is assumed that the penalty provisions do not materially affect State revenues.

State Expenditures: General fund expenditures increase in fiscal 2014 only for the Comptroller to undertake significant computer reprogramming. The Comptroller advises that, as a new type of tax, several programming modifications of its SMART tax processing system are needed, which are estimated to cost $103,000 in fiscal 2014. Although the bill directs the Comptroller to distribute severance tax revenues necessary to administer the severance tax to an administrative cost account prior to depositing the revenues into the Natural Gas Impact Account, this analysis assumes that the Comptroller must make the computer reprogramming changes prior to any tax revenues being received; thus, general funds are needed. It is assumed that any ongoing costs can be absorbed with existing budgeted resources.

Special fund expenditures from the Natural Gas Impact Account may increase beginning in fiscal 2014 to address the impact of gas exploration and production that cannot be attributed to a specified operator that can be held liable, as authorized by the bill. However, because current natural gas production is relatively minimal, it is assumed that these activities are not significant until production from the Marcellus Shale occurs.

It is also assumed that MDE can implement the bill in the short term with existing budgeted resources. MDE can likely handle the bill's annual reporting requirements and any additional civil actions to recover costs associated with remediation or mitigation activities under the bill with existing resources. Once future production of natural gas from the Marcellus Shale is more significant, MDE may need additional staff, including an agency budget specialist (to administer the new account) and a geologist (to monitor and oversee mitigation and remediation activities funded by the account). In particular, if the balance in the Natural Gas Impact Account exceeds $15 million in any fiscal year, workloads may increase significantly for MDE to implement projects designed to benefit producing regions, which is outside the scope of current departmental activities.

It is assumed that the bill's incarceration provisions do not materially affect State expenditures.

Local Fiscal Effect: Local government expenditures associated with monitoring and remediating the impacts of gas drilling may decrease. The bill specifies that severance tax revenues must be used by the State to address the impacts of gas exploration and production. Thus, State expenditures from the Natural Gas Impact Account may supplant local expenditures related to monitoring or remediating the impacts of drilling, particularly in Allegany and Garrett counties.

It is assumed that the bill's penalty provisions do not materially affect local finances.

Additional Information

Prior Introductions: A similar bill, SB 768 of 2012, received a hearing in the Senate Budget and Taxation Committee, but no further action was taken.

Cross File: None.

Information Source(s): Garrett County, State Department of Assessments and Taxation, Department of Natural Resources, Maryland Department of the Environment, Comptroller's Office, Marcellus Shale Safe Drilling Initiative, U.S. Geological Survey, U.S. Energy Information Administration, U.S. Environmental Protection Agency, National Conference of State Legislatures, Department of Legislative Services

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ncs/lgc

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Appendix 1 – Severance Taxes in Marcellus Shale States

States	Severance Taxes
Maryland	No statewide severance tax or production fee on gas extraction. Garrett County – 5.5% tax on value of gas at wellhead paid by the producer. Allegany County – 7.0% tax on value of gas at wellhead paid by the producer (60.0%) and the purchaser (40.0%).
New York	No statewide severance tax or production fee on gas extraction.
Ohio	Imposes a severance tax of $0.025 per thousand cubic feet to be paid by the person who actually removes the gas.
Pennsylvania	No statewide severance tax or production fee on gas extraction. House Bill 1950, signed by Governor Corbett in February 2012, established an impact fee that may be imposed by counties on wells drilled into unconventional gas formations.
Virginia	No statewide severance tax or production fee on gas extraction. Authorizes local governments to impose local license taxes on the value of the gas at sale, to be paid by the person engaging in the business of severing the gas. Several local governments currently impose a 1% tax.
West Virginia	Imposes a severance tax of 5.0% of the market value of the gas in the immediate vicinity of where it is produced.

Note: This appendix does not reflect other taxes and fees assessed on the production or sale of natural gas. A number of states impose additional taxes and fees, such as conservation taxes or regulatory fees, on natural gas wells or the volume or value of gas produced.

Source: Department of Legislative Services

Appendix 2 – Severance Taxes in Natural Gas-producing States Outside of the Marcellus Shale Region

States	Severance Taxes
Colorado	Imposes severance taxes ranging from 2.0% to 5.0% of the gross income attributable to the sale of the gas (the rate reaches 5.0% when an operator's income is above $300,000); 87.5% of specified property taxes paid can be credited against the tax; specified low-producing wells are exempt.
Louisiana	Imposes a rate of $0.148 per thousand cubic feet of gas (adjusted annually based on changes in natural gas prices).
New Mexico	Imposes a severance tax of 3.75% of the taxable value of the gas.
Oklahoma	Imposes a 1.0%, 4.0%, or 7.0% severance tax on the gross value of the production of gas, depending on the statewide average price of Oklahoma gas.
Texas	Imposes a severance tax of 7.5% of the market value of gas.
Wyoming	Imposes a severance tax of 6.0% of the fair market value of gas after completion of the production process.

Note: This appendix does not reflect other taxes and fees assessed on the production or sale of natural gas. A number of states impose additional taxes and fees, such as conservation taxes or regulatory fees, on natural gas wells or the volume or value of gas produced.

