

League of Women Voters of Pennsylvania
Marcellus Shale Natural Gas Extraction Study
2009-2010
STUDY GUIDE IV

**TAXING NATURAL GAS EXTRACTION FROM MARCELLUS
SHALE**

How can the residents of Pennsylvania best benefit from the development of Marcellus Shale natural gas? In what ways does the Marcellus Shale “economy” currently serve as a source of revenue? Should natural gas extracted from the Marcellus Shale be taxed in Pennsylvania? If so, how should it be taxed and how should the tax money be allocated?

There is a great deal of money in the extraction of natural gas from Marcellus Shale. Because these wells will produce for thirty to fifty years with reduced transportation costs to customers, the return on investment in Marcellus Shale wells averages 30%, twice that of a conventional well. People who own both the land and mineral rights can negotiate leases or agreements that give companies the right to enter the property, conduct tests, and explore its potential for a specific period of months or years. A company may entice the property owner who owns the mineral rights and surface rights to lease by offering a one-time, up-front payment or signing bonus. Those who own mineral rights, in conjunction with or apart from the surface land, are guaranteed a minimum 12.5% royalty as provided by Pennsylvania law. A royalty, in this context, is a fractional share on the future sales of gas or other minerals extracted from the land. Owners of properties under which mineral rights have been previously sold possess surface rights. Their ability to negotiate is limited because a company that buys mineral rights also buys the right to enter the property and remove the resource at a future time. The Commonwealth of Pennsylvania, like private citizens, owns land and mineral rights that enable the state to lease acreage, negotiate lease bonuses, and earn royalties.

PERMIT FEES, SURCHARGES, AND BONDING

Pennsylvania and its municipalities obtain revenue from natural gas extraction in a variety of ways. Initially, to drill a new Marcellus Shale natural gas well in Pennsylvania, the operator must obtain a well permit from the Department of Environmental Protection (DEP). Within the past year, the base fee for a permit was increased from \$100 to \$900 and now requires an additional \$100 per 500 feet of well bore drilled past 1,500 feet (DEP, 2009, April). These changes were made to assure adequate funding for the review and inspections of permit applications within the Marcellus Shale formation. In accordance with the Oil and Gas Act of 1984, natural gas drillers pay an additional surcharge for “Abandoned Wells” and “Orphan Wells.” The surcharge for an orphan well, abandoned prior to 1985, is \$200 per gas well, and the surcharge of an abandoned well, one whose owner cannot be found, is \$50 per well. These surcharges are paid into the Orphan Well Plugging and Abandoned Well Plugging Funds (DEP, 2007, April).

DEP also requires a bond that serves as a financial incentive to ensure that the operator will adequately perform the drilling operations, address any water supply problems the drilling activity may cause, reclaim the well site, and properly plug the well upon abandonment. The bond amount for a single well is \$2,500; a blanket bond to cover any number of wells is \$25,000. A bond is not released or returned to the company until the wells are plugged and the site is reclaimed. Guidelines for obtaining bonds are included in the Operators Manual (DEP 2009, October 23).

The publication “Marcellus Shale: What Local Government Officials Need To Know” informed

local officials that they have the option of requiring companies to post bonds. However, such a process requires careful, advanced planning and diligence in following procedures to recover costs if a gas company causes damage. Since 1978, state law has allowed local officials to require owners of overweight vehicles to obtain travel permits and post bonds of up to \$12,500 per road mile. The company provides security for potential road repairs by a line of credit, a performance bond, or a certified check. When needed, these funds help pay for damage to roads caused by the frequent traffic of heavy trucks involved in the extraction of natural gas from Marcellus Shale. If road repair is not required, the funds are released back to the company.

REVENUE FROM LEASING STATE LANDS

In 2008, the Department of Conservation and Natural Resources (DCNR) announced a lease sale of 74,023 acres of State Forest Land in north central Pennsylvania. According to the DCNR website, such leasing is seen as a way to be responsive to society's energy demands and ensure the sustainability of the State Forest system. The highest bids posted for eighteen (18) tracts ranged from \$2 million to \$33 million for a total of nearly \$200 million. Under the draft conditions on the DCNR website, wells are to be drilled within the first five years of the ten-year lease and continue from year-to-year thereafter so long as production is financially viable or appears to be so. In addition to regulations, bonding, and insurance requirements, the draft includes a 16% royalty payment (DCNR, 2008).

