

**Recommendations and Information Collected by the  
Informal Working Group on Ohio's Oil and Gas  
Industry and Severance Tax**

October 22, 2015

**Presented to the Ohio 2020  
Tax Policy Study Commission**

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## Introduction

Even a casual observer of state government and Capitol Square would probably note that for the last several sessions of the General Assembly a debate, heated at times, has been continuing about whether, and if so, how, Ohio should modernize or reform its severance tax. Hopefully these pages will lead to a greater understanding of the complexity of this issue and provide insights through comparisons of other states' approaches to the taxation of oil and gas. Our findings deserve further analysis by the Ohio 2020 Tax Policy Study Commission to make final recommendations, including a structure on what a reformed severance tax could look like.

What follows is a recap of why this informal group of bipartisan legislators, staff members representing all four legislative caucuses, representatives of the three major oil and gas associations, the Ohio Oil and Gas Association (OOGA), American Petroleum Institute (API), and Southeastern Ohio Oil and Gas Association (SOOGA), representatives of individual oil and gas companies, and representatives of several executive agencies of Ohio's government spent the summer sitting down and talking not in hyperbole, innuendo, and anecdotes . . . but facts.

As has been widely reported by the press, Section 757.50 of the FY 2016-2017 General Operating Budget (Am. Sub. H.B. 64 of the 131st General Assembly) created the Ohio 2020 Tax Policy Study Commission. The bill included a specific reference to Ohio's severance tax as one of the items on which the 2020 Commission should focus. Unfortunately, a logistical issue arose in that the language creating the Commission was not effective for 90 days, a constitutionally required waiting period for similar nonappropriation language. As many had stated, the desired feedback from this Commission was to have been reported by October 1, which was just a few short days after its September 29 effective date. The Commission's issuance of a report by this date therefore became a logistical impossibility. To meet the spirit of the H.B. 64 language, the informal group mentioned above, led by Senate Ways and Means Committee Chair Senator Bob Peterson and the House Ways and Means Committee Chair Jeff McClain, met over the summer listening and collecting data and gathering information from the industry and the Administration. This in and of itself was unique. While all of the previous legislative debates included only some of these interested parties, never were all of them brought together.

One of the main focuses was the comparison of Ohio's regulatory environment and tax structure compared to other similar oil and gas producing states. As is highlighted by a quote from former OOGA Executive Director Tom Stewart later in these pages, comparisons are helpful but every state's approach differs because of geographical, technological, political, and infrastructure differences (see "**Multistate tax comparisons**"). While much of Ohio's "30,000 foot level" discussions are simply about "the severance tax

on oil," Ohio's potential and significant advantages are not in oil, but in gas. For these reasons and others, the working group chose for comparison to Ohio the eight states of Arkansas, Colorado, Louisiana, North Dakota, Oklahoma, Pennsylvania, Texas, and West Virginia.

Ohio's severance tax debate has focused only on oil, condensate, natural gas, and natural gas liquids and has excluded all other minerals or resources that have been and are being extracted from Ohio's landscapes. The working group does not recommend any changes to the severance taxes for coal or industrial minerals.

As previously mentioned, this issue spans several sessions of the General Assembly and has spurred a number of legislative proposals, four of the more recent being summarized below. Over that time there has been tremendous volatility and downward pressure on commodity prices that continue to have a negative impact on Ohio's oil and gas industry. The change in market prices for these materials is putting Ohio's shale oil and gas industry under financial stress. All parties are optimistic that the current market will improve and commodity prices for oil and gas will again rise, but the cliché of not having a crystal ball does make forecasting this recovery of spot prices difficult, to say the least. As mentioned above, further analysis by the Ohio 2020 Tax Policy Study Commission may provide more clarity on whether the recent market gyrations are short- or long-term.

Complicating the debate in Ohio is the fact that Ohio's quarterly production levels are continuing to set production records while rig counts and the number of new wells being drilled are falling sharply. The group spent time discussing this issue and getting a better understanding of why production from existing wells may lag immediate market indicators.

### **Meeting attendees**

The following individuals or groups, in addition to Senator Peterson and Representative McClain, have attended at least one meeting of this informal working group (note that the appearance of an individual's or group's name below does not reflect that individual's or group's endorsement of these findings):

- Southeastern Ohio Oil & Gas Association (SOOGA)
- American Petroleum Institute (API)
- Ohio Oil & Gas Association (OOGA)
- Office of the Governor
- Ohio Department of Natural Resources (ODNR)

- Ohio Department of Taxation (ODT)
- Gary Scherer – State Representative 92nd House District
- Kirk Schuring – State Representative 48th House District
- Troy Balderson – State Senator 20th State Senate District
- Industrial Energy Users – Ohio
- Gulfport
- Marathon
- Jack Cera – State Representative 96th House District
- Majority Caucus, Ohio Senate
- Minority Caucus, Ohio Senate
- Majority Caucus, House of Representatives
- Minority Caucus, House of Representatives
- Staff of Senator Tavares
- Staff of Senator Peterson
- Staff of Senator Balderson
- Staff of Representative Scherer

### **Mission statement**

One of the first actions of the informal working group was to adopt the following mission statement and guiding principles:

*To update Ohio's severance tax to make it comparative with other shale play states across the nation. The new revenues generated will be used as follows:*

- *Assist local governments in shale play counties to improve infrastructure, equipment, and services that will accommodate the oil and gas industry and also benefit the citizens within their counties.*
- *Facilitate making adjustments to Ohio's income tax or possibly other taxes in an effort to make Ohio more competitive in the national and international marketplace.*
- *Invest in asset building opportunities that will grow Ohio's economy and improve the quality of life of all Ohioans.*

## Overview

### Ohio's oil and gas severance tax

Ohio levies a severance tax based on the volume of oil and gas extracted from the ground and waters of Ohio. This tax consists of two separate levies – a general severance tax and a regulatory cost recovery assessment. The general severance tax is imposed at 10¢ per barrel of oil and 2.5¢ per 1,000 cubic feet (Mcf) of natural gas, and the cost recovery assessment is imposed at 10¢ per barrel of oil and 0.5¢ per Mcf of natural gas. Cumulatively, the rates equal 20¢ per barrel of oil and 3¢ per Mcf of natural gas.<sup>1</sup>

Revenue from the general oil and gas severance tax funds two divisions within Ohio's Department of Natural Resources (DNR). Ninety percent of the revenue is credited to the Oil and Gas Well Fund, which funds the activities of DNR's Division of Oil and Gas Resources Management Division, i.e., the administration and enforcement of oil and gas laws, idle and orphaned well plugging, and gas- and oil-affected land restoration.<sup>2</sup> Ten percent of the revenue is credited to the Geological Mapping Fund, which funds the activities of DNR's Division of Geological Survey, i.e., to map and make public reports on Ohio geology, geologic hazards, and energy and mineral resources.<sup>3</sup> All cost recovery assessment collections are credited to the Oil and Gas Well Fund.<sup>4</sup>

The table below shows the combined collections on oil and gas for the previous five fiscal years.

Combined Collections from Oil and Gas Severance Tax and Cost Recovery Assessment						
Combined Rate	Revenue Base	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
3 cents per Mcf	Natural Gas	\$2,466,700	\$2,458,828	\$2,724,239	\$3,984,135	\$17,253,141
20 cents per barrel	Oil	\$949,772	\$934,223	\$1,135,774	\$1,305,149	\$3,077,393
<b>Total Receipts</b>		\$3,416,472	\$3,393,051	\$3,860,012	\$5,289,284	\$20,330,534

The table below illustrates the disposition of the combined severance collections from oil and gas. Please note that these two funds have additional revenue sources beyond those shown here. These additional sources include permitting fees and license

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<sup>1</sup> R.C. 1509.50 and 5749.02.

<sup>2</sup> R.C. 1509.02, 1509.071, and 5749.02.

<sup>3</sup> R.C. 1505.09 and 5749.02.

<sup>4</sup> R.C. 1509.50.



fees related to the oil and gas industry as well as severance tax receipts from other types of minerals in unrelated mining activities.

<b>Disposition of Oil and Gas Revenue from Severance Tax and Cost Recovery Assessment</b>						
<b>Fund Name</b>	<b>Number</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
Oil and Gas Well Fund	5180	\$3,163,425	\$3,141,437	\$3,576,204	\$4,892,015	\$18,738,902
Geological Mapping Fund	5110	\$253,047	\$251,613	\$283,809	\$397,269	\$1,591,631
<b>Total Receipts</b>		\$3,416,472	\$3,393,051	\$3,860,012	\$5,289,284	\$20,330,534

### **Recent severance tax reform proposals**

Beginning in 2012, several proposals have been unveiled to reform the rates, base, and revenue distribution of the oil and gas severance tax. For the most part, these proposals have focused in particular on the taxation of oil and gas from horizontal wells, i.e., wells drilled for the production of oil or gas in which the wellbore reaches a horizontal or near horizontal position in the Point Pleasant, Utica, or Marcellus shale formation.<sup>5</sup> In addition, most of the proposals sought to repeal the cost recovery assessment. Four more recent attempts to reform oil and gas severance taxes – H.B. 59 and Am. Sub. H.B. 375 of the 130th General Assembly and H.B. 64 and H.B. 162 of the 131st General Assembly – are summarized below.

Other recent proposals to reform oil and gas severance taxes include H.B. 487 of the 129th General Assembly and H.B. 212 and H.B. 472 of the 130th General Assembly.

#### **H.B. 59 of the 130th General Assembly**

The introduced version of H.B. 59 of the 130th General Assembly would have made the following reforms related to the oil and gas severance tax:

- Repealed the cost recovery assessment.
- Increased the rate of severance tax levied on oil and gas severed by a nonhorizontal well up to the combined rate of the repealed cost recovery assessment and the existing rate of severance tax on oil and gas, but would have capped the rate on gas at 1% of market value (quantity multiplied by a determined spot price).
- Levied a severance tax at a rate of 4% of the market value of oil and condensate produced by horizontal wells after the first five quarters in which a well produces, and a reduced 1.5% rate for the first five quarters.

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<sup>5</sup> R.C. 1509.01.

- Levied a severance tax at a rate of 1% of the market value of gas on gas measuring 1,050 British Thermal Units (BTU) or less produced by horizontal wells.
- Levied a severance tax on gas measuring more than 1,050 BTU at a rate that varies according to the BTU of the gas and the spot price of gas and natural gas liquids (NGLs), with a base rate for gas of 1% and for NGLs of 4% after the first five quarters in which a well produces and 1.5% for the first five quarters.
- Distributed revenue from severance taxes on horizontal well extractions to the GRF.
- Exempted from severance tax gas produced by a nonhorizontal well that produces fewer than 10 Mcf of gas per day in a calendar quarter.
- Required a horizontal well owner to pay a \$25,000 fee to the county in which the well is located, distributes the fees to taxing units affected by the well's operation, and requires the taxing units to repay the fee to owners over subsequent years.
- For the purpose of property tax valuation, calculated the true value of gas reserves based on the BTU of the gas extracted and the true value of condensate reserves similar to how oil reserves were currently valued for that purpose.

**Am. Sub. H.B. 375 of the 130th General Assembly**

Am. Sub. H.B. 375 of the 130th General Assembly, as Passed by the House of Representatives, would have made the following reforms related to the oil and gas severance tax:

- Reduced the existing severance tax rate on gas extracted through use of a nonhorizontal well.
- Repealed the cost recovery assessment.
- Levied a new severance tax on oil and gas severed through use of a horizontal well in lieu of the existing volume-based tax, to be paid by the person that owns the oil or gas on the basis of the person's receipts from the first sale of that oil or gas.
- Imposed the new tax at the rate of 2.5%.

- Exempted the first \$10 million of receipts, less royalty payments, from the sale of oil or gas from a horizontal well that began producing on or after October 1, 2013.
- Created the 11-member Ohio Shale Gas Regional Commission to administer and, with the approval of the Ohio Public Works Commission, award a portion of oil and gas severance tax revenue to subdivisions in the shale region.
- Allocated revenue from the new and existing oil and gas severance taxes to fund oil and gas regulatory programs of the Department of Natural Resources, made distributions to local governments, and provided temporary income tax reductions through the Income Tax Reduction Fund in the following priority:
  - The first \$21 million to fund DNR's oil and gas functions;
  - Up to 17.5% of the total revenue to reimburse local governments for Local Government Fund and Public Library Fund reductions caused by an income tax credit and commercial activity tax (CAT) exclusion created by the bill, with any remainder of that 17.5% share used to fund local government infrastructure in areas with actively producing horizontal wells and to create an endowment fund for local governments in such areas;
  - Any remainder was applied to temporary income tax reductions.
- Created a new Well Plugging Program in DNR to catalog and prioritize the plugging of idle and orphaned oil and gas wells.
- Created a new fund solely for funding activities related to the plugging of idle and orphaned oil and gas wells.
- Required DNR to investigate oil and gas wells to determine whether they are idle or orphaned if the owners thereof failed to file production reports.
- Adjusted the due date of severance tax returns.
- Created a nonrefundable credit against the horizontal well severance tax equal to the amount a severer pays in CAT on the basis of receipts from the sale of the same oil and gas.

- Created a nonrefundable income tax credit for royalty interest holding landowners that equaled the lesser of 12.5% of the amount of oil and gas severance tax paid by a severer or the amount of the tax for which the landowner is responsible.
- Excluded from the tax base of the CAT any gross receipts from the sale of oil or natural gas subject to oil or gas severance taxes, provided the severer or its pass-through owners are subject to income tax on the income from that sale.
- Required JobsOhio to prepare a report on and encourage industries to relocate to Ohio to take advantage of inexpensive energy in certain Ohio counties.

