



# **State of Oklahoma**

# **Incentive Evaluation Commission**

## **Draft Coal Tax Credits Evaluation**

September 29, 2017

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# Executive Summary



## Overview

Coal tax credits have existed in some capacity in Oklahoma for nearly 25 years in order to incent coal production and promote the use of Oklahoma coal within the State. Since that time, however, both coal production and employment have declined, suggesting that the industry, which was never a large employer in the State, may continue to shrink as alternative energy options continue to emerge. As currently constructed, the State's coal tax program is effectively subsidizing a few companies – with little resulting economic benefit.

**Recommendation: Based on its analysis of available data, the project team recommends repealing the coal tax credit program.**

### *Key Findings*

- **Coal production in the state has decreased over time.** Total Oklahoma coal production has declined steadily since the 1970s, despite the introduction of coal production and purchase credits. Since 2008, the three largest coal producers in the State have each experienced decreasing production.
- **Coal industry jobs in the State have decreased over time.** Employment in the Oklahoma coal industry increased by a compound annual growth rate (CAGR) of 6.9 percent between 2001 and 2009 but has declined by a CAGR of -7.7 percent since. Overall, the CAGR between 2001 and 2015 is 0.4 percent – indicating that employment has been essentially flat during this time period.
- **Average annual pay in the mining industry is consistently higher than the average annual pay across all private industries in the State.<sup>1</sup>** Despite the decreasing employment in the industry, the jobs that remain are relatively well-paying, both statewide and in the county responsible for the large majority of coal production.
- **There is no evidence of increased capital investment associated with the coal credits.** The number of coal mining sites has remained essentially unchanged in recent years. In 2006, four counties housed a total of seven establishments. By 2016, six counties were home to seven mine sites.
- **It is difficult to evaluate the importance of the coal tax credits on the long-term outlook for this sector.** It is reasonable to assume that Oklahoma's incentives are important for industries in decline. However, it is not clear whether reducing the incentives by some amount (e.g. 50 percent) would have a material impact on coal sector employment or activities.
- **It is not possible to evaluate the State's return on investment (economic activity versus financial net cost) due to data limitations.** Prior to 2014, the State did not separately track the coal credit established during the current tax year and unused credit carried over from a prior year. Additionally, prior to 2014, credits were eligible to be transferred (primarily to insurance companies for use in reducing premium tax liabilities). For these reasons, it is not possible to evaluate the State's full return on investment.

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<sup>1</sup> Analysis based on NAICS 212 – Mining, except oil and gas. Industries in the subsector primarily engage in mining, mine site development, and beneficiating (i.e. preparing) metallic minerals and nonmetallic minerals, including coal. The term “mining” is used in the broad sense to include ore extraction, quarrying, and beneficiating (e.g. crushing, screening, washing, sizing, concentrating, and flotation), customarily done at the mine site. Please note that NAICS 2121, Coal Mining, did not provide sufficient data for analysis.



### *Other Findings*

- **Relative to other states, Oklahoma’s coal incentives are generous.** The State incentivizes both the production and purchase of coal. The State also offers the highest credits - \$5.00 per ton, as compared to \$1.00-\$3.00 in other states.
- **Adequate protections appear to be in place.** The State limits the program’s potential impact by basing eligibility on the average monthly price of coal and has reduced both the face value and refundable value of the credits in recent years.
- **Reporting and data collection issues exist, but improvements are being made.** Prior to 2014, amounts refunded were not reported; additionally, amounts transferred were not collected or reported on by the Oklahoma Tax Commission (OTC). However, since 2014, the data collected and reported is more detailed.

### *Changes to Improve Future Evaluations (if the Program is Retained)*

- **Recommendation 1: Reconfigure the program.** As currently constructed, there is no direct link between industry jobs and eligibility for the credit. The State may want to explore the provisions of Virginia’s Coalfield Employment Enhancement Credit, which tied the amount of the credit to a so-called “employment factor,” to determine if a similar structure would effectively help Oklahoma increase coal employment.
- **Recommendation 2: Continue to improve data collection associated with the credits.** Since 2014, the OTC has improved its reporting of coal credits by accounting for credits carried over separately from those generated in the current fiscal year. However, it is not currently possible to determine which credits were claimed by coal producers and which were claimed by coal consumers. Obtaining and reporting on this information should be possible, given the small number of total returns impacted, and providing this data would greatly increase the ability to analyze program impacts.



# **Key Findings and Recommendations**



## Key Findings

Coal tax credits have existed in some capacity in Oklahoma for nearly 25 years in order to incent coal production and promote the use of Oklahoma coal within Oklahoma borders. Since that time, however, both coal production and employment have declined, suggesting that the industry, which was never a major employer in the State, may continue to shrink as alternative energy options continue to emerge. As currently constructed, the State's coal tax program is effectively subsidizing a few companies – with little resulting economic benefit.

**Based on its analysis of available data, the project team recommends repealing the coal tax credit program.**

The following analyzes the program as it relates to the established criteria for evaluation.

- **Coal production in the state has decreased over time.** Total Oklahoma coal production has declined steadily since the 1970s, despite the introduction of coal production and purchase credits. Since 2008, the three largest coal producers in the State have each experienced decreasing production. Overall, Oklahoma companies are producing a Compound Annual Growth Rate (CAGR) of -8.4 percent from year to year.
- **Coal industry jobs in the State have decreased over time.** Employment in the Oklahoma coal industry increased by a CAGR of 6.9 percent between 2001 and 2009 but has declined by a CAGR of -7.7 percent since. Overall, the CAGR between 2001 and 2015 is 0.4 percent – indicating that employment has been essentially flat during this time period. Additionally, while the value of coal credits was increased from \$0.95 per ton to \$5.00 per ton in 2007, since that time, employment has decreased from 237 to 161 – a decrease of 76 positions and CAGR of -4.7 percent. This rate of decline exceeds that of the U.S. as a whole (-2.6 percent) during the same period.
- **Average annual pay in the mining industry is consistently higher than the average annual pay across all private industries in the State.<sup>2</sup>** Despite the decreasing employment in the industry, the jobs that remain are relatively well-paying, both statewide and in the county responsible for the large majority of coal production. Since 2006, the average annual mining industry pay has increased by a CAGR of 3.05 percent. During the same time frame, the average annual pay for all private industries in the State has increased by 2.53 percent. The average mining pay has consistently surpassed the average pay across all private industries by 15-30 percent. Additionally, the Oklahoma CAGR exceeds that of the U.S. coal industry as a whole (2.32 percent).
- **There is no evidence of increased capital investment associated with the coal credits.** The number of coal mining sites has remained essentially unchanged in recent years. In 2006, four counties housed a total of seven establishments. By 2016, six counties were home to seven mine sites. The lack of new mine sites suggests an absence of capital investment associated with the coal credits. However, this sluggishness outperforms the U.S. as a whole, which had 324 fewer mines in 2016 than in 2006 (a decline of 25 percent).
- **It is difficult to evaluate the importance of the coal tax credits on the long-term outlook for this sector.** It is reasonable to assume Oklahoma's incentives are important for industries in decline.

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<sup>2</sup> Analysis based on NAICS 212 – Mining, except oil and gas. Industries in the subsector primarily engage in mining, mine site development, and beneficiating (i.e. preparing) metallic minerals and nonmetallic minerals, including coal. The term “mining” is used in the broad sense to include ore extraction, quarrying, and beneficiating (e.g. crushing, screening, washing, sizing, concentrating, and flotation), customarily done at the mine site. Please note that NAICS 2121, Coal Mining, did not provide sufficient data for analysis.



However, it is not clear whether reducing the incentives by some additional amount (as has been done in the recent past) would have a material impact on coal sector employment.

- **It is not possible to evaluate the State's return on investment (economic activity versus financial net cost) due to data limitations.** Prior to 2014, the State did not separately track credits established during the current tax year and unused credits carried over from a prior year. Additionally, prior to 2014, credits were eligible to be transferred (primarily to insurance companies for use in reducing premium tax liabilities). For these reasons, it is not possible to evaluate the State's full return on investment.

#### *Other Findings*

- **Relative to other states, Oklahoma's program is generous.** Among coal producing states, seven comparable incentive programs were identified – three related to purchasing coal and four related to producing coal. The State of Oklahoma's program is more comprehensive, as it incentivizes both the production and purchase of coal. The State also offers the highest credits - \$5.00 per ton, as compared to \$1.00-\$3.00 in other states. Like Oklahoma, half of the states allow credits to be carried forward, and two states (Kentucky and Virginia) allow them to be carried forward for twice as long (10 years). Just two states (Arkansas and Virginia) allow the credits to be transferred.
- **Adequate protections appear to be in place.** 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."

