Briefing Memorandum

To: Members of the Marcellus Shale Advisory Commission

Through: David Vanko, Chair

From: Brigid Kenney, Senior Policy Advisor, MDE
Joseph Gill, Deputy Secretary, DNR

Date: September 29, 2011

Re: Revenue Issues

Disclaimer: This briefing memorandum is intended to provide background information and assist the Advisory Commission in focusing its discussions; it is not a legal analysis of the topic. In attempting to be concise and understandable, we have omitted refinements, qualifiers and details that would be necessary for a legal analysis. This memorandum is not a position statement of the of the State of Maryland, including any State agency, and the Office of the Attorney General.[1]

Introduction

Under Governor O'Malley's Executive Order, the Departments of the Environment and Natural Resources (MDE and DNR), in consultation with the Advisory Commission, are to report their findings and recommendations on the issue of the desirability of enacting State legislation to establish one or more sources of revenue, such as a State level severance tax or other assessment, to fund State activities relating to hydraulic fracturing, including impact assessments, research, broad area monitoring, remediation where no liable entity can be identified, and other State purposes. To help the Commission focus its discussion, this memorandum outlines Maryland's current taxing structure for gas production, describes what some other states have done, and provides additional information.

Background

Taxes and Fees in General

Certain taxes are already in place in Maryland that would raise revenue from gas production. Lease payments and royalty payments are subject to income taxes. Businesses can be required to pay taxes on real and personal property, and pay taxes on income. Many states, however, assess additional taxes specifically relating to oil and gas production, chiefly in the forms of severance, personal property or conservation taxes, or some combination thereof. In 2010, the Maryland General Assembly considered but did

[1] We acknowledge the assistance of Erin Fitzsimmons, Special Assistant to the Attorney General, and numerous Assistant Attorneys General who performed research and provided the attachments to this memo. Neither this memorandum nor the attachments is legal advice or an official opinion of the Attorney General.

not enact a special fee that would have been used to fund the same studies now required by the Governor's Executive Order.

Gas Taxes in Maryland and Other States[2]

Severance Tax

A severance tax is a tax imposed on the value of natural resources extracted from the earth, such as coal, oil or gas.[3] Severance taxes are determined after commencement of drilling when the gas is extracted and can be measured, and the taxes are assessed and paid after the gas is extracted. Generally, the taxes are based on (a) the value of the gas extracted at the wellhead, (b) the sale price of the gas, or (c) the volume or weight when it is extracted.

The formulas for calculating severance taxes vary considerably across the states in both the basis for calculation and the amount of the taxes, with ranges from 2% to 25%. Most states apply a statewide tax while some authorize counties to impose the tax. There are many exceptions (deductions and credits) that factor into the final tax rate and usually lower the tax payment made to the state.

Maryland and Pennsylvania are the only gas-producing states in the Mid-Atlantic area that do not have some form of state-level severance tax.

Garrett County levies a tax of 5.5 % on the wholesale market value of gas produced from wells in Garrett County. The producer must pay the tax by the 15th of every month, based on the amount of gas produced in the previous month. Ten-elevenths of the money received is distributed to the County, and one-eleventh to the municipalities in the County, on a per capita basis. Public Local Laws of Garrett County, Sections 51.01 through 51.07.

A University of Maryland Extension agent estimated that the total revenues for Garrett County Marcellus Shale gas would be between $3.9 billion and $31 billion over an assumed 50-year lifetime of the play.[4] At 5.5%, Garrett County's severance tax could raise between $216 million and $1.7 billion over the lifetime of the Marcellus wells. The value of the play in Allegany County was estimated to be between $1.9 billion and $15.7 billion. Allegany County currently has no severance tax on gas.

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[2] Attachment A contains a summary of taxing laws in numerous states.

[3] There is a Maryland severance tax on surface mined coal in Garrett and other Code Counties, at the rate of 30 cents per ton. Md. Ann. Code Art. 24, § 9-501 and 502. The taxes collected under are deposited in the general fund of the county. § 9-504. The governing body of a county may distribute up to 5 cents per ton of the money derived from the tax to the municipal corporations for the reconstruction, repair, or maintenance of municipal coal haul roads and bridges. § 9-506.
A Maryland severance tax of $1 per bushel is levied upon every bushel of oysters caught within the limits of the natural oyster bars of the State exclusive of the Potomac River. Nat. Res. Code Ann. § 4-1020. All taxes collected under this section shall be credited to the Fisheries Research and Development Fund and used only for the repletion of the natural oyster bars of the State. *Id.*

[4] The extension agent used assumptions provided by a representative of Samson Resources. The document can be found at http://marcellusshale.garrettcounty.org/images/documents/Economic%20Value%20Estimates.pdf.

