



# The Economic and Employment Contributions of Unconventional Gas Development in State Economies

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AMERICA'S NATURAL GAS ALLIANCE

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## Executive Summary: The Economic and Employment Contributions of Unconventional Gas Development in State Economies

*In our 2009 study, "The Contributions of the Natural Gas Industry to the US National and State Economies," IHS examined the US economic and employment contributions of the natural gas industry's conventional and unconventional drilling and production activities. Our subsequent study released in December 2011, "The Economic and Employment Contributions of Shale Gas in the United States," furthered this research by focusing on the economic benefits to the nation of the natural gas industry's unconventional shale activity.*

*This study, "The Economic and Employment Contributions of Unconventional Gas Development in State Economies" examines the natural gas industry's unconventional gas activities—gas production from shale formations, tight sands and coal bed methane (CBM)—at the state level. The report assesses the economic benefits of this growth, including the employment contributions for each of the US lower 48 states and the District of Columbia through 2035. These projections are based on the assumption that there are no significant changes to the current levels of environmental regulations at the federal or state level throughout the forecast horizon.*

Unconventional gas activity is having a dramatic impact on employment and economic growth across the US lower 48 states and the District of Columbia, in terms of jobs and its contribution to gross state product (GSP) and, by extension, US gross domestic product (GDP). This reflects the significant capital intensity required to develop unconventional gas resources, the ability to source inputs from a coast-to-coast network of suppliers and professional services around the United States, and the high quality of the jobs created by this activity.

Unconventional gas is expected to lead future growth in US natural gas productive capacity. By 2015, the share of US natural gas produced from unconventional sources will increase to 67% and, by 2035, will reach 79%. Increased unconventional gas activity will contribute to capital investment, job opportunities, economic growth, government revenue, and lower prices across the country including:

- Nearly \$3.2 trillion in investments in the development of unconventional gas are expected to fuel the increase in production between 2010 and 2035.
- In 2010, unconventional gas activity supported 1 million jobs; this will grow to nearly 1.5 million jobs in 2015 and to over 2.4 million in 2035.
- By 2015, unconventional gas activities will contribute nearly \$50 billion in federal, state and local government tax and federal royalty revenue; between 2010 and 2035, continued development of unconventional gas will generate a cumulative total of nearly \$1.5 trillion in federal, state, and local tax and royalty revenue.

This study, which focuses on 58 unconventional gas plays across the lower 48 US states, assesses their economic impact on each individual state. Three types of gas plays are analyzed in this report: natural gas extracted from shale formations, tight sands, and CBM. These are referred to collectively throughout this report as "unconventional gas."<sup>1</sup>

The following are highlights of this study's findings regarding the economic contributions to individual states, in terms of jobs, GSP, and tax revenue paid to federal, state and local governments as a result of unconventional gas activity:

- Over the projection horizon, there are 20 "producing" states for unconventional gas—comprised of 13 states that have both existing and new well completion and production activities and seven additional states that have production activity associated with existing unconventional gas wells. Together, unconventional gas activity in these producing states contributed more than 826,000 jobs in 2010 and that number will grow to nearly 1.2 million jobs by 2015.

<sup>1</sup> The major distinction between conventional and unconventional natural gas has to do with the permeability (or lack thereof) of the source rock in which they are contained. In a conventional natural gas reservoir, natural gas has migrated upward from its source rock through other permeable rocks until it has become trapped by an impermeable layer of rock. Unconventional natural gas is contained in source rock of low permeability, and hence is unable to move at all out of the source rock. Given the increasingly dominant share of this type of natural gas production, the term 'unconventional' may no longer be appropriate, though it remains in common use.

- According to US Bureau of Labor Statistics data, the majority of top-producing states have shown lower unemployment than the overall national average. In 2010, the Top 5 producing states' unemployment rates were 6.9-8.9%, compared with the national average of 9.6%.
- Between 2010 and 2015, the Top 10 producing states—as ranked by employment generated by their unconventional gas activity—will experience a compound annual employment growth rate of nearly 8%. Pennsylvania and Colorado are expected to lead in employment contribution growth, experiencing compound annual growth rates of roughly 14% and 10% respectively. Total US employment is expected to grow at an average rate of 1.6% during the same time period.
- By 2015, the 20 producing states will contribute just over \$41 billion in federal, state and local government tax and federal royalty revenue. By 2035, these receipts will be nearly \$72 billion.
- Non-producing states—defined as the 28 states and the District of Columbia that do not include current or projected unconventional gas resource development—still benefit from their roles as suppliers in the unconventional gas expansion in the future. Together, in 2010, they contribute 18% of the total US employment generated by unconventional gas activity and 17% of the resulting tax revenue. By 2035, employment and government revenues in these states grow more than two-fold.

The dramatic impact on employment and the economy from unconventional gas activity reflects its significant capital intensity requirements, the ability to source inputs from domestic sources, the coast-to-coast structure of the supply chain, and the high quality of the jobs created.<sup>2</sup> These economic contributions will be largely driven by activity in the 20 producing states with both new well completion and production or existing production. However, the 28 non-producing states that do not include projected unconventional gas development will still contribute nearly one in every five jobs to the overall economy.

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<sup>2</sup> For more information, please see "The Economic and Employment Contributions of Shale Gas in the United States:" <http://www.ihs.com/info/ecc/a/shale-gas-jobs-report.aspx>.

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## Overview

In our 2009 study “The Contributions of the Natural Gas Industry to the US National and State Economies,” IHS examined the U.S economic and employment contributions of the entire natural gas industry, which includes both conventional and unconventional activities. Our subsequent study, “The Economic and Employment Contributions of Shale Gas in the United States,” furthered this research by focusing on the natural gas industry’s unconventional shale activity for the nation. As a companion to that report, this study examines the natural gas industry’s unconventional activities—namely gas production from shale, tight sands and CBM—at a state level to assess the economic and employment contributions in each of the lower 48 states and the District of Columbia through 2035. The projections presented within this report are based on the assumption that there are no significant changes to the current levels of environmental regulations at the federal or state level throughout the forecast horizon.

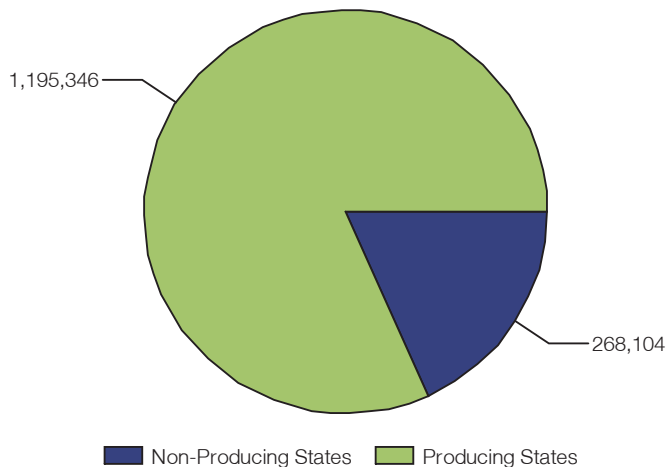
To understand the economic and employment contributions at the state level, we begin with a national perspective of the total unconventional gas activity. The economic contributions associated with all unconventional gas activities are significant. Rapid development of these unconventional resources is projected to fundamentally alter US sources of natural gas production for decades to come. In fact, in 2010 alone, unconventional gas activity already represented 53% of total US gas production and is projected to rise to 79% by 2035. Fueling this increase in the proportion of natural gas production from unconventional activity is a projected \$3.2 trillion in cumulative capital investments through 2035. These massive capital outlays, along with the promise of stable low natural gas prices, will have profound national economic consequences including:

- By 2015, the employment contributed by unconventional gas activity is projected to reach nearly 1.5 million US jobs on a path to more than 2.4 million jobs by 2035.
- By 2015, the annual contribution of unconventional gas activity to GDP is projected to reach nearly \$197 billion and, by 2035, is expected to more than double to nearly \$332 billion.
- By 2015, government revenue provided by unconventional gas activity is projected to reach nearly \$50 billion and will continue to rise to nearly \$86 billion by 2035. Over the entire 25-year projected horizon of this study, this activity is expected to generate nearly \$1.5 trillion in total government revenue.

