



State of Oklahoma

Incentive Evaluation Commission

Draft Economically At-Risk Lease Tax Rebate Evaluation

September 29, 2017

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Contents

Executive Summary 3

Key Findings and Recommendations 6

Introduction 9

Industry Background 11

Incentive Usage and Administration 17

Economic and Fiscal Impact 22

Incentive Benchmarking 27

Appendices 31



Executive Summary



Overview

Many states have provided tax incentives to stimulate oil and gas production, revenue and job creation. Over the years, the State of Oklahoma has enacted a series of rebates that effectively lower the tax rate for various forms of production, including production from economically at-risk leases. The intent of Oklahoma's Economically At-Risk Lease Incentive, effective July 1, 2005, is to lessen the impact of low prices on well operators and extend production from wells that otherwise might be shut down, either temporarily or permanently. Under the incentive, economically at-risk oil or gas leases are eligible for reduced gross production tax (GPT) rates.

During the 2017 legislative session, HB2377 was enacted, which provided a sunset of eight gross production tax (GPT) incentives on July 1, 2017 (instead of July 1, 2020 as previously existed in State statute). This incentive now sunsets retroactively to December 31, 2016. The bill also requires claims for rebates to be made by July 1, 2017, and delays rebate payments until July 1, 2018. While it could be argued that the evaluation of the incentive is no longer necessary, examining the impact of incentives for such an important state industry is useful from a public policy perspective. It is also possible that the State may wish to revisit these incentives in the future.

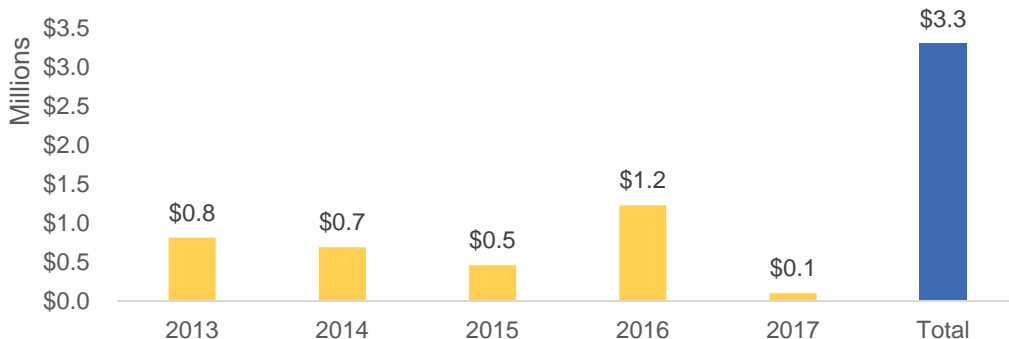
Recommendation: Based on the lack of essential data and the analysis of available information, the project team concurs with the repeal of the program.

Key Findings

- **Data to evaluate the program based on approved criteria was not available.** Data that would enable the project team to analyze this incentive based on the following Incentive Evaluation Commission (IEC)-adopted criteria is not captured in a format that allows for timely analysis:
 - Cost benefit analysis at different price points;
 - Change in production for qualified wells;
 - Change in value of leases.

- **The return on investment (ROI) for this program was positive.** Based on the economic and fiscal impact analysis, it appears the tax revenue generated exceeds the annual incentives offered under this program. The net benefit to the State is estimated to be \$3.3 million between 2013 and 2017.

Figure 1: Net Fiscal Impact¹



¹ Net fiscal impact is defined as the total tax revenue generated minus the annual rebates paid.



- **The State is not currently at risk of significant increases in tax expenditures associated with the program.** One of the statutory requirements is that each evaluation should determine “whether adequate protections are in place to ensure the fiscal impact of the incentive does not increase substantially beyond the State’s expectations in future years.” Given the sunset of the program for all production effective December 31, 2016, the State is not at risk of significant increases in expenditures related to this incentive.
- **Relative to other states, Oklahoma’s program was competitive, yet less comprehensive.** While the State’s rebate tiers the reduced tax rate based on the gross production tax rate, Oklahoma is the only state to impose a cap on total available incentive funding.

Changes to Improve Future Evaluations (if the Program were Resumed)

- **Recommendation 1: Explore the Oklahoma Tax Commission’s new electronic filing system as a method for improving reporting and data collection.** The Oklahoma Tax Commission (OTC) recently rolled out an electronic filing system for the filing of Forms 320-A (Request for Assignment of OTC Production Unit Number) and 320-C (Gross Production Request for Change), the latter of which is required to apply to the Re-Established Production Rebate. The system allows users to register new wells, request assignment of the lease production unit number (PUN), make changes to existing lease record information, and make all other changes currently found on the forms. While this system is currently not planned for use in administering the Economically At-Risk Lease program, the State should assess whether it has an opportunity to automate the data collection process. The system may be able to act as a database/repository for the information currently collected, as well as data necessary for effective administration (see Recommendation 2).
- **Recommendation 2: Improve the data collection process.** Should the State seek to reinstate this (or a similar) rebate in the future, it should require additional data from those who qualify for the rebate in order to ensure a full cost-benefit analysis can be completed. Data required includes:
 - Claims by catastrophic events versus non-catastrophic events;
 - Well-level production data;
 - Production year associated with each claim (as opposed to claim year);
 - Lease values.



Key Findings and Recommendations



Overall Recommendation: Based on the lack of essential data and its analysis of available information, the project team agrees with the legislature’s recent decision to repeal the program.

Key Findings

According to the Oklahoma Tax Commission (OTC), information that would enable the project team to analyze the incentive based on the Incentive Evaluation Commission (IEC)-adopted criteria is not captured in a format that allows for timely analysis.

Other Findings

- **The return on investment (ROI) for this program was positive.** Based on the economic and fiscal impact analysis, it appears the tax revenue generated exceeded the annual incentives offered under this program. The net benefit to the State is estimated to be \$3.3 million between 2013 and 2017.
- **The State is not currently at risk of significant increases in tax expenditures associated with the program.** One of the requirements of HB2182 is that each evaluation should determine “whether adequate protections are in place to ensure the fiscal impact of the incentive does not increase substantially beyond the State’s expectations in future years.” Given the sunset of the program for all production effective July 1, 2017, the State is not at risk of significant increases in expenditures related to this incentive.
- **A lack of data creates challenges in assessing the impact of the program.** Very high level information related to this incentive (estimated total rebates of gross production tax paid) is reported in the State’s Tax Expenditures Report; the source of this information is gross production tax reports. However, there is generally a lack of detailed data associated with this incentive. According to the OTC, data detailing claims by production year (instead of claim year) is not captured in a format that allows for timely analysis. Instead, staff were able to provide total incentive rebates claimed per year, along with the number of companies paid. Additionally, the State was not able to provide claims by catastrophic events versus those not related to such events; well-level production data; and lease values.
- **Relative to other states, Oklahoma’s program was competitive, yet less comprehensive.** While the State’s rebate tiers the reduced tax rate based on the gross production tax rate, Oklahoma is the only state to impose a cap on total available incentive funding.

Recommendations

The Economically At-Risk Lease program was sunset effective July 1, 2017. Given the lack of needed data for evaluation, the project team concurs with the decision to end the program. Key in this determination is a lack of essential data that could illustrate the impact of the program in accordance with the Commission’s evaluation criteria.