Personal Property Tax

Personal property is exempt from State property tax. Md. Tax-Property Code Ann., §§ 7-301. Counties and municipalities can impose a tax on personal property. Md. Tax-Property Code Ann., §§ 6-202 and 6-203. "Manufacturing" is defined as the operation of machinery and equipment used to extract and process minerals, metals, or earthen materials or by-products that result from the extracting or processing. Md. Tax-Property Code Ann. § 1-101 (r). If natural gas were considered a mineral or earthen material, the machinery and equipment used to extract it would be considered manufacturing property. At this time, neither Allegany nor Garrett Counties taxes manufacturing property, although such taxation is authorized by State law. Md. Tax-Property Code Ann., § 7-225. Other states assess personal property taxes on the value of equipment or other assets used to produce oil or gas, ranging from 27% in New Mexico, 6.2% in Wyoming and 2% in Alaska.

Real Property Tax

Real property taxes are assessed against the assessed value of the property. The Maryland statute regarding property taxes provides: "If minerals and mineral rights are owned separately from the land in which they are located, the supervisor may assess the minerals and mineral rights separately from the land." Md. Tax-Property Code Ann. § 8-229. According to State Department of Assessment and Taxation, this provision has not been used, mainly because it is so difficult to estimate the value of mineral rights when the minerals rights are still in the ground.

Other Taxes

A few states impose conservation taxes (0.19% in New Mexico, 0.002% in Utah). Other states impose special or privilege taxes.

The chart below summarizes the tax structures of 14 states, including Maryland.

State	**Severance**[5]	**Personal Property**	**Other Tax**
Alaska	25% of net value at production	2%	
Kansas	8% of gross value		
Texas	7.5% of market value at well		
Oklahoma	7% of average monthly price		
Wyoming	6% of gross value, including royalties	6.2%	
Maryland	**5.5% in Garrett County**		
West Virginia	5% of gross value		
Tennessee	3% of gross income		
Colorado	2 – 5% of gross income	Varies by county	
Utah	3 – 5% of value based on mcf	Varies by	.002

[5] Statutory or regulatory rate only; does not include deductions or credits.

State	Severance[5]	Personal Property	Other Tax
		county	conservation fee
New Mexico	1.88 – 3.75% of net price per mcf	27% on equipment; .88% on products	2 – 2.4% privilege tax; .19% conservation fee
Louisiana	$0.164 per mcf		
Ohio	$0.025 per mcf		

Marcellus Shale Study Fee

In 2011, the Maryland General Assembly considered House Bill 852 (HB852) that would have imposed a fee prior to the extraction of any gas. The money collected would have funded the studies and analysis called for in HB852 and in the directives of Governor O'Malley's June 6, 2011 Executive Order 01.01.2011.11

Under HB852, certain persons with gas interests in Garrett and Allegany Counties would have been required to pay a fee of $10 per acre per year for two years to Maryland's Oil and Gas Fund.[6] It was estimated that this fee, payable on August 1 of each year, would generate approximately $2 million. The class of owners of gas interest subject to this fee was limited to those who acquired the interest after January 1, 2007, and excluded persons who owned the surface rights, even if they also owned the mineral rights. The purposes for which the fee would have been used included: (a) construction of well and stream gages for baseline ground and surface water monitoring; and (b) studies of well construction best practices, the risks of contamination from hydraulic fracturing fluids, availability of water resources, forest habitat fragmentation and sensitive area impacts, and analysis of the projected positive and negative economic impacts of hydraulic fracturing.

Permit and Production Fees

A person must obtain a permit from MDE's Minerals, Oil, and Gas Division before drilling a well for the exploration, production, or underground storage of gas or oil in Maryland. 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.

[6] The Oil and Gas Fund is an example of a fund dedicated to a specific purpose. Attachment B contains information about other such funds.

MDE is developing regulations to establish these fees. The fees will likely need to take into account the Department's costs in evaluating permit applications for compliance with the Best Practices adopted following the Commission's recommendations. For example, if best practices are required for "green completion"[7] of wells, groups within MDE's Air and Radiation Management Administration may need to review the proposed equipment and procedures for green completion.