During the 2009 budget debate, H.B. 1050 proposed that an additional 390,000 acres of State forest land be leased over a three-year period for a minimum of \$2000 per acre. With royalty rates set at 16%, the estimated income to Pennsylvania for the first year would be \$260 million. Representatives of the gas and oil industry supported this leasing proposal. However, questions continue to be raised about how much of the State land is actually available for leasing. Of the 2.1 million acres of land that Pennsylvania owns, 1.6 million acres overlie the Marcellus Shale natural gas deposit. Of those 1.6 million acres, 600,000 acres are already leased. Acting Director of DCNR John Quigley reported that 225,000 acres of State Forest Land are available to lease for Marcellus Shale natural gas drilling, not the 390,000 acre figure H.B. 1050 uses (Novak, 2009, July 10). While the State owns 22% of the land over the Marcellus Shale formation (Department of Conservation and Natural Resources, 2009, July 11), it may not own the mineral right. Other acreage includes state parks, environmental recreation areas, designated wildlife regions, and/or significant natural habitats. The recently adopted 2009-2010 budget requires the Department of Conservation and Natural Resources to raise \$60 million by leasing up to 10,000 more acres of public forest land to drillers in the next year.

TAXING NATURAL GAS IN PENNSYLVANIA

Currently, natural gas is taxed directly and indirectly in Pennsylvania. Direct taxes are those placed on income by residents and corporations who earn money from the actual production of gas. If a permanent resident receives royalties or lease bonuses from the natural gas industry, these are subject to 3.07% personal income tax. In regard to corporations, they are subject to a net income tax of 9.99%. However, if such corporations are organized as limited liability corporations (LLC), limited liability partnerships (LLP), or master limited liability partnerships (MLLP), they pay the same rate as individual personal income tax, 3.07%. Based on data obtained by examining names on DEP drilling permits, the Pennsylvania Budget and Policy Center (2009, June 29) determined that 70.6% of the natural gas wells drilled were owned by businesses in the 3.07% paying status.

Indirect taxes include sales, wage, and property taxes. Residential users pay a 0.5% tax on their total bill while commercial users pay 0.2% plus a 6% sales tax. Wage taxes, paid by those who work in

the industry, are paid at a rate determined by the municipality where they live, not where they work. In regard to taxing properties, municipalities can assess coal, timber, and gravel as real estate. However, as a result of a 2000 PA Supreme Court ruling in Independent Oil and Gas Association of PA v. the Board of Assessment Appeals of Fayette County, assessing and levying property taxes on oil and gas wells is not explicitly authorized under the law. The PA Association of Township Supervisors is supporting legislation (H.B. 10) that would re-enable municipalities to tax oil and natural gas reserves as property tax.

Until it is phased out after 2014, Pennsylvania also has a Capital Stock and Franchise Tax. This is levied on all companies that are classified as corporations for Federal income tax purposes and do business in the State. This capital stock tax is based on a formula depending on both the net worth and net income of a corporation. Since its inception in 1967, the rate of taxation has varied from a high of 13.0 mills in 1991 to .089 mills in 2010.

MARCELLUS SHALE NATURAL GAS EXTRACTION TAX

The United States Census Bureau reports that 35 states have some kind of severance tax; 31 of those states have both corporation and severance taxes; and 27 states have a severance tax for natural gas (Wood & Ward, 2009, April). Currently Pennsylvania is an importer of natural gas and its consumers pay severance taxes to states from which it is extracted. As the Marcellus Shale play is developed, Pennsylvania will become an exporter. Pennsylvania utilities will pass along all taxes to their customers (personal communication with Dan Donovan, Dominion Peoples Gas, September 25, 2009).

How much money can be garnered from taxes on natural gas extracted from Marcellus shale wells? In a press release, Seneca Resources Corporation President and Chief Executive Officer David F. Smith predicted such gas wells would produce twenty to thirty million cubic feet per day. At a “very low” unit price of \$2.035 per million British thermal units, Seneca Resources would earn nearly \$4 million from one well in a year.