The credits are not available to be claimed in any month in which the average price of coal is \$68 or more per ton (excluding freight charges). As a result, certain types of coal are not eligible for the credit, and in the event that the price of all types of coal increase significantly, there is a safeguard in place to prevent the incentive from becoming considerably more expensive for the State.<sup>3</sup>

Additionally, given the generally decreasing trends in Oklahoma coal production, it is unlikely that a surge in production alone would drastically increase associated tax expenditures for the State.

Finally, the State has taken steps in recent years to control the potential cost of the incentive – first by reducing the value of refunded credits to 85 percent of face value (January 1, 2014), and then by reducing the overall value of the credit to 75 percent (January 1, 2016).

- **Reporting and data collection issues exist, but improvements are being made.** The only information available for determining potential financial impact is from Forms 511 CR, which are filed with tax returns. Prior to 2014, amounts refunded were not reported; additionally, amounts transferred are not collected or reported on by the OTC. This issue is further complicated by the fact that the value and types of credits and the refundability and transferability provisions have changed on multiple occasions.

High-level coal credit information is made available in the State's Tax Expenditure Report, issued every two years. The report provides the estimated tax expenditure totals and the number of returns claiming a credit. However, it does not distinguish between coal producer returns and coal purchaser returns.

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<sup>3</sup> Average Oklahoma bituminous coal sales price data is withheld by the EIA to avoid disclosure.





## Overall Recommendation

Based on its analysis of available data, the project team recommends repealing the coal tax credit program.

While the relatively high pay of jobs in the coal mining sector is notable, the coal industry in Oklahoma is a shrinking one that will likely continue to decline (in terms of both production and employment) as alternative energy options continue to emerge. As currently constructed, the State's coal tax program is essentially subsidizing a few companies and a relatively small number of jobs – with little resulting economic benefit.

In the event that the State chooses to continue the program, the project team provides the following additional recommendations.

- **Recommendation 1: Reconfigure the program.** One of the approved evaluation criteria for this incentive is the impact on employment. However, as currently constructed, there is no direct link between industry jobs and eligibility for the credit. The Commonwealth of Virginia's Coalfield Employment Enhancement Credit (now expired) did just that - the amount of the credit allowed was equal to the amount earned multiplied by the person's employment factor – which was derived by taking the annual number of coal mining jobs of the company filing the return (including contractors) by the total number of coal mining jobs in the previous year. The State may want to consider restructuring its program in a similar manner in order to link the credits it pays directly to increases in employment.
- **Recommendation 2: Continue to improve data collection associated with the credits.** Since 2014, the OTC has improved its reporting of coal credits by accounting for credits carried over separately from those generated in the current fiscal year. However, it is not currently possible to determine which credits were claimed by coal producers and which were claimed coal consumers. Obtaining and reporting on this information should be a relatively easy, given the small number of total returns impacted, and providing this data would greatly increase the ability to analyze program impacts.



# Introduction



## Overview

In 2015, HB2182 established the Oklahoma Incentive Evaluation Commission (the Commission). The bill 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 State's coal incentive for the production and purchase of coal is one of 12 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 in December 2017.

## Industry and Incentive Background

By 1986, out-of-state electric power-generating plants were the major consumer of Oklahoma coal and its major users in Oklahoma were in cement and lime kilns, at a paper plant, and for process heat at an auto assembly plant. In 1987, the State passed the "Burn Oklahoma" law requiring all in-state coal-fired power plants to include at least 10 percent Oklahoma coal in their fuel mix. As a result, a significant change in the distribution of Oklahoma coal occurred. By 1991, more than 50 percent of Oklahoma coal production was used by Oklahoma electric power plants.<sup>4</sup>

This created a need to incent increased coal production (as well as the use of Oklahoma coal) within Oklahoma borders. As a result, the State created a series of tax credits for producers and consumers. In 1989, the State created a \$1.00 per ton tax credit to subsidize purchases of Oklahoma coal; that credit was later increased to \$2.00 per ton. Though the "Burn Oklahoma" law was declared unconstitutional by the U.S. Supreme Court in January 1992, additional tax credits were enacted to incent businesses to continue purchasing Oklahoma coal. While key characteristics of this program have changed over time, the credits have totaled more than \$4 million annually in each of the past two years.

## 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 these credits, the specific goals were not included in the legislation that established them. To assist in a determination of program effectiveness, the Incentive Evaluation Commission has adopted the following criteria:

- Change in production before/after the credit;
- Change in jobs associated with the credit;
- Change in payroll associated with the credit;
- Change in capital investment associated with the credit;
- Change in jobs/payroll/capital associated with the credit versus state growth rates as a whole;
- Return on investment – economic activity versus financial net cost.

The criteria focus on what are generally considered key 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.

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<sup>4</sup> Oklahoma Department of Mines Annual Report, 2015.



# Industry Background

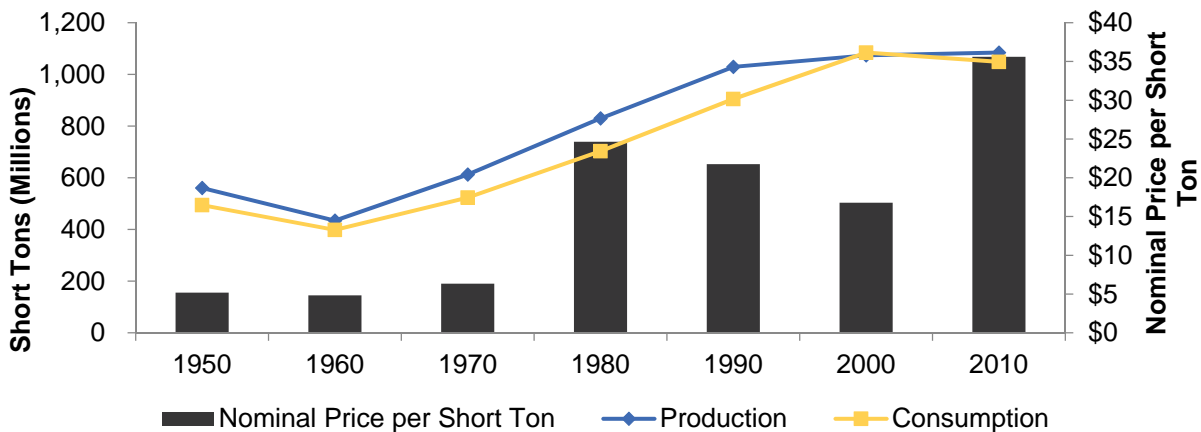


## U.S. Coal Industry Background and History

The U.S. coal production industry has changed significantly since the mid-20<sup>th</sup> century. In the 1950s, more than 90 percent of all coal mined was bituminous,<sup>5</sup> 75 percent was mined using underground methods, and 94 percent was mined east of the Mississippi River. By 2010, bituminous coal accounted for just 45 percent of all coal mined, while subbituminous coal<sup>6</sup> accounted for an additional 48 percent. During that time, nearly 70 percent of mining was performed using surface methods, and mines east of the Mississippi River had declined as a share of total output and were responsible for just over 40 percent of all production.<sup>7</sup>

Overall coal production nearly doubled over the 60-year time period (increasing from 560.4 million short tons to 1.1 billion short tons), and U.S. consumption more than doubled (growing from 494 million short tons to 1.0 billion short tons).<sup>8</sup> Additionally, while the nominal price per short ton was \$5.19 in 1950, by 2010, the price had risen to \$35.61.

**Figure 1: U.S. Coal Prices, Production and Consumption, 1950 to 2010**



Source: U.S. Energy Information Administration

Since U.S. production peaked in 2011, however, it has declined by an average of 3.7 percent annually, and consumption has declined by approximately 5.3 percent per year.<sup>9</sup> In fact, between 2014 and 2015, national coal production, consumption and employment each fell by more than 10 percent. The declining trend has continued into 2017 and is expected to continue. U.S. year-to-date coal production for the first half of the year (through June 2017) totaled approximately 387 million short tons, higher than the same point in 2016 but 14 percent lower than the comparable year-to-date coal production in 2015.<sup>10</sup>

While coal mining accounted for more than 89,000 U.S. jobs in 2011, by February 2017, that number had declined to slightly over 50,000.<sup>11</sup> In addition to the electric generation segment, coal fuels support another

<sup>5</sup> Containing the widest range of carbon content (45% to 86%), bituminous is mainly used as a fuel to generate electricity, though some is used as coking coal to produce steel. Bituminous coal makes up 45% of U.S. coal production by weight and 54% by energy intensity.

<sup>6</sup> Generally used for electricity generation, subbituminous coal contains 35% to 45% carbon. A major component of U.S. coal production, subbituminous coal makes up 47% of U.S. coal production by weight and 41% by energy intensity.