Unlike most taxes, permit fees generate revenue in advance of the actual gas production; however, the fees would be assessed only against those who apply for permits. To date, only three entities have filed permit applications in Maryland.

[7] Green completion techniques are methods that minimize the amount of natural gas and oil vapors that are released to the environment when a well is being completed, including the hydraulic fracturing stage.

Attachment A

Tax Structures of Oil and Gas-Producing States

I. SEVERANCE TAXES

State: Alaska
Amount: 25% of net value of gas at point of production
How Calculated: Value at well head, less "qualified lease expenditures"
Exemptions/credits: Numerous credits, including gas producer education credit; capital expenditure credit; new area development credit; small producer credit. Exemption for gas used on property for drilling, production, repressuring wells.

State: Kansas
Amount: 8% of gross value minus credit for ad valorem property tax = approximately 4.33% effective tax rate
How Calculated: Gross sales price of product
Exemptions/credits: Exemption for gas injected for repressuring; used for fuel; vented/flared; wells with average production of < $87/day; gas used for domestic, agricultural purposes on property; inactive wells; gas injected to underground storage. Credit for ad valorem property tax paid (rate is 3.67% gross value of gas).

State: Texas
Amount: 7.5%
How Calculated: On market value of gas at well site
Deductions/credits: Numerous deductions and exemptions, reducing effective rate to <2%. Deductions include those for certain methods of production, transportation costs, and marketing expenses. Credits/exemptions for "high-cost" wells (defined by statute based on specific geologic formations/processes used to produce the gas – Barnett shale gas wells are 'high cost'), inactive wells, flared gas, gas from low-producing wells.

State: Oklahoma
Amount: 7% of average monthly price of gas plus .085% excise tax
How Calculated: Average monthly price determined by OK Tax Comm'n
Exemptions/credits: Tax is on a sliding scale based on price of OK gas, can be as low as 1% if gas is <$1.75 mcf. In addition, OK has 7 types of rebates/exemptions, including horizontally-drilled wells, economically risky projects, deep wells, new discoveries. Rebates can reduce effective tax rate to almost 0%.

State: Wyoming
Amount: 6%
How Calculated: On gross sales volume (mcf) x gross sales value, including value of royalty interests. Note that Tribal severance tax is 8%.

Deductions/credits: Transportation and processing costs; payments for federal mineral royalties; reduction in tax rate for renewed production (1.5%); and new wells drilled (2%); deduction for mcf taken in-kind.

State: West Virginia
Amount: 5% of gross value of gas produced + $0.47/mcf of natural gas produced after 11/30/2005.
How Calculated: Gross proceeds derived from sale at point where production ends.
Exemptions/credits: Free natural gas provided to surface owner; no tax on gas from well producing < 5000 cf/day; exemption from tax for 10 years for gas produced from formerly inactive well.

State: Tennessee
Amount: 3% on sale price
How Calculated: Withheld by first seller from proceeds of sale
Exemptions/credits: Free gas to property owner/tenant if provided in lease unless in lieu of cash payment; gas injected to underground storage.

State: Colorado
Amount: 2% to 5% depending on gross income
How calculated: Sliding scale from 2% tax under $25000 to 5% tax on $30000+ gross income. Tax is paid by producers and owners of any interest, including royalty interests.
Exemptions/credits: Gas from stripper wells (wells producing average of 90,000 cf or less per day) is exempt. Credit for 87.5% of property taxes paid. Average effective rate, factoring in credits and exemptions is @ 1%.

State: Utah
Amount: 3% of value up to first $1.50 per mcf; 5% of value from $1.51 per mcf and up
How Calculated: Based on value of gas produced and saved, sold, or transported from the field where produced
Exemptions/credits: No tax on stripper wells (<60mcf/d); no tax on 1st 12 months production from wildcat wells or 1st 6 months production from development wells; 50% tax credit for enhanced recovery gas.

State: New Mexico
Amount: 1.88% - 3.75% , although total taxes (production, ad valorem, etc.) amount to 8.67%-9.5%
How Calculated: Net price per mcf (i.e. the taxable value of the product)
Deductions/credits: Royalties paid to NM, Indian tribes, or US; reasonable transportation costs to first place of market.