The project team provides the following recommendations for consideration in the event that the program is revisited/reinstated in the future.

- **Recommendation 1: Explore the new system as a method for improving reporting and data collection.** The OTC recently rolled out an electronic filing system for the filing of Forms 320-A



(Request for Assignment of OTC Production Unit Number) and 320-C (Gross Production Request for Change), the latter of which is required to apply to the Re-Established Production Rebate. The system allows users to register new wells, request assignment of the lease production unit number (PUN), make changes to existing lease record information, and make all other changes currently found on the forms. While this system is currently not planned for use in administering the Economically At-Risk Lease program, the State should assess whether it has an opportunity to automate the data collection process. The system may be able to act as a database/repository for the information currently collected, as well as data necessary for effective administration (see Recommendation 2).

- **Recommendation 2: Improve the data collection process.** Should the State Legislature seek to reinstate this (or a similar) rebate in the future, it should require additional data from those who qualify for the rebate in order to ensure a full cost-benefit analysis can be completed. Data required includes:
 - Claims by catastrophic events versus non-catastrophic events;
 - Well-level production data;
 - Production year associated with each claim (as opposed to claim year);
 - Lease values.



Introduction



Overview

In 2015, HB2182 established the Oklahoma Incentive Evaluation Commission (the Commission). It requires the Commission to conduct evaluations of all qualified state incentives over a four-year timeframe. The law also provides that criteria specific to each incentive be used for the evaluation. The first set of 11 evaluations was conducted in 2016.

The Economically At-Risk Lease Incentive is one of 12 incentives scheduled for review by the Commission in 2017. Based on this evaluation and their collective judgement, the Commission will make recommendations to the Governor and the State Legislature related to this incentive.

During the 2017 legislative session, HB2377 was enacted, which provided a sunset of eight gross production tax (GPT) incentives on July 1, 2017 (instead of July 1, 2020 as previously existed in State statute). This incentive now sunsets retroactively to December 31, 2016. The bill also requires claims for rebates to be made by July 1, 2017, and delays rebate payments until July 1, 2018. While it could be argued that the evaluation of the incentive is no longer necessary, examining the impact of incentives for such an important state industry is useful from a public policy perspective. It is also possible that the State may wish to revisit these incentives in the future.

Incentive Background

Many states have provided tax incentives to stimulate oil and gas production, revenue and job creation. Over the years, the State of Oklahoma has enacted a series of rebates that effectively lower the tax rate for various forms of production, including production from economically at-risk leases.

The intent of Oklahoma's Economically At-Risk Lease Incentive, effective July 1, 2005, is to lessen the impact of low prices on well operators and extend production from wells that otherwise might be shut down, either temporarily or permanently. Under the incentive, economically at-risk oil or gas leases are eligible for reduced gross production tax (GPT) rates.

Criteria for Evaluation

A key factor in evaluating the effectiveness of incentive programs is to determine whether they are meeting the stated goals as established in state statute or legislation. In the case of this incentive, the specific goals were not included in the legislation that established them. However, it is reasonable to assume that the goals of the program would include increased Oklahoma oil and gas production and, through it, increased employment within the State.

There are other criteria that may be used to evaluate this incentive program. To assist in a determination of program effectiveness, the Incentive Evaluation Commission has adopted the following criteria:

- Cost benefit analysis at different price points;
- Change in production for qualified wells;
- Change in value of leases.

The criteria focus on what are generally considered goals of incentive programs (such as creating jobs and capital investment in the state). Ultimately, incentive programs have to weigh both the benefits (outcomes related to achieving policy goals and objectives) and the costs, and that is also a criterion for evaluation (State return on investment). These will be discussed throughout the balance of the evaluation.



Industry Background

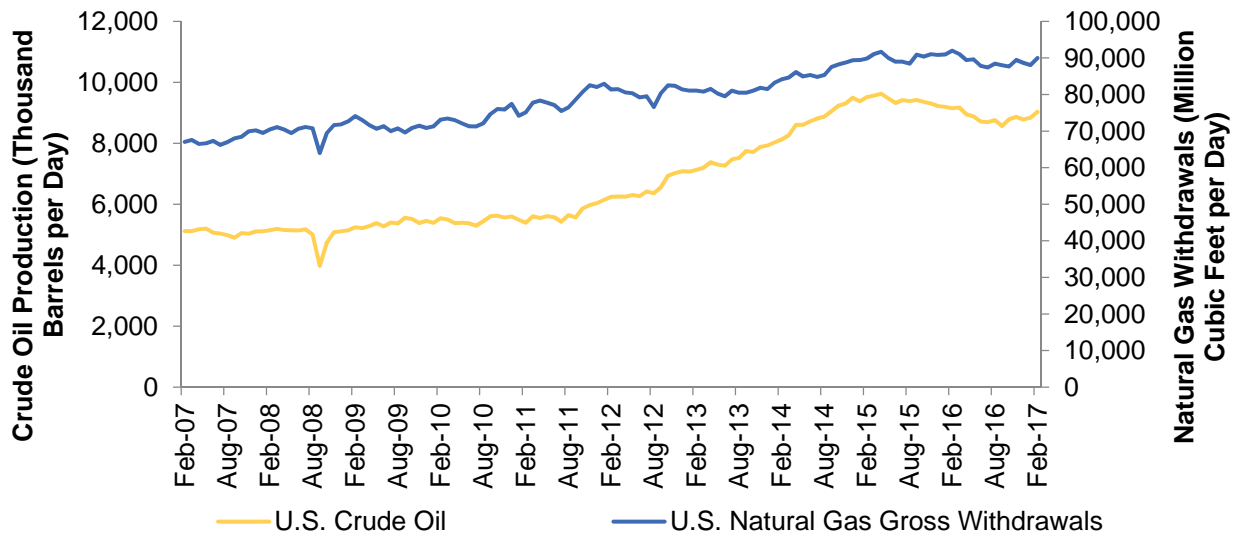


U.S. Oil and Gas Industry Background

Nationally, oil and gas production have both increased over the last 10 years. Crude oil production grew by 76 percent between February 2007 and February 2017, and natural gas withdrawals increased by 34 percent during the same time period. Nationally, U.S. crude oil production peaked in April 2015 at an average of 9.6 million barrels per day, and natural gas withdrawals peaked in February 2016 at an average of 92 billion cubic feet per day.

The following chart tracks oil and gas production during this timeframe.

Figure 2: U.S. Crude Oil and Natural Gas Production, 2007-2017



Source: U.S. Energy Information Administration Monthly Crude Oil and Natural Gas Production

Industry Outlook

Nationally, the outlook for the oil and gas industry is positive. According to the April 2017 Oklahoma Economic Indicators Report produced by the Oklahoma Employment Security Commission, U.S. crude oil production is forecast to average 9.2 million barrels per day in 2017 and 9.9 million barrels per day in 2018, an increase from 8.9 million barrels per day in 2016. Additionally, the report estimates that U.S. natural gas production in 2017 will increase by 0.8 billion cubic feet per day (Bcf/d) over 2016 levels, and 2018 production is forecast to be 4.0 Bcf/d over the 2017 projection.