<sup>7</sup> U.S. Energy Information Administration Annual Energy Review, 1950-2010.

<sup>8</sup> U.S. Energy Information Administration Monthly Energy Review, February 2017.

<sup>9</sup> Ibid.

<sup>10</sup> U.S. Energy Information Administration Monthly Energy Review, July 2017.

<sup>11</sup> Bureau of Labor Statistics Current Employment Statistics Survey coal mining employment data.



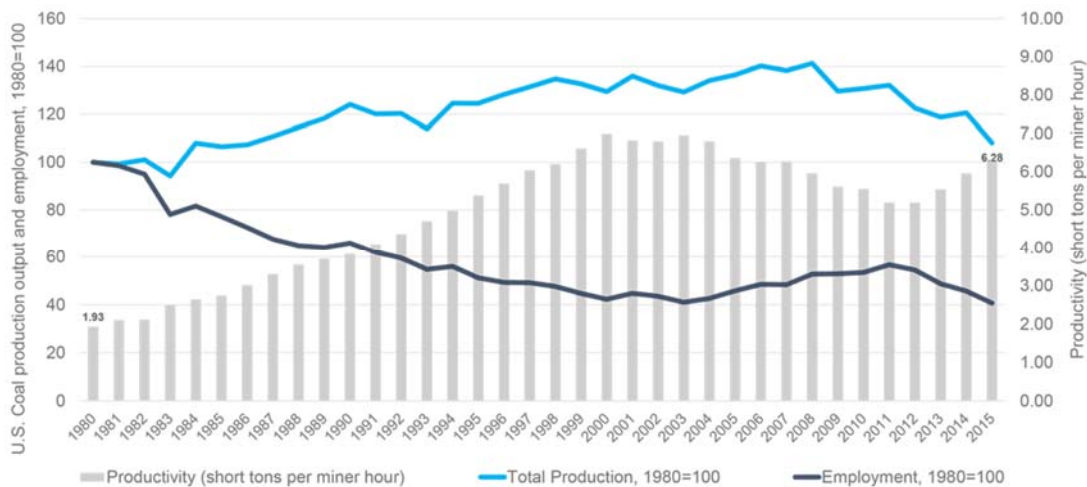
74,084 jobs, or about 7 percent of the nationwide fuels workforce.<sup>12</sup> While coal provided approximately half of the electricity in the U.S. in 2005, in 2016, the U.S. Energy Information Administration calculated that coal provided 30 percent of electricity generation nationwide, with natural gas (34 percent), nuclear (19 percent) and renewables (15 percent) accounting for the remainder.

### U.S. Coal Industry Outlook

According to a 2017 report by the Institute for Energy Economics and Financial Analysis (IEEFA), the U.S. coal industry, after encountering one of its worst years in history in 2016, will continue to decline in 2017 (though at a slower pace). While the industry will likely gain limited market share in day-to-day competition in regional electricity markets due to a relative increase in the price of natural gas, any gains will be marginal.<sup>13</sup>

The IEEFA report notes that despite the promise of the new administration granting regulatory relief and a coal resurgence, the coal sector’s challenge is that too many companies are mining too much coal for too few customers.<sup>14</sup> Additionally, increases in automation will likely increase coal outputs but decrease employment in the sector. A recent Brookings analysis of EIA annual coal report data found that automation has already significantly contributed to declining employment in coal mining, as shown in the figure below.<sup>15</sup>

**Figure 2: Automation has Significantly Contributed to Declining Employment in Coal Mining (U.S. coal production, employment and productivity trends, 1980-2015)**



Source: Brookings analysis of EIA annual coal report data

Further, it is predicted that the coal mining industry will lose even more jobs to automation in the next decade. The mining industry has already adopted many automation technologies (autonomous haul trucks and loaders; semi-autonomous crushers, rock breakers and shovel swings; GIS and GPS; etc.), and their use is expected to increase over the next 10-15 years, because the mining industry is highly capital intensive and requires expensive equipment.<sup>16</sup>

<sup>12</sup> U.S. Department of Energy - U.S. Energy and Employment Report (January 2017).

<sup>13</sup> IEEFA 2017 U.S. Coal Outlook.

<sup>14</sup> Ibid.

<sup>15</sup> The Brookings Institution – Increased Automation Guarantees a Bleak Outlook for Trump’s Promises to Coal Miners (January 25, 2017).

<sup>16</sup> International Institute for Sustainable Development – Mining a Mirage? (2016).



## Oklahoma Coal Industry Background and History

### *Oklahoma Coal Production*

Oklahoma is one of 25 states that produces coal; however, it is not a large producer. In 2015, the State ranked 22nd in production (0.1 percent of U.S. production) and 16th in total number of mines.

Coal production is also a small component of overall mining within the State. According to the Oklahoma Department of Mines' most recent annual report, the nearly 800,000 tons of coal mined in 2015 represented just 1 percent of total mining in the state, as shown in the following table:

**Table 1: Oklahoma Mining Summary, 2015**

<b>Material</b>	<b>Tons Mined</b>	<b>% of Total</b>
Limestone	47,420,355	59.9%
Sand and Gravel	16,174,880	20.4%
Granite	4,954,479	6.3%
Gypsum	4,722,359	6.0%
Clay	1,550,241	2.0%
Select Fill	1,470,280	1.9%
Coal	796,859	1.0%
Dimensional Stone	730,369	0.9%
Shale	565,436	0.7%
Chat	321,166	0.4%
Dolomite	184,318	0.2%
Salt	167,655	0.2%
Caliche	134,034	0.2%
Tripoli	32,781	0.0%
Volcanic Ash	0	0.0%
<b>Total</b>	<b>79,225,212</b>	<b>100.0%</b>

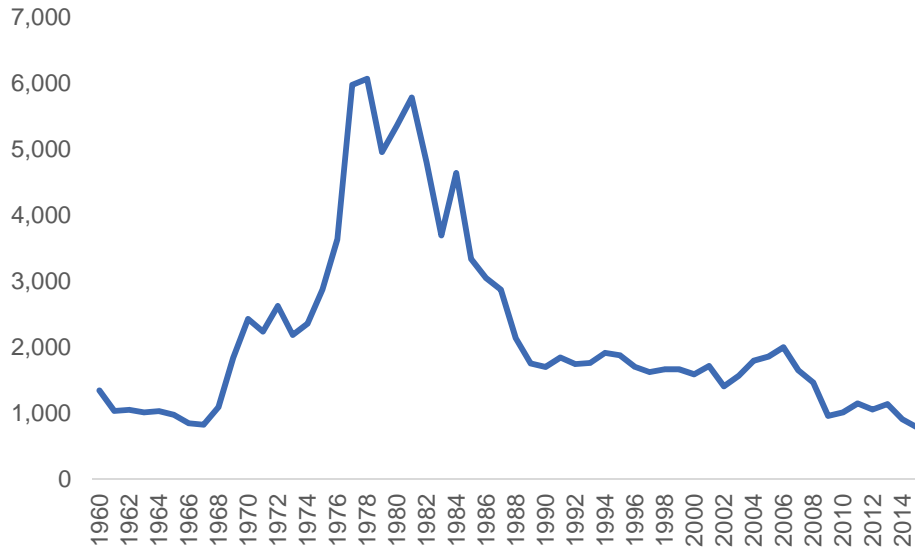
*Source: Department of Mines Annual Report, 2015*

The State's coal production has changed significantly over the past 50 years. As shown in Figure 3, coal production steadily increased in the 1960s and 1970s before peaking in 1978 at 6.1 million short tons. Total production has declined steadily since. In 2015, the State's total production was 780,000 short tons.<sup>17</sup>

<sup>17</sup> Figure does not precisely align to total in table above due to differing data sources (EIA and OK Department of Mines).



**Figure 3: Oklahoma Coal Production Estimates (thousand short tons) – 1960-2015**



Source: U.S. EIA Table PT1 – Primary Energy Production Estimates, Oklahoma

Today, the State’s industry has been reduced to four companies at six mine sites in four counties. The following table and figure display each active coal company’s production between 2008 and 2015. The three largest producers (Phoenix, Farrell Cooper and GCI) have each experienced decreasing production since 2008. Overall, Oklahoma companies are producing a CAGR of -8.4 percent from year to year.

