



# How New Mexico Returns “Unconventional” Oil Revenue to Local Governments

Headwaters Economics | Updated January 2014

## Introduction

This brief shows how New Mexico’s local governments receive production tax revenue from unconventional oil extraction. Fiscal policy is important for local communities for several reasons. Mitigating the acute impacts associated with drilling activity and related population growth requires that revenue is available in the amount, time, and location necessary to build and maintain infrastructure and to provide services. In addition, managing volatility over time requires different fiscal strategies, including setting aside a portion of oil revenue in permanent funds.<sup>1</sup>

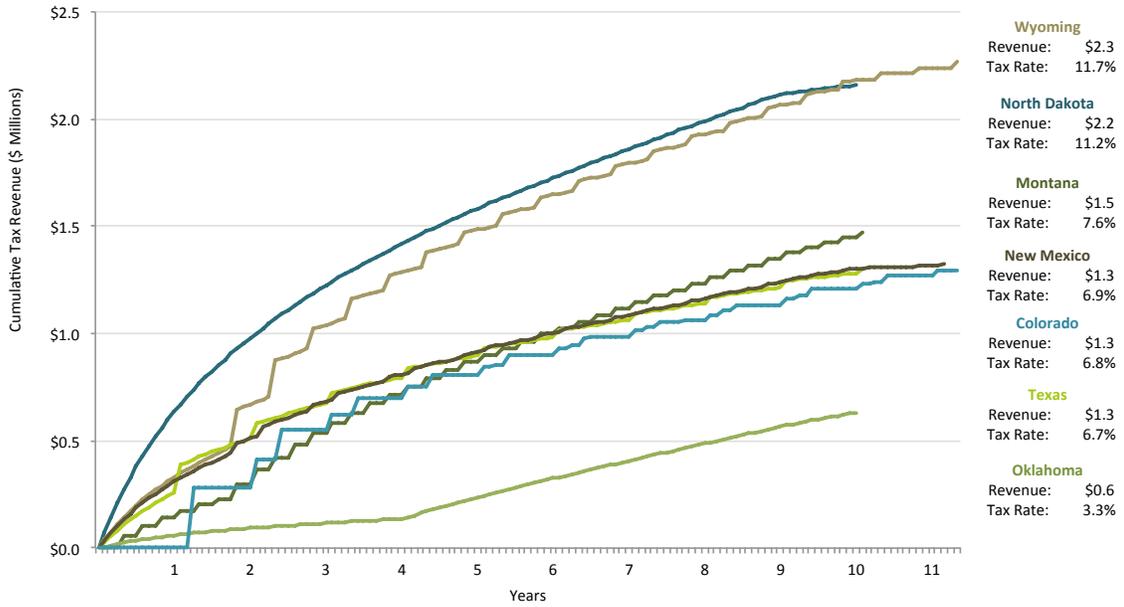
The focus on unconventional oil is important because horizontal drilling and hydraulic fracturing technologies have led a resurgence in oil production in the U.S. Unconventional oil plays require more wells to be drilled on a continuous basis to maintain production than comparable conventional oil fields. This expands potential employment, income, and tax benefits, but also heightens and extends public costs.

This brief is part of a larger project by Headwaters Economics that includes detailed fiscal profiles of major oil-producing states—Colorado, Montana, New Mexico, North Dakota, Oklahoma, Texas, and Wyoming—along with a summary report describing differences between these states. These profiles will be updated regularly. The various approaches to taxing oil make comparisons between states difficult, although not impossible. We apply each state’s fiscal policy, including production taxes and revenue distributions, to a typical unconventional oil well. This allows for a comparison of how states tax oil extracted using unconventional technologies, and how this revenue is distributed to communities. Detailed state profiles and the larger report are available at <http://headwaterseconomics.org/energy/state-energy-policies>.