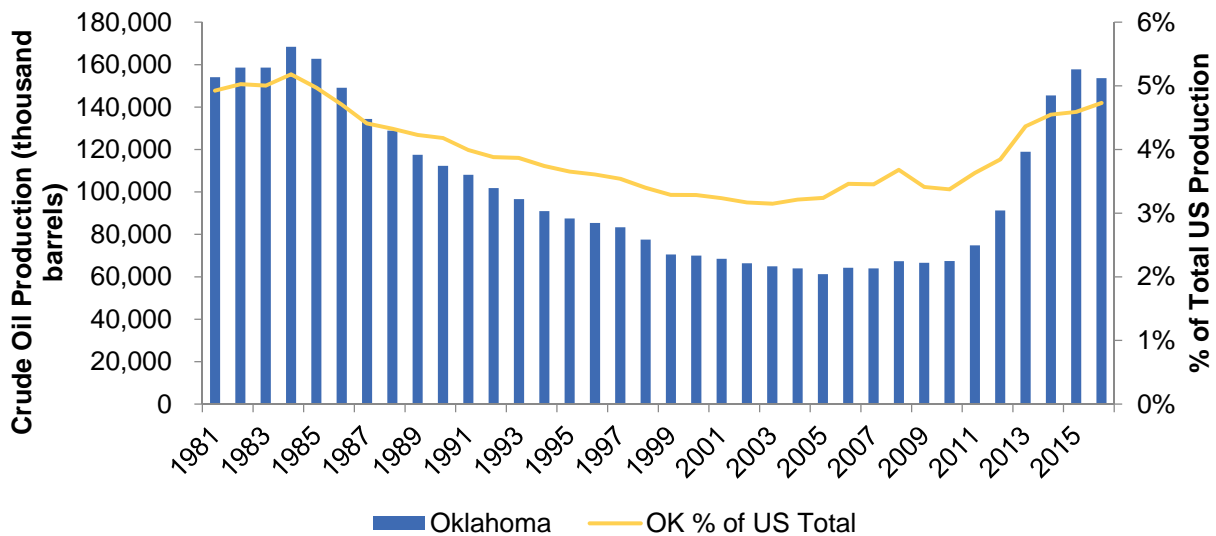
Oklahoma Oil and Gas Industry Background

Oil and Gas Production

The oil and gas industry plays a major role in Oklahoma's economy. The State produces a substantial amount of oil and natural gas, ranking fifth in crude oil production and third in dry natural gas production among all states in 2015.²

Including Oklahoma, the Midwestern states³ accounted for 614 million barrels of crude oil, or 19 percent of all U.S. field production, in 2016. Total Oklahoma production declined steadily between 1984 and 2005 before increasing to levels seen prior to the start of the decline, with most of the significant increases occurring in the years since 2012. Simultaneously, Oklahoma's share of total Midwestern crude oil production has decreased from 43 percent in 1981 to 25 percent in 2016, primarily as a result of increased production in North Dakota. North Dakota's production has grown exponentially, from 45 million barrels in 1981 (13 percent of the Midwestern total) to 378 million barrels in 2016 (62 percent of the Midwestern total). Nationally, Oklahoma's production of crude oil has consistently accounted for approximately three to five percent of total production. The figure below illustrates Oklahoma's performance among all states.

Figure 3: Oklahoma Field Production of Crude Oil, 1981-2016



Source: U.S. Energy Information Administration Annual Crude Oil Production

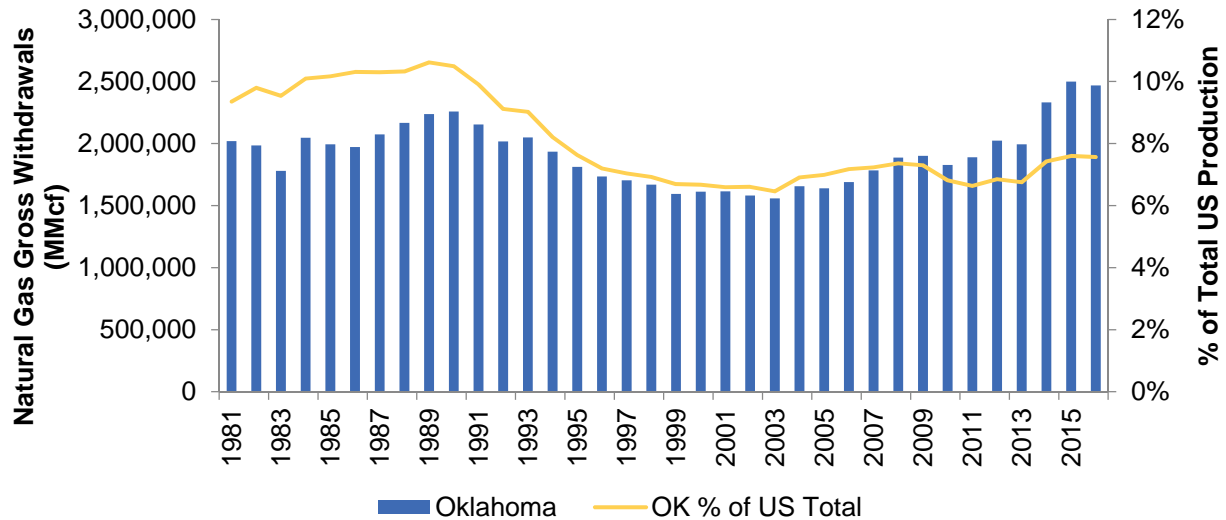
Oklahoma natural gas withdrawals declined between 1990 and the early 2000s but have increased modestly since, peaking at 2.5 million cubic feet (Mcf) in 2015. Despite this increase in total production, Oklahoma's share as a percentage of total U.S. production, which peaked at more than 10 percent in the late 1980s, has declined since and now hovers around seven percent. The following figure illustrates Oklahoma's natural gas withdrawal performance.

² US Energy Information Administration Monthly Crude Oil and Natural Gas Production.

³ According to the US EIA, the Midwestern Petroleum Administration for Defense District (PADD) includes Illinois, Indiana, Kansas, Kentucky, Michigan, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota and Tennessee.



Figure 4: Oklahoma Natural Gas Withdrawals, 1981-2016



Source: U.S. Energy Information Administration Annual Natural Gas Withdrawals

Oil and Gas Economic Impact

The oil and gas industry plays a significant role in Oklahoma's regional economy. A 2016 study by the State Chamber of Oklahoma Research Foundation identified the following as a few of the industry's economic contributions:⁴

- Household earnings (\$15.6 billion) from the oil and gas sector total 13.2 percent of total state earnings;
- Oil and gas activity accounts for more than half the fixed investment (\$20.3 billion) in Oklahoma;
- The state exported crude oil and natural gas valued at \$7.1 billion in 2015;
- An estimated \$1.7 billion in oil and gas royalties were paid to Oklahomans in 2015;
- Activity in the industry supports an estimated \$28.6 billion in additional output of goods and services in other industry sectors statewide.