**Table 2: Oklahoma Coal Company Production (tons), 2008-2015<sup>18</sup>**

Year	Phoenix	Brazil Creek	Farrell Cooper	GCI	Joshua	Total Tonnage
2008	429,060	0	597,059	442,338	1,172	<b>1,469,629</b>
2009	274,346	34,937	239,033	487,064	644	<b>1,036,024</b>
2010	220,871	0	347,083	408,913	1,974	<b>978,841</b>
2011	329,162	0	404,157	438,266	2,988	<b>1,174,572</b>
2012	304,309	0	399,159	368,374	3,228	<b>1,075,069</b>
2013	268,580	0	401,729	494,341	2,558	<b>1,167,208</b>
2014	250,323	0	255,056	419,725	1,959	<b>927,064</b>
2015	190,909	0	196,343	407,365	2,242	<b>796,859</b>
<b>CAGR</b>	<b>-10.9%</b>	<b>N/A</b>	<b>-14.7%</b>	<b>-1.2%</b>	<b>9.7%</b>	<b>-8.4%</b>

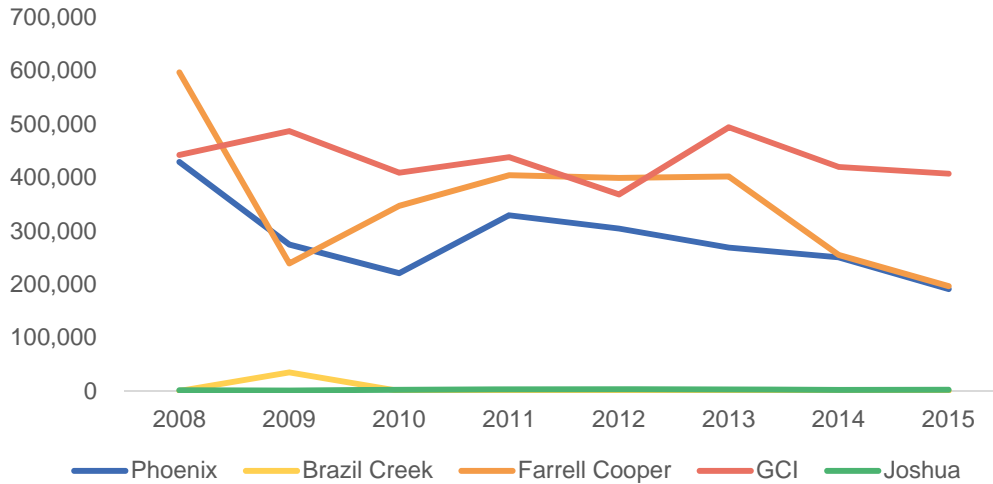
Source: Oklahoma Department of Mines Annual Coal Production Statistics

<sup>18</sup> Not all coal produced is eligible for the coal tax credits. Eligibility is based on the price of the coal; no production credits are offered when the average price of coal is \$68 or more per ton, excluding freight charges.





**Figure 4: Oklahoma Coal Company Production (tons), 2008-2015**



Source: Oklahoma Department of Mines Annual Coal Production Statistics

#### Oklahoma Coal Industry Employment<sup>19</sup>

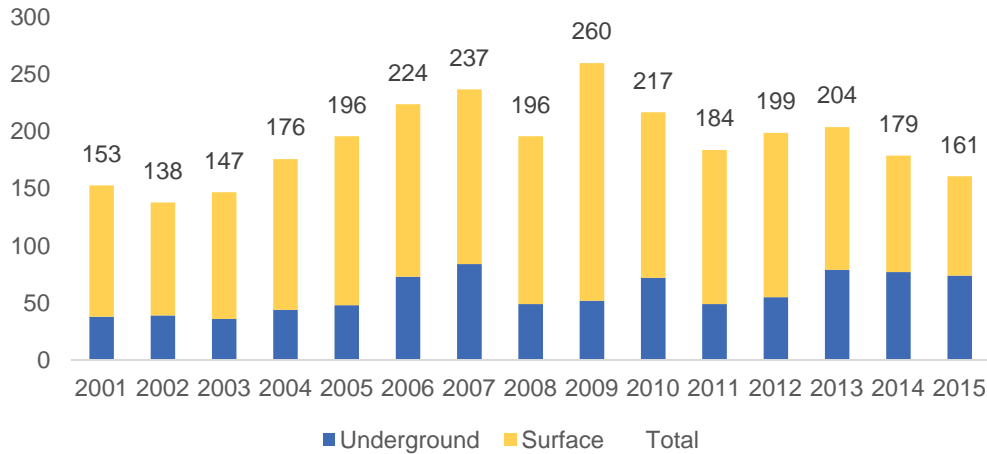
In Oklahoma, the coal industry has long been a relatively small part of the economy. The overall mining and logging industry accounted for 3.2 percent of all Oklahoma non-farm employment in 1990; by 2016 that share was 2.5 percent.

As shown in the following figure, State employment in the coal mining industry increased by a CAGR of 6.9 percent between 2001 and 2009, but it has declined by a CAGR of -7.7 percent since that time. Overall, the CAGR between 2001 and 2015 is 0.4 percent – indicating that employment has been essentially flat during this time period.

<sup>19</sup> Indirect jobs associated with the coal industry are included in the economic and fiscal impact section of this report.



**Figure 5: Oklahoma Average Number of Employees by Mine Type, 2001-2015**



Source: U.S. Energy Information Association Annual Coal Reports

Even while employment was declining, in 2007, coal credits were increased from \$0.95 per ton to \$5.00 per ton. Since that time, employment has decreased from 237 to 161 – a decrease of 76 positions and CAGR of -4.7 percent.

This rate of decline exceeds that observed nationwide (-2.6 percent), as shown in the following table.

**Table 3: Oklahoma and U.S. Average Number of Employees, 2007-2015**

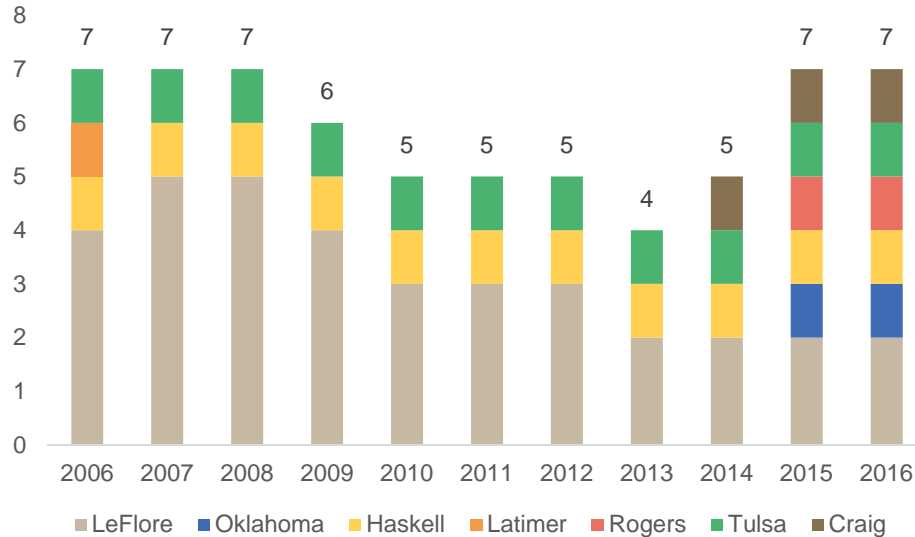
Year	OK	U.S.
2007	237	81,278
2008	196	86,859
2009	260	87,755
2010	217	86,195
2011	184	91,611
2012	199	89,838
2013	204	80,396
2014	179	74,931
2015	161	65,971
<b>CAGR</b>	<b>-4.7%</b>	<b>-2.6%</b>

Source: U.S. Energy Information Association Annual Coal Reports

Additionally, the number of coal production establishments has been stagnant in recent years. As shown in the following table, the number of coal sites in Oklahoma has fluctuated since 2006, but was the same in 2016 as it was 10 years prior.



**Figure 6: Number of Establishments by County, 2006-2016**



Source: BLS Quarterly Census of Employment and Wages

This stagnation in the development of new mines, however, is better than the U.S. as a whole, where the number of mines has decreased from 1,275 in 2006 to 951 in 2016, a decline of 324 (25 percent).

#### Mining Industry Payroll

The average mining industry pay in the State has consistently surpassed the average pay across all private industries by 15-30 percent. As shown in the following table, since 2006, the average annual mining industry pay has increased by a compound annual growth rate (CAGR) of 3.05 percent. During the same time, the average annual pay for all private industries in Oklahoma has increased by 2.53 percent.

**Table 4: Oklahoma Average Annual Pay by Industry, 2006-2016**

Year	Mining, Except Oil and Gas <sup>20</sup>	All Private Industry
2006	\$41,926	\$34,136
2007	\$45,128	\$35,469
2008	\$43,210	\$37,137
2009	\$42,375	\$36,934
2010	\$45,014	\$38,011
2011	\$47,812	\$40,157
2012	\$50,934	\$41,863

<sup>20</sup> NAICS 212 – Mining, except oil and gas. Industries in the subsector primarily engage in mining, mine site development, and beneficiating (i.e. preparing) metallic minerals and nonmetallic minerals, including coal. The term “mining” is used in the broad sense to include ore extraction, quarrying, and beneficiating (e.g. crushing, screening, washing, sizing, concentrating, and flotation), customarily done at the mine site. Please note that NAICS 2121, Coal Mining, did not provide sufficient data for analysis.