In addition to its direct economic contributions, unconventional gas activity has fostered low and stable gas prices that have additional positive macroeconomic impacts. A simulation of IHS Global Insight’s Macroeconomic Model of the US Economy shows that current low and stable gas prices in the near term will contribute to a 10% reduction in electricity costs, a rise in the level of GDP that peaks at a 1.1% increase by 2013, and an 809,000 rise in employment by 2015. In the long run (beyond 15 years), the equilibrating tendency of the economy will lessen the relative beneficial impacts of low gas prices, but they will continue to bring noteworthy benefits to the industrial sectors. For example, improvements in the competitiveness of domestic manufacturers, due to lower natural gas and electricity costs, will result in an initial 2.9% increase in industrial production by 2017 and 4.7% higher production by 2035 compared to the level of activity that would occur under a higher price scenario without unconventional gas.

**US Employment Contribution, 2015**

Unconventional Gas (Number of workers)



Source: IHS Global Insight

The remainder of this study examines how these national economic and employment contributions—from 58 US unconventional gas plays—are distributed across the lower 48 US States and the District of Columbia. It finds that traditional oil and gas states like Texas and Louisiana will lead the way in terms of the economic benefits they will receive from unconventional gas activity. However, by 2015, many of these economic benefits—including employment (268,000), value added to GDP (\$22 billion), and tax revenue (\$8 billion)—will be realized in states that do not have any unconventional gas production activity (“non-producing” states), but instead will benefit from the purchases of supplies and services from businesses across the United States.

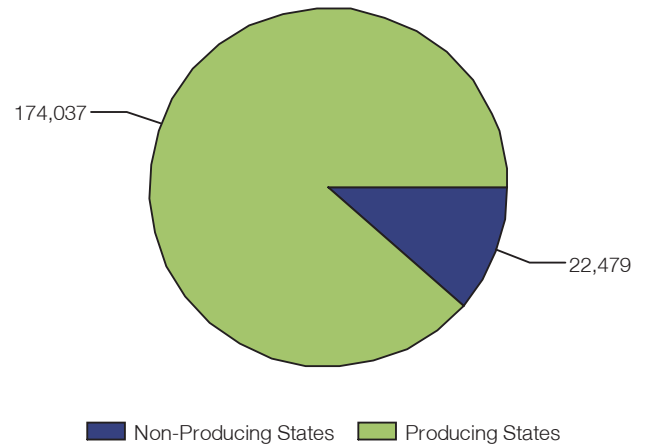
This report provides a detailed analysis of how these economic contributions will be distributed among the various states. The ability of each state to share in the benefits of increasing production of unconventional gas will be determined by a number of critical factors, including its natural resource endowment, the regulatory environment, its underlying industrial base, its capital and labor composition, and the diversity of its overall economy.

This study was performed on a state-by-state basis and results are presented in their entirety in appendices A, B and C. However, to summarize the findings across the lower 48 states and the District of Columbia, the results are presented in two distinct groups. First are the 20 “producing” states where natural gas production is located. Of these producing states, 13 states have both existing and new well drilling and production activities, and another seven states have existing unconventional gas wells in production, but no anticipated new well drilling and development planned during the 25-year forecast horizon of this study.

Second are the 28 non-producing states and the District of Columbia. The commonality across these states is that none of them currently has unconventional gas wells, nor are they projected to engage in unconventional gas drilling and production activities during the forecast horizon of the study. It is important to note that this does not mean these states lack the potential for resource development. Rather, with the currently available information, we assume there will be no unconventional gas production occurring within these states during the forecast horizon. However, these non-producing states are expected to greatly benefit from unconventional gas development in the future through a complex network of supply chains, trade flows among the various producing states, and the income effects of earnings spent by workers benefitting directly or indirectly from natural gas production within these states.

**US Value Added Contribution to GDP, 2015**

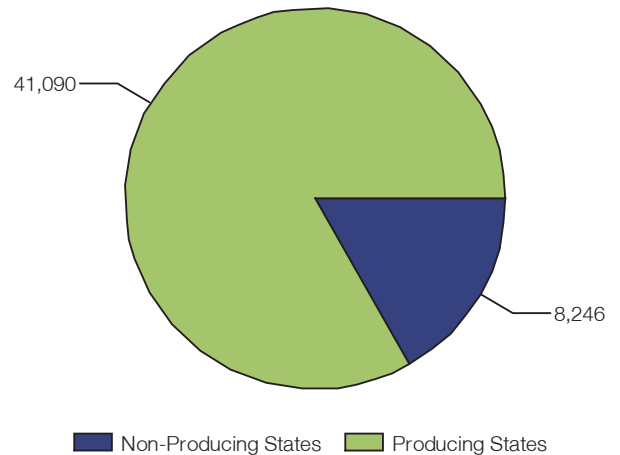
Unconventional Gas (\$M)



Source: IHS Global Insight

**Contribution to US Government Revenue, 2015**

Unconventional Gas (\$M)



Source: IHS Global Insight

In the following sections, the economic gains that will be generated by increased unconventional gas production in the United States will be presented in terms of their contributions to employment, GDP, and federal, state and local government revenue. For each of these categories of economic contributions, the report will break out and compare gains between the producing and non-producing states. State-by-state details supporting these aggregate data can be found in Appendices A, B, and C.

### Jobs: Nearly 1.5 Million US Jobs by 2015—268,000 in Non-Producing States Alone

The majority of US economic activity generated by unconventional gas production will take place in the 20 states with natural gas resources. In these producing states, unconventional gas activity was responsible for creating more than 826,000 jobs in 2010. We project these states will add nearly 400,000 additional jobs between 2010 and 2015, growing to nearly 1.2 million.

In both 2010 and 2015, the Top 10 producing states account for approximately 84% of the employment gains that will be generated by all of the producing states, with Texas and Louisiana leading the way in terms of the absolute numbers of jobs created. Between 2010 and 2015, the overall annual growth rate in employment for unconventional gas activity will be approximately 7.7%. Pennsylvania and Colorado will lead in terms of compound annual employment growth, experiencing roughly 14% and 10% growth, respectively.

#### Employment Contribution of Unconventional Gas\* in Producing States vs. Non-Producing States (Number of workers)

	2010	2015	2035
Producing States**	826,355	1,195,346	2,007,902
Non-Producing States	182,303	268,104	430,975
<b>US Total</b>	<b>1,008,658</b>	<b>1,463,450</b>	<b>2,438,877</b>

NOTES: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

\*\*Producing states are the 20 states that have either new well completions and production or production from existing wells.

They include Alabama, Arkansas, Colorado, Illinois, Kansas, Kentucky, Louisiana, Michigan, Mississippi, Montana, New Mexico, New York, Ohio, Oklahoma, Pennsylvania, Texas, Utah, Virginia, West Virginia, and Wyoming; the rest of the states are non-producing states.