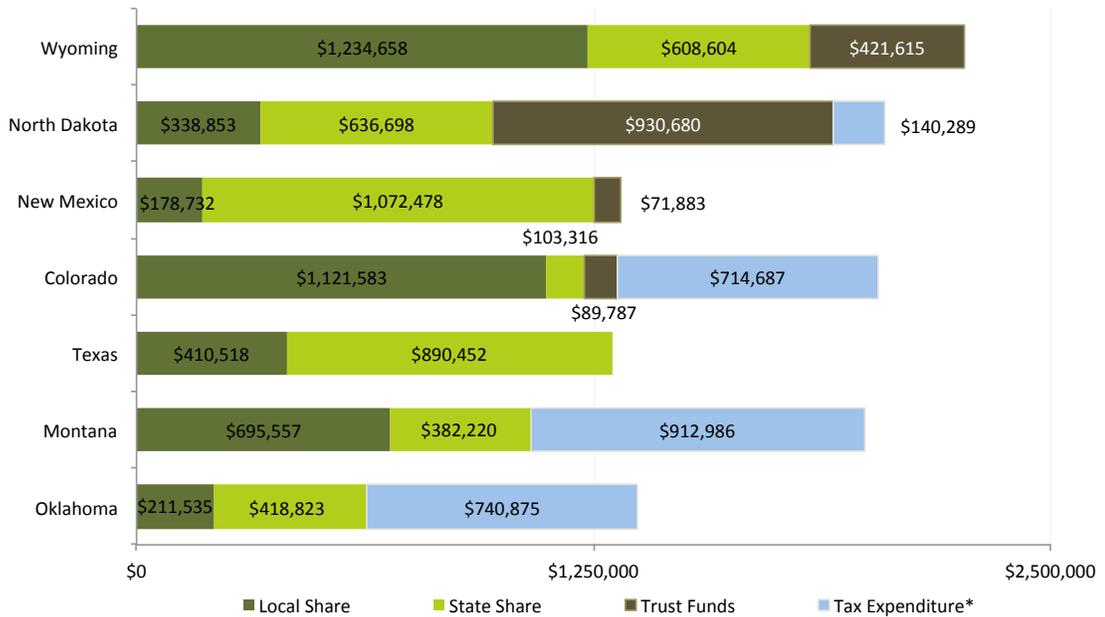
## New Mexico Summary

- New Mexico levies four different production taxes on oil production that add up to a total effective tax rate of 6.9 percent on unconventional oil production, ranking fourth of the seven states we compare in this report (Figure 1).
- Local governments in New Mexico receive the lowest amount of tax revenue from unconventional oil production in absolute terms and as a share of total production tax revenue compared to the other six states we include in this report (Figure 2).
- Energy revenue is highly volatile and while the state’s investment in permanent funds helps to smooth this somewhat, local government budgets and services remain exposed to annual revenue volatility. The severance tax trust fund is used to make investments in statewide infrastructure, and some of these projects benefit communities where oil production takes place, but these communities remain dependent on local property taxes to fund basic services.
- Local government reliance on property taxes is problematic as revenue accrues to the taxing jurisdictions where production occurs, and not to adjacent cities and counties experiencing impacts. Property taxes also delay revenue collections by more than a year after initial oil production begins.

**Figure 1: Comparison of Production Tax Revenue Collected from a Typical Unconventional Oil Well**



**Figure 2: Comparison of Distribution of Production Tax Revenue from a Typical Unconventional Oil Well**



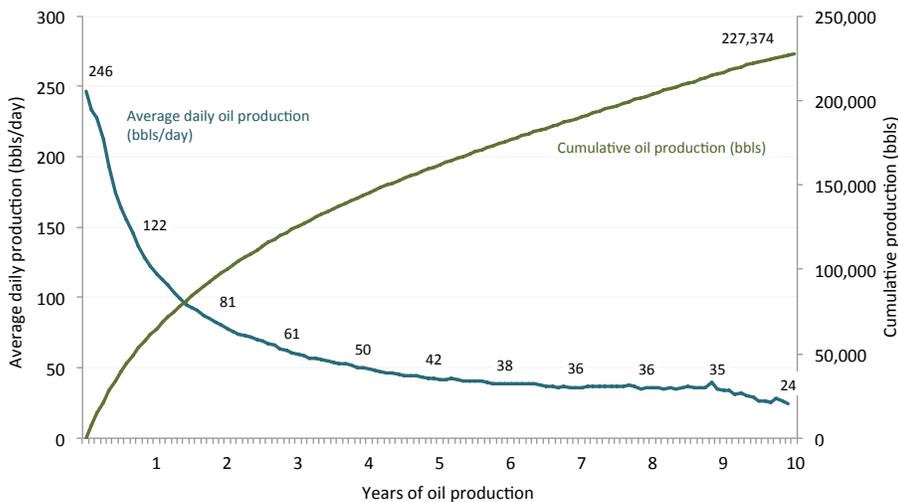
\*Tax Expenditure refers to the value of production tax incentives and tax relief funded with production tax revenue.