Year	Mining, Except Oil and Gas <sup>20</sup>	All Private Industry
2013	\$52,281	\$42,734
2014	\$54,875	\$44,089
2015	\$58,443	\$44,504
2016	\$56,608	\$43,809
<b>CAGR</b>	<b>3.05%</b>	<b>2.53%</b>

Source: BLS Quarterly Census of Employment and Wages

The average industry pay in Oklahoma consistently trails the national average by approximately 30 percent. This is not surprising, as the cost of living varies considerably from state to state. However, it should be noted that the growth in industry pay (calculated as the CAGR between 2006 and 2016) exceeds that observed across the U.S. as a whole (2.32 percent).

Because coal mining occurs in a specific area of the State, it is important to account for the different economic factors that influence pay in those areas. According to the 2015 Oklahoma Department of Mines Report, the majority of coal production (73 percent) occurred in LeFlore County.<sup>21</sup> The following table, which compares the average annual mining pay to the average annual private industry pay in LeFlore County, shows that the industry's annual pay is high relative to the average across all private industries.

**Table 5: LeFlore County Annual Pay by Industry, 2006-2016**

Year	Mining <sup>22</sup>	All Private Industry
2006	\$29,398	\$24,553
2007	\$30,495	\$25,692
2008	\$32,873	\$26,771
2009	ND	\$25,647
2010	ND	\$25,786
2011	ND	\$27,536
2012	ND	\$28,801
2013	ND	\$31,515
2014	ND	\$33,875
2015	ND	\$32,426
2016	\$40,519	\$31,051
<b>CAGR</b>	<b>3.26%</b>	<b>2.38%</b>

Source: BLS Quarterly Census of Employment and Wages  
 ND: Not disclosable – data do not meet BLS or State agency disclosure standards

<sup>21</sup> The remainder occurred in Craig County (24 percent), Haskell (2.8 percent) and Okmulgee (0.3 percent).

<sup>22</sup> NAICS 212 – Mining, except oil and gas. Industries in the subsector primarily engage in mining, mine site development, and beneficiating (i.e. preparing) metallic minerals and nonmetallic minerals, including coal. The term “mining” is used in the broad sense to include ore extraction, quarrying, and beneficiating (e.g. crushing, screening, washing, sizing, concentrating, and flotation), customarily done at the mine site. Please note that NAICS 2121, Coal Mining, did not provide sufficient data for analysis.



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# Incentive Usage and Administration



## Incentive Characteristics

There are two main types of coal credits available in the State: those for purchasers and those for producers.

### Purchase Credits

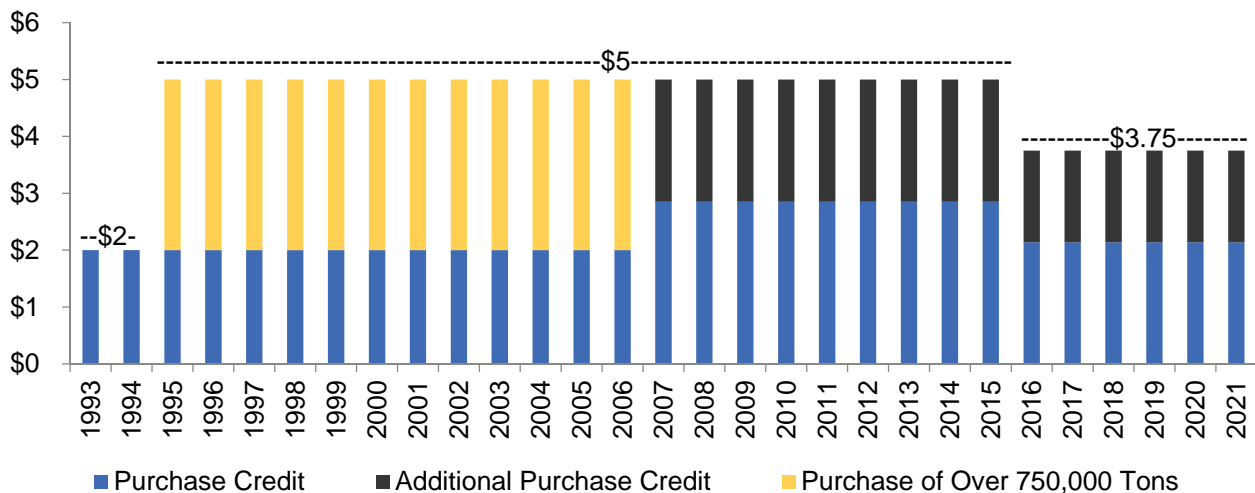
Through December 31, 2021, two credits totaling \$5.00 per ton<sup>23</sup> are available to businesses purchasing Oklahoma-mined coal to furnish water, heat, light or power to the State or its citizens, or to generate heat, light, or power for use in manufacturing operations within the state. However, the structure of the credits has changed significantly since introduction:

- **1993-1994:** \$2.00 per ton purchased by water, heat, light or power suppliers;
- **1995-2006:** \$2.00 per ton purchased by water, heat, light or power suppliers; an additional \$3.00 per ton for suppliers purchasing at least 750,000 tons of coal per year;
- **2007-2021:** \$2.85 per ton purchased by water, heat, light or power suppliers; an additional \$2.15 for each ton purchased;
- **2014-2015:** \$2.85 per ton purchased by water, heat, light or power suppliers; an additional \$2.15 for each ton purchased; credits refundable at 85 percent of face value;
- **2016-2021:** \$2.14 per ton purchased by water, heat, light or power suppliers; an additional \$1.61 for each ton purchased; credits refundable at 85 percent of face value.

The purchase credits made available since the inception of the incentive are summarized in

Figure 7:

**Figure 7: Oklahoma Coal Purchase Credits per Ton, 1993-2021<sup>24</sup>**



<sup>23</sup> A \$2.85 per ton credit is available per §68-2357.11 subsection B paragraph 3; an additional \$2.15 per ton credit is available per §68-2357.11 subsection B paragraph 4.

<sup>24</sup> It should be noted that effective 2014-2021, credits are refundable at 85 percent of face value. This is not reflected in the figure, as the figure displays the full value of the credits themselves.



### *Production Credits*

The State's credits for production have also changed in structure over the years. From January 1, 2001 to December 31, 2021, a credit is available to businesses primarily engaged in mining, producing or extracting coal. Between July 1, 2006 and December 31, 2021, the credit is \$5.00 for each ton of coal mined, produced or extracted in, on, under or through a valid permit issued by the Oklahoma Department of Mines.

As with the purchase credits, production credits earned prior to January 1, 2014 are transferable and may be claimed for up to five years. For those earned on or after January 1, 2014, any credit earned but not used is refunded at 85 percent of the amount of the credit. All credits calculated for activities occurring on or after January 1, 2016 are refundable at 75 percent of the amount of the original credit. No production credits are offered when the average price of coal is \$68 or more per ton, excluding freight charges.

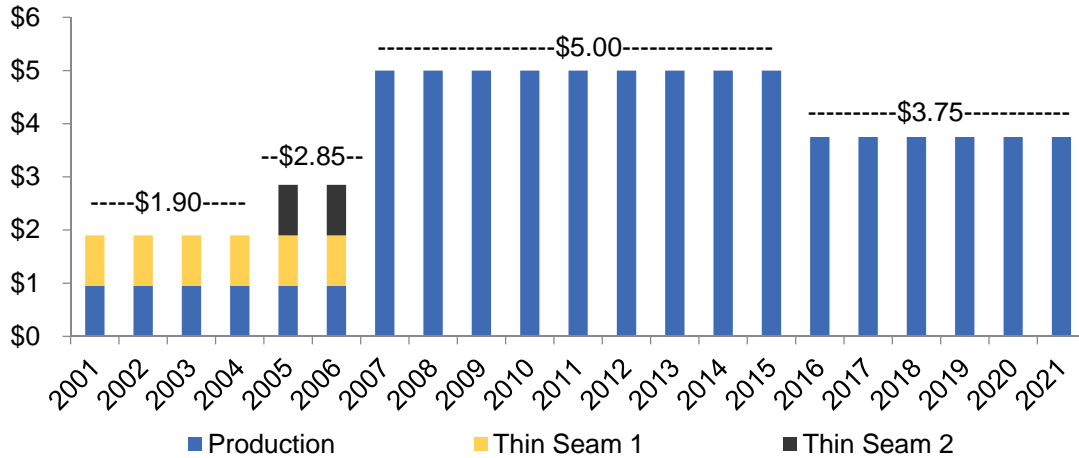
A summary of production credits and their changes is summarized below:

- **2001-2004:** \$0.95 per ton of coal mined, produced or extracted on, under or through a permit; an additional \$0.95 per ton of coal mined, produced or extracted from thin seams (unless the coal is sold to a consumer who purchases at least 750,000 tons of Oklahoma-mined coal per year);
- **2005-2006:** \$0.95 per ton of coal mined, produced or extracted on, under or through a permit; an additional \$0.95 per ton of coal mined, produced or extracted from thin seams (unless the coal is sold to a consumer who purchases at least 750,000 tons of Oklahoma-mined coal per year); and an additional \$0.95 per ton credit on the amount of tax paid into the General Fund for coal mined, produced or extracted from thin seams;
- **2007-2013:** \$5.00 per ton of coal mined, produced or extracted on, under or through a permit;
- **2014-2015:** \$5.00 per ton of coal mined, produced or extracted on, under or through a permit; credits refundable at 85 percent of face value;
- **2016-2021:** \$3.75 per ton of coal mined, produced or extracted on, under or through a permit; credits refundable at 85 percent of face value.