State:	**Louisiana**
Amount:	**$0.164 per mcf**
How Calculated:	**Adjusted annually by formula based on NYMEX price of gas delivered into pipelines**
Exemptions/credits:	**Reduction for low-pressure wells to $.03 per mcf; exemption for gas injected into reservoirs, flared, or vented; used for fuel in field operations. Tax suspended for horizontal wells, new discovery wells, and for deep wells (over 15,000 ft) for 1st 24 months; suspended for inactive wells. Tax incentive provided (reduction of 20%) for gas produced from injection of produced water.**

State:	**Ohio**
Amount:	**$0.025/mcf**
How Calculated:	**Weight or volume of gas at point of severance; paid by holders of severance permits**
Exemptions/credits:	**Exemption for gas used on site as part of the homestead, up to value of $1000/yr or less.**

State:	**Virginia**
Amount:	**Authorizes counties to impose up to 1% tax on gross receipts from sale of gas severed in the county. No state-wide severance tax.**
How Calculated:	**"Gross receipts" = fair market value at time gas utilized/sold/placed in transit in the county.**
Deductions:	**No deductions allowed.**

Note: Pennsylvania and New York currently have no severance tax.

II. PROPERTY TAXES

State:	**New Mexico**
Amount:	**27% on assessed value of equipment at each production unit**
How Calculated:	**Taxable value of equipment = 27% of the value of the products of each unit. Assessed value is determined by applying uniform assessment ratio to the taxable value.= tax of @$0.15/net price mcf.**
Exemptions:	**None listed**

State:	**New York**
Amount:	**6.5% on "net income base" of entity engaged in extracting gas: also a property tax is assessed and collected annually on "oil and gas economic units" of real property.**
How Calculated:	**NY State Tax Division staff analyze production data ($$ per mcf) and determine "unit of production value" for each**

formation of gas in the State. Gross income from sales is reduced by, inter alia, operating expenses, royalty payments, depletion and depreciation. Assessors use the unit of production values to calculate assessed values for oil and gas properties. Assessed values include all pipes, pipelines, rigs, and equipment and fixtures necessary to extract and collect gas for commercial sale.

Exemptions: **Distribution of natural gas exempted from 6.5% tax.**

State: **Wyoming**
Amount: **varies by county, average of 6.2%, but changes annually**
How Calculated: **Market value of gas x assessment rate (currently 100%) x mill levy (varies by local governments, including cities, counties, school districts) = tax bill.**
Deductions/credits: **Deductions for transportation costs (if trucked to market), royalty payments.**

State: **Alaska**
Amount: **2% of assessed value of taxable exploration, production, pipeline, transportation property (equipment)**
How Calculated: **Tax on value of estimated price of exploration property; on replacement cost minus depreciation of production property; on economic value relative to reserves feeding into pipeline.**
Exemptions/credits: **Municipal property taxes paid; education credits (contributions to colleges/vocational programs).**

State: **New Mexico**
Amount: **0.88%, imposed by local taxing authorities (counties, school districts) of assessed value of products severed and sold.**
How Calculated: **Assessed value of gas sold- rate changes every year.**
Exemptions: **None listed**

State: **Utah**
Amount: **Tax rate varies by county – assessment is by State at 100% fmv**
How Calculated: **On assessed fair market value of gas properties each Jan. 1.**
Exemptions: **None listed**

State: **Colorado**
Amount: **Varies by county**
How Calculated: **Paid by producer or first purchaser to local governments, but can be recouped from well owner**
Exemptions/credits: **Well interest owners pay pro rata share of ad valorem taxes, but they may deduct 87.5% of tax paid on actual gas production but not on property or equipment.**

III. CONSERVATION TAX

State: New Mexico
Amount: .19% of taxable value of gas severed and sold
How Calculated: Rate varies with balance in New Mexico's oil/gas reclamation fund. Operator or purchaser must withhold tax from payment to well owner.
Exemptions/credits: Royalties paid to United States, State of New Mexico, or Indian Tribe; expenses of trucking to first place of sale. None listed

State: Utah (calls it a 'conservation fee')
Amount: .002 x value of gas produced/saved/sold/transported
How Calculated: Paid by ownership interests and operators, in proportion to their respective interests.
Exemptions/credits: Mineral interests produced/sold by the US government, state/political subdivisions, Indian tribes, gas used in production, repressuring, recycling.

State: California ("conservation charge")
Amount: Fee is computed annually by Cal. Government (oil/gas regulatory division + finance division) to produce enough money to fund oversight and operating expenses of regulators. Charge is imposed on owners of royalty or other interest, and upon the person operating the well.
How Calculated: Based upon the amount of gas produced in the preceding calendar year
Exemptions: Gas used for recycling or in production; gas production of <\$10 in past year.