## Unconventional Oil Well Performance

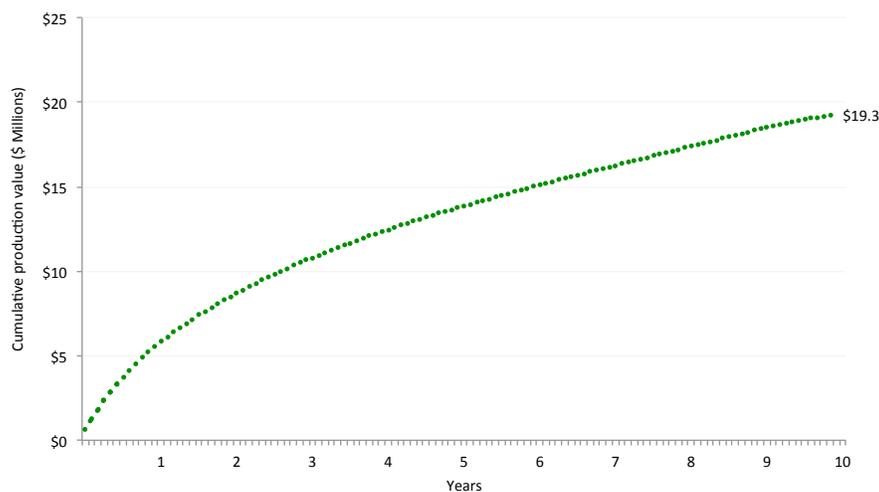
Unconventional oil is produced using horizontal drilling and hydraulic fracturing technologies. While no two wells are identical, unconventional wells all share a typical production profile, characterized by relatively high rates of initial production followed by steep production declines.<sup>2</sup> This makes it possible to construct a typical well profile—in this case using data from Montana’s Elm Coulee field in the Bakken formation. We use this well profile to determine how a state’s taxation and distribution policies combine to deliver revenue to local governments over ten years in terms of amount, timing, location, and predictability.<sup>3</sup>

There were 789 horizontal oil wells drilled in the Elm Coulee between 2000 and 2012.<sup>4</sup> Average oil production peaked at 246 barrels per day in the first month, declining to 122 barrels per day after one year—a 51 percent decline in the first year. Cumulatively, the average Elm Coulee well produces 227,374 barrels of oil over ten years (Figure 3). At a fixed price of \$85 per barrel, the typical well generates \$19.3 million in cumulative production value over ten years (Figure 4).

**Figure 3: Production Profile from a Typical Unconventional Oil Well**



**Figure 4: Cumulative Production Value from a Typical Unconventional Oil Well**



## **Profile of New Mexico Production Taxes**

New Mexico levies four different production taxes on oil and natural gas, three separate taxes levied by the state and property taxes levied by local governments.<sup>5</sup> The production tax structure is notable that it does not include any specific incentives for horizontal drilling or unconventional oil production. The effective tax rate is lower than the base tax rate because taxes are levied against net production value, defined as gross production value less transportation and processing costs. These costs are estimated to reduce gross production value by 12.5 percent.

Below we offer a detailed look at how the four taxes apply to unconventional oil production using the typical well profile in the previous section. The results are displayed in Figure 5 and Table 1.

### **Severance Tax**

Base Rate: The Severance Tax is 3.75 percent of net production value, defined as gross production value less royalties paid to federal, state, or tribal governments, and transportation costs.

Stripper Wells: Reduced rates for wells producing less than 10 barrels per day are currently inactive. When the price of oil is below \$15 per barrel the tax rate is 1.875 percent. Below \$18 per barrel the tax rate is 2.8125 percent.

Production Incentives: No incentives are offered for new unconventional oil production.

Timing of Collections: Monthly

### **Oil and Gas Emergency School Tax**

Base Rate: The base rate is 3.15 percent of net production value, defined as gross production value less royalties paid to federal, state, or tribal governments, and transportation costs.

