

# ECONOMIC IMPACT OF THE OIL & GAS INDUSTRY ON OKLAHOMA

September 2016

## EXECUTIVE SUMMARY

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Oklahoma's oil and gas industry is currently undergoing transformative change as it transitions toward new technology-driven long-term growth opportunities. State tax policy regarding the industry will undoubtedly shape this growth going forward. As an aid to policymakers and the public, this report examines the current objectives of Oklahoma's oil and gas tax policy and the economic implications of renewed growth in the industry. For policymakers, the volatile and ever-changing environment for oil and gas makes balancing the need for tax revenue with the desire to foster growth in the state's trademark industry more challenging than ever.

## WHAT ARE THE CURRENT ECONOMIC OBJECTIVES OF STATE OIL AND GAS TAX POLICY?

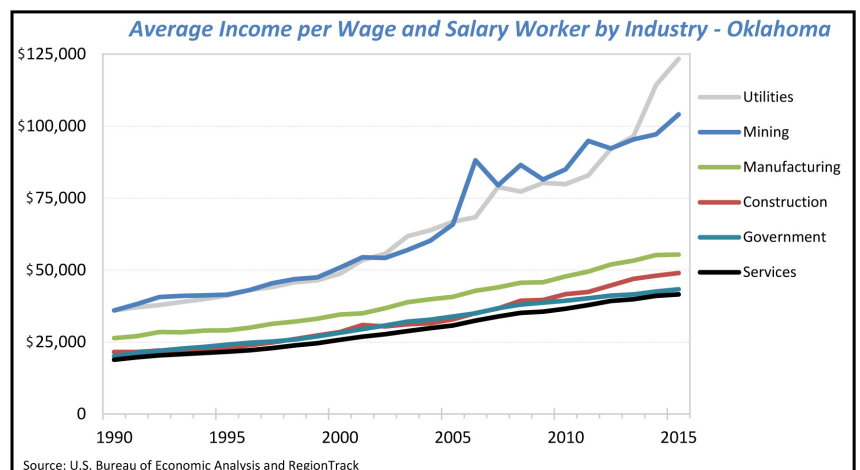
**Current state tax policy promotes the oil and gas industry as a key component of the state's overall economic development framework and works to achieve the following six major goals:**

1. Encourage sustained long-term growth in Oklahoma's oil and gas sector
2. Generate spillover business activity and jobs in the broader state economy
3. Encourage increased production and full utilization of the state's oil and gas resources
4. Generate tax revenue for state and local governments to support public services
5. Dampen the effects of fluctuating energy prices on the industry and state economy
6. Enhance the overall quality of life and economic wellbeing across Oklahoma communities

**The report evaluates the following six foundational questions concerning each of the economic objectives of state tax policy toward oil and gas.**

## WHAT ARE THE ECONOMIC CONTRIBUTIONS OF THE OIL AND GAS INDUSTRY THAT MAKE IT A DESIRABLE FOCUS OF TARGETED ECONOMIC GROWTH?

- In 2015, the oil and gas industry employed 53,500 Oklahomans who earned \$5.6 billion
- 95,000 Oklahomans earned \$10 billion in self-employment income from oil and gas activity
- In total, nearly 150,000 Oklahomans are either wage and salary workers or self-employed in the oil and gas sector
- Household earnings (\$15.6 billion) from the oil and gas sector total 13.2% of total state earnings
- Average wages in the oil and gas sector (\$104,000) are more than double the state average (\$44,178)



- Crude oil and natural gas are projected to remain critical fuels in the U.S. economy for decades
- Oklahoma has abundant natural energy reserves and strong prospects for future growth
- State crude production reached 157.8 million barrels in 2015, a 157% increase from 2005
- State natural gas output is up by 60% since 2003, to 2.5 trillion cubic feet in 2015
- Oklahoma now ranks fifth among the states in oil production and third in natural gas production
- Over the past 10 years, the state produced \$15.4 billion annually in crude oil and natural gas
- Oklahoma is the second largest oil and gas hub in the U.S., trailing only Texas
- Oklahoma ranks as the 3rd most attractive oil and gas market among 126 markets worldwide
- Oil and gas activity accounts for more than half the fixed investment (\$20.3 billion) in Oklahoma
- The state exported both crude oil and natural gas valued at \$7.1 billion in 2015
- Growth in the mining sector has far outpaced growth in the non-mining sectors since 2002

The economic characteristics of Oklahoma's oil and gas sector make it an excellent candidate for long-term state economic development efforts. Oklahoma continues to rank among the most attractive regions worldwide for oil and gas investment.