State: Wyoming
Amount: .040% - appears to have expired in 2010
How Calculated: On gas sales price (as opposed to production)

IV. OTHER TAXES

State: Ohio
Type of Tax: Oil and Gas Regulatory Cost Recovery Assessment
Amount: Based on sum of severance taxes paid and amount of assessment of gas produced (\$.005/mcf). Sum compared to minimum assessment of \$15.00 per well. Severance taxes paid subtracted from the greater of the two sums = tax.
Paid by: Owner of gas-producing well, but may be paid by severer (operator) on that person's severance tax return.
Credits: Severance taxes paid may be deducted from amount due.

State: New Mexico

Type of Tax:	**Oil and Gas Emergency School Tax – a "Privilege Tax" on the business of every person severing hydrocarbons in the State**
Amount:	**Rate based on products' taxable value – varies between 2-4% net price per mcf**
Paid by:	**Every interest owner, to the extent of his interest in the value of the severed products**
Deductions/Credits:	**Stripper wells pay a lower rate based on avg annual value of gas produced in preceding year.**

State:	**New Mexico**
Type of Tax:	**Natural Gas Processors Tax – a "Privilege Tax" on processors**
Amount:	**\$.0065 per MMBTUs of gas delivered to processor at the plant**
Paid by:	**Operators of natural gas processing plants in the state**
Credits:	**Various MMBTU deductions and credits for gas used for processing; returned to lease; flared legally, or lost by force majeur.**

Attachment B

Funds for Cleanup and Other Special Purposes

<u>Federal Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)</u>
<u>Authority</u>: 42 USCA Sections 9601 through 9675

<u>Covers</u>: hazardous substances and pollutants; "hazardous substance" does not include petroleum, including crude oil or any fraction thereof, natural gas, natural gas liquids, liquefied natural gas, and synthetic gas usable for fuel

<u>Purposes</u>: cleaning up abandoned or uncontrolled hazardous waste sites

<u>Source of funds</u>: a tax on the chemical and petroleum industries, which expired in 1995; EPA also aggressively pursues cost reimbursement from responsible parties

<u>Maryland Oil Disaster Containment, Clean-Up and Contingency Fund</u>
<u>Authority</u>: Section 4-411 of the Environment Article

<u>Covers</u>: Oil and other liquid petroleum products, including motor fuel ethanol and biofuels, but not natural gas or liquefied natural gas

<u>Purposes</u>: to enable the Department: to respond to and cleanup releases of oil to waters of the State, both above and below ground, where the responsible party is unable or unwilling to perform the corrective action

<u>Source of funds</u>: The Fund revenues are generated by licensees (Oil Transfer License) paying 5.75 cents per barrel (42 gallons/barrel) of oil transferred into the State; the fee is imposed at the first point of transfer

<u>Maryland Deep Mining Fund</u>
<u>Authority</u>: Title 15, Subtitle 6 of the Environment Article

<u>Covers</u>: deep mining of coal

<u>Purposes</u>: Used to fund deep mine control, reclamation of subsidence problems and mine opening and sealing; funding also used for federal match for the regulatory mining program

<u>Source of funds</u>: Per ton surcharge, permits fees, fines and bond forfeitures

<u>Maryland Oil and Gas Fund</u>
<u>Authority</u>: Section 14-122 of the Environment Article

<u>Covers</u>: natural gas and other fluid hydrocarbons, not defined as oil, which are produced from a natural reservoir; and crude petroleum oil and other hydrocarbons, regardless of gravity, which are produced at the wellhead in liquid form, except liquid hydrocarbons known as distillate or condensate recovered or extracted from gas

<u>Purposes</u>: The Department is authorized to use money in the Fund solely to administer and implement programs to oversee the drilling, development, production, and storage of oil and gas wells, and other requirements related to the drilling of oil and gas wells,

including all costs incurred by the State to: review, inspect, and evaluate monitoring data, applications, licenses, permits, analyses, and reports; perform and oversee assessments, investigations, and research; conduct permitting, inspection, and compliance activities; and develop, adopt, and implement regulations, programs, or initiatives to address risks to public safety, human health, and the environment related to the drilling and development of oil and gas wells, including the method of hydrofracturing

Source of funds: The Fund consists of: permit fees collected by the Department; funds appropriated by the General Assembly; and fines and bond forfeitures collected by the Department