Source: IHS Global Insight

#### Top 10 Unconventional Gas\* Producing States: Employment Contribution\*\* (Number of workers)

	2010	2015	2035
Texas	288,222	385,318	682,740
Louisiana	81,022	124,782	200,555
Colorado	77,466	126,525	127,843
Pennsylvania	56,884	111,024	270,058
Arkansas	36,698	53,919	79,723
Wyoming	34,787	45,763	78,792
Ohio	31,462	41,366	81,349
Utah	30,561	36,593	50,839
Oklahoma	28,315	41,763	69,261
Michigan	28,063	37,926	63,380
<b>Top 10 Total</b>	<b>693,481</b>	<b>1,004,979</b>	<b>1,704,541</b>

<b>Producing Total</b>	<b>826,355</b>	<b>1,195,346</b>	<b>2,007,902</b>
<b>US Total</b>	<b>1,008,658</b>	<b>1,463,450</b>	<b>2,438,877</b>

NOTES: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

\*\*The rank for all years are based on the 2010 ranking.

Source: IHS Global Insight

#### Unconventional Gas Contributes to Lower Unemployment Rate in Producing States

Based on US Bureau of Labor Statistic data, the US unemployment rate registered 9.6% in 2010. All of the top-producing states, with the exception of Michigan and Ohio, have shown lower unemployment than the national average. The Top 10 producing states' unemployment rates ranged from 0.7-2.7 percentage points lower than the national average.

One of the most important findings from this study is the fact that the economic contributions from unconventional gas activity are not limited to states endowed with the resources. For example, California does not directly produce unconventional gas, yet the economic activity associated with unconventional gas production supported nearly 23,000 jobs in California in 2010; the state's unconventional gas activity-related employment is expected to increase to more than 33,000 jobs by 2015 and will more than double to nearly 49,500 by 2035.

**Top 10 Unconventional Gas\* Non-Producing States: Employment Contribution\*\***  
(Number of workers)

	2010	2015	2035
California	22,773	33,265	49,494
Florida	15,758	27,402	30,903
Georgia	13,294	18,800	29,262
Missouri	12,031	17,427	30,105
North Carolina	11,377	16,570	28,271
Indiana	10,819	15,206	26,837
Wisconsin	9,608	14,285	24,871
Minnesota	9,271	14,499	22,638
Tennessee	8,519	12,323	21,487
Maryland	7,008	10,263	16,634
<b>Top 10 Total</b>	<b>120,459</b>	<b>180,042</b>	<b>280,503</b>
<b>Non-Producing Total</b>	<b>182,303</b>	<b>268,104</b>	<b>430,975</b>
<b>US Total</b>	<b>1,008,658</b>	<b>1,463,450</b>	<b>2,438,877</b>

NOTES: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

\*\*The rank for all years are based on the 2010 ranking.

Source: IHS Global Insight

**Unconventional Gas Fuels States' Economic Recoveries**

As the nation's economic recovery continues, state labor markets are expected to exhibit different growth patterns that will be determined by their industrial initiatives. During the next few years, IHS Global Insight's outlook for state economies shows that four out of the five states with the strongest employment growth will either be unconventional gas producers or will appear on top of the list of non-producing states. The five states are North Dakota, Utah, Colorado, Florida, and Texas—all of them are expected to have annual employment growth that exceeds 2% through 2015.

While IHS Global Insight expects economic conditions to improve over the next few years, with average US unemployment falling to 6.8% by 2015, top producing states' unemployment rates will outperform the national average.

**Employment Composition Varies in Producing and Non-Producing States**

The employment contributions and the types of jobs created by the natural gas industry's unconventional gas activity vary between the producing and non-producing states. The main reasons for these differences are the scope of direct industrial activity, the location of capital goods that are purchased, the supply chain, and the income ramifications throughout the economy.

In the producing states, a greater proportion of the total jobs generated are found in direct production or key support industries of unconventional gas activity. In Arkansas, for example, 30% of all of employment associated with unconventional gas is found in the mining sector, followed by other key industries such as construction, trade, and manufacturing. Alternatively, in non-producing states, more employment is generated in supplier networks that support the unconventional gas activity. In California, 47% and 30% of employment, respectively, is in the service sector and in manufacturing.

## Government Revenue: Nearly \$50 Billion Nationwide by 2015—\$8 Billion in Non-Producing States

Our study estimates nearly \$34 billion in annual tax receipts in 2010 by federal, state and local governments. Total annual receipts will approach \$50 billion by 2015 and exceed \$85 billion by 2035—more than doubling 2010 levels. On a cumulative basis between 2010 and 2015, unconventional activity is projected to contribute nearly \$208 billion in total tax revenue; over the 25-year forecast horizon, IHS projects nearly \$1.5 trillion in total revenue<sup>3</sup>.

The majority of the government revenue generated by unconventional gas production will occur in the 20 producing states. The revenue derives not only from personal, corporate, federal, state, and local taxes but also from severance, ad valorem, and royalty payments, which are particular to unconventional gas activity. Combined, the unconventional gas activity in these producing states is projected to contribute \$41 billion in all types of government tax and related revenue by 2015 and nearly \$72 billion to annual receipts by 2035.

Contribution to US Government Revenue of Unconventional Gas* in Producing States vs. Non-Producing States				
(\$M)				
	2010	2015	2035	2010-2035**
Producing States***	28,034	41,090	71,806	1,255,034
Non-Producing States	5,758	8,246	13,317	243,701
<b>US Total</b>	<b>33,793</b>	<b>49,335</b>	<b>85,123</b>	<b>1,498,734</b>

NOTES: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.  
 \*\*2010-2035 represents the total for all years including those years not reported.  
 \*\*\*Producing states are the 20 states that have either new well completions and production or production from existing wells. They include Alabama, Arkansas, Colorado, Illinois, Kansas, Kentucky, Louisiana, Michigan, Mississippi, Montana, New Mexico, New York, Ohio, Oklahoma, Pennsylvania, Texas, Utah, Virginia, West Virginia, and Wyoming; the rest of the states are non-producing states.  
 Source: IHS Global Insight

### Unconventional Gas Activity Makes Large Contributions to State Budgets

In 2010, the education budget for the state of Texas was \$81 billion and healthcare spending registered \$40 billion. Unconventional gas activity generated state and local revenues of \$5 billion—representing 6 percent of the education and 13 percent of the healthcare budget.

Colorado allocated \$12 billion to education in 2010—in comparison, the unconventional gas industry generated \$1.6 billion state and local revenue, which equals 13 percent of its education budget.

The Top 10 producing states provide a substantial share of total payments to governments at the federal, state and local level. Unconventional gas activity in these 10 states will generate over \$24 billion in total taxes in 2010—72% of all tax revenue generated by unconventional gas activity in all of the producing states. The producing states' share will continue to increase. By 2015, unconventional gas activity in the Top 10 states will pay about \$36 billion—or nearly 73% of total tax receipts from all unconventional activity. By 2035, they will pay nearly \$63 billion in taxes—or 74% of total government revenues.

While traditional energy-producing states like Texas and Louisiana will lead the way in generating government revenue from their unconventional gas activities, the non-producing states will contribute a total of nearly \$6 billion in 2010 and are projected to pay over \$8 billion by 2015.

Top 10 Unconventional Gas* Producing States: Contribution to US Government Revenue**			
(\$M)			
	2010	2015	2035
Texas	10,891	14,757	26,412
Colorado	3,197	4,434	4,526
Wyoming	2,247	3,362	6,243
Louisiana	2,074	3,897	7,702
Pennsylvania	1,476	3,505	8,889
Arkansas	1,193	1,792	2,775
New Mexico	1,091	1,045	914
Oklahoma	875	1,310	2,257
New York	721	1,038	1,599
Michigan	693	884	1,403
<b>Top 10 Total</b>	<b>24,458</b>	<b>36,025</b>	<b>62,720</b>
<b>Producing Total</b>	<b>28,034</b>	<b>41,090</b>	<b>71,806</b>
<b>US Total</b>	<b>33,793</b>	<b>49,335</b>	<b>85,123</b>

NOTES: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.  
 \*\*The rank for all years are based on the 2010 ranking.  
 Source: IHS Global Insight

<sup>3</sup> Tax projections were based upon current tax structures and did not consider how changes to the current tax structure might impact these projected receipts.