A severance tax, comparable to that in West Virginia, was the focus of much discussion during the lengthy budget debate of 2009. That tax is 5% of the gross value of gas extracted, assessed at the wellhead. Additionally, there is a tax of 4.7 cents per thousand cubic feet assessed on natural gas ready to be moved to the customer (H.B. 1489/1531). Stripper wells (wells that are near the end of their useful lives and are unable to produce more than 60,000 cubic feet per day of natural gas) were exempt from taxation. With the number of wells increasing, revenue projections look quite strong. In fact, the Budget and Policy Center (2009, June 29) estimated that had the severance tax been in effect on October 1, 2009, it would have brought in \$107 million for fiscal year 2009-10. By 2013-2014, they estimated that this tax could bring in \$632 million in revenue.

When considering the drafting of an extraction tax on natural gas, Wood and Ward (2009, April) noted that the structure of a tax is critical. Simplicity, clarity and rate issues are essential elements of good tax regulation. For example, because of the inclusion of complex deductions, Alabama collects less money than states with a lower tax rate. Utah lost a suit to Exxon Mobil because of ambiguous language. By setting its rate too low, Arkansas collects less money than states with a higher tax rate. In fact, this state collected \$620,000 over 50 years instead of the \$99.9 million it would have collected at the Texas rate.

As of 2007, of the fourteen states that produced more natural gas than Pennsylvania, only Wyoming does not have an income tax as well as a severance tax (Levdansky, 2009, June).

POSITIONS REGARDING A SEVERANCE TAX

Proponents and opponents of a severance tax present well-articulated and passionate views on the

issue. Key arguments are summarized below:

Table 1 Positions Regarding a Severance Tax

Advocates for a Severance Tax	Opponents of a Severance Tax
Capitalizes on relatively risk-free investment given seismic pre-testing and production success	Creates a strain on the capital of fledgling, start-up companies given \$3.5 to 4 million drilling costs for each well
Incentives for drilling are based on well production and not the presence or absence of severance taxes based on a Wyoming study by Gerking (2000, December 1); Decker (2009, February 26) found that reducing taxes failed to promote drilling	An industry-funded study of Considine et al. (2009, July 24) predicted a 30% reduction in drilling as companies move rigs to other states (Louisiana and Arkansas) where taxing climate is more favorable to the gas industry
Over 70% of PA drilling companies organized to pay income tax at 3.07% individual rate; based on US Census Bureau data, Wood (2009, April) notes that 71% of corporations paid \$0 taxes on Comprehensive Net Income Tax returns in 2004	Excessive taxes deter corporations with PA’s corporate 9.9% tax rate, the third highest in nation; severance tax “burdensome;” PA Capital Stock and Franchise Tax now paid by companies based on their net worth and income and will not phase out until after 2014
PA only one of 15 top natural gas producing states not to have severance tax; only Wyoming does not have both severance and income tax; impose severance tax on all resources comparable to other states	PA does not have severance taxes on other resources such as coal and timber extracted from the state so it is unfair to impose them on natural gas
PA residents already pay for severance taxes to other states; if enacted, severance taxes paid by PA residents for natural gas produced will stay in state	PA consumers of natural gas will pay the price; whatever the severance tax rate, the costs will be transferred from the companies to natural gas customers. With no PA severance tax, consumers should pay less for natural gas.
Severance taxes paid by companies to the state are directed to local needs and deductible from Federal taxes that are, in turn, reduced.	Without a severance tax, companies will pay higher Federal taxes that generally address broader, national needs rather than those of the state.