## **TO WHAT DEGREE DOES THE OIL AND GAS INDUSTRY PRODUCE SPILLOVER BENEFITS TO THE BROADER STATE ECONOMY?**

In total, direct output in the oil and gas industry supports an estimated \$65.7 billion in total state output, both directly and through indirect and induced multiplier effects.

The amount of direct economic activity produced by the industry remains substantial. Over the past five years, the oil and gas industry produced an average of \$37.1 billion in output of goods and services annually, employed an average of 56,400 wage and salary workers and 77,400 self-employed proprietors, and generated household earnings of \$6.44 billion in employee compensation and \$8.91 billion in proprietor income annually. This activity spills over to nearly every sector of the state economy.

- Activity in the industry supports an estimated \$28.6 billion in additional spillover output of goods and services in other industry sectors statewide
- In total, the oil and gas industry supports an estimated \$65.7 billion in total state output
- Direct earnings in the industry support an additional \$17.2 billion in estimated spillover earnings statewide
- Including spillover effects, approximately \$32.6 billion (27%) of total state household earnings are supported by the energy sector
- Each new direct oil and gas job supports slightly more than two additional jobs statewide
- Almost 1 in 5 (424,800) wage and salary workers and self-employed proprietors in Oklahoma are employed directly or indirectly by the oil and gas sector
- Estimates indicate that state energy firms made an average of \$11.3 billion in purchases annually from other state-based suppliers
- An estimated \$1.7 billion in oil and gas royalties were paid to Oklahomans in 2015

## DOES CURRENT TAX POLICY ENCOURAGE INCREASED PRODUCTION AND FULL UTILIZATION OF THE STATE'S OIL AND GAS RESOURCES?

Oklahoma is the only major producing state to experience substantial increases in both crude oil and natural gas production in recent years.

The state's energy sector has experienced a dramatic revival during the past decade. Despite recent slowing in response to falling crude oil prices, current EIA outlooks suggest that growth in the industry is likely to persist for many years. The key change is the increased number of economically viable drilling opportunities now available in Oklahoma and other producing states.

- Oklahoma is the only major producing state to experience substantial increases in both crude oil and natural gas production in recent years
- The industry spent \$10.0 billion in the state to complete an estimated 1,822 wells in 2015 at a cost of \$5.46 million per well
- Over the past five years, drilling expenditures in Oklahoma totaled an estimated \$61.0 billion, or an average of \$12.1 billion annually
- More drilling rigs have been operating in Oklahoma (180 rigs) on average the past five years than in all states but Texas (777 rigs)
- Since 2001, drillers in the state completed between 2,200 and 3,500 wells annually, an average pace of nearly 2,700 wells per year
- Recent drilling expenditures in the state are roughly equal to the inflation-adjusted level from 1981 near the height of the Oil Boom



A dramatic surge in capital expenditures on drilling new wells underlies the rebound in state oil and gas production. This is why Oklahoma tax policy cannot simply view the ongoing transition from conventional to unconventional drilling as a one-for-one swap in wells. Each well drilled is now 4 to 5 times costlier based on current well costs.

## HOW IS THE OIL AND GAS INDUSTRY TAXED, HOW MUCH DOES IT PAY, AND WHAT IS THE REVENUE USED FOR?

The mining industry's share is one-fourth (25%) of the total taxes paid across all industries within the state.

Oklahoma recently simplified the structure of the severance tax on the production of crude oil and natural gas. New production now incurs a tax rate of 2% for the first 36 months and 7% thereafter.