By 2035, receipts from all of the non-producing states will surpass \$13 billion. The Top 10 non-producing states—like the producing states—also comprise a significant share of the total government revenue from all of the non-producing states. In fact, at over \$4 billion, these 10 states will contribute 74% of all government revenue from non-producing states in 2010. By 2015, that share will increase to more than \$6 billion, or about 75% of the total, due to the rapid expansion of support activities supplied to producing states.

Top 10 Unconventional Gas* Non-Producing States: Contribution to US Government Revenue**			
(\$M)	2010	2015	2035
California	1,516	2,237	3,440
Florida	536	886	1,201
Missouri	426	594	1,007
New Jersey	353	475	834
Georgia	271	364	578
Massachusetts	263	391	611
North Carolina	252	300	519
Minnesota	224	350	539
Indiana	212	275	473
Wisconsin	211	315	546
<b>Top 10 Total</b>	<b>4,263</b>	<b>6,188</b>	<b>9,748</b>
<b>Non-Producing Total</b>	<b>5,758</b>	<b>8,246</b>	<b>13,317</b>
<b>US Total</b>	<b>33,793</b>	<b>49,335</b>	<b>85,123</b>

NOTES: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.  
 \*\*The rank for all years are based on the 2010 ranking.  
 Source: IHS Global Insight

### Unconventional Natural Gas Important To Pennsylvania State Budget

Pennsylvania's 2010 state budget included \$11 billion for public transportation and \$9 billion for public safety and criminal justice. A combination of corporations, businesses and individuals supporting unconventional natural gas activity paid a combined total of \$641 million in taxes to Pennsylvania state and local governments that year, accounting for 6 percent of the state's transportation budget and 7 percent of spending on public safety and criminal justice.

### Value Added: Nearly \$197 Billion in US GDP by 2015—\$22 Billion from Non-Producing States

The commonly used measure of GDP, which is simply the sum of the value added across all products and services produced in the United States, is generally considered the broadest measure of the health of the US economy. Value added to US GDP is defined as the sum of labor incomes, corporate profits, indirect business taxes paid, and depreciation.

Annual value added to GDP from unconventional gas activities was more than \$133 billion in 2010 and, by 2015, is projected to approach \$200 billion. The majority of the value added to GDP—nearly 90%—over the 25-year forecast horizon is generated by unconventional gas production activities that take place in the 20 producing states.

In 2010, the Top 10 producing states accounted for 78% of the US total value added to GDP by unconventional

US Value Added Contribution of Unconventional Gas* in Producing States vs. Non-Producing States			
(\$M)	2010	2015	2035
Producing States**	118,077	174,037	295,897
Non-Producing States	15,328	22,479	35,831
<b>US Total</b>	<b>133,405</b>	<b>196,516</b>	<b>331,728</b>

NOTES: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.  
 \*\*Producing states are the 20 states that have either new well completions and production or production from existing wells. They include Alabama, Arkansas, Colorado, Illinois, Kansas, Kentucky, Louisiana, Michigan, Mississippi, Montana, New Mexico, New York, Ohio, Oklahoma, Pennsylvania, Texas, Utah, Virginia, West Virginia, and Wyoming; the rest of the states are non-producing states.  
 Source: IHS Global Insight



### An Economic Growth Engine in Producing States

IHS Global Insight's outlook for Texas and Utah shows that economic growth in these states will outperform all other states. From 2010 to 2015, each state's economy is expected to grow more than 3.5% annually.

In Texas and Utah, the average employee in the unconventional gas and related industries will contribute \$167,000 and \$94,000 in "value-added" to their respective state's economies in 2010 through 2015; this outpaces the state's average employee contributions of \$111,000 and \$90,000, respectively.

gas activity. By 2015, we project these Top 10 states will add another \$50 billion to GDP, valued at 78% of the unconventional gas activity's total contribution to GDP. Pennsylvania and Louisiana will lead the way with annual growth in their contributions to GDP of 18.7% and 12.6%, respectively. By 2035, unconventional gas activity will add almost \$332 billion to US GDP—with the Top 10 producing states accounting for 78% of the relative contributions.

Overall, the non-producing states account for about 11%, on average, of the total value to US GDP throughout the forecast horizon. While the share of labor income from the non-producing states is in line with their employment share, they do not make as large of a relative contribution to GDP as the producing states. This is attributable to the fact that producing states are heavily influenced by the Oil and Gas sector which has high value added (mostly dedicated to non-labor income).

### Top 10 Unconventional Gas\* Producing States: Value Added Contribution\*\*

(\$M)	2010	2015	2035
Texas	47,995	64,768	111,089
Colorado	12,258	18,162	17,485
Louisiana	11,020	20,005	37,759
Pennsylvania	7,121	16,806	42,438
Wyoming	6,760	8,815	14,735
Arkansas	4,910	7,264	10,540
Oklahoma	4,008	6,033	9,905
New Mexico	3,356	3,160	2,589
Utah	3,126	3,866	5,343
Ohio	3,045	3,942	7,921
<b>Top 10 Total</b>	<b>103,600</b>	<b>152,821</b>	<b>259,805</b>
<b>Producing Total</b>	<b>118,077</b>	<b>174,037</b>	<b>295,897</b>
<b>US Total</b>	<b>133,405</b>	<b>196,516</b>	<b>331,728</b>

NOTES: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

\*\*The rank for all years are based on the 2010 ranking.

Source: IHS Global Insight

### Top 10 Unconventional Gas\* Non-Producing States: Value Added Contribution\*\*

(\$M)	2010	2015	2035
California	2,192	3,197	4,617
Florida	1,163	2,034	2,266
Georgia	1,147	1,622	2,398
Missouri	1,057	1,529	2,616
Indiana	957	1,326	2,331
North Carolina	909	1,318	2,185
Minnesota	796	1,272	1,937
Wisconsin	783	1,167	2,044
Tennessee	683	986	1,727
New Jersey	640	841	1,406
<b>Top 10 Total</b>	<b>10,326</b>	<b>15,291</b>	<b>23,527</b>
<b>Non-Producing Total</b>	<b>15,328</b>	<b>22,479</b>	<b>35,831</b>
<b>US Total</b>	<b>133,405</b>	<b>196,516</b>	<b>331,728</b>

NOTES: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

\*\*The rank for all years are based on the 2010 ranking.

Source: IHS Global Insight

## Structure of the Report

This report is a companion to the previous national level report, “The Economic and Employment Contributions of Shale Gas in the United States,” published by IHS in December 2011. The remainder of this report is divided into the following four sections:

- Section 1 provides a background and reports our findings.
- Section 2 explains the methodology and approach that was used to develop the estimates economic activity generated by each state’s unconventional gas activity. It is divided into two main parts—Energy and Economic Contribution Assessment—each of which describes the inputs required to develop our final estimates.
- Section 3 provides a snapshot of the results by state for 2010, 2015 and 2035 for the following four main concepts: employment, government revenue, value added to GDP, and labor income contributions.
- Section 4 wraps up the report with important conclusions from its findings.