Stripper Wells: Reduced rates for wells producing less than 10 barrels per day are currently inactive. When the price of oil is below \$15 per barrel the tax rate is 1.58 percent; and below \$18 per barrel the tax rate is 2.36 percent.

Production Incentives: No incentives are offered for new unconventional oil production.

Timing of Collections: Monthly.

### **Oil and Gas Conservation Tax**

Base Rate: The base tax rate is 0.19 percent of net production value defined as gross production value less royalties paid to federal, state, or tribal governments, and transportation costs. The rate rises to 0.24 percent when the price of oil is over \$70 per barrel.

Stripper Wells: No stripper well exemptions are offered.

Production Incentives: No incentives are offered for new unconventional oil production.

Timing of Collections: Monthly

### **Local Government Property (Ad Valorem) Tax**

Base Rate: Assessed value is 50 percent of net production value, defined as gross production value less royalties paid to federal, state, or tribal governments, and transportation costs. Local levies vary

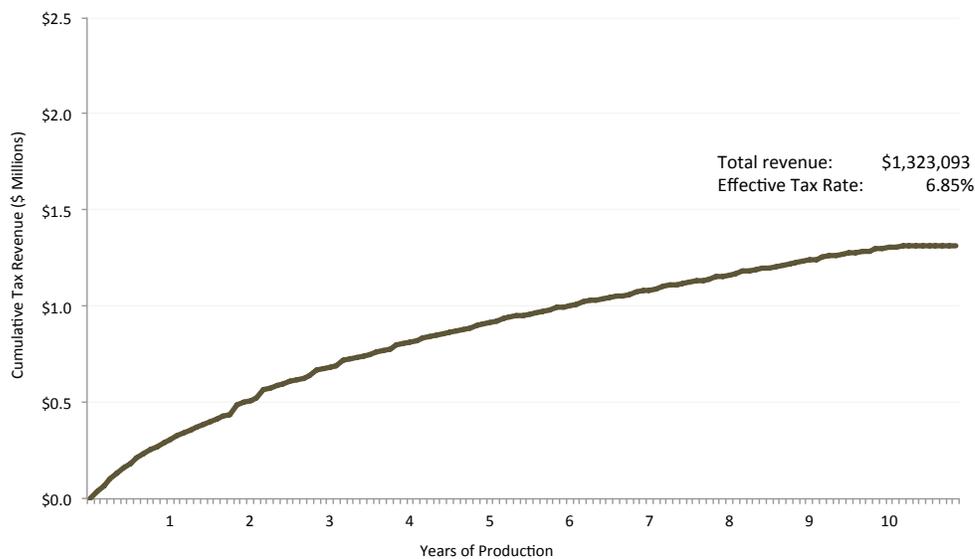
between 8 and 11 percent on taxable value. The effective tax rate on production for FY 2011 and 2012 is about 1.2%.

Stripper Wells: No stripper well exemptions are offered.

Production Incentives: No incentives are offered for new unconventional oil production.

Timing of Collections: Annual. Oil production is assessed based on the prior year's production. Assessments are certified by June of the following year, and taxes are due in two installments in December, and April.

**Figure 5: New Mexico Tax Policy Applied to a Typical Unconventional Oil Well**



**Table 1: New Mexico Tax Policy Applied to a Typical Unconventional Oil Well**

Production Year	Gross Production Value of Oil Production	Severance Tax Revenue	Emergency School Tax Revenue	New Mexico Oil and Gas Conservation Tax	New Mexico Ad Valorem Production Tax	Total Revenue	Effective Tax Rate (based on tax year)
1	\$5,530,321	\$162,446	\$136,455	\$10,397	\$0	\$309,298	6.8%
2	\$2,984,622	\$87,670	\$73,642	\$5,611	\$34,652	\$201,575	6.8%
3	\$2,146,014	\$63,036	\$52,951	\$4,034	\$53,353	\$173,374	6.8%
4	\$1,686,964	\$49,552	\$41,624	\$3,171	\$32,147	\$126,495	6.8%
5	\$1,412,756	\$41,498	\$34,858	\$2,656	\$24,017	\$103,029	6.8%
6	\$1,250,365	\$36,728	\$30,851	\$2,351	\$19,422	\$89,352	6.8%
7	\$1,160,428	\$34,086	\$28,632	\$2,182	\$16,686	\$81,586	6.8%
8	\$1,136,597	\$33,386	\$28,044	\$2,137	\$15,105	\$78,673	6.8%
9	\$1,121,166	\$32,933	\$27,664	\$2,108	\$14,393	\$77,097	6.8%
10	\$897,516	\$26,363	\$22,145	\$1,687	\$14,147	\$64,343	6.8%
11					\$12,649	\$12,649	
12							
<b>Cumulative</b>	<b>\$19,326,749</b>	<b>\$567,699</b>	<b>\$476,867</b>	<b>\$36,333</b>	<b>\$236,570</b>	<b>\$1,317,469</b>	<b>6.8%</b>