The production credits made available since the inception of the incentive are summarized in Figure 8:



**Figure 8: Oklahoma Coal Production Credits per Ton, 2001-2021<sup>25</sup>**



### Historic Use of Coal Credits

Since 2009, use of the coal tax credits has fluctuated widely, as shown in the following table. While claims were minimal between 2009 and 2013, they increased significantly in 2014 and 2015, totaling \$4.0 and \$4.4 million, respectively. Coal credits for new production were suspended in 2010 and 2011 as part of a two-year budget-balancing deal, but credit holders could still use credits they received from previous production during that time. New production was again eligible for the credits in 2012.

**Table 6: Coal Tax Credits, 2009-2015**

Year	Number of Returns	Total Credits Earned <sup>26</sup>	Total Claims Used <sup>27</sup>
2009	18	\$644,644	\$569,691
2010	18	\$325,102	\$292,690
2011	6	\$90,034	\$85,818
2012	10	\$535,982	\$78,563
2013	7	\$168,230	\$89,059
2014	14	\$6,431,548	\$3,997,756
2015	12	\$4,906,916	\$4,414,630

Source: OTC Form 511CR data

The sharp increase in 2014 is primarily due to the fact that prior to tax year 2014, unused credits (i.e. credits earned that are greater than the amount of taxes owed) were transferrable – and companies earning the credits largely took advantage of this option. Generally, these “leftover” credits were sold to insurance companies to

<sup>25</sup> It should be noted that effective 2014-2021, credits are refundable at 85 percent of face value. This is not reflected in the figure, as the figure displays the full value of the credits themselves.

<sup>26</sup> Prior to 2014, “Total Credits Earned” was the amount of the credit (including any carryover credit) claimed on a tax return eligible to be used to offset any tax liability.

<sup>27</sup> Based upon a taxpayer’s final liability as calculated, the “Total Claims Used” is the amount used to offset any tax liability.





reduce insurance premiums tax liabilities. The following table displays the number of insurance companies and total coal credits used to reduce insurance premiums tax liabilities between 2009 and 2014.

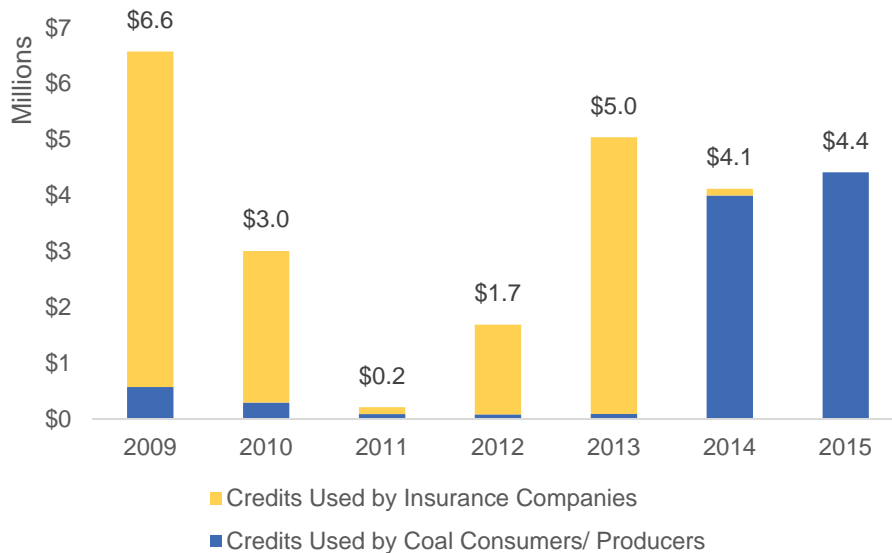
**Table 7: Coal Credits Claimed by Insurance Companies, 2009-2014**

Year	Total Insurance Companies	Total Credits Used	Average Credit/ Company
2009	10	\$6,007,014	\$600,701
2010	9	\$2,712,606	\$301,401
2011	1	\$122,816	\$122,816
2012	5	\$1,608,892	\$321,778
2013	8	\$4,950,957	\$618,870
2014	2	\$120,285	\$60,142

Source: Oklahoma Insurance Department data

When factoring these amounts in with the amounts claimed by coal companies, aggregate credits claimed have generally decreased since peaking at \$6.6 million in 2009 – totaling \$5.0 million in 2013 and \$4.4 million in 2015.

**Figure 9: Coal Credits Claimed by Coal and Insurance Companies, 2009-2015**



Source: Oklahoma Insurance Department and Tax Commission data, 2009-2015

Given this, and because differing data sources must be used in order to account for the entire impact of the program for tax years 2009-2013, data for tax years 2014 and 2015 is most useful for analyzing the current and potential future state of the coal tax incentive program.

In 2014, coal credits were claimed on 14 returns. While more than \$6.2 million in credits was established during the tax year, only \$4.0 million (approximately two-thirds) was used to reduce tax liability. In 2015, however, credits used to reduce tax liability was equal to approximately 90 percent of credits established during the tax year. Under the provisions of the program, the amounts not used to reduce tax liability may be carried forward



for five years, making it more difficult for the State to estimate tax expenditures associated with the program from year to year.

**Table 8: Oklahoma Coal Tax Credit Detail, 2014-2015**

Year	Number of Returns	Unused Credit Carried over from Prior Year(s)	Credit Established During Current Tax Year	Amount Used to Reduce Tax Liability
2014	14	\$183,001	\$6,248,547	\$3,997,756
2015	12	\$85,344	\$4,821,572	\$4,414,630

Source: OTC Form 511CR data

It can also be useful to analyze the credits earned and claimed per coal industry employee. As shown in the following table, the average credit claimed per employee in 2014 and 2015 was between \$20,000 and \$30,000 – and the average credit earned per employee was between \$30,000 and \$35,000. According to the Bureau of Labor Statistics, the average annual pay for a person employed in the mining industry in Oklahoma was \$55,000-\$60,000 during that time frame.<sup>28</sup> On a per-employee basis, the coal tax credit is significant – and amounts to a subsidy of approximately half the average annual pay per employee – **every year that the credits are in place.**

**Table 9: Coal Credits Earned and Used per Employee, 2009-2015**

Year	Number of Employees	Credits Claimed	Credits Claimed/ Employee	Credits Earned	Credits Earned/ Employee
2009	260	\$569,691	\$2,191	\$644,644	\$2,479
2010	217	\$292,690	\$1,349	\$325,102	\$1,498
2011	184	\$85,818	\$466	\$90,034	\$489
2012	199	\$78,563	\$395	\$535,982	\$2,693
2013	204	\$89,059	\$437	\$168,230	\$825
2014	179	\$3,997,756	\$22,334	\$6,431,548	\$35,930
2015	161	\$4,414,630	\$27,420	\$4,906,916	\$30,478

Source: OTC Form 511 CR data, EIA Coal Annual Reports

## Incentive Administration

There are three components to overall program administration:

1. **Eligibility.** There are two groups eligible for the incentives: coal purchasers and coal producers. Coal purchasers must either furnish water, heat, light, or power to the citizens or to the State of Oklahoma, or burn coal to generate heat, light, or power for use in manufacturing operations in Oklahoma. Coal producers must hold a valid permit issued by the Oklahoma Department of Mines. Additionally, the average price of coal mined, produced or extracted in any month for which credits are claimed must not be more than \$68 per ton.

<sup>28</sup> According to BLS Quarterly Census of Employment and Wages data, in 2013, a worker employed in the Support Activities for Coal Mining sub-industry (NAICS 212113) earned an average of \$55,806, and in 2016, a worker in the Bituminous Coal and Lignite Surface Mining sub-industry (NAICS 212111) earned \$52,239.