Additionally, we provide several appendices to both present more detailed results from our report and to facilitate the readers’ understanding of the methodologies, research, and data relied upon for the analyses. The appendices to the report are as follows:

- Appendix A: Economic Contributions by State and Year provides six detailed tables by state for each of the five-year increments presented. The concepts covered are employment contribution (both alphabetically and ranked by total value for that year), value-added contribution (both alphabetically and ranked by total value for that year), labor income contribution (alphabetical only), and government revenue.
- Appendix B: Economic Contributions by State, Industry and Year breaks down the three main concepts—employment, value added to GDP, and labor income contribution—even further by industry such that the final tables are by state and industry for each of the five-year increments.
- Appendix C: Economic Contributions Excluding Cross-State Contributions by State and Year provides three detailed tables by state for each of the five-year increments; however, these tables differ in that the resulting numbers do not include any cross-state contributions (this approach contrasts with Appendix A, which does include these cross-state contributions). The concepts covered are employment, value-added and labor income contribution, each of which is displayed alphabetically.
- Appendix D: Find the report, “The Economic and Employment Contributions of Non-Shale Unconventional Gas in the United States,” which presents the results from our analysis of total and non-shale unconventional gas activity at the national level. It includes its own appendices (A through C) detailing the underlying methodology and detailed data related to the assumed future production profile and capital expenditure outlook for non-shale unconventional gas; the detailed results of the economic contribution assessment for non-shale unconventional gas; and the data and modeling approach underlying the economic contribution analysis for non-shale unconventional gas.



## **1. Background**

The development of unconventional gas resources in the United States is credited with fundamentally changing the outlook for domestic natural gas supply and price, with significant contributions to employment and the economy. These have been documented in our report, “The Economic and Employment Contributions of Shale Gas in the United States.”

This study provides an analysis of the distribution of these national results at the state level. The analysis takes into account the broad distribution of unconventional gas development across a wide range of states. The results reflect careful analysis of each state’s production potential through 2035, based on IHS CERA’s analyses of each natural gas play and calculates the investment of capital, labor, and other inputs required to produce the gas at each play. The economic effects of these investments are then calculated using IHS Global Insight’s proprietary economic impact assessment and macroeconomic models, generating employment, value added to GDP, labor income, and tax revenue resulting from the growth in the coming years of unconventional gas development.

## 2. Methodology and Approach

### Energy

IHS CERA's outlook for unconventional gas in the US lower 48 states includes production from 58 unconventional gas plays nationwide: 21 shale plays, 23 tight sands gas plays, and 14 CBM plays.

Unconventional Gas Plays	Play Type	Geographic Extent of Play*
Barnett	Shale	Texas
Eagle Ford	Shale	Texas
Fayetteville	Shale	Arkansas
Haynesville (Arkla Basin)	Shale	Louisiana
ETB Haynesville	Shale	Texas
Marcellus	Shale	Pennsylvania, West Virginia, New York, Kentucky, Virginia
Woodford	Shale	Oklahoma
Barnett-Woodford	Shale	Texas
Utica	Shale	Ohio, Pennsylvania, New York
Floyd	Shale	Mississippi , Alabama
Bossier	Shale	Texas
Antrim	Shale	Michigan
Niobrara	Shale	Colorado
Baxter	Shale	Wyoming
Pierre	Shale	Colorado, New Mexico
Mancos	Shale	Colorado, New Mexico, Utah
Mesa Verde	Shale	Colorado, New Mexico, Utah
Upper Devonian	Shale	Kentucky, New York, Ohio, Pennsylvania, Virginia, West Virginia
Ordovician	Shale	Kentucky, New York, Ohio, Pennsylvania, Virginia, West Virginia
Devonian	Shale	Kentucky, New York, Ohio, Pennsylvania, West Virginia
Jurassic-Lower Cretaceous	Shale	Texas
Big Sandy	Tight Sands	Kentucky, Virginia, West Virginia
Trenton-Black River	Tight Sands	Kentucky, New York, Ohio, Pennsylvania, Virginia, West Virginia
Cotton Valley	Tight Sands	Louisiana
Vernon/Terryville	Tight Sands	Louisiana
East Cotton Valley	Tight Sands	Texas
West Cotton Valley	Tight Sands	Texas
Deep Bossier	Tight Sands	Texas
Wilcox (Lobo)	Tight Sands	Texas
Granite Wash	Tight Sands	Texas, Oklahoma
Sahara	Tight Sands	Oklahoma
Colony Wash	Tight Sands	Arkansas
Hartshorne	Tight Sands	Oklahoma
Haley Deep	Tight Sands	Texas
Wattenberg-Niobrara-Codell	Tight Sands	Colorado
Piceance Emerging	Tight Sands	Colorado
Lower Cretaceous-Mesozoic	Tight Sands	Colorado
Natural Buttes	Tight Sands	Utah
Buttes Deep	Tight Sands	Utah
Lance	Tight Sands	Wyoming
Appalachian, avg	Coal Bed Methane (CBM)	Pennsylvania, Virginia, West Virginia

Unconventional Gas Plays	Play Type	Geographic Extent of Play*
Black Warrior - Pottsville	CBM	Alabama
Arkoma - Hartshorne	CBM	Oklahoma
Chataouqua	CBM	Oklahoma
Cherokee	CBM	Kansas
East Green River	CBM	Wyoming
LV Raton	CBM	Colorado, New Mexico
Piceance	CBM	Colorado
Big George	CBM	Wyoming, Montana
Wyodak	CBM	Wyoming, Montana
Canyon	CBM	Wyoming, Montana
Anderson	CBM	Wyoming, Montana
Uinta	CBM	Utah
San Juan	CBM	New Mexico, Colorado

\*The list of gas plays provides the state location or locations of the full extent of the underground gas play. However, states containing part of a play do not necessarily have production from that play. For example, the Marcellus play extends into Virginia and Kentucky, but no extractions of Marcellus gas take place in those states at present or in the outlook for this study. This study also assumes that no Marcellus production is forthcoming from New York. A table on capital expenditures found in the next section on Economic Contribution Assessment provides a more important guide for how the impacts of US unconventional gas development flow to different states.

The cost of drilling and constructing a well and putting it into operation is a critical component of the economic viability of developing any unconventional gas play, and costs to the industry vary. An unconventional gas well in a shale or tight sands target may cost anywhere between \$3.5 million and \$12 million, while a well targeting CBM may cost between \$500,000 and \$1.5 million. The cost of the well depends on several factors such as the vertical depth of the well bore, its lateral length, reservoir pressure, rock characteristics, and the number of fracture stages, as well as commercial factors such as ease of access to materials and services, such as supplies of water, proppant, drilling and completion services. Capital expenditures are undertaken for land, drilling, completion, facilities, gathering, processing, and compression. The development of a major play also requires the addition of pipeline capacity to get the gas to market.

IHS CERA has estimated the costs associated with the production outlook for unconventional gas, which are based on IHS databases and proprietary models detailed in our prior report, “The Economic and Employment Contributions of Shale Gas in the United States.” In this report, the production profiles were developed based on detailed analyses of each unconventional gas play. The production possibilities were constrained to be consistent with IHS CERA’s outlook for natural gas demand, price, and infrastructure, as reported in its “North American Natural Gas Market Briefing” in September 2011. Well counts were estimated for each play consistent with the play-level production outlook, and capital expenditures associated with the well counts were estimated.

IHS CERA initially allocated the capital expenditures to individual states according to the geographic locations of each play. For plays that cross state boundaries, the capital expenditures were prorated to provide allocations among the states involved. The initial set of capital expenditures were further distributed to states where purchases are actually undertaken. This methodology is described in the next section.

Infrastructure capital expenditures include expenditures for gathering lines and processing plants, as well as the pipeline expansions required to connect new supply areas to consumers. Gathering and processing expenditures were allocated to the states in the same way that well expenditures were allocated. Pipeline expansion costs and allocations were based on the expansion requirements indicated by the Gas Pipeline Competition Model™, which was used for the market analysis in the study.

## Economic Contribution Assessment

### *Data Requirements and Assumptions*

In this economic contribution assessment, IHS Global Insight, with support from IHS CERA, compiled state-level data of unconventional gas activity in the 20 US states (13 of which have current and future development) that contain plays that extract natural gas from shale, tight sands, and CBM. Both the value of production and capital expenditures were input, by state, into the model to conduct the economic analysis.