- The oil and gas industry is the largest single source of tax revenue in the state, paying total direct state taxes of \$2.0 billion in FY2015, or 22% of all state taxes in the period
- Energy firms paid an additional \$463 million to local governments in Oklahoma in FY2015
- In total, oil and gas firms and their employees paid \$2.55 billion in state and local taxes in FY2015
- The industry pays 22% of total state taxes yet accounts for only 6.5% of total employment, 13% of state household earnings, and 17% of state gross domestic product
- Oil and gas producers paid \$542.1 million in net severance taxes in FY2015
- Of the \$542.1 million in severance taxes apportioned in FY2015, \$328.7 million went to dedicated uses and \$213.4 was directed to the state's General Revenue Fund
- The largest use of dedicated severance tax revenue in FY2015 is \$224 million for public education
- Education also received approximately 50% of the \$213.4 million in severance taxes distributed to the General Revenue Fund in FY2015
- In total, public education received \$331 million in oil and gas severance tax revenue in FY2015
- Other dedicated uses in FY2015 include \$81.9 million returned to counties for roads and \$22.8 million allocated across a range of other dedicated uses
- In the ten-year period from FY2006 to FY2015, the state's oil and gas producers made total gross severance tax payments before incentives of \$10.18 billion, or more than \$1 billion annually
- Through incentives, producers were refunded a total of \$1.21 billion in prior payments
- Severance tax payments after refunds the past decade totaled \$8.98 billion, or \$898 million annually
- Public education received \$4.7 billion in oil and gas severance taxes (through both dedicated uses and General Revenue Fund) the past ten fiscal years, or \$469 million annually
- Counties received a cumulative \$746 million in severance tax revenue in the ten-year period for roads, or \$74.6 million annually
- A number of competing states offer exemptions from severance taxes for drilling modern unconventional wells, primarily horizontal wells and wells in tight formations. The two largest and most significant exemptions are offered by Texas and Louisiana, Oklahoma's nearest neighbors and strongest competitors for both drilling activity and white-collar oil and gas employment.
- The average severance tax rate paid by Oklahoma producers is slightly below the rate paid in Texas and higher than the rate paid in Kansas, Colorado and Utah
- Using a broad measure of federal, state, and local taxes, the mining industry's share is one-fourth (25%) of the total taxes paid by all industries within the state
- Primarily due to taxes unique to the oil and gas industry, high wages among proprietors and employees in the industry, and high corporate tax payments, the oil and gas industry pays more than \$1 billion annually in additional state taxes than it otherwise would if it were an average tax-paying industry



By maintaining severance taxes at current levels, policymakers can expect to avoid a series of incremental negative economic outcomes within the industry and state economy, many of which may be unintended. Most of the direct losses from higher severance taxes would be borne almost entirely by producers, royalty owners, refiners, and consumers of energy (including households) in the state. These losses would trigger further spillover effects in productive industries across the broader state economy.

## TO WHAT DEGREE IS THE STATE ECONOMY TIED TO ACTIVITY IN THE ENERGY INDUSTRY?



**The state remains as sensitive to the energy sector as it was in 1982 as measured by the share of household earnings statewide (13.2%) derived from the industry. The state's economic cycle remains closely tied to energy prices as evidenced by the current oil price-induced slowdown in the state economy.**