#### **H.B. 64 of the 131st General Assembly**

The introduced version of H.B. 64 of the 131st General Assembly would have made the following reforms related to the oil and gas severance tax:

- Repealed the cost recovery assessment.
- Increased the rate of severance tax levied on oil and gas severed by a nonhorizontal well up to the combined rate of the repealed cost recovery assessment and the existing rate of severance tax on oil and gas.
- Exempted from severance tax any gas severed from a nonhorizontal well producing an average of 10 Mcf of gas per day or less or an exempt domestic well, but subjected the owners of most such wells to a \$60 annual fee.
- Levied a new value-based severance tax on oil, gas, condensate, and NGLs severed from or collected from oil or gas severed from a horizontal well based on the volume of the resource severed or collected.
- Divided revenue from the new tax among oil and gas regulatory functions of DNR, the General Revenue Fund, and local governments in areas of the state with drilled horizontal wells or oil and gas shale development.
- Created the 13-member Ohio Shale Products Regional Commission to make grants to local governments in the shale region, with one-half of the revenue from the new tax allocated for local governments.
- Committed one-half of the revenue administered by the Commission to an endowment fund that cannot be used until 2025.

- Eliminated a severance tax exemption for severed resources used to improve the severer's homestead.
- Transferred the severance permit responsibilities from the Department of Taxation to DNR.
- Adjusted the due dates of severance tax returns.
- Required severance tax revenue to be credited to funds on a monthly, rather than quarterly, basis.
- Limited the ability of DNR to disclose severance tax information received by the Tax Commissioner.

### **H.B. 162 of the 131st General Assembly**

H.B. 162 would have made the following reforms related to the oil and gas severance tax:

- Modified the rate and base of the severance tax on oil and gas, including condensate and NGLs, produced from horizontal wells.
- Set the modified tax base as the quantity of each such hydrocarbon multiplied by a spot price for each hydrocarbon.
- Repealed the cost recovery assessment.
- Adjusted the rate of the severance tax on oil and gas from nonhorizontal wells to the combined rate of the repealed assessment and the existing rate of severance tax on oil and gas.
- Created a credit against the horizontal well hydrocarbon severance tax equal to the amount a severer pays in CAT on the basis of receipts from the sale of the same oil and gas.
- Modified the distribution of revenue from hydrocarbon severance taxes for the following purposes:
  - To reimburse local governments for Local Government Fund and Public Library Fund losses resulting from the bill's new tax credits (see below);
  - To provide a fixed annual amount to fund the oil and gas regulatory and orphaned and idle well plugging functions of DNR;

- To fund the general operations of local governments in the shale region;
  - To fund township road repairs and construction in the shale region;
  - To fund two grant programs for local governments in the shale region administered by a new Ohio Shale Gas Regional Committee;
  - To fund local government infrastructure projects outside the shale region;
  - To fund state highway repairs and construction within the shale region;
  - To provide grants for firefighting and EMT equipment in the shale region;
  - To fund soil and water districts in the shale region;
  - To provide grants to local governments and school districts to convert their vehicles to compressed natural gas fuel.
- Created the Ohio Shale Gas Regional Committee to administer two grant programs for local governments in the shale region.
  - Required the Ohio Public Works Commission to assist that Committee in administering those grant programs.
  - Established the Gaseous Fuel Vehicle Conversion Program, to be administered by the Director of Environmental Protection.
  - Permitted the Director to make grants to eligible public entities and nonprofit corporations for the purpose of promoting the use of vehicle fleets that operate on cleaner fuels.
  - Created a new well plugging program in DNR to catalog and prioritize the plugging of idle and orphaned oil and gas wells.
  - Created a new fund solely for funding activities related to the plugging of idle and orphaned oil and gas wells.
  - Adjusted the due date of severance tax returns.

- Created an income tax credit for royalty interest-holding individual landowners based on the hydrocarbon severance tax paid and for which the landowner is contractually responsible.
- Excluded from the base of the CAT gross receipts from the sale of hydrocarbons subject to severance taxes, provided the severer or its pass-through owners are subject to income tax on the income from that sale.

## Current state, national, and international oil and gas market

### Drilling activity and rig count

Commercial enterprises began horizontal drilling in the Utica shale formation during 2011. As the number of drilling rigs increased, more wells were completed, and production increases followed. The U.S. Energy Information Administration (EIA) defines the Utica shale region as 20 counties in Ohio. For statistical purposes, the agency does not regard any Ohio counties as part of the Marcellus shale region. EIA data show that natural gas production (refer to Chart A) and oil production (see Chart B) in the Utica shale formation increased substantially beginning in July 2013. These monthly gains in oil and gas production have moderated since the spring of 2015. In part, this is due to the decrease in newly drilled wells. The number of drilling rigs peaked in October and November of 2014. Since then, the Utica rig count has declined to levels last seen in 2011.

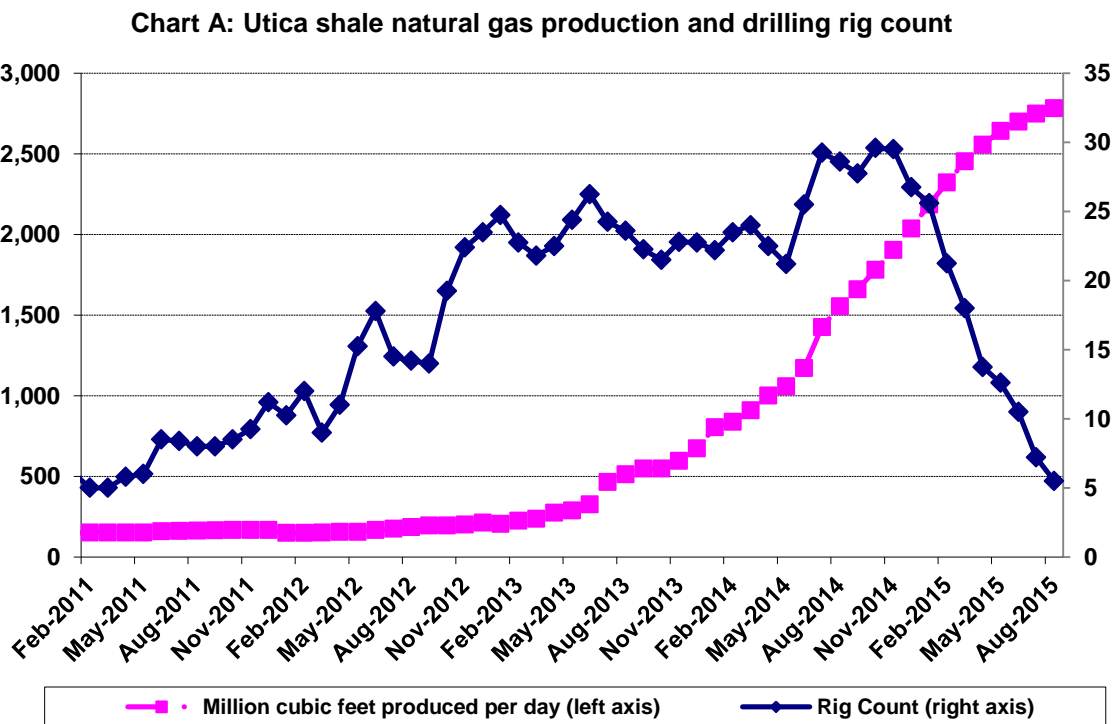
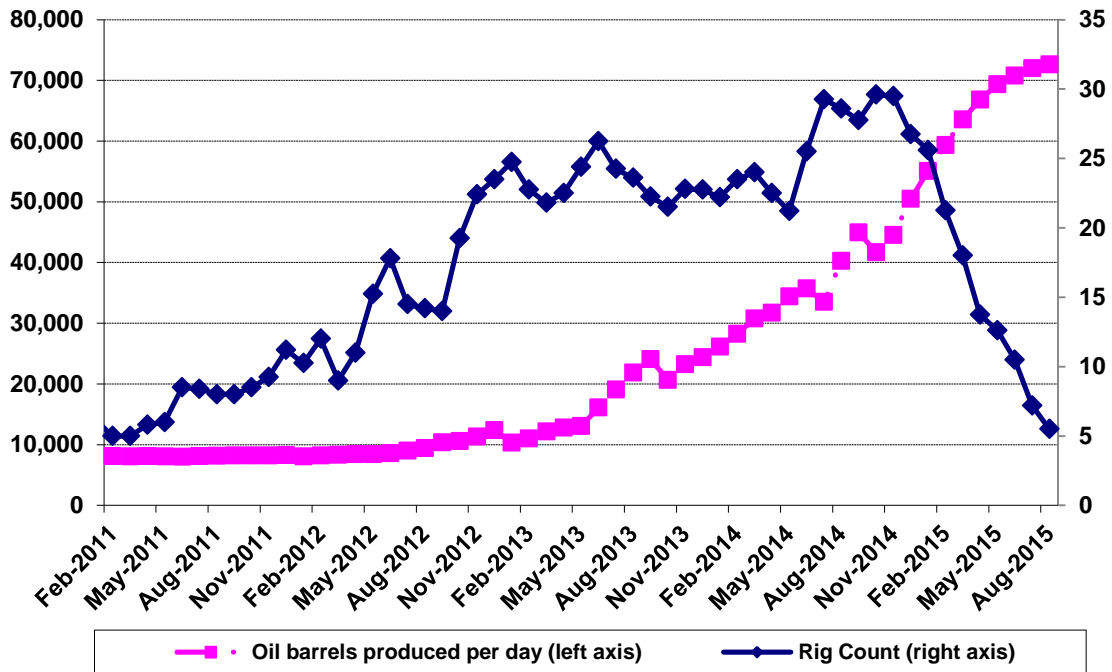


Chart B: Utica shale oil barrel production and drilling rig count

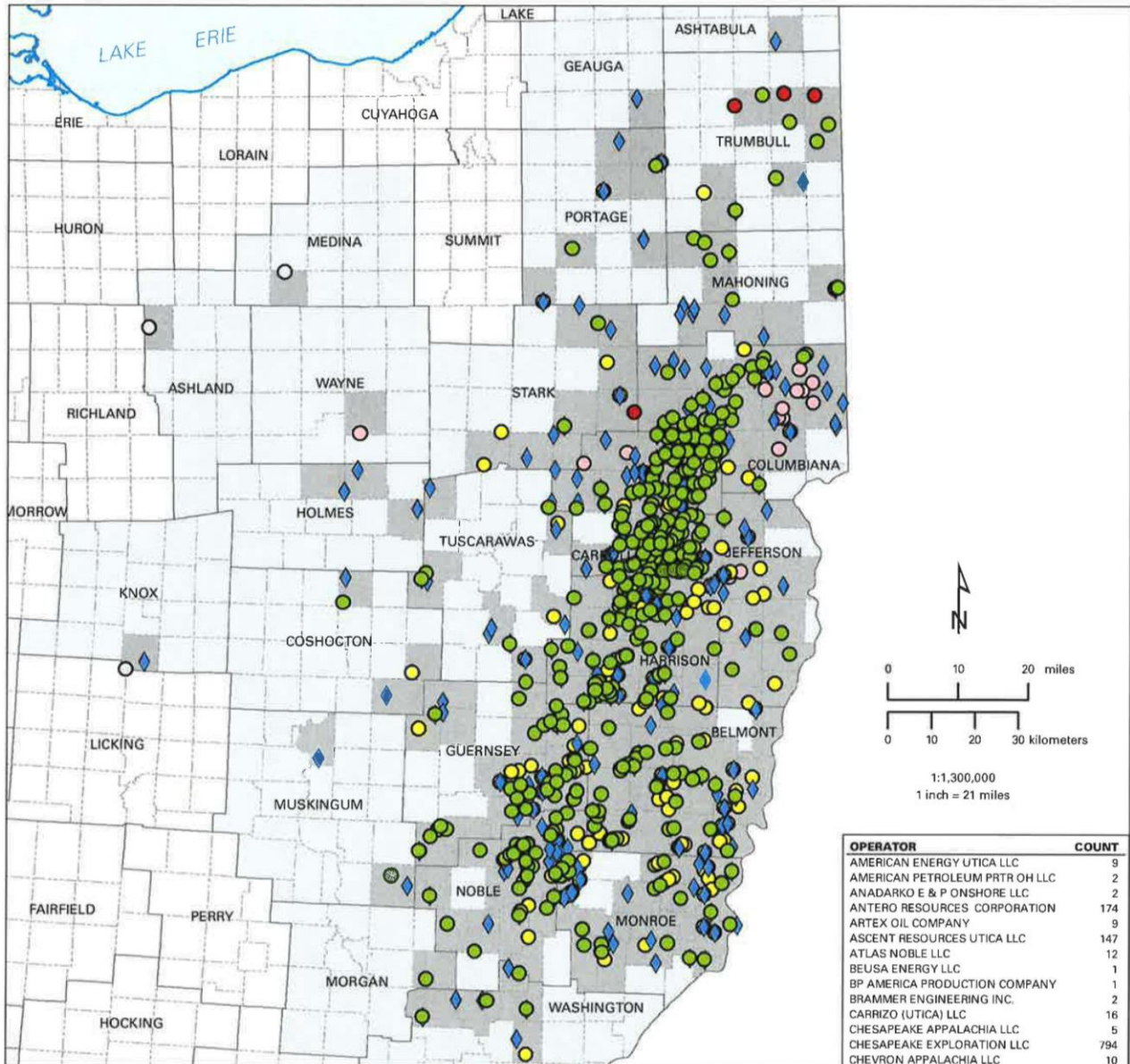


DNR's map on the next page marks the location of every horizontal well in Ohio as of October 3, 2015.<sup>6</sup>

<sup>6</sup> Map is available at [http://oilandgas.ohiodnr.gov/Portals/oilgas/pdf/activity\\_maps/Horizontal\\_Wells\\_MonthlyUticaPagesize\\_10032015.pdf](http://oilandgas.ohiodnr.gov/Portals/oilgas/pdf/activity_maps/Horizontal_Wells_MonthlyUticaPagesize_10032015.pdf).