Source: Department of Legislative Services

Appendix 3 – High-volume Hydraulic Fracturing in the Marcellus Shale

The Marcellus Shale

The Marcellus Shale formation is a geologic feature in the Appalachian Range which has recently attracted significant attention from the energy industry for its rich natural gas deposits contained within 117 counties in seven states. In Maryland, the formation is located in Allegany, Garrett, and Washington counties; however, the only anticipated areas of gas production are in Garrett and western Allegany counties. Applications for permits to produce natural gas from the Marcellus Shale in Maryland using horizontal drilling and high-volume hydraulic fracturing were first filed with the Maryland Department of the Environment (MDE) in 2010. According to MDE, however, all of the permit applications that had been filed have since been withdrawn.

Concerns Regarding High-volume Hydraulic Fracturing

As the use of hydraulic fracturing has increased, so has concern about its potential impacts. MDE has advised that, although accidents are relatively rare, exploration for and production of natural gas in nearby states have resulted in injuries, well blowouts, releases of fracturing fluids, releases of methane, spills, fires, forest fragmentation, road damage, and evidence of water contamination.

In 2010, the U.S. Environmental Protection Agency (EPA) raised several concerns regarding the impact of hydraulic fracturing on water supplies, water quality, and air quality, among other issues, and is currently examining the practice more closely. In April 2012, EPA adopted a final rule to address air emissions from hydraulic fracturing, and in December 2012, EPA released a progress report on its comprehensive study of hydraulic fracturing impacts on water resources. Other states, academic organizations, environmentalists, and the industry are also conducting research into the impacts of hydraulic fracturing on the public health, safety, and the environment.

Marcellus Shale Safe Drilling Initiative

Governor Martin O'Malley established the Marcellus Shale Safe Drilling Initiative by executive order in June 2011 to ensure that, if drilling for natural gas from the Marcellus Shale proceeds in Maryland, it is done in a way that protects public health, safety, natural resources, and the environment. The executive order directs MDE and the Department of Natural Resources (DNR) to assemble and consult with an advisory commission in the study of specific topics related to horizontal drilling and hydraulic fracturing in the Marcellus Shale. Specifically, the executive order tasks MDE and DNR, in consultation

with the advisory commission, with conducting a three-part study and reporting findings and recommendations.

Part I of the study, a report on findings and recommendations regarding sources of revenue and standards of liability for damages caused by gas exploration and production, was released in December 2011. The findings and recommendations of the report led to the introduction of several bills during the 2012 legislative session; the General Assembly passed only one of the bills, however. Chapter 703 of 2012 (HB 1123) established a presumptive impact area applicable to areas around a deep shale gas deposit well for which MDE has issued a gas exploration or production permit. In a presumptive impact area, it is presumed that contamination of a "water supply" was caused by the activities of gas exploration or production. The bills that failed would have, among other things:

- established a State-level severance tax on gas production;
- created a revenue source for the ongoing study of the Marcellus Shale Safe Drilling Initiative;
- established gas or oil lease recordation requirements to facilitate public access among the land records;
- required a landman (a person who's responsibilities include meeting with landowners and negotiating leases on behalf of companies seeking to mine or drill on a plot of land) to register with the Department of Labor, Licensing, and Regulation; and
- increased the amount of performance bond coverage that a holder of a permit to drill for gas or oil must maintain.

The other two parts of the required study are (1) a report with recommendations for best practices for all aspects of natural gas exploration and production in the Marcellus Shale in Maryland and (2) a final report with findings and recommendations relating to the impact of Marcellus Shale drilling, including possible contamination of groundwater, handling and disposal of wastewater, environmental and natural resources impacts, impacts to forests and important habitats, greenhouse gas emissions, and economic impacts. A draft of the best practices report has been delayed twice and is currently expected to be released in spring 2013. The final best practices report is still expected to be completed by August 1, 2013, and the final report for the third part of the study is expected by August 1, 2014.

The Marcellus Shale Safe Drilling Initiative study has been hampered to some extent by a lack of funding. Legislation failed in the 2011 and 2012 sessions that would have

provided the estimated funding needed to fully research all initially planned aspects of the study. To date, the failure to establish a funding source for the study has resulted in the need by MDE, DNR, and the advisory commission to identify other sources of funding and to reduce the scale of the study. However, the Governor's proposed fiscal 2014 budget includes a $1.5 million fiscal 2013 deficiency appropriation in MDE and DNR to support research required by the executive order. The proposed general funds would be used to support stream sampling, economic analysis, a review of the potential impacts of gas extraction on public health, and the establishment of baseline data for groundwater, surface water, and air in Western Maryland.

Marcellus Shale Safe Drilling Advisory Commission Legislative Committee

In September 2012, the Marcellus Shale Safe Drilling Advisory Commission established a legislative committee to recommend legislative proposals to the advisory commission for consideration prior to the 2013 session. The commission considered 10 topics for potential legislative proposals and the legislative committee ultimately recommended four proposals: (1) a surface owner protection act; (2) financial assurance requirements, such as performance bonds or environmental impairment liability insurance; (3) the registration of landmen; and (4) the establishment of a severance tax on gas production.