The oil and gas industry also directly generates many high paying jobs throughout the State. **While the oil and gas industry accounts for fewer than two percent of all private industry jobs within Oklahoma, oil and gas wages account for nearly six percent of total private industry wages.** Additionally, the average annual pay (nearly \$140,000 in 2015) is significantly higher than the statewide average annual pay for all private industries (\$44,504).

⁴ State Chamber of Oklahoma Research Foundation. Economic Impact of the Oil and Gas Industry on Oklahoma (September 2016).



Table 1: Oklahoma Oil and Gas Employment, 2006-2015⁵

Year	Oil and Gas Employment		Oil and Gas Wages		Avg. Annual Pay	
	Total Employees	% of All Private Industry Total	Total Wages (in thousands)	% of All Private Industry Total Wages	Oil and Gas	All Private Industries
2006	16,192	1.4%	\$2,148,554	5.3%	\$132,694	\$34,136
2007	17,985	1.5%	\$1,856,701	4.3%	\$103,234	\$35,469
2008	19,808	1.6%	\$2,258,918	4.9%	\$114,041	\$37,137
2009	19,410	1.7%	\$1,939,932	4.5%	\$99,943	\$36,934
2010	18,677	1.6%	\$1,907,912	4.3%	\$102,152	\$38,011
2011	21,078	1.8%	\$2,486,725	5.2%	\$117,979	\$40,157
2012	23,986	2.0%	\$2,860,984	5.6%	\$119,279	\$41,863
2013	24,328	2.0%	\$3,057,485	5.8%	\$125,677	\$42,734
2014	24,140	1.9%	\$3,089,106	5.6%	\$127,965	\$44,089
2015	23,868	1.9%	\$3,324,490	5.9%	\$139,288	\$44,504

Source: U.S. Department of Labor BLS - Quarterly Census of Employment and Wages

Note: data represents only direct employment.

In addition, Oklahoma's oil and gas industry is a vital part of the regional and national economy. The benchmark price for a blend of U.S. crude oils known as West Texas Intermediate (WTI) is set at Cushing, Oklahoma.⁶ Additionally, the State ranks as the third most attractive oil and gas market among 126 markets worldwide due to its abundant natural energy reserves and strong prospects for growth.⁷ According to a 2015 report released by the U.S. Department of Labor's Bureau of Labor Statistics (BLS), in June 2014, Washington County, Oklahoma had the highest concentration of employment in the oil and gas extraction industry in the country (with a location quotient of 139.8). Woods County, Oklahoma had the third highest concentration (98.4).⁸

Oklahoma Oil and Gas Taxes

In addition to employment opportunities, the oil and gas industry provides significant revenue to states through the payment of various taxes. Nationally, taxes levied on the oil and gas industry can be grouped into three broad categories: production, property and income. For this evaluation, production taxes, which are imposed on the value or volume of the oil and gas as it is extracted from the ground or at the point of first sale, are the focus of this incentive.

Oklahoma's Gross Production Tax (GPT) is a severance tax on the dollar value of production of oil and gas taken from land or water in the State. Under current law, traditional vertical wells are taxed at 7.0 percent.⁹

⁵ BLS Data for all jobs categorized under NAICS 211, Oil and Gas Extraction.

⁶ EIA State Profile and Energy Estimates: Oklahoma. Available at <https://www.eia.gov/state/index.php?sid=OK>.

⁷ State Chamber of Oklahoma Research Foundation. Economic Impact of the Oil and Gas Industry on Oklahoma (September 2016).

⁸ U.S. Department of Labor Bureau of Labor Statistics. Counties with Highest Concentration of Employment in Oil and Gas Extraction, June 2014. Available at: <https://www.bls.gov/opub/ted/2015/counties-with-highest-concentration-of-employment-in-oil-and-gas-extraction-june-2014.htm>.

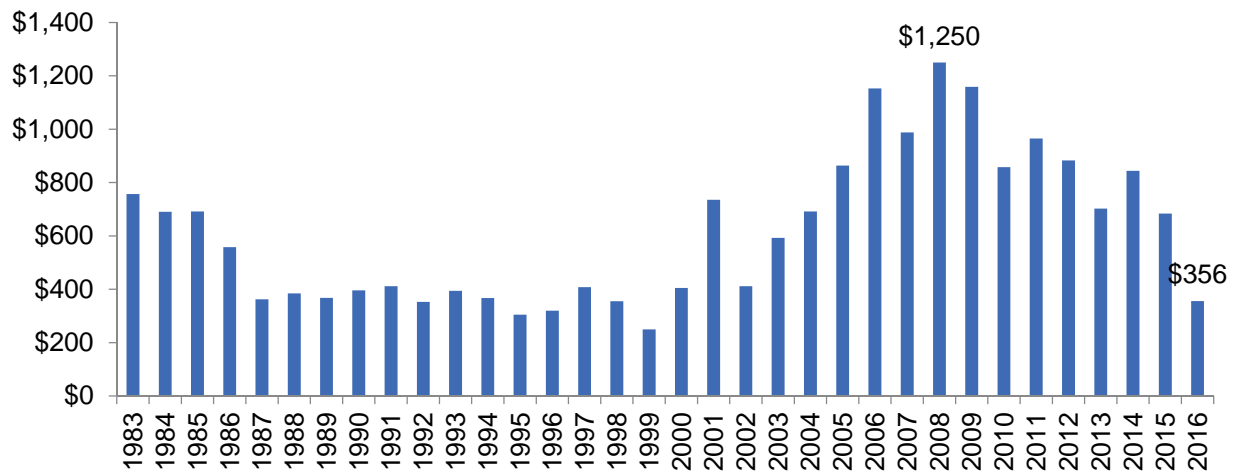
⁹ A vertical well, considered to be the conventional well type, is a well that is not turned horizontally at depth, allowing access to oil and gas reserves located directly beneath the surface access point. Historically, natural gas and exploration involved the use of vertical wells because directional drilling technology was expensive and complicated. While less expensive to develop they are typically less productive because of their limited range.



Horizontal wells drilled before July 1, 2015 are taxed at 1.0 percent for four years and 7.0 percent thereafter.¹⁰ Newly drilled wells are taxed at 2.0 percent for the first 36 months of production; they are then taxed at 7.0 percent for the rest of the life of the well.

These taxes are a significant source of overall Oklahoma revenues, totaling \$355.9 million in FY2016.¹¹ Because GPT revenue depends both on the amount of mineral extracted and its price, it can vary greatly from year to year. Since peaking in 2008 at \$1,250 million, total collections have decreased substantially, as shown in the figure below. This decrease is likely due to demand-related impacts of the Great Recession and changes in oil and gas prices, as well as reductions in tax rates put in place by the State to encourage additional production.

Figure 5: Oklahoma Gross Production Tax Collections, 1983-2016 (in millions)



Source: Oklahoma Tax Commission Annual Report, 2016

¹⁰ Horizontal wells, the less traditional well type, allows operators to extract oil and gas from unconventional sources that may run horizontally. A horizontal well typically originates from a vertical well, as this allows engineers to examine rock fragments at different layers in order to determine where reserves can be found.

¹¹ Oklahoma Tax Commission Annual Report (2016).