# HORIZONTAL UTICA - PT PLEASANT WELL ACTIVITY IN OHIO



OPERATOR	COUNT
AMERICAN ENERGY UTICA LLC	9
AMERICAN PETROLEUM PRTR OH LLC	2
ANADARKO E & P ONSHORE LLC	2
ANTERO RESOURCES CORPORATION	174
ARTEX OIL COMPANY	9
ASCENT RESOURCES UTICA LLC	147
ATLAS NOBLE LLC	12
BEUSA ENERGY LLC	1
BP AMERICA PRODUCTION COMPANY	1
BRAMMER ENGINEERING INC.	2
CARRIZO (UTICA) LLC	16
CHESAPEAKE APPALACHIA LLC	5
CHESAPEAKE EXPLORATION LLC	794
CHEVRON APPALACHIA LLC	10
CNX GAS COMPANY LLC	63
DEVON ENERGY PRODUCTION CO.	13
ECLIPSE RESOURCES I LP	123
EM ENERGY OHIO LLC	10
ENERVEST OPERATING LTD.	22
EQT PRODUCTION COMPANY	8
GULFPORT ENERGY CORPORATION	243
HALCON OPERATING COMPANY INC.	13
HESS OHIO DEVELOPMENTS LLC	89
HG ENERGY LLC	7
HILCORP ENERGY COMPANY	38
MOUNTAINEER KEYSTONE LLC	8
NGO DEVELOPMENT CORP.	1
PDC ENERGY INC.	41
PROT #G # ENERGY III LLC	1
R E GAS DEVELOPMENT LLC	46
RICE DRILLING D LLC	37
SIERRA RESOURCES LLC	3
STATOIL USA ONSHORE PROP INC.	9
SWEPI LP	1
TRIAD HUNTER LLC	22
XTO ENERGY INC.	46
<b>TOTAL</b>	<b>2,028</b>

## EXPLANATION

Horizontal well status as of 10/3/2015

- ◆ PERMITTED-(Permitted; Not Drilled; Canceled) (422)
- DRILLED-(Drilling; Well Drilled) (523)
- PRODUCING-(Producing; Plugged Back) (1,023)
- INACTIVE-(Drilled Inactive; Shut in) (29)
- Lost Hole or Final Restoration (27)
- Dry and Abandoned (3)
- Plugged and Abandoned (1)



Well permit information from the ODNR Division of Oil and Gas Resources Management

**Recommended citation:**

Ohio Department of Natural Resources, 2015, Horizontal Utica-Point Pleasant Well Activity in Ohio: Columbus, scale 1:1,300,000, revised 10/5/2015.

## **Infrastructure and Ohio price concerns**

Supply and demand issues are problematic for the industry. Ohio's intrastate pipelines, including gathering lines, are still being developed. Until this infrastructure can be developed or at least takes significant steps forward, there will be some artificial limits on the commodities that can be brought to market. These factors tie into interstate pipelines where significant competition exists from other shale production, including that from Pennsylvania and West Virginia. Ohio does not currently have large industrial users of gas for the amount that is being produced in Ohio. At \$100 per barrel of oil and commensurate natural gas prices, these issues can be overcome by using expensive transportation options to bring the commodity to the best market. But, at lower or depressed commodity prices, options such as shipping oil and gas to Florida or the Gulf Coast, while still available, become cost prohibitive.

In short, currently depressed prices are problematic for the industry, and oversupply and limited consumption is resulting in further stress.

## **Capital environment**

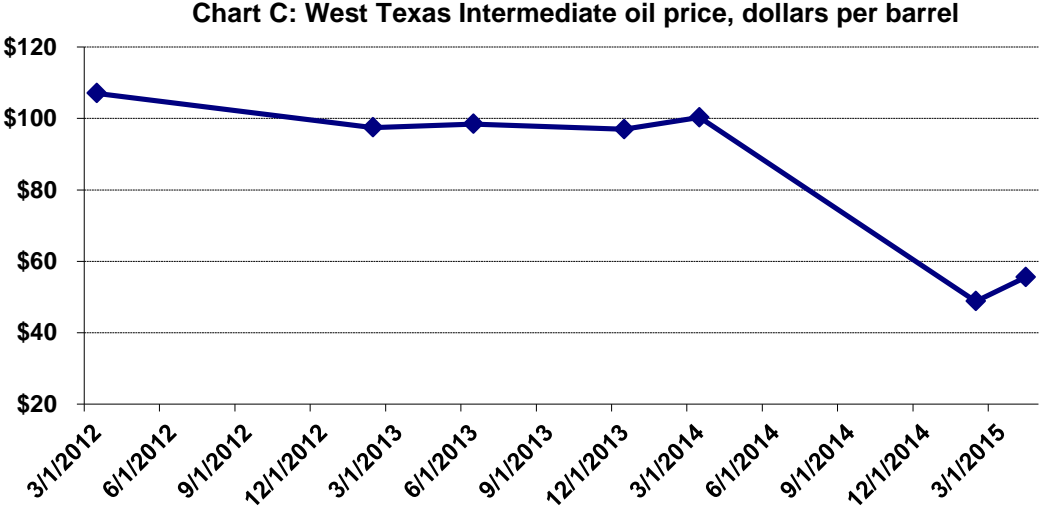
When commodity prices are depressed, so too are returns on the underlying investments. Investor money, whether from a bank or private investor, will follow the more profitable plays. The good news is this dynamic is very sensitive to changes in commodity prices such that increases in those prices will likely bring capital back to Ohio companies.

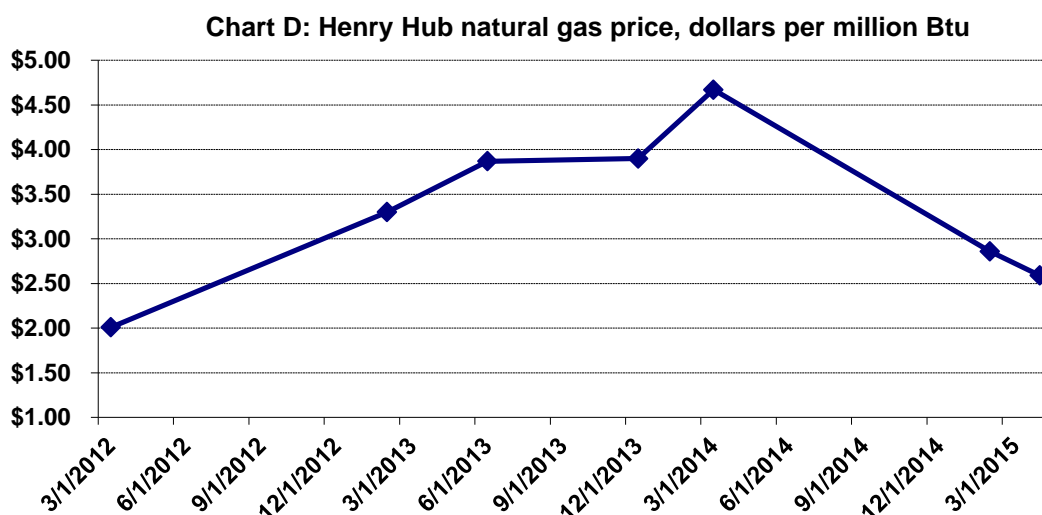
## **Recent oil and gas price trends**

As discussed above, multiple bills have proposed changes to the oil and gas severance tax since 2012. While several initiatives were part of the biennial operating budget or Mid-Biennium Review (MBR), others were standalone bills. This period of legislative activity coincided with fluctuations in commodity prices (refer to the table below). Generally, the oil price has trended downward since early 2014 after remaining steady for the prior two years (see Chart C). Meanwhile, the national benchmark for natural gas increased in 2012 and 2013 before peaking during the "polar vortex" weather disruptions of 2014 (refer to Chart D). Natural gas prices declined since then, and regional prices have fallen even further. All natural gas prices are expressed in British thermal units (BTU), which is a measure of the gas's heat content. This value is very similar to the price expressed per Mcf, which is a volumetric measure of gas.

Commodity Prices on Dates when Relevant Severance Tax Legislation Introduced			
Legislation	Date	Oil, price per barrel	Natural gas, price per million BTU
H.B. 487 of the 129th General Assembly (MBR)	3/16/2012	\$107.03	\$2.01
H.B. 59 of the 130th General Assembly (Budget bill)	2/12/2013	\$97.48	\$3.30
H.B. 212 of the 130th General Assembly	6/18/2013	\$98.46	\$3.87
H.B. 375 of the 130th General Assembly	12/4/2013	\$96.97	\$3.90
H.B. 472 of the 130th General Assembly (MBR)	3/11/2014	\$100.29	\$4.67
H.B. 64 of the 131st General Assembly (Budget bill)	2/11/2015	\$48.80	\$2.86
H.B. 162 of the 131st General Assembly	4/21/2015	\$55.58	\$2.59

Note: Natural gas prices are based on immediate delivery at the Henry Hub in Louisiana; they reflect the spot price from the New York Mercantile Exchange. Oil prices are for the West Texas Intermediate crude stream, which is traded in the domestic spot market at Cushing, Oklahoma. Both data sets are reported by the U.S. Energy Information Administration.





### **Cost and efficiency of drilling in Ohio shale**

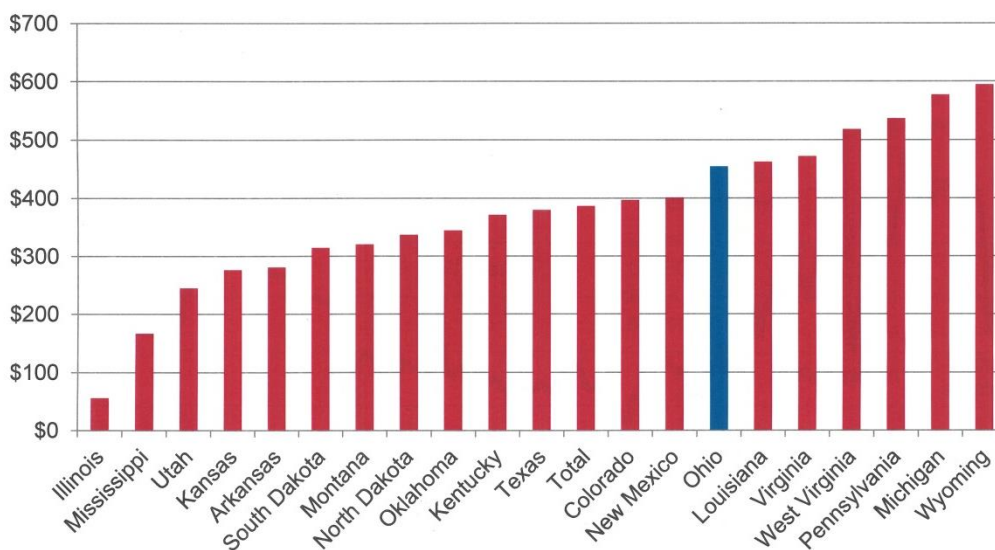
Some of the most difficult data to find is accurate and up-to-date data on the cost of drilling in various states, including Ohio. API provided the following chart with drilling costs in various states. The data shows per foot drilling costs from 2013. Compiling this data is no easy task and surveying the companies and compiling the data likely took a year or so. The point is that this data might have been compiled more than three years ago, near the beginning of shale exploration in Ohio. As a result, Ohio's cost curve for efficiencies and cost-per-foot drilling had not started downward because the shale play was in its infancy. However, other states' data might be from that state's 4th, 5th, or even 6th year of drilling activity, at a time when these efficiencies improve and are reflected in this data. In 2013, Illinois had not yet issued a shale well permit but had other types of drilling. The API chart inaccurately included Illinois data. Ohio has certainly been a leader in improving efficiencies in drilling in general and especially in the increasing length of lateral lines as we now enter years three and four of our shale play and as the industry has learned the dynamics of the Utica shale formation. Again, an apples to apples comparison is difficult here.

With those and other qualifiers, the chart provided by API shows the cost-per-foot of wells in Ohio varies among the same costs in other states with the average cost in the Ohio Utica basin being a little higher than the middle of the pack – less expensive per foot than Pennsylvania, West Virginia, and Louisiana, but more expensive than Texas, Kentucky, and North Dakota. What was once a 13 to 15 county footprint for drilling activity in southeastern Ohio has contracted because of commodity price fluctuations to only a small handful of counties in that region. Small changes in commodity prices can dramatically expand the footprint of drilling activity.

As a counterpoint, Ohio wells generally are deeper and the lateral lengths are longer. The difference between the geography of a well in Ohio and areas of West Virginia and Pennsylvania close to Ohio's border is minimal. Technological advances and efficiencies have increased and will continue to improve within the industry, and these factors are constantly acting as a counterpoint to the cost of drilling in Ohio.

The cost to drill an oil and shale-gas well in Ohio is higher than in most other states energy **API**

Average cost per foot



Source: API Annual Drilling Survey

**Expected Ultimate Recoverables (EUR)**

A possibly useful measurement for analyzing and predicting production levels against other economic factors is "expected ultimate recoverables" (EUR). An industry study was presented during one of the interested party meetings that used a standard formula for determining EURs – in other words, quantifying total production of a well from inception to abandonment. Given that two wells could be producing different rates of oil and gas, the price in the marketplace was used to convert oil and gas values. The research used the MCFE (natural gas equivalent) as the single equivalent measure for the purposes of the study. The advantage of a single equivalent was the ability to make apples to apples comparisons of fields, wells, and assets of two different companies, ultimately leading to the conclusion of where the best production was located. Using EUR measurements, the study aimed to generate EUR maps and

estimate the area competitive for new well drilling under various severance tax burdens, as well as develop a cash flow model for evaluating the economics for the base and future cases under increased severance tax rates.

## **Ohio regulatory environment**

### **Division of Oil and Gas Resources Management**

DNR's Division of Oil and Gas Resources Management is responsible for regulating the permitting, drilling, and production of Ohio's oil and natural gas resources. The Division's authority includes programs to protect freshwater resources, plug abandoned oil and gas wells (see below), and maintain a comprehensive database of Ohio's production wells.

The Division has worked with the oil and gas industry, the Ohio General Assembly, as well as other agencies and interested parties during the past five years to amend the regulatory framework affecting the oil and gas industry.