LEGISLATION RELATED TO MARCELLUS SHALE NATURAL GAS EXTRACTION

In addition to taxes from royalties, leases, and bonuses, numerous bills are under consideration to address the development of Marcellus Shale. Although Pennsylvania has significant regulations for gas and oil well drilling, horizontal drilling is relatively new to the Commonwealth. As a result, pending legislation addresses a myriad of related issues from safeguarding water resources to regulating taxation. They are summarized in the following table:

Table 2 Pending Legislation Related to Marcellus Shale Natural Gas Extraction

House Bills	Content	Background
HB 10	Re-enables counties, municipalities, school districts to assess and tax natural gas, coal bed methane, and oil as property for local revenue purposes	After years of local agencies taxing these resources as property, the PA Supreme Court ruled that, unlike timber and coal, the legislature had not specified that natural gas, oil, and coal bed methane could be so taxed (12/19/02).
HB 208	Amends the “Clean and Green” (PL973 of 1974) to roll back the tax on one acre of “agricultural land” to its previous levels when it is used as the site of a natural gas well	“Clean and Green” protects farmland from urban development pressures; it allows farmers to opt for lower taxes on agricultural land. If the land changes use, the difference between the lower taxes on “farm” land and assessed taxes on the modified land on the must be paid.
HB 297	Authorizes PennDot to determine road repair costs and to revise bonding amounts accordingly every three years.	Currently road bonding is set at \$12,500/ paved mile. This is less than the cost of repair. Taxpayers foot the difference in cost.
HB 473	Provides landowners without mineral rights up to two years to file a complaint for surface damages. If a resolution cannot be reached within 6 months of the complaint, owners can request a DEP investigation. If drilling is found at fault, a driller has six months to make repairs.	Owners of surface rights, without mineral rights, currently have no recourse for damaged land caused by drilling.
HB 808	Amends Gas and Oil Act of 1984 by doubling drillers bonding and surcharges as follows: Plugging Well - \$5000 Blanket Bond - \$50,000 (covers all wells of given driller) Surcharges for Plugging Wells Abandoned Well - \$100 Newly orphaned Oil Well - \$200 Newly orphaned Gas Well - \$400	Currently funds from bonding and surcharges are used to pay for the plugging of orphaned wells (those abandoned prior to 1985) and abandoned wells (those for which no owner can be found). DEP (2007, April) reported its average cost for plugging abandoned and orphaned wells was \$9650 between 2004 and 2007.
HB 984	Amends Gas and Oil Act of 1984 by allowing mineral rights owner to read gas meter at well head every six months and to request from DEP copy of annual production report as pertains to that well.	Since royalties to those who own mineral rights are based on the amount of gas severed at wellhead, a verification process to determine production is needed.
HB 977	Amends Oil and Gas Conservation Law of 1961 to include horizontal drilling by requiring drillers to notify surface rights owners if drilling is occurring below their	Since horizontal drilling can be done extensively in all directions at great depths, a driller may access mineral rights without the knowledge of owners. Because gas extracted from Marcellus Shale requires extensive

	land; by specifying the calculation of royalties prior to production, and by clarifying the minimum 12.5% royalty based on the market value of the natural gas.	processing and costs prior to reaching the consumer, clarification is needed as to the basis on which a royalty is calculated.
HB 1139	Reduces the distance between wells on a given site from 1000 to 900 feet .	Currently, wells can be no closer than 1000 feet apart. The closer wells are drilled on a site, the greater a company's profit.
HB 1205	Amends Oil and Gas Act of 1984 by requiring drillers to have PA certified lab test water sources within 2000 feet of well prior to drilling and to retest water up to 24 months after drilling at a landowner's request	Drillers are presently not required to test water before or after drilling. However, a company is presumed responsible for water problems when drilling is within 1000 feet of well. A landowner has six months from well completion to request a DEP investigation.
Senate Bills	Content	Background
SB 297	Amends Gas and Oil Act of 1984 by requiring well operators to submit semi-annual production reports to DEP. DEP would post on website.	Production of natural gas from Marcellus Shale is difficult to determine without analysis of the quarterly statements to stockholders. Transparency is needed.
SB 298	Amends "Clean and Green" (P.L. 793 of 1974) by rolling back taxes to be paid on well site as per H.B. 208; Maintains "agricultural" status for farmland above pipelines	Given that well sites are built on farmlands that are eligible for lower taxes under "Clean and Green," clarification is needed as to a "new use" for tax purposes. The status of farmlands above pipelines requires similar clarification.