Incentive Usage and Administration



Incentive Characteristics

At the state level, many governments have granted tax exemptions to stimulate production, revenue and job creation. Over the years, the State has enacted a series of rebates that effectively lower the tax rate for various forms of production, including production from economically at-risk leases.

The intent of Oklahoma's Economically At-Risk Lease Incentive, effective July 1, 2005, is to lessen the impact of low prices on well operators and extend production from wells that otherwise might be shut down, either temporarily or permanently. Under the incentive, economically at-risk oil or gas leases are eligible for reduced gross production tax (GPT) rates which are dependent upon the GPT tax rate currently being imposed for a given lease:

GPT Rate	Exemption
7.0%	Six-sevenths (85.7 percent) of the GPT levied
4.0%	Three-fourths (75.0 percent) of the GPT levied
1.0-2.0%	No reduction shall apply

'Economically at-risk' oil or gas leases are defined as any oil or gas lease with one or more producing wells with an average production volume per well of 10 barrels of oil or 60 MCF of natural gas per day or less operated at a net loss or at a net profit which is less than the total gross production tax remitted for the lease during the previous calendar year.

For all eligible leases, a refund of gross production taxes paid for production in the previous calendar year is issued to the well operator. The total amount of refunds in calendar years 2015 and 2016 was capped at \$12.5 million dollars. All refunds provided under this incentive must be claimed before July 1, 2017.

Historic Use of the Incentive

According to data provided by the OTC, the amount of rebates paid and the number of companies claiming those rebates have fluctuated in recent years but are generally declining, with rebates peaking at \$14.2 million in 2013 but averaging \$10.5 million between 2013 and 2016.

Table 2: Economically At-Risk Lease Incentive Claims Data, 2013-2017

Claim Year	Total Claims Paid	Total Companies
2013	\$14,179,938	19
2014	\$10,661,303	79
2015	\$7,355,988	70
2016	\$9,673,144	115
2017*	\$9,883,434	155

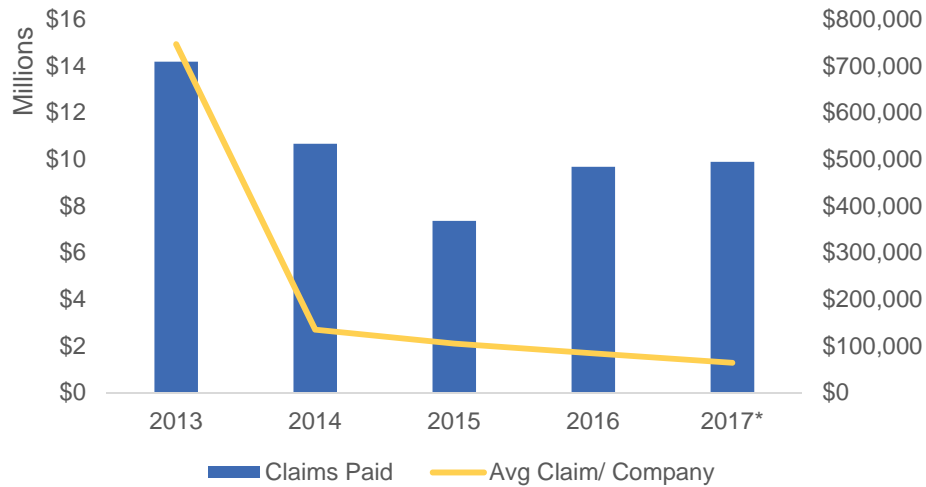
Source: OTC data

* Preliminary; program cap is \$12.5 million

The average claim per company has declined significantly, from \$746,000 in 2013 to \$84,000 in 2016. It should be noted that data demonstrating claims per lease was not available.



Figure 6: Economically At-Risk Lease Incentive - Average Claim/Company, 2013-2017



Source: OTC data
 * Data as of 6/23/2017

As might be expected due to the nature of the Economically At-Risk Lease Incentive, there is a negative correlation between production (which is intrinsically tied to oil and gas prices) and incentive claims – when the industry is doing well, fewer leases are economically at risk.

Two years ago, Oklahoma crude oil was selling for approximately \$100 per barrel and natural gas between \$3 and \$5 per MCF. This year, oil prices have fallen below \$40 a barrel and gas typically sells for less than \$2 per MCF.¹² As the price of oil and gas declined, more wells became eligible for the incentive under the definition of ‘economically at risk’.

In an effort to control tax expenditures associated with this program, the total amount of refunds issued to operators was capped at \$12.5 million dollars, effective calendar year 2015. The OTC estimates that, had the program not been capped, **the total amount of claims eligible to be filed beginning July 1, 2016 would have been nearly \$133 million**, as shown in the following table.

Table 3: Impact of SB1577 on Eligible Claims as of July 1, 2016

	Total At-Risk Forecast	SB1577 Impact	Marginal Well Cap Apportionment
Estimated Rebate Values	\$132,900,000	\$120,400,000	\$12,500,000
Estimated Oil Rebate	\$75,753,000	\$68,628,000	\$7,125,000
Estimates Gas Rebate	\$57,147,000	\$51,772,000	\$5,375,000

Source: OTC data

¹² Oklahoma Watch, “Unprofitable Wells Now a Big Tax Break.” (March 30, 2016). Available at <http://oklahomawatch.org/2016/03/30/unprofitable-wells-now-a-big-tax-break/>.



Incentive Administration

There are three components to overall program administration, each of which is managed by the OTC:

1. **Eligibility.** In order to be eligible, a lease¹³ must be operated at a net loss or a net profit which is less than the total gross production tax remitted for the lease during the previous tax reporting year.
2. **Certification.** To apply to have a lease certified as being economically at risk, a signed and notarized OTC Form 329 (Application for Certification of Economically at Risk Lease) is completed by the operator and submitted to the OTC's Gross Production Department.

A standard formula is used to determine if a lease is economically at risk. This entails subtracting from the gross revenue from each lease for the previous calendar year any severance taxes, royalty payments, lease operating costs and overhead costs.

For audit purposes, the OTC can request additional information from the applicant, including copies of federal income tax returns, joint interest billings or any other documentation regarding lease production or expenses.

Within 60 days of the application date, the OTC makes its determination and issues either an approval letter or denial letter to the operator. If an exemption is denied, an explanation is provided. An applicant can appeal the determination.

3. **Refunding.** Each year is claimed separately. No claims for rebates are permitted after December 31, 2015 for production periods occurring between calendar years 2005 through 2013, and no claims for rebates for production periods in 2014 and after are permitted more than 18 months after the date that the refund is first available.

Recent legislation changed the process of issuing refunds in recent years. For production prior to December 31, 2015, the refund could not be claimed until July 1 of the following year. However, for production on January 1, 2016 and thereafter, the refund must be claimed prior to July 1 of the subsequent calendar year. As mentioned previously, HB2377 sunsets this incentive for production effective December 31, 2016 and requires claims for these rebates to be made by June 30, 2017. It also delays rebate payments until after July 1, 2018.