## Profile of New Mexico Production Tax Distribution Policies

New Mexico levies four separate taxes on oil production, but only the local property taxes benefit communities where oil extraction takes place. New Mexico's property tax rate is relatively low and local governments in New Mexico can expect to receive the lowest direct revenue from oil production in absolute terms and as a share of total compared to the six other states we include in this report. In addition, reliance on property taxes is affected by delays from when taxes are collected relative to when wells are completed. Only jurisdictions that host production generate revenue, leaving adjacent cities, counties, and school districts that experience impacts without a direct way of increasing budgets to facilitate development and population growth.

Below we describe how distributions are made between the state share, tribal share, local share, permanent savings, and tax expenditures. The results are displayed in Figure 6 and Table 2.

### Allocations

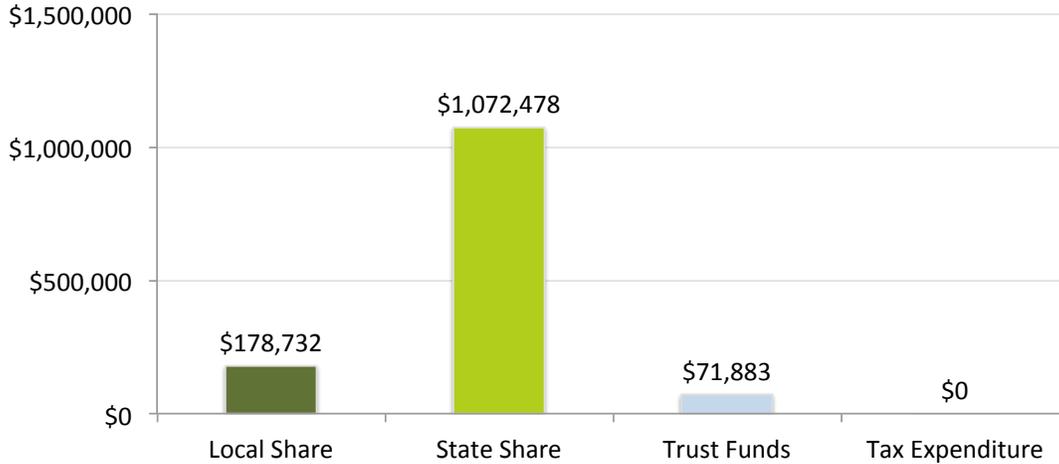
State Share: Severance tax revenues first pay the required debt service on severance tax bonds issued by the state, and the remaining (approximately 12.5%) severance tax receipts are then transferred to the Severance Tax Permanent Fund. The oil and gas conservation tax is distributed to the state general fund and the oil and gas reclamation fund, administered by the Energy, Minerals and Natural Resources Department. The emergency school tax is distributed to the state general fund each month.

Local Share: Local governments levy property (ad valorem) taxes on oil production. Revenue accrues to the jurisdictions that host production, primarily counties and school districts.

Permanent Savings: Severance tax revenues first pay the required debt service on severance tax bonds issued by the state, and the remaining (approximately 12.5%) severance tax receipts are then transferred to the Severance Tax Permanent Fund. The Severance Tax Permanent Fund is now a broadly diversified permanent fund.<sup>6</sup> The STPF makes annual distributions to the state General Fund equal to 4.7 percent of the five-year average market value.

Tax Expenditures: None.