ALLOCATING INCOME FROM MARCELLUS NATURAL GAS EXTRACTION

If Pennsylvania collects revenue from the extraction of natural gas from Marcellus Shale, how should it be allocated? As the state struggled with a 2.3 billion dollar deficit in the 2009-2010 budget, some advocated that moneys from this source be used to supplement or replace tax dollars for on-going expenses. However, others questioned the wisdom of paying operating costs in the General Fund from a non-renewable resource. In addition to paying for the salaries of legislators, the General Fund is responsible for providing critical services such as those for police protection, education, mental health, community action, libraries, the arts, and Growing Greener programs. Because of the on-going nature of these programs, many individuals believe that these should be funded by sustainable, available sources.

Pennsylvania, like an individual landowner who holds mineral rights, will receive on-going royalties and one-time lease bonuses for its state-owned lands. According to H.B. 1050 that addressed the leasing of state lands, lease bonuses are set at a minimum of \$2000 per acre and royalties at 16%. However, the earnings from royalties will wane as production levels out and decreases over time. In looking at revenue, Rep. Dave Reed estimates that Pennsylvania will earn about \$260 million annually from these two sources. Ultimately, the fate of these monies is dependent on the legislature. Under H.B. 1050, revenue will be divided with 80% going to the General Fund, 12.5% to communities with active natural gas wells, 2.5% to communities with Marcellus Shale natural gas wells, and 5% to

Conservation Districts.

Another option for allocating revenue was proposed by H.B. 1489 and H.B.1531. Under these parameters, a Natural Gas Severance Tax Fund would be established from which the Treasury could allocate money on a quarterly basis. Sixty per cent would go to the General Fund, 15% to an Environmental Stewardship Fund, 5% to augment the liquids fuels tax fund, 4.5% to municipalities with active wells, 4% for hazardous clean-up, 3% to the public welfare department for home energy assistance, and 2% each to the Pennsylvania Game Commission and Pennsylvania Fish and Boat Commission. Both bills would also eliminate funding the Oil and Gas Lease Fund, created in 1955 by the General Assembly to purchase and maintain state forests and parks. Presently, this fund is not supported by appropriations from the General Assembly.

The Pennsylvania Budget and Policy Center recommended using severance tax money for purposes that will benefit all Pennsylvanians for many decades to come (Wood & Ward, 2009, April). Given that all the costs associated with Marcellus Shale natural gas extraction are not yet known, the Pennsylvania Budget and Policy Center advocates that these monies should be allocated to a fund that will address potential problems related to the impact of extraction on Pennsylvania's infrastructure and environment.

REFERENCES

The web addresses for the references below have all been checked by the committee. However, we recognize that some of the documents may not be maintained at the addresses given. If the links do not work for you, we recommend entering the title of document into your web browser.

- Boroughs association prefers natural gas severance tax over leasing state forest land. (2009, September 24). Environmental Digest. Retrieved November 3, 2009, from <http://www.paenvironmentdigest.com/newsletter/default.asp?NewsletterArticleID=13666&SubjectID=58>
- Colburn, T. (2007, October 31). Testimony before the House Committee On Oversight And Government Reform hearing on the applicability of federal requirements to protect health and the environment for the oil and gas development. http://s3.amazonaws.com/propublica/assets/natural_gas/colburn_testimony_071025.pdf
- Considine, T., Watson, R., Entler, R. and Sparks, J. (2009, July 24). *An emerging giant: Prospects and economic impacts of developing the marcellus shale play*. The Pennsylvania State University, College of Earth and Mineral Sciences, Department of Energy and Mineral Engineering. <http://www.alleghenyconference.org/PDFs/PELMisc/PSUStudyMarcellusShale072409.pdf>
- Dahlgren, J., Takhar, H., Anderson-Mahoney, P., Kotherman, J., Farr, T., Warshaw, R. (2007, February 22). Cluster of systemic lupus erythematosus (SLE) associated with an oil field waste site: A cross-sectional study. *Environmental Health*. Retrieved October 2, 2009, from <http://www.ehjournal.net/content/6/1/8>
- Decker, B. (2009, February 26). *Montana's oil and gas tax holiday: Analysis and recommendations for change*. Retrieved on October 10, 2009, from <http://www.thepolicyinstitute.us/og.pdf>
- Department of Conservation and Natural Resources. (n.d.). *Results of 2008 Oil and Gas Leasing Offering*. Retrieved November 2, 2009 from <http://www.dcnr.state.pa.us/Forestry/gaslease.aspx>
- Department of Conservation and Natural Resources. (2008, September 3). *2008 oil and natural gas lease: September 3, 2008 Lease Sale*. Retrieved November 14, 2009, from http://www.dcnr.state.pa.us/forestry/Lease_2008.pdf
- Department of Conservation and Natural Resources Press Release. (2009, July 11). *Gas leasing in state forests: Numbers don't add up*. Retrieved October 9, 2009, from <http://conserveland.org/features/GasLeasingNumbers>
- Department of Environmental Protection (2007, April). *Orphan oil & gas wells & the orphan well plugging fund*. Fact Sheet. Retrieved October 4, 2009, from <http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-74405/5500-FS-DEP1670.pdf>
- Department of Environmental Protection (2009, April). *Marcellus Shale Well Permit Application Fees*. Retrieved November 11, 2009, from