Industry Education

According to the OTC, lack of industry education is the primary reason for oil and gas incentive-related denials – most often, applicants are confused about the level at which the incentives are administered (i.e. lease or well level). In addition to educational opportunities provided by the OTC, State agency Sustaining Oklahoma's Energy Resources (SOER) provides a variety of workshops for industry professionals around the state on a variety of industry-related topics. One workshop, Navigating State Forms: A Panel Discussion with the OCC

¹³ A lease is defined as a spaced unit, a separately metered formation within the spaced unit, or each tract within an OCC-approved unitization, or a lease which, for tax reporting purposes, has been assigned a production unit number. A lease may contain one or more wells which have identical interest and payout.



and OTC, provides information about where to find, how to complete and when to submit some of the most common forms associated with operating an oil or gas well in the state.¹⁴

Reporting and Data Issues

Very high level information related to this incentive (estimated total rebates of gross production tax paid) is reported in the State's Tax Expenditures Report; the source of this information is gross production tax reports.

However, there is a general lack of detailed data associated with this incentive. According to the OTC, data detailing claims by production year (instead of claim year) is not captured in a format that allows for timely analysis. Instead, staff were able to provide total incentive rebates claimed per year, along with the number of companies paid. Other necessary information not available includes:

- Claims by catastrophic events versus non-catastrophic events;
- Well-level production data;
- Lease values.

¹⁴ Sustaining Oklahoma's Energy Resources (SOER) was created on July 1, 2013 when the Marginal Well Commission (MWC) with the Oklahoma Energy Resources Board (CERB) under Senate Bill 767.



Economic and Fiscal Impact



Economic Impact Methodology

Economists use a number of statistics to describe regional economic activity. Four common measures are **Output**, which describes total economic activity and is generally equivalent to a firm's gross sales; **Value Added**, which equals gross output of an industry or a sector less its intermediate inputs; **Labor Income**, which corresponds to wages and benefits; and **Employment**, which refers to jobs that have been created in the local economy.

In an input-output analysis of new economic activity, it is useful to distinguish three types of effects: **direct, indirect, and induced.**

Direct effects are production changes associated with the immediate effects or final demand changes. The payment made by an out-of-town visitor to a hotel operator or the taxi fare paid for transportation while in town are examples of direct effects.

Indirect effects are production changes in backward-linked industries caused by the changing input needs of directly affected industries – typically, additional purchases to produce additional output. Satisfying the demand for an overnight stay will require the hotel operator to purchase additional cleaning supplies and services. The taxi driver will have to replace the gasoline consumed during the trip from the airport. These downstream purchases affect the economic output of other local merchants.

Induced effects are the changes in regional household spending patterns caused by changes in household income generated from the direct and indirect effects. Both the hotel operator and taxi driver experience increased income from the visitor's stay, as do the cleaning supplies outlet and the gas station proprietor. Induced effects capture the way in which increased income is spent in the local economy.

A multiplier reflects the interaction between different sectors of the economy. An output multiplier of 1.4, for example, means that for every \$1,000 injected into the economy, all other sectors produce an additional \$400 in output. The larger the multiplier, the greater the impact will be in the regional economy.

Figure 7: The Flow of Economic Impacts



For this analysis, the project team used the IMPLAN online economic impact model with the dataset for the State of Oklahoma (2014 Model).

Fiscal Impact Methodology

To provide an “order of magnitude” estimate for state tax revenue attributable to the incentive being evaluated, the project team focused on the ratio of state government tax collections to Oklahoma Gross Domestic Product (GDP).¹⁵ Two datasets were used to derive the ratio: 1) U.S. Department of Commerce Bureau of Economic

¹⁵ Gross State Product (GSP) is the state counterpart of Gross Domestic Product (GDP) for the nation. To assist the reader, the project team has decided to use GDP throughout this section of the report instead of mixing the two terms. This decision was made because more people are familiar with the term GDP.



Analysis GDP estimates by state;¹⁶ and 2) the OTC's *Annual Report of the Oklahoma Tax Commission*.¹⁷ Over the past 10 years, the state tax revenue as a percent of state GDP was 5.4 percent, as shown in the following table:

Table 4: State of Oklahoma Tax Revenue as a Percent of State GDP

Year	Oklahoma Tax Revenue ¹⁸	Oklahoma GDP	Ratio
2006-07	\$8,685,842,682	\$144,171,000,000	6.0%
2007-08	\$9,008,981,280	\$155,015,000,000	5.8%
2008-09	\$8,783,165,581	\$143,380,000,000	6.1%
2009-10	\$7,774,910,000	\$151,318,000,000	5.1%
2010-11	\$8,367,871,162	\$165,278,000,000	5.1%
2011-12	\$8,998,362,975	\$173,911,000,000	5.2%
2012-13	\$9,175,334,979	\$182,447,000,000	5.0%
2013-14	\$9,550,183,790	\$190,171,000,000	5.0%
2014-15	\$9,778,654,182	\$180,425,000,000	5.4%
2015-16	\$8,963,894,053	\$182,937,000,000	4.9%
Average	\$8,908,720,068	\$166,905,300,000	5.4%

Source: U.S. Department of Commerce Bureau of Economic Analysis and Oklahoma Tax Commission

The value added of an industry, also referred to as gross domestic product (GDP)-by-industry, is the contribution of a private industry or government sector to overall GDP. The components of value added consist of compensation of employees, taxes on production and imports less subsidies, and gross operating surplus. Changes in value added components such as employee compensation have a direct impact on taxes such as income and sales tax. Other tax revenues such as alcoholic beverage and cigarette taxes are also positively correlated to changes in income.

Because of the highly correlated relationship between changes in the GDP by industry and most taxes collected by the state, the ratio of government tax collections to Oklahoma GDP forms the evaluation basis of the fiscal implications of different incentive programs offered by the State. The broader the basis of taxation (i.e., income and sales taxes) the stronger the correlation; with certain taxes on specific activity, such as the gross production (severance) tax, there may be some variation in the ratio year-to-year, although these fluctuations tend to smooth out over a period of several years. This ratio approach is somewhat standard practice, and is consistent with what IMPLAN and other economic modeling software programs use to estimate changes in tax revenue.

To estimate State of Oklahoma tax revenue generated in a given year, the project team multiplied the total value added figure produced by the IMPLAN model by the corresponding annual ratio (about 5.4 percent). For example, if the total value added was \$1,000,000, then the estimated State of Oklahoma tax revenue was \$54,000 (\$1,000,000 x 5.4 percent).

¹⁶ U.S. Department of Commerce Bureau of Economic Analysis. Available at <http://www.bea.gov/regional/>.

¹⁷ https://www.ok.gov/tax/Forms_&_Publications/Publications/Annual_Reports/index.html.

¹⁸ Gross collections from state-levied taxes, licenses and fees, exclusive of city/county sales and use taxes and county lodging taxes.



Impact of Economically At-Risk Lease Incentives

The Economically At-Risk Lease incentive was designed to increase and expand oil and gas production in Oklahoma. A full or partial refund of gross production taxes paid for production in the previous calendar year was issued to the well operator. Because gross production tax rates vary based on the well classification, total annual production or output was derived using a blended production tax rate of 5.5 percent. Based on data availability, it was necessary to convert the incentive amount to annual economic activity prior to utilizing the economic impact model. IMPLAN Sector 20 Extraction of Natural Gas and Crude Petroleum was used to model the economic impact.