**Figure 6: New Mexico Distribution Policy Applied to a Typical Unconventional Oil Well**



**Table 2: New Mexico Distribution Policy Applied to a Typical Unconventional Oil Well**

Distribution	Description	Amount	Share of Total
<b>State Share</b>		<b>\$1,072,478</b>	<b>81.1%</b>
General Fund	100% of the Oil and Gas Emergency School Tax plus 81% of the Oil and Gas Conservation Tax.	\$562,782	42.5%
Infrastructure Spending	About 87.5% of severance tax revenues first pay the required debt service on severance tax bonds issued by the state, and the remaining (approximately 12.5%) severance tax receipts are then transferred to the Severance Tax Permanent Fund.	\$503,184	38.0%
Natural Resources Mgmt.	19% of the Oil and Gas Conservation Tax is deposited in the Reclamation Fund.	\$6,513	0.5%
Other		\$0	0.0%
<b>Local Government</b>		<b>\$178,732</b>	<b>13.5%</b>
Local Production Taxes	Local governments levy property taxes directly against the net production value of oil extracted in each taxing jurisdiction.	\$178,732	13.5%
Direct Distributions		\$0	0.0%
Impact Grants		\$0	0.0%
<b>Trust Funds</b>		<b>\$71,883</b>	<b>5.4%</b>
Natural Resources Trust Fund	About 87.5% of severance tax revenues first pay the required debt service on severance tax bonds issued by the state, and the remaining (approximately 12.5%) severance tax receipts are then transferred to the Severance Tax Permanent Fund.	\$71,883	5.4%
Schools Trust Fund		\$0	0.0%
Other Trust Funds		\$0	0.0%
<b>Tax Expenditures (Incentives)</b>		<b>\$0</b>	<b>0.0%</b>
Production Tax Incentives		\$0	0.0%
Dedicated Tax Relief		\$0	0.0%
<b>Total Distributions</b>		<b>\$1,323,093</b>	<b>100.0%</b>

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Headwaters Economics is an independent, nonprofit research group whose mission is to improve community development and land management decisions in the West.

## Endnotes

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<sup>1</sup> Headwaters Economics. *Oil and Natural Gas Fiscal Best Practices: Lessons for State and Local Governments*. November 2012. [http://headwaterseconomics.org/wphw/wp-content/uploads/Energy\\_Fiscal\\_Best\\_Practices.pdf](http://headwaterseconomics.org/wphw/wp-content/uploads/Energy_Fiscal_Best_Practices.pdf).

<sup>2</sup> See, for example: Energy Information Administration. 2013a. NEMS Model Documentation 2013: Oil and Gas Supply Module. Appendix 2.C: Decline Curve Analysis. U.S. Department of Energy. Washington, D.C.

<sup>3</sup> This same approach is used by other analysts. See, for example, Ernst & Young LLP. 2012. Analysis of Ohio Severance Tax Provisions of H.B. 487. Prepared by Ernst & Young LLP for the Ohio Business Roundtable. <http://jobs-ohio.com/images/Ernst-Young-Severance-Tax-Analysis-Prepared-for-the-Ohio-Business-Roundtable-5-15-12.pdf>. See also Montana Department of Revenue. 2012. Oil and Gas Production Tax Comparison: Montana and North Dakota. Helena, MT. [http://revenue.mt.gov/content/committees/legislative\\_interim\\_committee/oil\\_and\\_gas\\_prod\\_tax\\_comp\\_july\\_rtic.pdf](http://revenue.mt.gov/content/committees/legislative_interim_committee/oil_and_gas_prod_tax_comp_july_rtic.pdf).

<sup>4</sup> Montana Board of Oil and Gas Conservation. Production data for Elm Coulee Horizontally Completed Wells. 2000 to 2013. Department of Natural Resources and Conservation. Analysis by Headwaters Economics.

<sup>5</sup> Overview of New Mexico Taxes on Oil and Gas Production. Presented to the Revenue Stabilization and Tax Policy Committee. Thomas Clifford PhD, Policy and Research Director. N.M. Taxation and Revenue Department. <http://www.nmlegis.gov/lcs/handouts/rstpjul21.11.oilandgas.pdf>. (Accessed 8-3-2013).

<sup>6</sup> New Mexico State Investment Council. Severance Tax Permanent Fund. <http://www.sic.state.nm.us/severance.htm>.