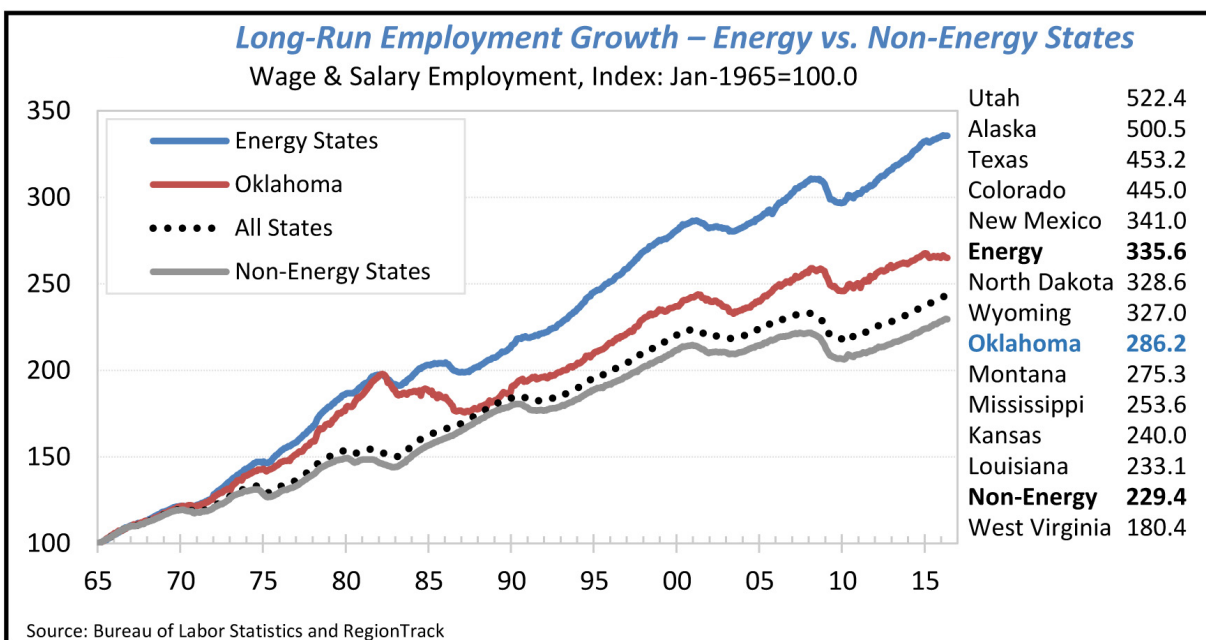
- Oklahoma remains a top-tier energy-producer and the state economy remains highly sensitive to energy price fluctuations
- The recent collapse in oil prices was capable of producing a recession at the state level, despite a backdrop of strong national hiring conditions
- Severance tax receipts have become more volatile since 2000, reflecting swings in oil and gas prices
- Total state tax revenue has similarly become more volatile since 2000, due in large part to increased volatility in severance tax revenue
- Despite increased volatility in severance taxes and rebates to the oil and gas industry, both total taxes and taxes from sources other than severance taxes remain in a long-run uptrend
- In the FY2011 to FY2015 period following the recent national recession, state tax receipts minus severance taxes increased by an average of 6.2% annually while total state tax receipts increased 5.8% annually, only a 0.4% difference annually due to weakness in severance taxes
- Severance taxes continue to serve as the key source of deposits to the state's Rainy Day Fund and have provided much needed budget stabilization in recent recessions

The oil and gas industry continues to make an outsized contribution in terms of both economic activity and tax payments. Oklahoma's oil and gas firms face a relative tax burden that is four times greater than the average business in the state on a per worker basis.

## WHAT ARE THE BROADER ECONOMIC BENEFITS TO THE STATE OF TAX POLICY THAT ENCOURAGES GROWTH IN THE OIL AND GAS INDUSTRY?

Oil and gas is the most important contributor to economic growth in Oklahoma since the rebound in the industry began in 2002. This activity is providing a number of key economic benefits to the state economy.

- Oil and gas-driven income gains have pushed state per capita income to 95% of the U.S. average in recent years, up from 85% just a decade ago
- Migration into the state surged beginning in 2006 as state population growth moved above 1% annually for the first time since the early 1980s
- The ongoing supply-induced drop in natural gas prices has saved state consumers an estimated \$1.5 billion annually since 2009
- Due to falling oil prices, annual state petroleum expenditures in 2015 and 2016 will be an estimated \$3.3 billion lower than the average annual expenditures realized from 2008 to 2014
- Only 46,000 total jobs were created in the non-metro counties between 1999 and 2015, and the mining sector alone accounted for more than 1 in 4
- Since 1965, Oklahoma's job base has increased 186.2%, roughly 55% more than the average of the non-energy producing states



Renewed growth in Oklahoma's oil and gas industry has enhanced the strength and competitiveness of the state economy. Residents are enjoying a range of economic benefits including higher relative incomes, a lower relative tax burden, greater rural job growth, reduced energy costs, and stronger state population gains.

A dramatic surge in capital expenditures on drilling new wells underlies the rebound in state oil and gas production. The industry spent \$10.0 billion in the state to complete an estimated 1,822 wells in 2015 at a cost of \$5.46 million per well. Over the past five years, drilling expenditures in Oklahoma totaled an estimated \$61.0 billion, or an average of \$12.1 billion annually.

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