Table 5: Impact of Economically At-Risk Lease Incentives

Year		Output	Value Added	Labor Income	Employment	Estimated Oklahoma Tax Revenue
2013	Direct Effect	\$257,817,045	\$182,697,216	\$140,485,229	1,067	
	Indirect Effect	\$59,166,354	\$36,278,266	\$27,762,585	319	
	Induced Effect	\$126,889,798	\$69,439,817	\$39,207,118	974	
	Total Effect	\$443,873,197	\$288,415,299	\$207,454,932	2,360	\$14,997,596
2014	Direct Effect	\$193,841,870	\$143,862,743	\$110,623,418	825	
	Indirect Effect	\$45,966,569	\$28,566,888	\$21,861,317	247	
	Induced Effect	\$100,096,010	\$54,679,556	\$30,873,177	754	
	Total Effect	\$339,904,449	\$227,109,187	\$163,357,912	1,826	\$11,355,459
2015	Direct Effect	\$133,745,236	\$98,481,771	\$75,727,668	559	
	Indirect Effect	\$31,593,624	\$19,555,568	\$14,965,245	167	
	Induced Effect	\$68,184,281	\$37,431,091	\$21,134,347	510	
	Total Effect	\$233,523,141	\$155,468,430	\$111,827,260	1,237	\$7,818,572
2016	Direct Effect	\$175,875,351	\$127,916,211	\$98,361,314	721	
	Indirect Effect	\$41,387,614	\$25,400,378	\$19,438,089	216	
	Induced Effect	\$88,522,682	\$48,618,575	\$27,451,026	659	
	Total Effect	\$305,785,647	\$201,935,164	\$145,250,429	1,596	\$10,904,499
2017	Direct Effect	\$179,698,790	\$129,094,828	\$99,267,613	724	
	Indirect Effect	\$42,128,157	\$25,634,417	\$19,617,191	216	
	Induced Effect	\$89,298,723	\$49,066,546	\$27,703,959	661	
	Total Effect	\$311,125,670	\$203,795,791	\$146,588,763	1,601	\$9,985,994

Source: TXP, Inc. IMPLAN analysis output, September 2017



Table 6: Annual Tax Revenue Generated, 2011-2015

Year	Credit Established During Current Tax Year	Estimated State of OK Tax Revenue	Net Impact
2013	\$14,179,938	\$14,997,596	\$817,658
2014	\$10,661,303	\$11,355,459	\$694,156
2015	\$7,355,988	\$7,818,572	\$462,584
2016	\$9,673,144	\$10,904,499	\$1,231,355
2017	\$9,883,434	\$9,985,994	\$102,560
Total	\$51,753,807	\$55,062,119	\$3,308,312

Source: TXP, Inc. IMPLAN analysis output, September 2017

As depicted in the preceding table, the Economically At-Risk Lease Tax Rebate program results in increased statewide oil and gas production sector activity. The level of economic activity varies each year and is directly linked to the amount of oil and gas production. Multiplying the total value added figure produced by the IMPLAN model by the corresponding annual tax ratio, provides an estimate for total annual State tax revenue. Over the past 5 years, the Economically At-Risk Lease Tax Rebate program (through direct, indirect and induced economic effects) has generated approximately \$55.1 million in state tax revenue. Over this same period, the state has provided \$51.8 million amount in rebates, resulting in a return on investment of \$3.3 million.

It should be noted that it is difficult to evaluate the importance of the Economically At-Risk Lease Tax Rebate program on the long-term outlook for the overall oil and gas sector (but-for test). It is reasonable to assume that some of the oil and gas producers would have continued to operate these wells at some level or shift capital expenditures to another location within the state. If this occurred, there would have been positive economic activity without the incentive. A more important variable that drives activity in this sector is the market price for crude oil and natural gas. The importance of this incentive and the risk producers are willing to take is directly linked to the market price of oil and natural gas.



Incentive Benchmarking



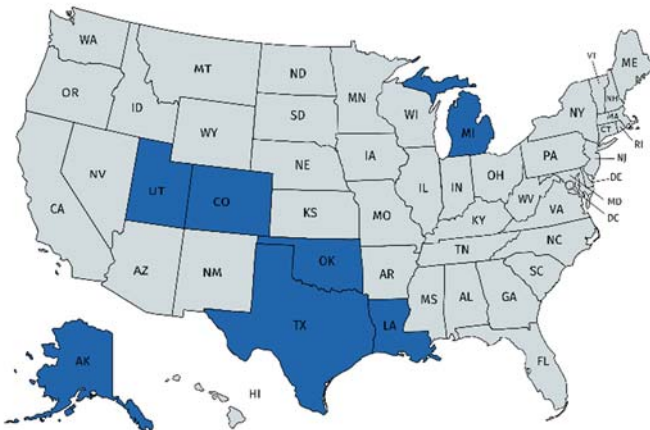
Benchmarking

A detailed description of comparable state programs can be found in **Appendix A**.

For evaluation purposes, benchmarking provides information related to how peer states use and evaluate similar incentives. At the outset, it should be understood that no states are ‘perfect peers’ – there will be multiple differences in economic, demographic and political factors that will have to be considered in any analysis; likewise, it is exceedingly rare that any two state incentive programs will be exactly the same.¹⁹ These benchmarking realities must be taken into consideration when making comparisons – and, for the sake of brevity, the report will not continually re-make this point throughout the discussion.

The process of creating a comparison group for incentives typically begins with bordering states. This is generally the starting point, because proximity often leads states to compete for the same regional businesses

Figure 8: States Offering Economically At-Risk Lease Incentives



or business/industry investments. Second, neighboring states often (but not always) have similar economic, demographic or political structures that lend themselves to comparison.

However, the comparison group for certain incentives will be broader than just the neighboring states. In this case (as with several energy-related incentives), the industry the credit seeks to impact is natural resource-driven, and the states Oklahoma competes with are those with similar available resources and infrastructure to support the industry.

In total, six states offer programs comparable to Oklahoma’s economically at-risk lease incentive; these states are displayed in Figure 8.

Oklahoma, along with these other states, accounted for 50 percent of total U.S. dry natural gas production and 53 percent of total U.S. crude oil production in 2015. Several top-producing states were not found to have similar incentives (Pennsylvania, number two for natural gas; Wyoming, number four for natural gas and number eight for crude oil; and West Virginia, number seven for natural gas).

¹⁹ The primary instances of exactly alike state incentive programs occur when states choose to ‘piggyback’ onto federal programs.