#### **Idle and orphaned well program**

The Division, in addition to its other functions, has a statutory duty to plug wells that have been abandoned or for which the bond has been forfeited, i.e., idle and orphaned wells, and restore land affected by those wells and to take corrective actions to avoid imminent health or safety risks at an idle and orphaned well or a well for which the owner cannot be contacted. The Division is currently required to dedicate at least 14% of the revenue credited to the Oil and Gas Well Fund to these purposes.<sup>7</sup>

#### **Recent regulations**

The Division of Oil and Gas Resources recently adopted horizontal well site construction rules imposing new requirements that, based on the industry's feedback and historical experience, are likely to be costly for operators designing and constructing horizontal well pads. Their concerns are that new slope stability and geotechnical requirements that are unrelated to site-specific conditions, and professional engineer certifications, are likely to increase costs.

#### **Road usage maintenance agreements (RUMA)**

Ohio law authorizes counties, townships, and municipal corporations to enter into agreements with oil and gas well companies under which the company identifies which county, township, or municipal roads the owner will use to access the well. Upon identifying those roads, the company will generally agree to pay to improve those roads

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<sup>7</sup> R.C. 1509.01(CC) and 1509.071.

to withstand use by company vehicles and to repair roads damaged by the company's vehicles. Particular RUMAs may contain additional terms.<sup>8</sup>

Companies are not required to obtain a RUMA to drill a well and operate vehicles on public roads. However, as a condition of receiving a permit to drill a horizontal well, a company is required to either submit a RUMA for each county, township, and municipal corporation road that the applicant will use to access the well site or certify that the company attempted in good faith to enter into such a RUMA.<sup>9</sup> Neither Ohio, nor any of the eight states compared to Ohio below, authorize a company to reduce its state tax liability according to the amount the company pays to maintain or improve public roads pursuant to a RUMA.

### **Multistate regulatory fee comparisons**

The regulatory fees and bond and insurance requirements to which the oil and gas industry are subject varies in each state. The informal working group has chosen to examine eight states with oil and gas activity and resources similar or comparable to Ohio. Below, regulatory fees and requirements that the oil and gas industry may be subject to in Ohio, Arkansas, Colorado, Louisiana, North Dakota, Oklahoma, Pennsylvania, Texas, and West Virginia are examined according to each regulatory issue. The issues compared include drilling permit and waste disposal fees and surety bond and liability insurance requirements.

#### **Permit and disposal fees<sup>10</sup>**

Most of the states included in this comparison charge a permit application fee that varies depending on the type of permit sought. However, only Ohio charges a disposal fee per barrel of waste. Additionally, states vary in how they establish oil and gas fees. Some establish them in statute while others authorize a state agency or commission to establish them, usually by rules.

#### **Ohio**

Drilling permit fees in Ohio range from \$500 to \$1,000, depending on the type of permit sought and the location of the well. For example, a permit to drill a well in a township with a population of fewer than 10,000 costs \$500.<sup>11</sup>

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<sup>8</sup> See Ohio Att'y Gen. Op. 2012-029 (describing the general nature of RUMAs).

<sup>9</sup> R.C. 1509.06(A)(11).

<sup>10</sup> Information provided under this heading, with the exception of Ohio, came from the National Conference of State Legislatures.

A permit is also generally required to store, recycle, treat, or dispose of brine or other waste substances, and a fee of \$2,500 must accompany an application for a permit to do so.<sup>12</sup> In addition, a permit and a permit fee of \$1,000 are required to inject brine or other waste substances.<sup>13</sup>

Disposal fees are also levied on the owner of an injection well who has been issued a permit. These fees are 5¢ per barrel when the waste delivered to the well to be injected was produced within the Division of Oil and Gas Resources Management regulatory district in which the well is located or an adjoining district and 20¢ per barrel for waste delivered to the well to be injected when the waste is not produced within the district or an adjoining district. The maximum number of barrels on which the fee must be paid is 500,000.<sup>14</sup>

### **Arkansas**

Arkansas grants the Arkansas Oil and Gas Commission (AOGC) the authority to establish fees as it deems appropriate. At the same time, the state stipulates a minimum \$150 permit fee and limits the fee to a maximum of \$300.<sup>15</sup> It appears that the AOGC generally charges \$300. Arkansas also assesses permit fees for injection and disposal wells. The application fee may not exceed \$100 for each injection well or disposal well. However, the AOGC may charge a \$300 fee to drill a disposal or injection well, which it does.<sup>16</sup>

No specific fees for disposal per barrel of waste appear to be assessed in Arkansas.

### **Colorado**

Permit and disposal fees are not charged in Colorado. The Colorado Oil and Gas Conservation Commission is authorized to charge permitting fees.<sup>17</sup> Under rules adopted by the Commission, the charge for any type of permitting is currently \$0.<sup>18</sup>

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<sup>11</sup> R.C. 1509.06(G)(1).

<sup>12</sup> R.C. 1509.22(C).

<sup>13</sup> R.C. 1509.22(D)(1).

<sup>14</sup> R.C. 1509.22(H)(1) and (2).

<sup>15</sup> Ark. Stat. § 15-72-205 (2015).

<sup>16</sup> Ark. Stat. § 15-71-110.

<sup>17</sup> Colo. Rev. Stat. § 34-60-106 (2015).



It appears that Colorado charges no specific disposal fee per barrel of waste.

### **Louisiana**

Louisiana establishes a fee structure for specific types of activities and facilities, including permit amendment and revision and application for a commercial facility exclusive of an associated well. These fees range from \$50 to \$3,000. However, the Commissioner of Conservation of the Office of Conservation in the Department of Natural Resources is authorized to revise the fees.<sup>19</sup>

It appears that Louisiana does not charge a specific disposal fee per barrel of waste.

### **North Dakota**

The authority to establish permit and disposal fees has been granted to the North Dakota Industrial Commission's Oil and Gas Division.<sup>20</sup> The drilling permit fee currently equals \$100.<sup>21</sup>

It appears that North Dakota does not charge a specific disposal fee per barrel of waste.

### **Oklahoma**

The Oklahoma Corporation Commission has authority to establish permit application fees. The Commission charges a \$175 fee for a drilling permit. Additionally, application fees for disposal wells range from \$100 for a noncommercial disposal well to \$1,000 for a commercial well.<sup>22</sup>

Oklahoma appears not to charge specific per-barrel waste disposal fees.

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<sup>18</sup> Colo. Code Regs. § 404-1, appendix III (2015).

<sup>19</sup> La. Rev. Stat. § 30:21 (2015).

<sup>20</sup> N.D. Cent. Code § 38-22-05 (2015).

<sup>21</sup> N.D. Admin. Code § 43-02-03-16 (2015).

<sup>22</sup> Okla. Admin. Code § 165:5-3-1 (2015).

## **Pennsylvania**

Pennsylvania's permit fees are established in statute and range from \$200 to \$5,000, based on several variables. These include depth of the well and whether the well is conventional or unconventional.<sup>23</sup>

Disposal fees are not assessed by Pennsylvania.

## **Texas**

Texas' Oil and Gas Division of the Railroad Commission has established permit fees. In addition to a specified permit fee, a 150% surcharge also is imposed. The fees range from \$200 (plus a \$300 surcharge for a total of \$500) for a permit to drill less than 2,000 feet to \$300 (plus a \$450 surcharge for a total of \$750) for a permit to drill more than 9,000 feet. Disposal wells require a permit application fee of \$100.<sup>24</sup>

Texas appears not to assess disposal fees.

## **West Virginia**

West Virginia sets forth certain statutory permit application fees. A permit fee of \$400 is required for each drilling permit application unless the application is for a deep well, in which case the fee is \$650.<sup>25</sup> However, the Secretary of the Department of Environmental Protection has established additional permit fees. These fees range from \$100 for a permit to dispose of well work fluids to a \$10,000 well work fee for an initial 6HA horizontal well on a pad.<sup>26</sup>

It appears that West Virginia imposes no specific per-barrel fee for disposal of waste.

## **Surety bonds and liability insurance<sup>27</sup>**

Each comparison state requires drillers to provide financial assurance such as bonds or cash securities. While three of the states – Colorado, Ohio, and Pennsylvania – require liability insurance, only Ohio and Colorado actually require insurance to be

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<sup>23</sup> 25 Pa. Cons. Stat. § 78.19 (2015).

<sup>24</sup> 16 Tex. Admin. Code § 3.78 (2015).

<sup>25</sup> W. Va. Code § 22-6-2 (2015).

<sup>26</sup> West Virginia Department of Environmental Protection, "Fee Schedule," <http://www.dep.wv.gov/oil-and-gas/GI/Pages/Fee%20schedule.aspx> (last visited September 24, 2015).

<sup>27</sup> Information provided under this heading, with the exception of Ohio, came from the National Conference of State Legislatures.

filed with the state. As with permit fees, while some of the states establish the requirements in statute, a number of them grant rule-making authority to state agencies or commissions to establish bond requirements. A few states such as Arkansas, Colorado, and Louisiana have established a series of contingencies and circumstances that trigger higher bond amounts.

### **Ohio**

Ohio requires oil and gas drillers to provide surety bonds. An individual bond covering a single well must be provided in the amount of \$5,000, or a blanket bond covering all wells operated by the person must be in the amount of \$15,000.<sup>28</sup>

Owners of wells are also required to obtain liability insurance as follows:

- Not less than \$1 million in bodily injury and property damage coverage unless the well is located in an urbanized area;
- If the well is located in an urbanized area, not less than \$3 million in bodily injury and property damage coverage; or
- If the well is a horizontal well, not less than \$5 million in bodily injury and property damage coverage.<sup>29</sup>

### **Arkansas**

The Arkansas Oil and Gas Commission (OAGC) has adopted rules establishing bonding requirements for oil and gas drillers. The OAGC requires a minimum of \$3,000 per well posted as cash, corporate surety, or a bank letter of credit. Alternatively, blanket bonds may be posted. For one to 25 wells, the bond is \$25,000; for 26 to 100 wells, the bond is \$50,000; for more than 100 wells, the bond is \$100,000.<sup>30</sup>

However, the rules only specify the base amount, according to an AOGC official, and there is another bonding structure in addition to this that is not published. For example, an individual well applicant might be required to have bonding of up to \$9,000 in addition to the minimum of \$3,000 depending on several variables, including how long the operator has been in the state, whether the well is in an environmentally sensitive area, and whether it is near hydrogen sulfide gas formations. As another example, a blanket bond applicant with 15 wells might be required to have similar

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<sup>28</sup> R.C. 1509.07; Ohio Admin. Code 1501:9-1-03 (2015).

<sup>29</sup> R.C. 1509.07.

<sup>30</sup> 178-00 Ark Code R. § 001(B-2) (2015).

incremental additions in addition to the minimum bond of \$25,000. However, the maximum bonding currently required of operators in Arkansas is \$250,000.

Arkansas does not require liability insurance.

### **Colorado**

In Colorado, surety bond and liability insurance requirements are set by the Colorado Oil and Gas Conservation Commission. The bond requirements are complex and depend on several factors. For example, a surface well on nonirrigated land requires a \$2,000 bond while a surface well on irrigated land requires a \$5,000 bond. There is also the option of a \$25,000 statewide blanket bond for surface wells. Similar bond amounts are required under other classifications. There are also separate plugging bonds, which are supplemental to the other bond requirements and can go as high as \$100,000 for a blanket bond for more than 100 wells.<sup>31</sup> The Commission requires all operators to maintain general liability insurance for bodily injury and property damage in the minimum amount of \$1 million.<sup>32</sup>

### **Louisiana**

Louisiana requires financial security to be filed in the form of a certificate of deposit, a performance bond, a letter of credit, or a trust fund. The amount varies depending on several factors that include the depth of a well, the number of wells, and the location of the wells. The amounts for land-based wells range from \$50,000 to \$500,000, for inland water-based wells from \$250,000 to \$2.5 million, and for offshore wells from \$500,000 to \$5 million. The Commissioner has authority to require additional security for plugging and abandonment.<sup>33</sup>

The state does not explicitly require operators to carry liability insurance.

### **North Dakota**

North Dakota requires a \$50,000 surety of cash bond per well although wells drilled to less than 2,000 feet may be bonded for less upon the approval of the Director of the Industrial Commission. Similarly, blanket bonds in the amount of \$100,000 may be used to cover the operation of multiple wells.<sup>34</sup>

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<sup>31</sup> Colo. Code Regs. § 404-1(702-707).

<sup>32</sup> Colo. Code Regs. § 404-1(708).

<sup>33</sup> La. Admin. Code tit. 43, § XIX.104 (2015).

<sup>34</sup> N.D. Admin. Code § 43-02-03-15 (2015).

Additionally, North Dakota requires an operator to demonstrate and maintain financial responsibility using one of several means. These include trust funds, surety or cash bonds, letters of credit, insurance, self-insurance, and escrow accounts. Liability insurance is not required if one of the other forms of financial responsibility is provided.<sup>35</sup>

### **Oklahoma**

In Oklahoma, an operator is required to file either a financial statement listing assets and liabilities and proving a net worth of at least \$50,000 or a \$25,000 surety bond; although the law leaves some discretion to the Director of the Conservation Division to adjust the amount of the surety bond. The law allows for an operator to file a surety bond of lesser value so long as the bond is sufficient to cover the cost of properly plugging and abandoning every well for which the operator is responsible. Similarly, the bond amount may be set higher at the discretion of the Director.<sup>36</sup>

Oklahoma does not require drillers to carry liability insurance.

### **Pennsylvania**

Pennsylvania accepts both surety bonds and collateral bonds. The state establishes bond liability based on the estimated cost of closing an operation in addition to the costs associated with testing the site in order to determine there are no lingering adverse effects upon closure. The amounts range from \$4,000 for a single well to \$600,000 for a blanket bond covering more than 150 wells.<sup>37</sup>

Pennsylvania law requires a comprehensive general liability insurance policy having a minimum coverage of \$500,000 per occurrence for property damage and personal injury and an annual aggregate of \$1 million.<sup>38</sup> However, an official with the Pennsylvania Department of Environmental Protection's Office of Oil and Gas Management said the Office does not require or regulate liability insurance.