The following activities were determined to be major direct contributors:

- Natural gas drilling
- Natural gas extraction
- Support activities and services required for oil and natural gas drilling and extraction
- Construction of facilities, related materials and machinery for hydraulic fracturing and completions, and construction of natural gas pipeline

The primary analytical tool for this multi-state study is the same IMPLAN Input-Output model used, with the IHS US Macroeconomic Model, in the overall US analysis. However, the architecture of the existing IMPLAN model could not efficiently handle the computational complexity of a multi-state analysis in which each state is, within IMPLAN, effectively an independent geographic region. To adjust for this limitation, IHS Global Insight ran multiple, alternative versions of the IMPLAN multi-regional model and integrated the output with in-house proprietary database to assess the indirect and induced economic contribution by industry and state. This fine-tuned methodology ensures that inputs that are not locally produced—or do not have a competitive advantage locally—are sourced from other states creating economic “leakage” from one state to another. In the broader context, economic “leakage” is explained as inter-regional activity in which the production requirements of a commodity (or a service) use inputs produced in other states thus causing the economic impact to “leak” to other states and introducing a regional ripple effect.

The model framework used here was set up as a system of linked state economies. As a result, the sourcing of inputs for the development of unconventional gas activity will impact those states that do not have an unconventional gas play within their borders. For example, the development of unconventional gas wells in Arkansas relies on bank, insurance and securities services in New York and professional services primarily located in Texas. Capturing these connections highlights the indirect economic contribution even in states that lack unconventional gas plays. The leakages also impact US GDP and employment multipliers, making them more accurate for states that do have unconventional gas plays.

The IMPLAN model also produces “own-state” multipliers—that is, the indirect and induced impact that flow from direct activity as a result of that state’s unconventional gas development but exclude any impact from the supplier states providing services or products. Appendix C provides the results of this analysis, when cross-state ramifications are excluded.

In a given year, the volume of natural gas produced in each state is impacted by both the wells drilled during the course of the year and by wells drilled in previous years that remained in operation. The monetary value of gas production volumes was calculated using the Henry Hub price. These values served as inputs to the oil and gas extraction industry in the corresponding states in the IMPLAN model.

### *Capital Expenditures*

While the value of gas production is attributed only to states with unconventional gas plays, the allocation of capital expenditures among the 48 producing and non-producing states is more involved. Capital expenditures act as direct impacts at both the state and industry levels. The complexity lies in the fact that a portion of that spending

may be allocated to states that do not have unconventional gas plays. This spending will trigger indirect and induced impacts in these states as they provide goods and services. To ensure that these effects are included in the economic analysis, IHS Global Insight used industry input, IHS Global Insight's in-house expertise and proprietary databases, and extensive additional research to arrive at the best possible methodology for allocating capital expenditures among different states.

The first step, as in the national study, was to map the capital expenditure breakdown for the categories specified by the IMPLAN model. Capital expenditure and support services for natural gas drilling correspond to industry sectors within the IMPLAN model. However, the breakdowns for drilling, completion, facilities, gathering, processing, pipeline construction, and liquid natural gas exports were mapped to many other categories of the model.

The research, expertise and input from industry sources were integrated with an interstate trade-flow database to determine the sources of various products and services by state. For example, it is evident that unconventional gas extraction requires special sand for hydraulic fracturing that is produced primarily in Wisconsin, Minnesota, Ohio, and Arkansas. Since not all states with unconventional gas plays produce these unusual sands, they must import them from other states and are assumed to do so in the model. IHS's trade-flow database was one of many sources used to determine the origin and destination of the various materials and equipment on a state level basis.

This process was undertaken for all the products in the 13 states with current and future drilling in unconventional gas plays. The final set of capital expenditures, by various products and services, and, if applicable the value of production, was input into 44 IMPLAN state models to assess the contribution on each individual state's economy.

The following table presents the distribution of capital expenditures, by state, for all unconventional gas.

## US State-Level Annual Capital Expenditures: Unconventional Gas\*

(\$Th)

	2010	2015	2020	2025	2030	2035
Alabama	88,198	298,134	211,635	123,635	258,901	97,145
Arizona	92	110	25,457	67,596	175	200
Arkansas	1,674,752	2,476,340	3,085,442	3,624,901	4,372,585	5,270,629
California	1,792,229	2,766,315	3,301,097	3,611,178	4,218,463	4,860,867
Colorado	4,326,768	10,110,603	11,969,358	11,463,671	12,026,623	13,361,154
Connecticut	2,199	3,067	5,260	5,484	7,652	11,980
Delaware	87,721	112,401	188,339	195,549	269,226	415,616
Florida	474,246	1,289,315	732,600	311,469	1,389,372	357,554
Georgia	273,702	374,289	243,848	83,628	388,887	55,700
Idaho	2,929	7,544	8,978	12,169	15,959	19,849
Illinois	789,017	1,089,138	1,630,895	1,769,409	2,310,066	3,222,471
Indiana	183,532	226,242	374,257	390,165	533,868	817,060
Iowa	78,210	180,845	229,437	278,192	358,615	464,589
Kansas	168,896	355,504	429,051	482,980	571,271	673,717
Kentucky	302,190	310,017	433,158	479,157	599,869	793,877
Louisiana	5,261,222	6,772,454	6,298,067	7,076,555	7,954,937	9,164,785
Maryland	2,084	2,808	4,769	4,989	6,931	10,788
Massachusetts	40,153	54,355	92,443	96,653	134,356	209,295
Michigan	1,100,916	1,749,145	2,643,963	2,843,977	3,675,159	5,009,391
Minnesota	80,105	215,268	252,339	250,066	270,750	307,869
Mississippi	11,572	450,321	246,439	160,795	165,182	148,872
Missouri	1,396,689	2,276,124	3,265,169	3,814,038	4,818,032	5,972,064
Montana	326	1,562	3,952	4,167	4,360	4,789
Nebraska	41,164	112,785	133,865	172,504	221,395	274,189
Nevada	261,370	21,791	90,592	33,285	41,055	51,288
New Hampshire	11,524	15,960	27,318	28,499	39,728	62,128
New Jersey	227,351	230,677	371,154	375,067	500,846	751,713
New Mexico	507,570	657,168	803,839	1,073,100	1,193,464	1,392,301
New York	111,869	122,330	204,222	207,597	281,826	427,600
North Carolina	13,220	0	36,564	0	0	0
Ohio	1,749,294	2,176,777	3,551,881	3,687,076	4,974,479	7,416,145
Oklahoma	2,034,698	3,635,595	4,852,863	5,646,081	7,074,172	8,725,802
Oregon	147,021	100,742	111,455	96,564	92,235	96,491
Pennsylvania	3,137,275	4,493,278	7,655,977	7,949,314	11,025,053	17,034,074
South Carolina	9,243	2,469	21,222	8,340	12,151	6,837
South Dakota	3,106	8,949	10,666	14,653	19,439	24,460
Tennessee	50,525	27,384	55,263	43,331	52,480	50,297
Texas	20,985,288	31,831,564	46,217,167	53,187,694	67,419,993	82,530,724
Utah	2,189,541	2,885,964	3,381,468	4,033,959	4,730,273	5,223,302
Virginia	238,551	261,814	416,916	446,013	601,777	898,362
Washington	18	52	131	138	144	158
West Virginia	1,181,468	1,643,809	2,696,010	2,854,824	3,904,395	5,944,282
Wisconsin	45,641	85,488	121,625	140,719	187,488	259,761
Wyoming	1,488,366	3,525,542	4,178,904	5,552,087	7,222,197	8,968,134
<b>US Total</b>	<b>52,571,853</b>	<b>82,962,040</b>	<b>110,615,055</b>	<b>122,701,270</b>	<b>153,945,828</b>	<b>191,388,309</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