Table 7: Production of States Offering Economically At-Risk Lease Incentives, 2015

State	Dry Natural Gas			Crude Oil		
	Production (Mcf)	% of U.S. Total	Rank	Production (thousand barrels)	% of U.S. Total	Rank
Texas	7,071,203	26.10%	1	1,263,585	36.80%	1
Oklahoma	2,336,234	8.60%	3	157,770	4.60%	5
Louisiana	1,735,120	6.41%	5	62,881	1.83%	9
Colorado	1,600,203	5.91%	6	126,232	3.67%	7
Utah	408,002	1.50%	11	36,987	1.10%	11
Alaska	326,066	1.20%	13	176,241	5.13%	4
Michigan	105,841	0.39%	18	6,424	0.19%	19
U.S.	27,059,503	50.2%		3,436,515	53.3%	

Source: U.S. Energy Information Administration

A review of the six comparable incentive programs reveals that only Oklahoma and Louisiana tier the reduced tax rate based on the gross production tax rate. In Louisiana, the severance tax is reduced to a quarter of the normal rate for stripper wells producing less than 10 barrels a day, and its reduced to half of the normal rate for stripper wells²⁰ producing less than 25 barrels a day. Michigan’s stripper wells and marginal property are eligible for a reduction in severance tax from 6.6 percent to 4.0 percent. In Texas, exemptions for marginal wells are based on average gas price (if the price of gas is more than \$3.50 per gallon, there is no exemption, credits of between 25 percent and 100 percent are available if the price of gas is less than \$3.50 per gallon). In Utah, all marginal stripper wells are tax exempt – and similarly, in Colorado, eligible wells are exempt from taxes. Alaska offers a carried-forward annual loss provision, where lease expenditures that are not deductible in calculating production tax values generate a loss carry forward and are eligible for a tax credit (35 percent in 2016).

Recently, the State of Oklahoma imposed a sunset date on the program, and all refunds provided under this incentive must be claimed before July 1, 2017; as a result, all state programs have a sunset date.

Finally, Oklahoma’s program is the only state that imposed a cap on total available incentive funding (total refunds were not to exceed \$12.5 million combined in 2015 and 2016). Overall, Oklahoma’s Economically At-Risk Lease program was competitive, yet it was less beneficial to eligible producers than other states because of its funding caps.

The differing oil and gas tax rates in Oklahoma can make a comparison of tax rates among the states more difficult. One report, by the State of Idaho’s Department of Lands, sought to make a comparison possible among states, even with varying rates. The Department determined that in order to make an “apples to apples” comparison among states, it was appropriate to calculate the “effective rate” which factors in each state’s production and various taxes.²¹ To arrive at each state’s effective rate, the Department divided taxes collected by the valuation of the production.

Based on this calculation, Oklahoma’s FY2016 effective tax rate (3.2 percent) based on severance, production and property taxes paid in ratio to taxable value of production, was the lowest among oil and gas producing

²⁰ Stripper wells, also known as marginal wells, are wells individually producing small volumes of natural gas or oil.

²¹ An effective tax rate is the average percentage that companies pay in taxes on taxable income.



states²² used in the study. Idaho's effective rate was similar at 4.0 percent, while all other states imposed taxes at an effective rate between 6.1 percent (Utah) and 13.4 percent (Wyoming).²³

Benchmarking Program Evaluations

Among the states with active incentive programs, one useful study was found. A 2015 evaluation by the Alaska Department of Revenue²⁴ sought to analyze the effect of Alaska's four North Slope oil and gas tax credits (qualified capital expenditures, carry-forward annual loss, small producer and transitional investment expenditures credits). To do so, the study used an opportunity cost comparison between the estimated value of oil and gas tax credits or investing in the Constitutional Budget Reserve Fund (CBRF).

The Department found that the oil and gas tax credits have a substantial negative effect on the State's finances, and that the opportunity cost of the four credits over a five-year period ranged from \$0.9 billion to \$4.9 billion, and in the subsequent 10 years were estimated to cost between \$0.6 billion and \$7.3 billion.

²² Producing states used in analysis: Alaska, Idaho, Louisiana, Montana, North Dakota, Oklahoma, Texas, Utah and Wyoming.

²³ Idaho Department of Lands Oil and Gas Taxation Comparison: Analysis of Severance, Production and Ad Valorem Taxes (2016).

²⁴ Alaska Department of Revenue. The Effect of Alaska North Slope Oil and Gas Tax Credits on Petroleum Tax Revenue (2015).



Appendices



Appendix A: Comparable State Programs

State	Program Name	Effective Date	Sunset Date	Eligible Leases	Incentive	Program Cap
Oklahoma	Economically At-Risk Oil or Gas Lease Tax Exemptions	July 1, 2005	None	Any oil or gas lease with one or more producing wells with an average production volume per well of 10 barrels of oil or 60 MCF of natural gas per day or less, operated at a net loss or at a net profit which is less than the total gross production tax remitted in the previous calendar year	If gross production tax rate was: - 7%, exemption is 6/7 of the gross production tax levied - 4%, exemption is 3/4 of the gross production tax levied - 1% or 2%, no exemption shall apply	\$12.5 million
Alaska	Carried-Forward Annual Loss	January 1, 2006	None	Lease expenditures that are not deductible in calculating production tax values generate a "loss carry-forward" and are eligible for a tax credit	Credit rate is 35% for 2016 forward; credits are transferable	None
Colorado	Oil and Gas Severance Tax Exemption	January 1, 2000	None	- Oil produced from any individual well that produces 15 barrels per day or less of oil for the average of all producing days during a taxable year - Gas produced from any well that produces 90,000 cubic feet or less of gas per day for the average of all producing days during a taxable year	Tax exemption on oil and gas production from eligible wells	None
Louisiana	Severance Reduction for Stripper Wells	Unknown	Unknown	- Oil wells incapable of producing an average of either 10 or 25 barrels of oil per producing day; well must be certified as a stripper well by Commissioner of Conservation	- For wells producing less than 10 barrels, severance tax for stripper wells is reduced to 1/4 of the normal rate, or 3.125% - For wells producing less than 25 barrels, severance tax for stripper wells is reduced to 1/2 of the normal rate, or 6.25% Eligible wells are also exempt from severance tax in any month where the average value is less than \$20/barrel	



State	Program Name	Effective Date	Sunset Date	Eligible Leases	Incentive	Program Cap
Michigan	Severance Tax Reduction for Stripper Wells and Marginal Properties	March 31, 1992	None	<ul style="list-style-type: none"> - Stripper Well: Oil produced and sold from a property whose maximum daily average production of crude oil per well during any consecutive 12-month period does not exceed 10 barrels - Marginal Property: A property whose daily average production (excluding condensate recovered in non-associated production) per well during any preceding consecutive 12-month period that did not exceed the number of barrels shown below for the average completion depth: <ul style="list-style-type: none"> - Between 2,000 and 4,000 feet: 20 barrels or less - Between 4,000 and 6,000 feet: 25 barrels or less - Between 6,000 and 8,000 feet: 30 barrels or less - More than 8,000 feet: 35 barrels or less 	Reduction in severance tax from 6.6% to 4%	None
Texas	Severance Tax Relief for Marginal Wells	September 1, 2005	None	Leases that average, over a 90-day period, less than 15 barrels per day per well or 5 percent recoverable oil per barrel of produced water per well	Exemptions based on average gas price: <ul style="list-style-type: none"> - More than \$3.50: No exemption - Between \$3.00 and \$3.50: 25% credit - Between \$2.50 and \$3.00: 50% credit - \$2.50 or less: 100% credit 	None
Utah	Marginal/Stripper Well Tax Exemption	January 1, 1984	None	Wells which produce an average of less than 20 barrels per day for one year, or 60 MCF or less of natural gas per day for 90 consecutive days	Stripper wells are tax exempt unless the exemption prevents the severance tax from being treated as a deduction for federal tax purposes	None