### **Texas**

Surety bond requirements are established in rules adopted by the Oil and Gas Division of the Railroad Commission. A surety may be provided through a surety bond, a cash deposit, or a letter of credit. This may be done individually, at \$2 per foot of total

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<sup>35</sup> N.D. Admin. Code § 43-05-01-09.1.

<sup>36</sup> Okla. Stat. tit. 52, § 318.1 (2014); Okla. Admin. Code §§ 165:10-1-12 and 165:10-1-10.

<sup>37</sup> 25 Pa. Cons. Stat. §§ 78.303 and 287.331 and 58 Pa. Cons. Stat. § 3225 (2015).

<sup>38</sup> 25 Pa. Cons. Stat. § 287.372.

well depth for each well operated, or it may be done through blanket bonds for which the base amount for operators of ten or fewer wells is \$25,000; the amount for operators of 11 to 100 wells is \$50,000; and the amount for 100 or more wells is \$250,000. Operators of water-based wells are required to supplement these amounts with additional security. Bay- or lake-based wells must provide an additional \$60,000. Offshore wells are required to provide a bond in an amount of not less than \$100,000.<sup>39</sup>

Liability insurance is not required for operators.

### **West Virginia**

West Virginia requires a \$5,000 bond per well or a \$50,000 blanket bond for multiple wells.<sup>40</sup> West Virginia does not require producers to carry liability insurance.

## **Multistate tax comparisons**

The taxation of the oil and gas industry varies in each state. As with the regulatory comparisons discussed above, the informal working group has chosen to examine taxes that the oil and gas industry may be subject to in Ohio, Arkansas, Colorado, Louisiana, North Dakota, Oklahoma, Pennsylvania, Texas, and West Virginia, arranged according to each type of tax. The types of taxes compared include oil and gas severance taxes, property taxes, corporate income and excise taxes, income taxes, and sales and use taxes.

The working group recognizes to some extent the difficulty of comparing multiple states' tax systems, especially severance taxes. As Tom Stewart, the former Executive President of OOGA, recently observed: "It's very difficult to compare severance rates among the various oil and gas producing states because every state does it somewhat differently all of them because of different reasons based on industry characteristics, geology, economics, the whole thing. So to try and compare us to Texas is like trying to compare the moon to the sun."<sup>41</sup>

### **Oil and gas severance tax**

Of the nine comparison states, every state except Pennsylvania levies a specific tax on oil and gas production. These taxes are often referred to as severance taxes or production taxes. Each state's oil and gas severance taxes are discussed below, as well

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<sup>39</sup> 16 Tex. Admin. Code § 3.78.

<sup>40</sup> W. Va. Code § 22-6-6.

<sup>41</sup> Jim Letizia & Ohio Public Radio, "Two Plans to Tax Oil and Gas Drillers" (March 28, 2014), <http://wcbe.org/post/two-plans-tax-oil-and-gas-drillers#stream/0>.

as exemptions or incentives relevant or applicable to horizontally drilled oil and gas wells, with particular focus on incentives given during the initial period that an oil or gas well begins operations, often referred to as "cost recovery."

## **Ohio**

See "**Ohio's oil and gas severance tax**," above.

## **Arkansas**

### ***Rates and bases***

In Arkansas, the basic statutory rate for the severance of oil equals 5% of the market value of the oil at the point of severance.<sup>42</sup> However, the owner of a well that produces fewer than ten barrels of oil per day pays a reduced 4% rate on oil from that well.<sup>43</sup> Separate levies totaling 2.05¢ per barrel of oil are levied for the benefit of the Arkansas Museum of Natural Resources.<sup>44</sup>

### ***Cost recovery and other incentives***

For gas, the basis statutory rate is 5% of the market value, but reduced rates are available on new discovery (1.5%), high-cost (1.5%), and marginal gas (1.25%).<sup>45</sup> New discovery gas is gas produced from conventional gas wells (e.g., nonhorizontal wells). High-cost gas is gas that is costly to extract and includes all gas extracted from shale formations employing horizontal drilling techniques. Marginal gas is gas produced from a well that is no longer capable of producing in excess of 250 Mcf of gas per day for conventional wells and 100 Mcf per day for horizontal wells.<sup>46</sup> The reduced "new discovery" rate applies only for the first 24 months of a well's operation. The reduced "high-cost" rate applies only for the first 36 months of a well's operation, but the rate may be extended if the "payout" date has not been achieved for up to 12 additional months.<sup>47</sup> The payout date is the date on which a well owner recovers the owner's drilling costs and, up to the payout date, well operating costs.<sup>48</sup>

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<sup>42</sup> Ark. Code § 26-58-111(6)(A).

<sup>43</sup> Ark. Code § 26-58-111(6)(A).

<sup>44</sup> Ark. Code § 26-58-301 and § 26-58-302.

<sup>45</sup> Ark. Code § 26-58-111(5).

<sup>46</sup> Ark. Code § 26-58-101.

<sup>47</sup> Ark. Code § 26-58-127.

<sup>48</sup> Ark. Code § 26-58-101.

Arkansas authorizes gas producers to deduct costs incurred dehydrating, treating, compressing, and delivering natural gas.<sup>49</sup> Additionally, an oil or gas well that disposes of salt brine produced in the production of the oil or gas by means of an approved underground saltwater disposal system is allowed a severance tax credit equal to the operator's costs in maintaining the underground disposal system, up to \$370,000.<sup>50</sup>

## **Colorado**

### ***Rates and bases***

Colorado levies a severance tax on the basis of gross income attributable to the sale of oil and gas. The applicable rate depends on the producer's annual gross income and ranges from 2% (annual gross income under \$25,000) to 5% (annual gross income of \$300,000 and over).<sup>51</sup>

Colorado levies an additional charge on the market value of oil and gas produced at the wellhead to fund the enforcement of Colorado's oil and gas law. The rate of the charge is set by the commission that administers those laws, but it may not exceed 1.7 mills.<sup>52</sup> Currently, the charge equals 0.7 mills.<sup>53</sup>

### ***Incentives***

The state authorizes a credit against the severance tax equal to 87.5% of ad valorem tax, i.e., property tax, assessed or paid by leasehold and royalty interests.<sup>54</sup>

## **Louisiana**

### ***Rates and bases***

Louisiana levies a severance tax on oil, condensate, and gas. The rate on oil and condensate equals 12.5% of "gross value." Gross value is the greater of (1) the gross

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<sup>49</sup> Ark. Code § 26-58-101(10).

<sup>50</sup> Ark. Code §§ 26-58-204, 26-58-205, and 26-58-208.

<sup>51</sup> Colo. Rev. Stat. § 39-29-105(1).

<sup>52</sup> Colo. Rev. Stat. § 34-60-122.

<sup>53</sup> Colo. Code Regs. § 2.404-1(310).

<sup>54</sup> Colo. Rev. Stat. § 39-29-105(2).



receipts received from the first purchaser, less charges for trucking, barging, and pipeline fees, and (2) the posted field price.<sup>55</sup>

The state's natural gas severance tax is levied at a rate of 15.8¢ per Mcf of gas, which results from applying a gas price index adjustment to a base minimum rate of 7¢.<sup>56</sup> This rate also applies to natural gas liquids.<sup>57</sup>

### **Cost recovery**

Production of oil or natural gas from a horizontal well is exempt from the tax for the earlier of the first two years of the well's production or the date that "payout" of the well is achieved, i.e., the date a sufficient quantity of oil or natural gas, based on market prices, is obtained to recover the producer's costs of drilling the well. The exemption is reduced and eventually eliminated if the price of oil or natural gas increases to certain thresholds.<sup>58</sup>

### **North Dakota**

#### **Rates and bases**

North Dakota levies two types of severance taxes – a gross production tax on oil and gas and an extraction tax on oil. The gross production tax on oil equals 5% of the gross value of the oil at the wellhead, i.e., the price paid for oil under an arm's-length contract less transportation costs associated with moving the oil from the point of production to the point of sale.<sup>59</sup> The gross production on gas equals 11.06¢ per Mcf of gas, which reflects an annual adjustment using the producer price index starting from a base rate of 4¢.<sup>60</sup>

The oil extraction tax is currently 6.5% of the gross value of oil at the wellhead. But if the price of oil dips below a trigger price, currently \$52.59 per barrel, a 4%

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<sup>55</sup> La. Rev. Stat. § 47:633(7) and (8).

<sup>56</sup> La. Dep't of Revenue, <http://revenue.louisiana.gov/SeveranceTaxes/Gas> (last visited September 15, 2015).

<sup>57</sup> La. Rev. Stat. § 47:633(8) and (9)(d).

<sup>58</sup> La. Rev. Stat. § 47:633 (7)(d).

<sup>59</sup> N.D. Cent. Code §§ 57-51-02 and 57-51-02.3.

<sup>60</sup> N.D. Cent. Code § 57-51-02.2; *Notification of Gas Tax Rate for Fiscal Year 2016*, Office of State Tax Commissioner (July 1, 2015), available at <https://www.nd.gov/tax/oilgas/pubs/gasrate.pdf?20150915124117>.

reduced rate applies.<sup>61</sup> Until July 1, 2015, if the oil price exceeded the trigger price, the first 75,000 barrels or first \$4.5 million of gross value of oil from a horizontal well was subject to a reduced 2% rate.

Beginning in 2016, the oil extraction tax rate becomes 5% of the gross value of oil, unless the price of oil exceeds \$90 per barrel plus an inflation factor, in which case the rate will increase to 6%.<sup>62</sup>

## **Oklahoma**

### ***Rates and bases***

Oklahoma levies a gross production tax on oil and gas. For wells producing on or after July 1, 2015, Oklahoma imposes a 2% rate on the gross value of severed oil and gas for the first three years of a well's production, with a 7% rate applying thereafter.<sup>63</sup> Gross value is "the gross proceeds realized from the first sale of [oil and gas] . . . without any deduction for costs whatsoever."<sup>64</sup> If the sale price of the oil or gas does not reflect the prevailing price for similar gas or oil, the Oklahoma Tax Commission may require the producer to pay the tax on the basis of the prevailing price of oil or gas from the same field. If the sale is between related entities and not done at arm's length, then gross value equals the prevailing price of oil and gas produced in the county, as calculated by the Commission.<sup>65</sup> Oklahoma allows gas producers to deduct their marketing costs associated with moving the gas from a well to market from the gross production tax base.<sup>66</sup>

In addition to its gross production tax, Oklahoma levies a petroleum excise tax equal to 0.095% of the gross value of severed natural gas and oil. The rate is scheduled to decrease to 0.085% beginning July 1, 2016.<sup>67</sup>

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<sup>61</sup> N.C. Cent. Code §§ 57-51.1-01 and 57-51.1-02; *Notification of Oil Trigger Price Adjustment for Calendar Year 2015*, Office of State Tax Commissioner (December 18, 2014), available at <https://www.nd.gov/tax/oilgas/pubs/trigger.pdf?20150915125859>.

<sup>62</sup> N.D. Cent. Code § 57-51.1-02 (effective January 1, 2016).

<sup>63</sup> Okla. Stat. tit. 68, § 1001(B).

<sup>64</sup> Okla. Admin. Code § 710:45-1-2.

<sup>65</sup> Okla. Stat. tit. 68, § 1009(F).

<sup>66</sup> Okla. Stat. tit. 68, § 1001.4.

<sup>67</sup> Okla. Stat. tit. 68, §§ 1101 and 1102.

### **Cost recovery**

As mentioned above, for wells producing on or after July 1, 2015, Oklahoma imposes a 2% rate on the gross value of severed oil and gas for the first three years of a well's production.<sup>68</sup>

### **Texas**

#### **Rates and bases**

Texas levies a severance tax on oil and condensate ("oil production tax") equal to the greater of 4.6% of the market value of oil or condensate or 4.6¢ for each barrel of oil or condensate produced.<sup>69</sup> In addition, the state imposes a regulatory oilfield clean-up fee of 0.675¢ per barrel of oil produced.<sup>70</sup>

Texas's severance tax on gas and all liquid hydrocarbons that are not condensate ("gas production tax") equals 7.5% of the market value of gas or liquids produced.<sup>71</sup> The market value of gas is reduced by costs incurred by the producer to compress, dehydrate, sweeten, or deliver the gas.<sup>72</sup> An oilfield clean-up fee of 1/15 of 1¢ per Mcf of gas produced is also imposed.<sup>73</sup>

### **Cost recovery**

For the gas production tax, Texas offers a temporary rate reduction for wells extracting gas designated by the Texas Railroad Commission or the Federal Energy Regulatory Commission as a high-cost gas, which currently includes gas produced from shale formations.<sup>74</sup> The reduction is calculated by subtracting from the 7.5% rate the product of that rate times the ratio of drilling and completion costs incurred for the well to twice the median drilling and completion costs for high-cost wells completed during the preceding fiscal year, but the rate may not be reduced below zero. The reduced rate applies for the lesser of ten years beginning on the first day of production, or until the

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<sup>68</sup> Okla. Stat. tit. 68, § 1001(B).

<sup>69</sup> Tex. Tax Code §§ 201.055 and 202.052 (2015).

<sup>70</sup> Tex. Nat. Res. Code § 81.116.

<sup>71</sup> Tex. Tax Code §§ 201.052 and 201.054.

<sup>72</sup> Tex. Tax Code § 201.101.

<sup>73</sup> Tex. Nat. Res. Code § 81.117. The Texas Railroad Commission is required to suspend clean-up fees if a certain amount accrues in the fund to which the taxes are credited. Tex. Nat. Res. Code. § 81.067.