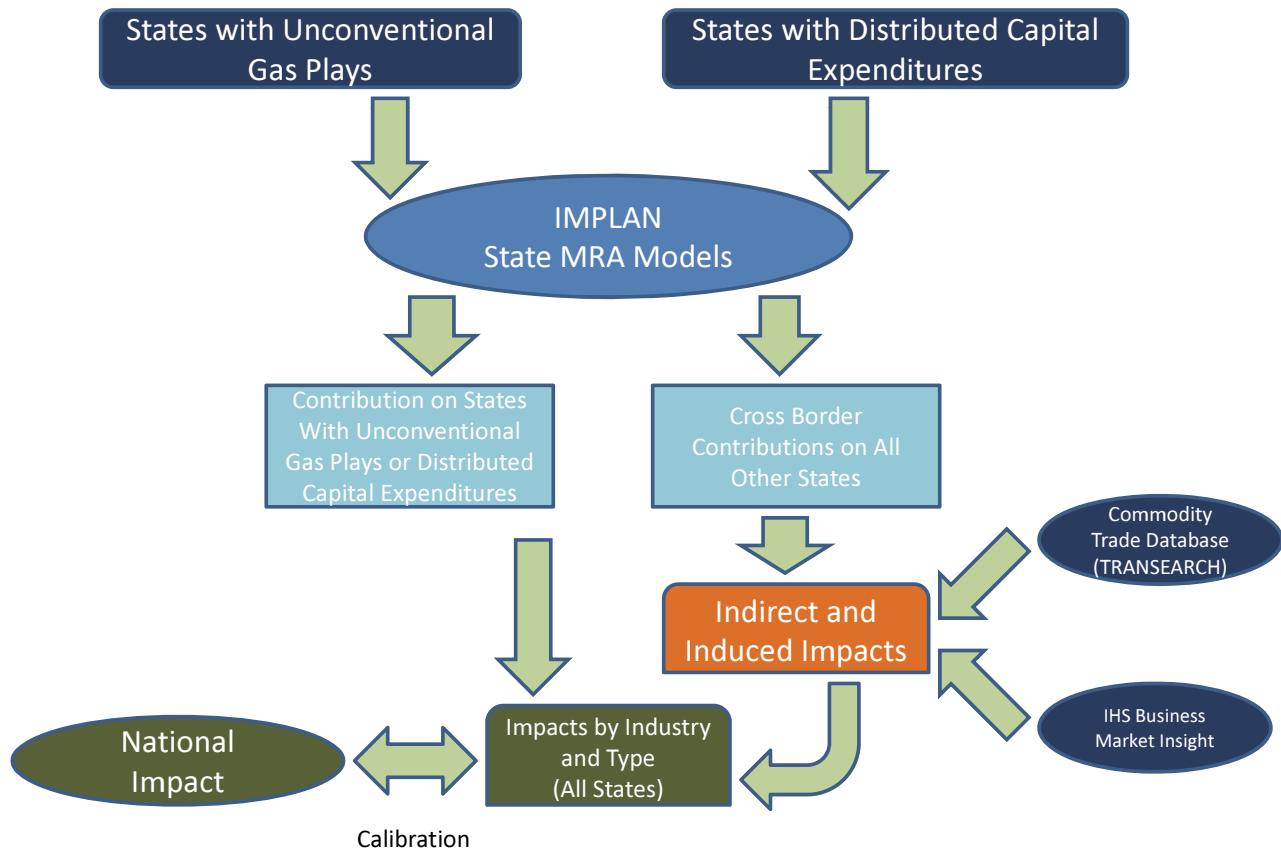
Source: IHS Global Insight

*Modeling the State Economic Contribution*

The multi-regional capability of the IMPLAN model estimated the economic contributions of unconventional gas production and capital spending at the state level. The methodology assessed not only the contribution to states with unconventional gas production but also non-producing states affected directly (via capital expenditures) or indirectly (via cross-state trade flows) by the producing states' activity. The IMPLAN model calculated the contribution to states with unconventional gas production and/or allocated direct capital spending. However, indirect and induced impacts were determined using various analytical tools: the IMPLAN model, IHS Global Insight's trade-flow databases for product groupings, and IHS Business Market Insight for services categories. The process was repeated for each state with unconventional gas production and for those states affected by direct capital spending (a subset of non-producing states). Finally, all of the state-by-industry direct, indirect and induced contributions to employment, value added to GDP, labor income, and government revenue were calibrated with the national results.

Starting with the IMPLAN Multi Regional Analysis (MRA) capability, each of the state models were simulated using production and/or capital expenditures depending on whether the state is a producing state or not. The MRA results were obtained for each state with direct production and/or capital expenditures as well as for all states that experience cross border impacts (leakages). The cross border contributions on the other states include both supply chain (indirect) and income (induced) effects. To ensure these impacts were traced to the best possible source location, IHS used its point-to-point commodity trade database (Transearch) and establishment location database (Business Market Insight) to determine the distribution of cross border contributions by state and industry. Finally, all of the state-by-state level results were calibrated with the national results to report a consistent and cohesive set of contributions by state and industry.

**State-Level Enhanced Economic Contribution Methodology Schematic**



### 3. Results

The analysis of unconventional gas development and its contribution to the US regional economies was conducted using a top-down/bottom-up approach. The contribution was assessed separately for direct, indirect, and induced contributions defined as follow:

- **Direct** contributions of unconventional gas are those activities required to explore, produce, transport, and deliver natural gas to consumers or to provide critical supplies or onsite services that support unconventional gas activity.
- **Indirect** contributions are defined as activities in outside industries that supply equipment, material and services for the development of unconventional gas and its tier suppliers.
- **Induced** contributions are the economic effects caused by workers spending their wages and salaries on consumer goods and household items.

This IHS Global Insight study was performed on a state-by-state basis. However, to summarize the findings across the lower 48 states and the District of Columbia, the results are presented in two distinct groups.

First are the 20 so-called “producing” states. Of these, 13 states have both existing and new well drilling and production activities, and another seven states have economic activity from their existing unconventional gas wells, but no new well drilling and development is anticipated over the course of our forecast horizon.

Second are the “non-producing” states, of which there are 28 in the lower 48 states; our analysis also includes the District of Columbia. These states benefit from unconventional gas development through supply chains, trade flows with the various producing and non-producing states, and the income effects of earnings spent within these states.

Direct activity in the producing states includes new well drilling and completion, unconventional gas production, and spending on various capital equipment and commodities for unconventional gas activity. Many of these states have built strong support industries, and they participate in the unconventional gas supply chain. The direct contribution from direct and indirect activity associated with unconventional gas production is further amplified on income and will fuel consumer expenditures—the induced impact.

While most of the capital spending is undertaken in the producing states, non-producing states will benefit directly from purchases of goods and services that constitute the capital spending that supports uncon-

ventional gas activity. Some of the capital goods industries in the non-producing states will have competitive advantages over the producing states, which will cause spending to leak out to those states. In addition, non-producing states actively participate in the supply chain and will contribute to the indirect impact and expenditure induced impact.

The tables on the following pages show the state-by-state results for employment, value added to GDP and government revenue for all 48 states and the District of Columbia in the primary forecast years: 2010, 2015, and 2035. More detailed tables are provided in the appendices.

#### Employment Contribution of Unconventional Gas\* in Producing States vs. Non-Producing States\*\*: 2015 (Number of workers)

	Producing States	Non-Producing States	All States
Direct	309,070	24,709	333,779
Indirect	374,296	105,191	479,487
Induced	511,980	138,204	650,184
Total	1,195,346	268,104	1,463,450

NOTES: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

\*\*Producing states are the 20 states that have either new well completions and production or production from existing wells. They include Alabama, Arkansas, Colorado, Illinois, Kansas, Kentucky, Louisiana, Michigan, Mississippi, Montana, New Mexico, New York, Ohio, Oklahoma, Pennsylvania, Texas, Utah, Virginia, West Virginia, and Wyoming; the rest of the states are non-producing states.