2. **Determining the Credit.** Eligible producers and purchasers claim credits on their Oklahoma corporate income tax returns. Additionally, these entities fill out line 2 of Form 511CR (Other Credits) by identifying unused credit carried over from prior years, credit established during current tax year, and total available credit. The OTC is responsible for determining the eligibility for the credit and, if necessary, administering any refund based on that credit.<sup>29</sup> To request a refund, entities must complete and file OTC Form 577 (Refundable Coal Credit).

#### *Transferability*

Prior to January 1, 2014, credits were transferrable at any time during the five years following the year of qualification. The producer or purchaser originally earning the credit and the transferee were required to jointly file a copy of the written transfer agreement with the OTC within 30 days of the transfer. The written agreement was required to contain the name, address and taxpayer identification number of both parties, the amount of the credit being transferred, the year the credit was originally allowed to the transferring entity, and the tax year or years for which the credit may be claimed. A copy of OTC Form 572 (Transfer Agreement for Income Tax, Rural Electric Cooperatives Tax, or Insurance Premium Tax Credit) had to be attached to any tax return on which a taxpayer claimed a transferred credit.

#### *Refundability*

Credits earned on or after January 1, 2014 but not used are refunded to the taxpayer at 85 percent of the face amount of the credits. If the taxpayer is a pass-through entity and does not file a claim for a direct refund, that entity allocates the credit to one or more of the shareholders, partners or members of the pass-through entity.

3. **Reporting.** Once the tax year is completed and timely returns have been filed and processed, the OTC is the source for data associated with the use of the tax credit. Estimated tax expenditures and number of returns related to coal incentives are found in the OTC's Tax Expenditures reports.

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<sup>29</sup> As discussed previously, credits earned on or after January 1, 2014 but not used shall be refunded to the taxpayer at 85 percent of the face amount of the credits.



# **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 10: 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

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).<sup>30</sup> Two datasets were used to derive the ratio: 1) U.S. Department of Commerce Bureau of Economic

<sup>30</sup> 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;<sup>31</sup> and 2) the OTC's *Annual Report of the Oklahoma Tax Commission*.<sup>32</sup> 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 10: State of Oklahoma Tax Revenue as a Percent of State GDP**

Year	Oklahoma Tax Revenue <sup>33</sup>	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%

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 employee compensation, 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 a standard practice, and it 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 5.0 percent). For example, if the total value added was \$1,000,000, then the estimated State of Oklahoma tax revenue was \$50,000 (\$1,000,000 x 5.0 percent).

### Impact of Coal Incentives

Given the relatively small size of the coal industry in Oklahoma and limited employment growth over the past decade, it is difficult to directly link the coal incentive to increased economic output. For example, total sector

<sup>31</sup> U.S. Department of Commerce Bureau of Economic Analysis. Available at <http://www.bea.gov/regional/>.

<sup>32</sup> Oklahoma Tax Commission. Available at [https://www.ok.gov/tax/Forms\\_&\\_Publications/Publications/Annual\\_Reports/index.html](https://www.ok.gov/tax/Forms_&_Publications/Publications/Annual_Reports/index.html).

<sup>33</sup> Gross collections from state-levied taxes, licenses and fees, exclusive of city/county sales and use taxes and county lodging taxes.



employment has declined from about 200 workers in 2013 to 161 workers in 2015. Unlike other Oklahoma incentive programs that are based on net new employment, this program is based on production. An alternative approach to evaluating the coal incentive program is to estimate the total economic impact of the coal sector (including tax revenues generated) each year against the incentive program expenditures. The simplifying assumption, based on available data, is that all eligible companies take advantage of the incentive. For the past five years, the annual economic impact of the coal sector was calculated using QCEW employment data. IMPLAN Sector 22 Coal Mining was used to model the economic impact. The following tables depict the statewide annual impact of the coal sector.

**Table 11: Impact of Coal Incentives**

Year		Output	Value Added	Labor Income	Employment	Estimated Oklahoma Tax Revenue
<b>2011</b>	Direct Effect	\$110,203,631	\$36,034,843	\$7,647,065	161	
	Indirect Effect	\$43,567,213	\$23,877,621	\$14,238,543	219	
	Induced Effect	\$16,824,651	\$9,213,061	\$5,212,848	134	
	<b>Total Effect</b>	<b>\$170,595,495</b>	<b>\$69,125,525</b>	<b>\$27,098,456</b>	<b>514</b>	<b>\$3,594,527</b>
<b>2012</b>	Direct Effect	\$127,183,872	\$42,574,055	\$9,034,771	199	
	Indirect Effect	\$51,455,266	\$28,210,672	\$16,822,399	254	
	Induced Effect	\$19,867,276	\$10,884,948	\$6,158,820	155	
	<b>Total Effect</b>	<b>\$198,506,414</b>	<b>\$81,669,675</b>	<b>\$32,015,990</b>	<b>608</b>	<b>\$4,083,484</b>
<b>2013</b>	Direct Effect	\$130,379,453	\$46,458,007	\$9,858,997	204	
	Indirect Effect	\$56,268,915	\$30,784,279	\$18,357,076	273	
	Induced Effect	\$21,742,088	\$11,877,961	\$6,720,677	167	
	<b>Total Effect</b>	<b>\$208,390,456</b>	<b>\$89,120,247</b>	<b>\$34,936,750</b>	<b>644</b>	<b>\$4,481,894</b>
<b>2014</b>	Direct Effect	\$114,401,579	\$42,617,795	\$9,044,053	179	
	Indirect Effect	\$51,195,996	\$28,239,656	\$16,839,683	246	
	Induced Effect	\$19,981,412	\$10,896,131	\$6,165,147	150	
	<b>Total Effect</b>	<b>\$185,578,987</b>	<b>\$81,753,582</b>	<b>\$32,048,883</b>	<b>575</b>	<b>\$4,414,693</b>
<b>2015</b>	Direct Effect	\$102,897,507	\$38,367,267	\$8,142,036	161	
	Indirect Effect	\$46,113,547	\$25,423,145	\$15,160,160	219	
	Induced Effect	\$17,899,947	\$9,809,394	\$5,550,260	134	
	<b>Total Effect</b>	<b>\$166,911,001</b>	<b>\$73,599,806</b>	<b>\$28,852,456</b>	<b>514</b>	<b>\$3,606,390</b>

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

As depicted in the preceding table, direct employment in the coal industry supports 300 to 400 additional indirect and induced jobs each year. These jobs are linked to the purchases made by the coal industry to supplier firms as well as the ripple effects of employee payroll. 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.



# Incentive Benchmarking



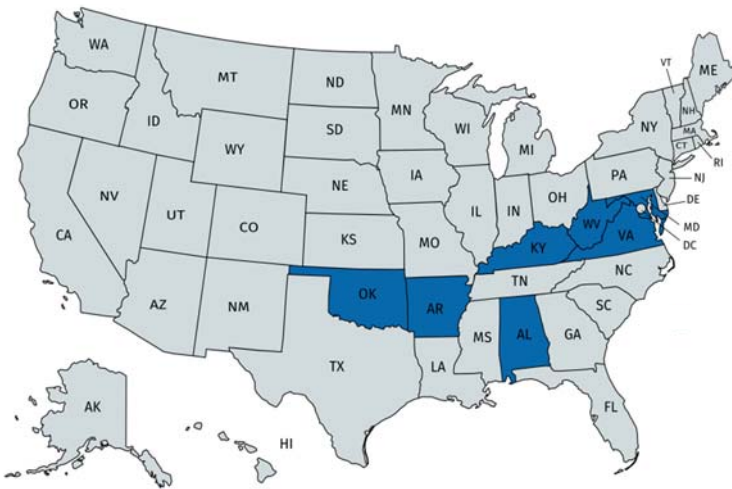


## Benchmarking

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

**Figure 11: States Offering Coal Production Incentives**



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.<sup>34</sup> 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 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.

According to the U.S. Department of Labor, 25 states were producing coal in 2015. Two states account for more than half of all coal production in the United States. Wyoming ranked first for coal production, with 376 million short tons, accounting for 42 percent of total production within the U.S. West Virginia ranked second, producing 96 million short tons, representing 11 percent of the total. By contrast, Oklahoma generated a total of 780 thousand short tons, or 0.1 percent of national coal production.

Among coal producing states, seven comparable incentive programs were identified – three related to purchasing coal and four related to producing coal. The State of Oklahoma’s program is more comprehensive, as it provides incentives for both the production and purchase of coal. The State also offers the highest credits - \$5.00 per ton, as compared to \$1.00-\$3.00 in other states. As in Oklahoma, Arkansas, Kentucky and Virginia allow credits to be carried forward, and two states (Kentucky and Virginia) allow them to be carried forward for twice as long (10 years). Just two states (Arkansas and Virginia) allow their current credits to be transferrable.