<sup>74</sup> 16 Texas Admin. Code § 3.101.

cumulative value of the tax reduction equals 50% of the drilling and completion costs incurred for the well.<sup>75</sup>

## **West Virginia**

### ***Rates and bases***

West Virginia levies a severance tax on oil and natural gas at a rate of 5% of the gross value of the natural gas or oil.<sup>76</sup> The gross value of natural gas and oil equals the product's local market value, with deduction for processing costs necessary to obtain commercially marketable or usable oil or gas.<sup>77</sup> West Virginia levies an additional tax on natural gas in the amount of 47¢ per Mcf for the purpose of reducing the state's Workers' Compensation debt.<sup>78</sup>

### ***Incentives***

West Virginia provides an annual credit of \$500 for each severance taxpayer.<sup>79</sup> The state also exempts natural gas and oil extracted from low-producing wells.<sup>80</sup>

## **Pennsylvania county impact fee**

While Pennsylvania does not levy a severance tax, the state does authorize counties to impose a mandatory "impact fee" for hydraulic fracturing gas wells. This fee is based on the current price of natural gas and decreases gradually over 15 years. The fee is \$60,000 if the price of gas exceeds \$5.99 per Mcf, \$55,000 if the price is between \$4.99 and \$6.99, \$50,000 if the price is between \$2.99 and \$4.99, \$45,000 if the price is between \$2.26 and \$2.99, and \$40,000 if the price is less than \$2.26.<sup>81</sup>

## **Property taxes**

Four of the nine comparison states – Arkansas, Colorado, Texas, and West Virginia – authorize local governments to levy property taxes against tangible personal property (TPP) or real property, including oil and gas reserves. However,

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<sup>75</sup> Tex. Tax Code § 201.057.

<sup>76</sup> W. Va. Code § 11-13A-3a.

<sup>77</sup> W. Va. Code § 11-13A-2(c)(6).

<sup>78</sup> W. Va. Code § 11-13V-4.

<sup>79</sup> W. Va. Code § 11-13A-10.

<sup>80</sup> W. Va. Code § 11-13A-3a.

<sup>81</sup> 58 Pa. Cons. Stat. § 2302.

three states – North Dakota, Oklahoma, and Pennsylvania – do not authorize the levy of property tax against either oil and gas reserves or TPP. Ohio authorizes the levy of property tax against oil and gas reserves, but not general business TPP. Louisiana allows local property taxes to be levied against oil and gas TPP, but not against mineral rights. Each state's property tax system, as related to oil and gas reserves and TPP, is described below.

## **Ohio**

### ***Mineral rights or reserves***

Ohio assesses real property tax against oil and gas reserves through application of a form of net income capitalization valuation. Generally, the gross value of production is computed on the basis of the five-year average price of oil or gas from Ohio wells, and this gross production value is discounted over a ten-year period to determine the net present value of oil or gas.<sup>82</sup> Production volume is adjusted to account for early "flush" production and production forced by using various secondary recovery methods, and an annual rate of decline in production is stipulated. Gross value is adjusted by netting out royalty expenses, capital recovery expenses, and operating expenses. Oil and gas producers in Ohio who own active and producing wells pay property tax based on the value of oil and gas mineral reserves as determined by the valuation formula.<sup>83</sup>

### ***Tangible personal property***

Ohio does not authorize the levy of property tax on general business TPP.

## **Arkansas**

### ***Mineral rights or reserves***

Arkansas assesses property tax on the taxable value of producing oil and gas reserves, and assessors are required to separately assess severed mineral rights.<sup>84</sup> Producing oil and gas reserves are valued under formulas that account for the price of the extracted oil and gas. Inactive reserves are not assessed.<sup>85</sup>

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<sup>82</sup> "Discounting" is a method of finding present value of a sum receivable at some future date.

<sup>83</sup> R.C. 5713.051.

<sup>84</sup> Ark. Code § 26-26-1110.

<sup>85</sup> Arkansas Assessment Coordination Department, *Standard for Assessing Mineral Rights* (February 22, 2013), available at [http://www.arkansas.gov/acd/pdfs/Minerals\\_Standards\\_2013.pdf](http://www.arkansas.gov/acd/pdfs/Minerals_Standards_2013.pdf).

### ***Tangible personal property***

In addition, local governments in Arkansas may assess property tax on most forms of TPP, including oil and gas exploration and production equipment.<sup>86</sup>

### **Colorado**

#### ***Mineral rights or reserves***

Colorado assesses property tax on producing oil and gas reserves. Those reserves are valued at 87.5% of the cumulative receipts for oil and gas sold from the well during the tax year. A reduced assessment rate of 75% is available for oil and gas exploited through certain conservation methods.<sup>87</sup> As discussed previously, real property taxes on oil and gas reserves may be credited to some extent against Colorado's severance tax.<sup>88</sup> Nonproducing oil and gas interests are valued at 29% of market-rate rental value.<sup>89</sup>

#### ***Tangible personal property***

Colorado assesses TPP tax on machinery, equipment, and buildings at 29% of the TPP's value.<sup>90</sup>

### **Louisiana**

#### ***Mineral rights or reserves***

Oil and gas rights are exempted from property tax under a Louisiana constitutional amendment.<sup>91</sup>

#### ***Tangible personal property***

Louisiana levies property tax on commercial TPP, including oil and gas wells and equipment, which is assessed on 15% of its fair market value, i.e., cost with depreciation allowances.<sup>92</sup>

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<sup>86</sup> *Id.*; Ark. Code § 26-3-201.

<sup>87</sup> Colo. Rev. Stat. § 39-7-102(1).

<sup>88</sup> Colo. Rev. Stat. § 39-29-105(2).

<sup>89</sup> Colo. Rev. Stat. §§ 39-1-104(4) and 39-7-109.

<sup>90</sup> Colo. Rev. Stat. § 39-1-104.

<sup>91</sup> La. Const. Art. VII, § 4.

<sup>92</sup> La. Rev. Stat. § 47:2323; La. Admin. Code tit. 61, §§ V.101, V.111, and V. 907.

## **North Dakota**

### ***Mineral rights or reserves***

North Dakota exempts from property tax oil and gas reserves, the oil and gas are subject to the state's severance taxes.<sup>93</sup>

### ***Tangible personal property***

North Dakota does not assess property tax on business TPP.

## **Oklahoma**

### ***Mineral rights or reserves; tangible personal property***

Oklahoma does not levy real or personal property taxes on oil and gas reserves – instead the state levies severances taxes on oil and gas produced from those reserves.<sup>94</sup>

## **Pennsylvania**

### ***Mineral rights or reserves***

In 2002, oil and gas reserves in Pennsylvania became exempt from real property taxes after the Pennsylvania Supreme Court held that the state's definition of real property for tax purposes did not include mineral rights.<sup>95</sup> Additionally, Pennsylvania does not consider mining machinery and equipment to be real estate subject to taxation.<sup>96</sup>

### ***Tangible personal property***

Pennsylvania does not authorize taxes to be levied on business TPP.

## **Texas**

### ***Mineral rights or reserves***

In Texas, mineral reserves are generally subject to property taxation at their fair market value. The market value of oil and gas is determined by use of generally accepted appraisal techniques, though each property is appraised upon the individual

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<sup>93</sup> N.D. Cent. Code § 57-02-08.

<sup>94</sup> 68 Okla. Stat. § 2805(5).

<sup>95</sup> *Independent Oil & Gas Association v. Board of Assessment Appeals of Fayette County*, 572 Pa. 240, 814 A.2d 180 (2002).

<sup>96</sup> 72 Pa. Stat. § 5020-201 (2015).

characteristics affecting the property's market value.<sup>97</sup> If oil and gas reserves are appraised using a method that takes into account the future income from the sale of oil or gas to be produced from the reserves, the method must use the average price of the oil or gas for the preceding year multiplied by a factor reflecting the projected price at which the oil or gas may be sold in the appraisal year.<sup>98</sup> Mineral interests valued at less than \$500 are exempt from property tax.<sup>99</sup>

Interests in oil and gas reserves that are not currently being produced are appraised at the price the interest would sell for while not under production.<sup>100</sup>

***Tangible personal property***

Property taxes in Texas are assessed against TPP used or held for the production of income.<sup>101</sup> TPP valued at less than \$500 is exempt from property tax.<sup>102</sup>

**West Virginia**

***Mineral rights or reserves***

West Virginia assesses tax on oil and gas reserves, which are valued for tax purposes at 60% of fair market value.<sup>103</sup> That value is calculated through application of a net income capitalization formula similar to the formula used in Ohio. The tax is determined on the basis of a well's gross receipts less royalty and operating expenses.<sup>104</sup>

***Tangible personal property***

West Virginia assesses property tax on TPP, including industrial fixtures, machinery, and equipment.<sup>105</sup>

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<sup>97</sup> Tex. Tax Code §§ 1.04, 11.01, and 23.01.

<sup>98</sup> Tex. Tax Code § 23.175.

<sup>99</sup> Tex. Tax Code § 11.146.

<sup>100</sup> Tex. Tax Code § 23.17.

<sup>101</sup> Tex. Tax Code §§ 11.01 and 11.14.

<sup>102</sup> Tex. Tax Code § 11.146.

<sup>103</sup> W. Va. Code §§ 11-1C-10 and 11-3-1.

<sup>104</sup> W. Va. Code R. § 110-1J-4 (2015).

<sup>105</sup> W. Va. Code § 11-1A-11.



## Sales and use tax

Ohio and all of the eight comparison states levy a tax on the sale of TPP and certain services (sales tax) and an accompanying tax at the same rate on the use of TPP and services purchased outside the state by a resident of the state (use tax). Each of the states also allows local sales and use taxes in addition to the state rate. These taxes, absent specific exemption, would apply to the TPP and service purchases of oil and gas producers.

The table below summarizes the sales and use tax rates of the comparison states. Unless otherwise noted, the data were compiled by the Federation of Tax Administrators in 2014.<sup>106</sup> Local taxes are expressed in terms of the local rate levied in the largest city in the state. Rates vary in each state depending on the location of the sale or residence of the consumer. In each state, the sales and use tax rate levied in the largest city is the highest rate levied in the state.<sup>107</sup> The paragraphs following the table summarize certain exemptions that may apply to oil and gas producers.

State	State Rate (%)	Local Rate in Largest City (%)	Total Rate in Largest City (%)
Ohio	5.75 <sup>108</sup>	2.25 <sup>109</sup>	8.00 <sup>110</sup>
Arkansas	6.50	5.50	12.00
Colorado	2.90	7.10	10.00
Louisiana	4.00	7.00	11.00
North Dakota	5.00	3.00	8.00
Oklahoma	4.50	6.50	11.00
Pennsylvania	6.00	2.00	8.00
Texas	6.25 <sup>111</sup>	2.00	8.25
West Virginia	6.00	1.00	7.00

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<sup>106</sup> "Comparison of State/Local Retail Sales Taxes" (2014), available at <http://dor.wa.gov/docs/reports/2014/Compare14/Table15.pdf>.

<sup>107</sup> See Scott Drenkard and Jared Walczak, *State and Local Sales Tax Rates in 2015*, Tax Foundation, available at [http://taxfoundation.org/article/state-and-local-sales-tax-rates-2015#\\_ftn8](http://taxfoundation.org/article/state-and-local-sales-tax-rates-2015#_ftn8).

<sup>108</sup> R.C. 5739.02 and 5741.02.

<sup>109</sup> The highest local rate possible in Ohio is 3.0%. R.C. 5739.021, 5739.023, 5739.026, 5741.021, 5741.022, and 5741.023.

<sup>110</sup> The highest total sales and use tax rate actually levied is 8.00% in Cuyahoga County.

<sup>111</sup> Tex. Tax Code §§ 151.051 and 151.101.

## **Ohio**

In Ohio, sales of TPP and taxable services are exempted when the thing transferred is used to produce TPP for sale by "mining, including, without limitation, the extraction from the earth of all substances that are classed geologically as minerals, production of crude oil and natural gas . . . ." <sup>112</sup>

## **Colorado**

Colorado exempts from sales and use tax purchases of machinery or machine tools to be used exclusively in an enterprise zone for manufacturing TPP. Manufacturing includes "refining, blasting, exploring, mining and mined land reclamation, quarry for, processing and beneficiation, or otherwise extracting from the earth or from waste or stockpiles or from pits or banks any natural resource." <sup>113</sup>

## **North Dakota**

North Dakota exempts from sales and use tax sales of property used to compress, process, gather, collect, or refine gas or to expand or build a gas producing facility. <sup>114</sup>

## **Pennsylvania**

Under Pennsylvania law, the transfer of TPP and services used in the manufacture of tangible personal property, including refining, blasting, exploring, mining and quarrying for, or otherwise extracting natural resources, is exempt from sales and use tax. <sup>115</sup>

## **Texas**

Texas provides three exemptions that may be applicable to a particular oil and gas producer. First, the transfer of certain materials and equipment used for off-shore, out-of-state mining, exploration, and production of oil, gas, sulfur, and other minerals is exempt from sales and use tax. <sup>116</sup> Also exempt from sales and use tax is the transfer of gas and electricity used directly in exploring for, producing, or transporting any material extracted from the earth. Finally, the sale of TPP used to process, reuse, or recycle wastewater to be used in fracturing work within an oil and gas well is exempt

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<sup>112</sup> R.C. 5739.02(B)(42)(a).

<sup>113</sup> Colo. Rev. Stat. § 39-30-106.

<sup>114</sup> N.D. Cent. Code §§ 57-39.2-04.5 and 57-39.2-10.

<sup>115</sup> 72 Pa. Stat. § 7201.

<sup>116</sup> Tex. Tax Code § 151.324.

from sales and use tax.<sup>117</sup> Only the first of these three exemptions is restricted to off-shore, out-of-state ventures.

### **West Virginia**

West Virginia generally exempts from sales and use tax sales of TPP and services "directly used or consumed in the activities of manufacturing, transportation, transmission, communication, production of natural resources, gas storage, generation or production or selling electric power, provision of a public utility service or the operation of a utility service or the operation of a utility business . . . ." Persons claiming such an exemption must pay the tax initially, then later apply to the Tax Commissioner for a refund or credit. The exemption does not apply to the purchase of gasoline or special fuel.<sup>118</sup>

### **Business taxes**

Arkansas, Colorado, Louisiana, North Dakota, Oklahoma, Pennsylvania, and West Virginia impose business income taxes similar to the federal corporate income tax. Texas imposes a "margins tax" based either on revenue or gross receipts after certain deductions. Ohio imposes a CAT based on a business's gross receipts.