<http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-74269/5500-FS-DEP4239.pdf>

Department of Environmental Protection. (2009, October 23). *Bureau of oil and gas management*. Homepage. Retrieved November 11, 2009, from <http://www.dep.state.pa.us/dep/deputate/minres/OILGAS/oilgas.htm>

DeWeese, B. (2009, March 9). *DeWeese seeks to keep homeowners property taxes low*. News Release. <http://www.pahouse.com/PR/050030909.asp>

Gerking, S., Morgan, M., Kunce, M., & Kerkvliet, M. (2000, December 1). *Mineral tax incentives: Mineral production and the Wyoming economy*. <http://legisweb.state.wy.us/2001/interim/app/reports/mineraltaxincentives.htm>

"Marcellus Shale: What Local Government Officials Need To Know." Penn State College of Agricultural Sciences. Agricultural Research and Cooperative Extension. <http://downloads.cas.psu.edu/naturalgas/pdf/MarcellusShaleWhatLocalGovernmentOfficialsneedtoknow.pdf>

The Pennsylvania Budget and Policy Center (2009, June 29). *70% of marcellus shale wells don't pay corporation taxes*. State Budget and Tax Policy. Retrieved September 21, 2009, from <http://pennbpc.org/70-marcellus-shale-wells-dont-pay-corporate-net-income-tax>

Pennsylvania House Bills 208, 297, 473, 808, 934, 977, 1050, 1139, 1205, 1489, 1531. Retrieved October 13, 2009, from <http://www.legis.state.pa.us/cfdocs/legis/home/seesion.cfm>

Pennsylvania Senate Bills 297, 298. Retrieved October 13, 2009, from <http://www.legis.state.pa.us/cfdocs/legis/home/session.cfm>

Witter, R., Stinson, K., Sackett, H., Putter, S., Kinney, G. et al. (2008, August 1). *Potential exposure-related human health effects of oil and gas development: A literature review (2003-2008)*. Retrieved October 10, 2009, from http://docs.nrdc.org/health/files/hea_08091702b.pdf

Witter, R., Stinson, K., Sackett, H., Putter, S., Kinney, G. et al. (2008, September 15). *Potential exposure-related human health effects of oil and gas development: A white paper*. http://docs.nrdc.org/health/files/hea_08091702a.pdf

Wood, M. (2009, April). *Testimony on the natural gas severance proposal presented to the house appropriations committee: Subcommittee on fiscal policy*. The Pennsylvania Budget and Policy Center. http://www.bigleyandblikle.com/images/Wood_Testimony.pdf

Wood, M. & Ward, S. (2009, April). *Responsible growth: Protecting the public interest with a natural gas severance tax*. The Pennsylvania Budget and Policy Center. Retrieved October 10, 2009, at <http://pennbpc.org/sites/pennbpc.org/files/Responsible%20Growth%20-%20PA%20Severance%20Tax.pdf>

On pro con arguments might also go to http://www.landandwater.org/point_counterpoint.html