<sup>34</sup> The only real instances of exactly alike state incentive programs occur when states choose to ‘piggyback’ onto federal programs.



### *Purchase Incentives*

In Virginia, electricity generators are provided a \$3.00 credit for each ton of Virginia coal purchased. Credits are not refundable but are transferrable and available to carry forward for 10 years.

Maryland offers a \$3.00 per ton credit for Maryland-mined coal used by qualified co-generators, public service companies, or electricity suppliers. The State imposes a \$3.0 million annual cap, \$2.25 million of which is reserved for use in a Maryland facility. The credit, which is set to expire at the end of 2020, is not transferrable or able to be carried forward.

Kentucky's coal incentive tax credit is equal to \$2.00 for each eligible ton of coal; incentive-eligible tons are calculated by subtracting tons purchased in the base year by the tons purchased during the prior calendar year. As structured, the program aims to increase total coal purchases by electric power companies. The credit is non-refundable and non-transferrable but can be carried forward.

### *Production Incentives*

Alabama's coal incentive is a credit on corporate income taxes in the amount of \$1.00 per ton of increased production over the previous year's total. Credits are not transferrable or able to be carried forward.

Arkansas' program offers a \$2.00 credit for production plus an additional \$3.00 credit for each ton mined in excess of 50,000 tons if sold to electric generation plants for less than \$40.00 per ton, excluding freight charges. Credits are transferrable and may be carried forward for 5 years.

Now expired (effective January 1, 2017), the Commonwealth of Virginia offered a Coalfield Employment Enhancement Credit. The amount of the credit allowed was equal to the amount earned multiplied by the person's employment factor – which was derived by taking the annual number of coal mining jobs of the person filing the return (including contractors) by the total number of coal mining jobs in the previous year. The credit for coal mined by underground methods was not to exceed \$2.00 per ton for a seam thickness of 36" and under, and \$1.00 per ton for a seam thickness above 36." For coal mined by surface mining methods, a credit in the amount of \$0.40 per ton was available per ton of coal sold. Credits were refundable at 90 percent prior to January 1, 2002 and 85 percent thereafter.

Of states offering comparable incentives, West Virginia's program has the most unique structure due to its application to facility costs. The State provides a Coal Loading Facilities credit equal to 10 percent of the calculated qualified investment to build or construct a new or expanded coal loading facility. The credit is applied over 10 years, offsetting up to half of the annual tax liability for business and occupation (B and O) and severance taxes.

## **Benchmarking Program Evaluations**

A March 2016 briefing by the Commonwealth Institute determined that coal tax credits in Virginia are failing to achieve their stated goals of promoting employment and prosperity. The study examined coal employment in Virginia, which declined from approximately 11,000 jobs in 1988 to fewer than 4,000 in 2014, despite an increase in the five-year rolling average of coal credits per employee from less than \$2,000 in 1992 to nearly \$9,000 by 2014.<sup>35</sup> In total, the State provided \$737 million to coal and electricity producers between 1988 and

<sup>35</sup> The Commonwealth Institute – Coal Tax Credits are Not Working (March 2016). Available at: [http://www.thecommonwealthinstitute.org/wp-content/uploads/2016/03/coal\\_tax\\_credits\\_are\\_not\\_working.pdf](http://www.thecommonwealthinstitute.org/wp-content/uploads/2016/03/coal_tax_credits_are_not_working.pdf).



214, during which time annual coal tonnage and employment both declined by 67 percent. The report notes that the Joint Legislative Audit and Review Commission (JLARC) determined in 2012 that “changes in coal mining activity appear unaffected by the credits.”

The 2012 JLARC report cited above,<sup>36</sup> determined that the tax credits were not meeting their intended purpose by comparing each incentive’s stated public policy purpose (listed in Table 12) with the outcomes generated by the industry.

**Table 12: Virginia Coal Production, Employment and Consumption Credits**

Incentive	Public Policy Purpose
Coalfield Employment Enhancement Tax Credit	Provide incentive for coal mine operators to produce Virginia coal and coal bed methane and employ miners and in turn slow the decline in Virginia coal production and employment
Coal Production and Employment Incentive Tax Credit	Provide incentive for electricity producers to purchase Virginia coal and in turn slow the decline in Virginia coal production and employment

*Source: JLARC Review of the Effectiveness of VA Tax Preferences, Jan. 2012*

JLARC’s determination that the incentives failed to meet these stated goals was based on the following findings:

- Coal production and employment in Virginia decreased substantially during the last 20 years;
- Decreases in coal employment from 1996 to 2005 were greater than predicted without the Coalfield Employment Enhancement tax credit – decreases in coal production were six percent lower than predicted without the credit;
- The average tax credit claimed exceeded the tax liability of the claimant, resulting in a refund.

Due in large part to these findings, the State’s Coalfield Employment Enhancement Tax Credit sunset on January 1, 2017. A bill to reinstate the expired coal tax credit was vetoed in February 2017, with the Governor citing the “ineffectiveness” of the credit offered to coal mine owners and coal-buying power companies. The Governor vetoed similar measures in 2015 and 2016.<sup>37</sup> The Coal Production and Employment Incentive Tax Credit continues to be offered and has no scheduled sunset date.

<sup>36</sup> Virginia Joint Legislative Audit and Review Commission Review of the Effectiveness of Virginia Tax Preferences, January 2012.

<sup>37</sup> Governor Vetoes Coal Tax Credit Bill for Third Year in a Row. February 22, 2017. Available at: [http://www.newsadvance.com/work\\_it\\_lynchburg/news/governor-vetos-coal-tax-credit-bill-for-third-year-in/article\\_040d7e20-5b08-5e82-be67-9ee3e7b81ae2.html](http://www.newsadvance.com/work_it_lynchburg/news/governor-vetos-coal-tax-credit-bill-for-third-year-in/article_040d7e20-5b08-5e82-be67-9ee3e7b81ae2.html).



# Appendices



### Appendix A: Comparable State Programs

State	Program Name	Credit	Carry-Forward	Transferable?	Effective Date	Sunset
Oklahoma	Coal Tax Credits	Two credits totaling \$5 per ton (\$2.85 and \$2.15) are available to businesses purchasing Oklahoma-mined coal to furnish water, heat, light or power to the state or its citizens, or to generate heat, light, or power for use in manufacturing operations within the state. After 1/1/2014, credits are not transferrable, but refundable up to 85% of face value; after 1/1/2016, credits are refundable at 75%	5 years	Yes, but must have been transferred prior to December 31, 2013	January 1, 1993	December 31, 2021
		A credit of \$5 per ton is available to businesses primarily engaged in mining, producing or extracting coal, and holding a valid permit; not valid for any month in which the average price of coal is \$68 or more per ton, excluding freight charges. After 1/1/2014, credits are not transferrable, but refundable up to 85% of face value; after 1/1/2016, credits are refundable at 75%	5 years	Yes, but must have been transferred prior to December 31, 2013	January 1, 2001	December 31, 2021
Alabama	Coal Producers Corporate Income Tax Credit	\$1 per ton of increased production of coal over the previous year's production	None	No	January 1, 1995	None
Arkansas	Coal Mining Income Tax Credit	\$2 per ton of coal mined, produced, or extracted; additional credit of \$3 per ton mined in excess of 50,000 tons if sold to electric generation plant for less than \$40 per ton excluding freight charges	5 years	Yes	January 1, 2003	None
Kentucky	Coal Incentive Tax Credit	\$2 per incentive ton of coal used to generate electric power or used as feedstock for an alternative fuel facility; incentive tons are calculated as current year tons minus tons purchased and used in prior year	10 years	No	July 14, 2000	None*
	Clean Coal Incentive Tax Credit	\$2 per ton of eligible coal not already claimed as a credit under the Coal Incentive Tax Credit	Unknown	No	January 1, 2005	Unknown



State	Program Name	Credit	Carry-Forward	Transferable?	Effective Date	Sunset
<b>Maryland</b>	Maryland-Mined Coal Tax Credit	\$3 per ton of Maryland-mined coal purchased by qualified co-generator, public service company, or electricity supplier; \$2.25 million of credits (of \$3 million cap) reserved for use in a Maryland facility	None	No	January 1, 2007	December 31, 2020
<b>Virginia</b>	Coal Employment and Production Incentive Tax Credit	\$3 per ton of Virginia coal used for electricity generation	10 years	Yes	January 1, 2001	None
<b>West Virginia</b>	Coal Loading Facilities Credit	A credit equal to 10% of calculated qualified investment, applied over 10 years, to offset up to 50% of annual tax liability for B&O and severance tax for qualified coal loading facilities	None	No	July 1, 1993	None