The table below contains the tax rates, income brackets, and tax base applicable in each of the comparison states. Unless otherwise noted, the data were compiled by the Federation of Tax Administrators in 2015.<sup>119</sup> The paragraphs following the table summarize characteristics of the taxes affecting oil and gas producers.

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<sup>117</sup> Tex. Tax Code § 151.317.

<sup>118</sup> W. Va. Code § 11-15-9.

<sup>119</sup> *Range of State Corporate Income Tax Rates* (2015), available at [http://www.taxadmin.org/fta/rate/corp\\_inc.pdf](http://www.taxadmin.org/fta/rate/corp_inc.pdf).

State	Tax Rate(s) (%)	Income Brackets (Lowest-Highest)	Tax Base (as allocated to the state)
<b>Ohio</b> <sup>120</sup>	0.26 on gross receipts over \$1 million	Annual minimum tax (ranging from \$150-\$2,600) applies to first \$1 million in gross receipts	Gross receipts – the total amount realized by a person without deduction for cost of goods or expenses
<b>Arkansas</b>	1.0-6.5	\$3,000-\$100,001	Gains, profits, and income derived from any source <sup>121</sup>
<b>Colorado</b>	4.63	Flat rate	Federal taxable income <sup>122</sup>
<b>Louisiana</b>	4.0-8.0	\$25,000-\$200,001	Federal gross income, adjusted (FAGI) <sup>123</sup>
<b>North Dakota</b>	1.48-4.53	\$25,000-\$50,001	Federal taxable income <sup>124</sup>
<b>Oklahoma</b>	6.0	Flat rate	FAGI <sup>125</sup>
<b>Pennsylvania</b>	9.99	Flat rate	Federal taxable income <sup>126</sup>
<b>Texas</b>	0.5 (retail) 1.0 (other)	Applies only if total revenue exceeds \$1.03 million	Based on 70% of total revenue or 100% of gross receipts after deductions for either compensation or goods sold
<b>West Virginia</b>	6.5	Flat rate	FAGI <sup>127</sup>

## Ohio

Under the CAT, receipts from the sale or other disposition are exempted because Ohio levies a petroleum activity tax (PAT) on suppliers of motor fuel, which is measured by the supplier's gross receipts from the first sale of motor fuel, including propane, in Ohio to a point outside the distribution system. The rate of the PAT is 0.65%.<sup>128</sup>

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<sup>120</sup> R.C. Chapter 5751.

<sup>121</sup> Ark. Code § 26-51-404.

<sup>122</sup> Colo. Rev. Stat. §§ 39-22-301 and 304.

<sup>123</sup> La. Rev. Stat. § 47:287.61.

<sup>124</sup> N.D. Cent. Code § 57-38-01.3.

<sup>125</sup> Okla. Stat. tit. 68, §§ 2353 and 2355.

<sup>126</sup> 72 Pa. Stat. § 7401.

<sup>127</sup> W. Va. Code § 11-24-3.

<sup>128</sup> R.C. Chapter 5736.

## **Colorado**

Colorado authorizes a depletion deduction equal to the greater of the federal depletion amount or what the federal depletion amount would be if the depletion rate were 27.5% and "crushing, retorting, condensing, and other processes by which oil, gas, or both oil and gas are removed from oil shale" were deemed to be treatment processes considered as mining.<sup>129</sup>

## **Louisiana**

Louisiana allows a depletion deduction for oil and gas production and exploration activities. The deduction is the greater of the federal depletion amount or 22% of gross income (excluding rents or royalties paid or incurred) from an oil and gas well. The deduction may not exceed 50% of the taxpayer's net income. H.B. 624 (signed by the governor on June 19, 2015) temporarily reduces the deduction to 15.8% of gross income (excluding 72% of any rents or royalties paid or incurred) from the oil and gas well, not to exceed 36% of the taxpayer's net income.<sup>130</sup>

Louisiana also allows a deduction for "intangible drilling and development costs," which may include drilling development work done by contractors, costs of labor, fuel, repairs, and construction. Generally, the deduction applies to expenditures having no salvage value.<sup>131</sup>

## **Oklahoma**

Oklahoma allows, as an alternative to the federal depletion deduction, a depletion deduction equal to 22% of the gross income derived from the properties during the taxable year. The depletion deduction for "major oil companies" may not exceed 50% of the company's net income.<sup>132</sup>

## **Pennsylvania**

In Pennsylvania, income of pipeline and natural gas companies is subject to special apportionment rules.<sup>133</sup>

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<sup>129</sup> Colo. Rev. Stat. § 39-22-304(3)(h).

<sup>130</sup> La. Rev. Stat. §§ 47:66 and 158.

<sup>131</sup> La. Rev. Stat. § 47:67.

<sup>132</sup> Okla. Stat. tit. 68, § 2353(10).

<sup>133</sup> 72 Pa. Stat. § 7401.

## Personal income tax

Of the nine comparison states, all but Texas levy a tax on individuals living or earning income within the state. Such taxes generally include individuals' distributive shares from pass-through entities such as partnerships and S corporations. These taxes would presumably impact at least some oil and gas producers and their employees.

The table below compares personal income tax rates, brackets, and tax bases of the comparison states. Unless otherwise noted, the data were compiled by the Federation of Tax Administrators in 2015.<sup>134</sup> The paragraphs following the table summarize characteristics of the taxes affecting oil and gas producers.

State	Tax Rate(s) (%)	Income Brackets (Lowest – Highest)	Tax Base
Ohio	0.495-4.997	\$5,000-\$200,000	FAGI <sup>135</sup>
Arkansas	0.9-6.9	\$4,299-\$35,100	Gains, profits, and income derived from any source <sup>136</sup>
Colorado	4.63	Flat rate	Federal taxable income <sup>137</sup>
Louisiana	2.0-6.0	\$12,500-\$50,001	FAGI <sup>138</sup>
North Dakota	1.22-3.22	\$37,450-\$411,500	Federal taxable income <sup>139</sup>
Oklahoma	0.5-5.25	\$1,000-\$8,701	FAGI <sup>140</sup>
Pennsylvania	3.07	Flat rate	Compensation, net profits, net gains, dividends, interest, gambling winnings, and other specified types of income <sup>141</sup>
Texas	No state tax		
West Virginia	3.0-6.5	\$10,000-\$60,000	FAGI <sup>142</sup>

<sup>134</sup> "State Individual Income Tax Rates" (2014), available at [http://www.taxadmin.org/fta/rate/ind\\_inc.pdf](http://www.taxadmin.org/fta/rate/ind_inc.pdf).

<sup>135</sup> R.C. 5747.01.

<sup>136</sup> Ark. Code § 26-51-404.

<sup>137</sup> Colo. Rev. Stat. § 39-22-104.

<sup>138</sup> La. Rev. Stat. §§ 47:293 and 47:295.

<sup>139</sup> N.D. Cent. Code § 57-38-01.

<sup>140</sup> Okla. Stat. tit. 68, §§ 2353 and 2355.

<sup>141</sup> 72 Pa. Stat. § 7303.

<sup>142</sup> W. Va. Code § 11-21-9.

## Ohio

Ohio's income tax rates have been gradually falling since 2005, when the 126th General Assembly enacted H.B. 66, scheduling five annual across-the-board income tax rate reductions of 4.2% each. Accordingly, for 2008 taxable years, income tax rates were 16.8% lower than they had been for 2004, the year before H.B. 66 was enacted.

In 2009, H.B. 318 of the 128th General Assembly temporarily postponed the fifth and final income tax rate reduction for two years. As a result, the fifth and final rate reduction became effective for 2011 taxable years. Starting in 2010, the Tax Commissioner was required to adjust each income tax bracket annually for inflation.

In 2013, the General Assembly enacted H.B. 59, which provided for rate reductions of 8.5% for the 2013 taxable year, 9% for the 2014 taxable year, and 10% for the 2015 taxable year and thereafter (all percentages compared to the 2012 rates). It also introduced a new deduction for one-half of a taxpayer's business income, up to \$125,000. Then, in 2014, the General Assembly accelerated the third and final H.B. 59 reduction, such that the full 10% reduction applied to the 2014 taxable year, and increased the business income deduction to 75% for 2014.

In 2015, the General Assembly again enhanced the business income deduction and established a 3% rate on all or some of that income above the deduction threshold. H.B. 64 maintained the existing nine-tiered tax brackets for nonbusiness income, while reducing the tax rates for those brackets by 6.3% for 2015 and thereafter.<sup>143</sup>

## Colorado

The Colorado depletion deduction previously described also applies to personal income tax (see "**Business taxes**," above).

## Louisiana

The Louisiana depletion deduction previously described also applies to personal income tax (see "**Business taxes**," above). Persons actually engaged in severing oil, gas, and other natural resources are required to withhold income tax on royalty payments to shareholders.<sup>144</sup>

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<sup>143</sup> R.C. 5747.01(A)(31) and 5747.02.

<sup>144</sup> La. Rev. Stat. § 47:636.

## **North Dakota**

North Dakota requires remitters of oil and gas royalty payments to withhold income tax at the highest marginal rate on all oil and gas royalty payments to nonresident individuals and businesses domiciled outside the state. Certain "small producing remitters" producing less than 350,000 barrels of oil or less than 500 million cubic feet of gas during the previous year are exempted from the withholding requirement.<sup>145</sup>

## **Oklahoma**

The Oklahoma depletion deduction previously described also applies to personal income tax (see "**Business taxes**," above). Remitters of oil and gas royalty payments are required to deduct and withhold 5% of the royalty payment for income tax purposes.<sup>146</sup>

## **Multistate workers' compensation comparisons**

### **Background**

Generally, three types of workers' compensation systems exist in the United States: (1) a completely private system, where a state does not offer coverage at all, (2) a "hybrid" system, where a state fund exists and either competes with private insurers or acts as a fund of last resort, and (3) a state monopolistic system, where employers may obtain coverage through only the state fund (Ohio is the last type). In all three types of systems, an employer may be able to pay claims directly, which is referred to as self-insurance. Note that in Texas, workers' compensation coverage is generally voluntary.

To determine the rate of premium to be charged to a particular employer, each state divides employment in the state by classification and assigns a code and rate to each classification. Many states use classifications and rate-making services provided by the National Council of Compensation Insurance (NCCI).

### **The Oregon study**

Every two years, in the Oregon Workers' Compensation Premium Rate Ranking study, Oregon's Department of Consumer and Business Services creates an index workers' compensation premium rate for each state for comparison purposes. For the most recent study (2014), to arrive at an index rate for each state, the Department first

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<sup>145</sup> N.D. Cent. Code § 57-38-59.4.

<sup>146</sup> Okla. Stat. tit. 68, § 2385.26.



selected, of 450 NCCI classification codes used in Oregon, the 50 risk classifications that represent the largest share of losses in Oregon.<sup>147</sup> The study uses the average manual rates in each state for those classifications, and weighs those rates based on 2008-2010 Oregon payrolls. Manual rates are based on loss experienced in a particular industry and may vary significantly from the rates actually charged depending on the individual employer's loss experience and costs assessed by a particular state or workers' compensation insurance provider. The states are then ranked, the state with the most expensive index rate being first, and the state with the least expensive index rate being 51st.<sup>148</sup> The Oregon study ranks the selected states as follows:

State	2014 Ranking	Index Rate
Ohio	33	\$1.74
Arkansas	49	\$1.08
Colorado	41	\$1.50
Louisiana	10	\$2.23
North Dakota	51	\$0.88
Oklahoma	6	\$2.55
Pennsylvania	17	\$2.00
Texas	36	\$1.61
West Virginia	43	\$1.37

But the study cautions against using the results to compare states and includes several issues that users of the report should consider. Below are some of the issues that may affect Ohio's ranking in the Oregon study:

- Because not all premium classes were included in the study, the average premium in each state will differ from the index rate provided in the study, which is weighted based on Oregon's economy;
- Many states have unique classes within the NCCI system or do not have rates for all of the classes;
- The manual rate data used in the study does not take into account adjustments based on experience rating, premium discounts, premium reductions, and other modifications to premium rates;

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<sup>147</sup> The full 2014 report is available at <http://www4.cbs.state.or.us/ex/imd/external/reports/index.cfm?fuseaction=dir&ItemID=1998> (follow link for 2014 Workers' Compensation Premium Rate Ranking Report).

<sup>148</sup> The study includes rates for all 50 states and Washington, D.C.

- The payroll basis may differ from state to state (for example, in North Dakota, workers' compensation premiums are based on the first \$35,600 of an employee's payroll);
- The data excludes the experience of self-insuring employers;
- As discussed above, states vary in the manner in which employers may obtain workers' compensation coverage.

For additional issues regarding the study, see pages 10 to 12 of the study. With respect to the last point listed above, four states, Ohio, North Dakota, Washington, and Wyoming, operate monopolistic state workers' compensation insurance funds. Because of that status, those states are not included in discussions of certain premium calculations in the study, such as the net five-year voluntary premium level change addressed in Figure 6 of the study.<sup>149</sup>

### **Oil and gas base rates**

In addition to the issues listed above, the Oregon study does not include any classifications that represent employment in oil and natural gas production. According to NCCI, the following class codes represent employment in oil and natural gas production and transportation:<sup>150</sup>

- Oil or gas well – drilling or re-drilling and drivers (6235);
- Oil or gas well – cementing and drivers (6206);
- Oil or gas well – specialty tool and equipment leasing not otherwise covered (NOC) (6213);
- Oil or gas well – instrument logging or survey work and drivers (6237);
- Oil or gas lease operator – all operations and drivers (1320);
- Oil or gas – lease work NOC – by specialist contractor and drivers (6216);
- Oil or gas – pipeline construction and drivers (6233);

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<sup>149</sup> *Oregon Workers' Compensation Premium Rate Ranking, Calendar Year 2014*, Oregon Department of Consumer and Business Services, available at [http://dcbs-reports.cbs.state.or.us/rpt/index.cfm?fuseaction=version\\_view&version\\_tk=192975&ProgID=FEARA011](http://dcbs-reports.cbs.state.or.us/rpt/index.cfm?fuseaction=version_view&version_tk=192975&ProgID=FEARA011).

<sup>150</sup> Herk, L., *Workers Compensation and the Oil and Gas Industry*, NCCI Workers Compensation 2015 Issues Report, available at <https://www.ncci.com/Documents/IR2015-Herk.pdf>.

- Oil or gas – pipeline operation and drivers (7515);
- Tool manufacturing – agricultural, construction, logging, mining, wells (3126).

The following table provides a comparison of manual rates for those classifications among Ohio, North Dakota, Pennsylvania, and West Virginia. Each of these manual rates is based on the loss experience of a single industry within a state. This differs from the Oregon study, which, as discussed above, examines the loss experience of 50 selected industries and creates a weighted average based on Oregon's loss experience in those industries. The manual rates for Arkansas, Colorado, Oklahoma, Texas, and Louisiana do not appear to be publicly available.

<b>Classification</b>	<b>Ohio<sup>151</sup></b>	<b>North Dakota<sup>152</sup></b>	<b>Pennsylvania<sup>153</sup></b>	<b>West Virginia<sup>154</sup></b>
Well drilling or redrilling and drivers (6235)	\$4.80	\$8.23 (6203) <sup>155</sup>	\$19.43 (0606)	\$13.93
Well cementing and drivers (6206)	\$3.48	\$5.61	Not available	\$4.12
Well specialty tool and equipment leasing NOC (6213)	\$4.19	\$3.53 (6204)	Not available	\$2.98
Well instrument logging or survey work and drivers (6237)	\$1.38	\$1.86 (6208)	Not available	\$1.72
Well lease operator operations and driving (1320)	\$2.50	\$4.70	Not available	\$3.88
Lease work by specialist contractors and drivers NOC (6216)	\$4.63	\$10.07 (6205)	Not available	\$6.55
Pipeline construction and drivers (6233)	\$3.85	\$3.97 (6301) <sup>156</sup>	Not available	\$3.97

<sup>151</sup> O.A.C. 4123-17-06, Appendix A.

<sup>152</sup> *2015-2016 Workers' Compensation Rates*, North Dakota Workforce Safety and Insurance, available at <https://www.workforcesafety.com/employers/resources>.

<sup>153</sup> *Classification Codes, Classification Rates, Minimum Premium*, Pennsylvania Department of Labor and Industry, available at [http://www.portal.state.pa.us/portal/server.pt/community/underwriting/10437/current\\_swif\\_rates/552685](http://www.portal.state.pa.us/portal/server.pt/community/underwriting/10437/current_swif_rates/552685) (accessed September 22, 2015).

<sup>154</sup> *Assigned Risk Plan Rates Effective November 1, 2014*, West Virginia Offices of the Insurance Commissioner, available at <http://www.wvinsurance.gov/WorkersCompensation.aspx> (accessed September 16, 2015).

<sup>155</sup> Several of these NCCI class codes are not used in North Dakota and none of the NCCI class codes are used in Pennsylvania. To provide a comparison, similar classification codes were selected as shown in parentheses. Selections for North Dakota are based on the 2015 Classification Manual published by North Dakota Workforce Safety and Insurance, available at <https://www.workforcesafety.com/employers/file/2015-classification-manual>.

<b>Classification</b>	<b>Ohio</b> <sup>151</sup>	<b>North Dakota</b> <sup>152</sup>	<b>Pennsylvania</b> <sup>153</sup>	<b>West Virginia</b> <sup>154</sup>
Pipeline operation and drivers (7515)	\$0.84	\$1.81 (7500)	\$2.30 (0752)	\$2.16
Tool manufacturing: including mining and wells (3126)	\$6.30	\$5.05 (3504)	Not available	\$2.11

But there are several limitations on this data. For example, the only publicly available rates for West Virginia's rates were taken from the state's assigned risk plan, which is the insurer of last resort in West Virginia for workers' compensation coverage. Average basic rates for the more than 250 companies that provide private workers' compensation coverage in West Virginia may have been lower, but those rates are not publicly available. Pennsylvania does not utilize NCCI or similar classifications for its State Workers' Insurance Fund and consequently does not have rates to compare for several of the selected classifications. Additionally, while North Dakota may have higher basic rates in several categories, as noted above, the overall amount paid by a North Dakota employer for workers' compensation premiums may be lower because the premium is charged only against the first \$35,600 of an employee's wages.<sup>157</sup>

### **Multistate severance tax collections and production data**

Chart E illustrates 2014 severance tax receipts as a percentage of all state and license revenues for the year. Data for Ohio and eight other comparable states are taken from the U.S. Census Bureau's 2014 Annual Survey of State Government Tax Collections. The statistics reflect state government fiscal years that end on June 30, with the exception of Texas, which ends on August 31. Pennsylvania does not levy a severance tax, but it does collect an impact fee that equaled 0.65% of all state and license revenues for 2014 (see "**Pennsylvania county impact fee**," above).

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<sup>156</sup> Although North Dakota uses the 6233 classification, the manual rates for that classification are not set and are determined at the time of assignment. North Dakota's 6301 classification covers connection, maintenance, and repair of oil and gas pipelines.

<sup>157</sup> 2015-2016 *Workers' Compensation Rates*, North Dakota Workforce Safety and Insurance.

**Chart E: 2014 Severance Tax Collections  
as Percentage of Total State Government Collections**

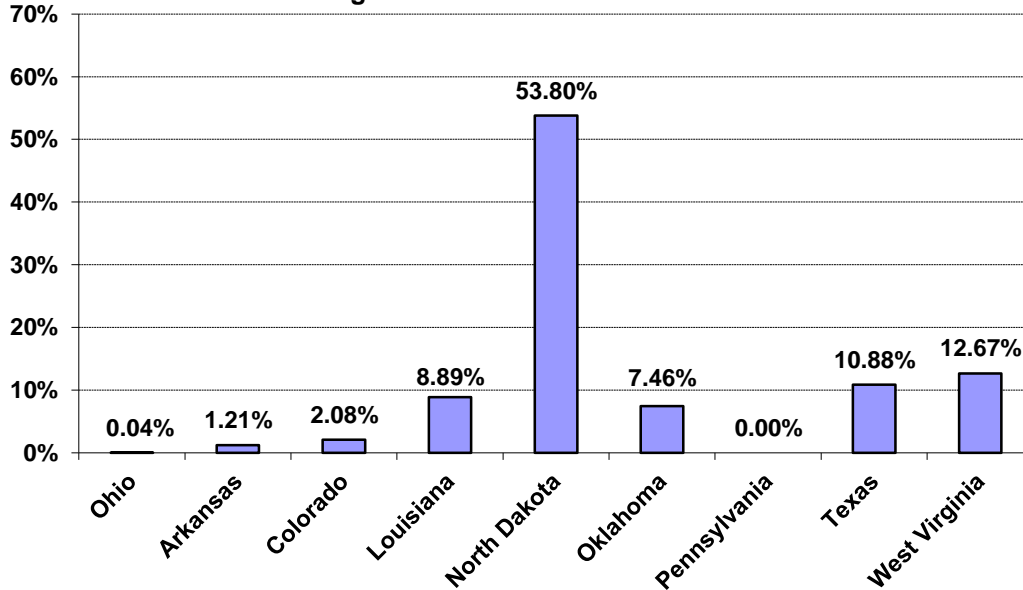


Chart F illustrates the 2014 total field production of crude oil, expressed in thousands of barrels, for Ohio and eight other comparable states. The data are estimated by the U.S. Energy Information Administration (EIA) and exclude offshore production. EIA estimates are based on crude oil production data from state government agencies, the Department of the Interior, and first purchase data reported on forms submitted to EIA.

**Chart F: 2014 Field Production of Crude Oil (Thousand Barrels)**

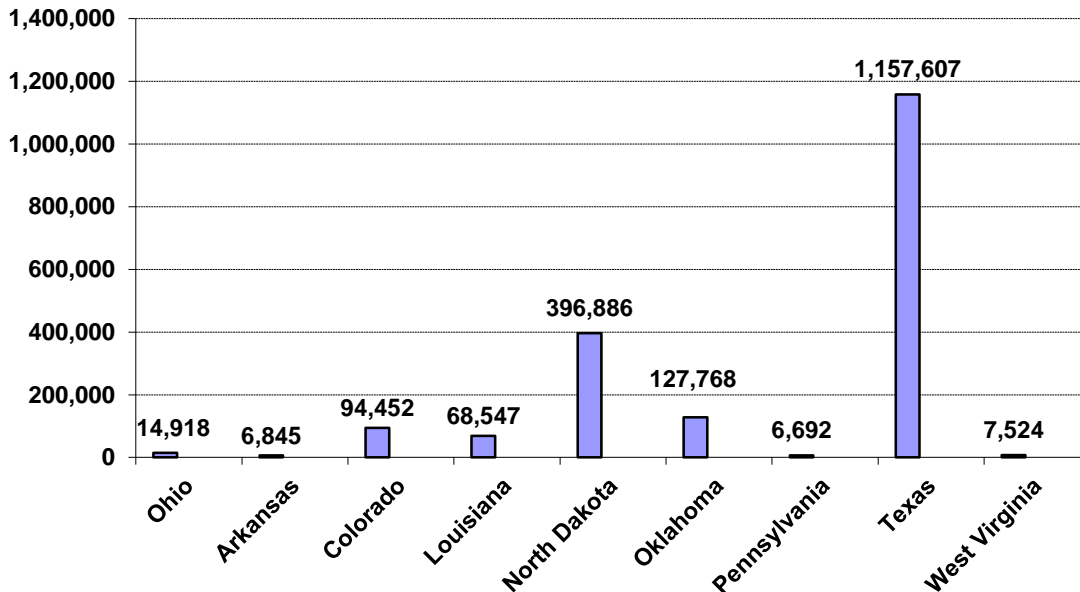
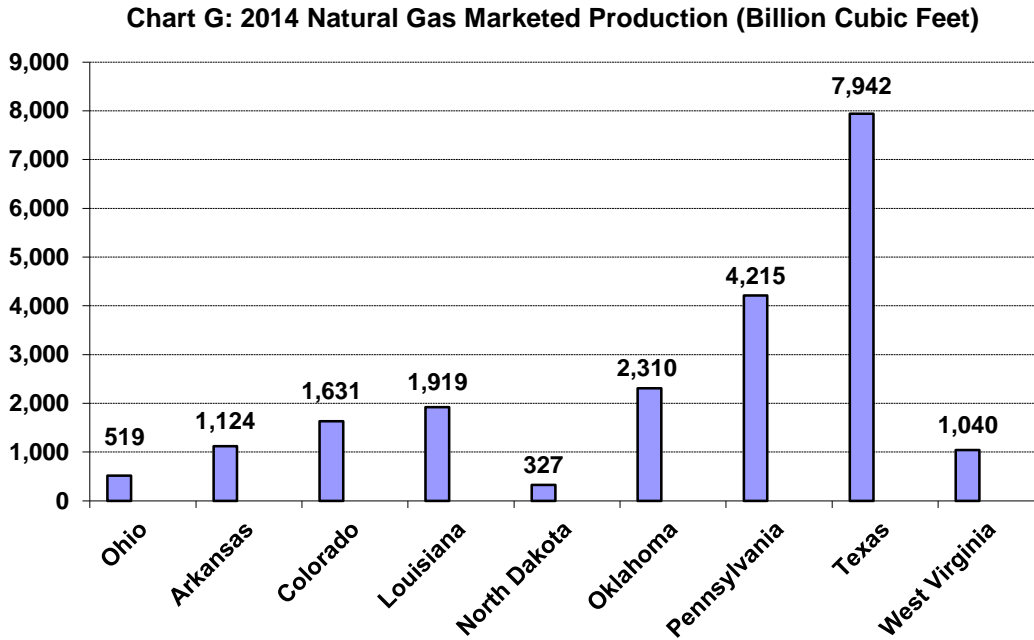


Chart G illustrates the 2014 total natural gas marketed production, expressed in billion cubic feet, for Ohio and eight other comparable states. The chart data is sourced from EIA statistics, which were obtained directly from the states. Offshore natural gas production is excluded from this multistate comparison.



## Conclusions and recommendations

### Conclusions

- The legislative members of the informal working group, in conducting a series of meetings with various stakeholders, have endeavored to compile information and data from a variety of sources in order to provide a foundation for the Ohio 2020 Tax Policy Study Commission to build upon their larger review of Ohio's overall tax structure.

### Findings and recommendations

- Stock, commodity, and capital markets affecting the oil and gas industry have fluctuated widely in the recent past. There are few, if any, businesses in the state of Ohio that are not in some way exposed to one or all of these natural market forces, but the oil and gas industry is especially sensitive to these fluctuations and is under financial duress.
- Given the current market conditions, the legislative members of the informal working group suggest consideration of a trigger or a slow phase-in of a reformed severance tax. Given those provisions, Ohio should not expect to see a new revenue stream materialize overnight until market conditions improve. This is another reason why continuing the discussion of severance tax reform is prudent.
- Factors such as market capitalization, price, production, and "expected ultimate recoverables" should be taken into consideration when determining the appropriate severance tax rate, such that adequate funding is provided for the state's regulatory, administrative, and oversight aspects of the oil and gas industry, while focusing additional resources back to infrastructure and other industry-supported initiatives that will foster more exploration and extraction of oil and gas.
- We reiterate the guiding principles stated at the beginning of these findings: to update Ohio's severance tax to make it comparative with other shale play states across the nation. Ohio's total tax burden on the oil and gas industry is lower than or as low as every other state with a severance tax. The new revenues generated should be used to:
  - Assist local governments in shale play counties to improve infrastructure, equipment, and services that will accommodate the oil and gas industry and also benefit the citizens within their counties.

- Facilitate making adjustments to Ohio's income tax or possibly other taxes in an effort to make Ohio more competitive in the national and international marketplace.
  - Invest in asset-building opportunities that will grow Ohio's economy and improve the quality of life of all Ohioans.
- The legislative members of the informal working group recommend that the Ohio 2020 Tax Policy Study Commission accept this information as a foundation for continuing review in its larger analysis of Ohio's tax structure and utilize these principles as a framework for that continuing review.