Source: IHS Global Insight



**US State-Level Employment Contribution of Unconventional Gas\* Summary**

(Number of workers)

	2010	2015	2035
Alabama	8,675	12,673	15,866
Arizona	6,918	10,364	19,737
Arkansas	36,698	53,919	79,723
California	22,773	33,265	49,494
Colorado	77,466	126,525	127,843
Connecticut	5,017	7,015	10,380
Delaware	1,681	2,362	4,770
District of Columbia	905	1,348	2,294
Florida	15,758	27,402	30,903
Georgia	13,294	18,800	29,262
Idaho	1,841	2,766	4,818
Illinois	25,773	36,387	61,657
Indiana	10,819	15,206	26,837
Iowa	5,183	8,095	14,526
Kansas	5,353	7,594	12,470
Kentucky	10,870	14,252	21,825
Louisiana	81,022	124,782	200,555
Maine	1,666	2,390	3,774
Maryland	7,008	10,263	16,634
Massachusetts	4,968	7,220	11,356
Michigan	28,063	37,926	63,380
Minnesota	9,271	14,499	22,638
Mississippi	3,259	9,428	8,768
Missouri	12,031	17,427	30,105
Montana	1,591	2,236	3,582
Nebraska	3,199	5,142	9,216
Nevada	2,153	1,743	3,278
New Hampshire	647	938	1,576
New Jersey	6,865	9,271	15,064
New Mexico	20,417	19,617	18,462
New York	26,887	39,047	58,377
North Carolina	11,377	16,570	28,271
North Dakota	1,141	1,867	3,645
Ohio	31,462	41,366	81,349
Oklahoma	28,315	41,763	69,261
Oregon	6,756	8,516	14,107
Pennsylvania	56,884	111,024	270,058
Rhode Island	1,368	1,968	2,904
South Carolina	5,607	8,227	14,368
South Dakota	1,176	1,770	2,959
Tennessee	8,519	12,323	21,487
Texas	288,222	385,318	682,740
Utah	30,561	36,593	50,839
Vermont	848	1,261	1,922
Virginia	13,162	17,753	30,732
Washington	3,904	5,797	9,777
West Virginia	16,888	31,380	71,620
Wisconsin	9,608	14,285	24,871
Wyoming	34,787	45,763	78,792
<b>US Total</b>	<b>1,008,658</b>	<b>1,463,450</b>	<b>2,438,877</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**US State-Level Government Revenue Contribution of Unconventional Gas\* Summary**

(\$M)

	2010	2015	2035
Alabama	240	263	295
Arizona	136	203	385
Arkansas	1,193	1,792	2,775
California	1,516	2,237	3,440
Colorado	3,197	4,434	4,526
Connecticut	116	163	237
Delaware	39	54	110
District of Columbia	15	23	40
Florida	536	886	1,201
Georgia	271	364	578
Idaho	31	48	87
Illinois	630	865	1,467
Indiana	212	275	473
Iowa	97	153	278
Kansas	120	155	251
Kentucky	291	356	473
Louisiana	2,074	3,897	7,702
Maine	26	38	60
Maryland	152	226	357
Massachusetts	263	391	611
Michigan	693	884	1,403
Minnesota	224	350	539
Mississippi	67	153	172
Missouri	426	594	1,007
Montana	44	58	85
Nebraska	61	99	185
Nevada	139	94	173
New Hampshire	46	68	118
New Jersey	353	475	834
New Mexico	1,091	1,045	914
New York	721	1,038	1,599
North Carolina	252	300	519
North Dakota	22	41	85
Ohio	688	885	1,719
Oklahoma	875	1,310	2,257
Oregon	143	192	319
Pennsylvania	1,476	3,505	8,889
Rhode Island	23	33	48
South Carolina	114	136	240
South Dakota	18	27	46
Tennessee	140	196	348
Texas	10,891	14,757	26,412
Utah	662	818	1,190
Vermont	14	22	33
Virginia	321	401	685
Washington	161	242	421
West Virginia	514	1,111	2,749
Wisconsin	211	315	546
Wyoming	2,247	3,362	6,243
<b>US Total</b>	<b>33,793</b>	<b>49,335</b>	<b>85,123</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**US State-Level Value Added Contribution of Unconventional Gas\* Summary**

(\$M)

	2010	2015	2035
Alabama	952	1,183	1,405
Arizona	529	791	1,509
Arkansas	4,910	7,264	10,540
California	2,192	3,197	4,617
Colorado	12,258	18,162	17,485
Connecticut	422	587	865
Delaware	163	226	482
District of Columbia	72	108	186
Florida	1,163	2,034	2,266
Georgia	1,147	1,622	2,398
Idaho	142	214	375
Illinois	2,560	3,555	6,178
Indiana	957	1,326	2,331
Iowa	420	665	1,189
Kansas	512	702	1,135
Kentucky	1,234	1,572	2,174
Louisiana	11,020	20,005	37,759
Maine	124	177	282
Maryland	555	814	1,281
Massachusetts	423	613	981
Michigan	2,966	3,794	6,096
Minnesota	796	1,272	1,937
Mississippi	264	675	685
Missouri	1,057	1,529	2,616
Montana	162	214	318
Nebraska	265	429	791
Nevada	180	128	237
New Hampshire	52	75	128
New Jersey	640	841	1,406
New Mexico	3,356	3,160	2,589
New York	2,316	3,325	5,000
North Carolina	909	1,318	2,185
North Dakota	105	190	390
Ohio	3,045	3,942	7,921
Oklahoma	4,008	6,033	9,905
Oregon	548	689	1,093
Pennsylvania	7,121	16,806	42,438
Rhode Island	107	153	225
South Carolina	444	655	1,155
South Dakota	88	132	220
Tennessee	683	986	1,727
Texas	47,995	64,768	111,089
Utah	3,126	3,866	5,343
Vermont	68	101	152
Virginia	1,273	1,634	2,789
Washington	298	441	761
West Virginia	2,239	4,563	10,313
Wisconsin	783	1,167	2,044
Wyoming	6,760	8,815	14,735
<b>US Total</b>	<b>133,405</b>	<b>196,516</b>	<b>331,728</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**US State-Level Labor Income Contribution of Unconventional Gas\* Summary**

(\$M)

	2010	2015	2035
Alabama	583	801	1,069
Arizona	430	643	1,241
Arkansas	2,314	3,407	5,020
California	1,553	2,295	3,397
Colorado	5,958	9,258	9,236
Connecticut	344	479	702
Delaware	116	164	334
District of Columbia	61	91	158
Florida	912	1,564	1,860
Georgia	860	1,226	1,943
Idaho	113	169	295
Illinois	1,828	2,562	4,374
Indiana	716	999	1,734
Iowa	321	499	892
Kansas	347	491	819
Kentucky	708	930	1,396
Louisiana	5,492	9,238	16,361
Maine	100	143	227
Maryland	460	674	1,064
Massachusetts	343	498	791
Michigan	1,851	2,483	4,135
Minnesota	616	963	1,500
Mississippi	206	497	534
Missouri	724	1,049	1,794
Montana	104	146	230
Nebraska	207	329	606
Nevada	133	101	189
New Hampshire	41	59	99
New Jersey	497	662	1,097
New Mexico	1,461	1,407	1,277
New York	1,871	2,710	4,075
North Carolina	731	1,061	1,775
North Dakota	79	138	282
Ohio	2,031	2,684	5,225
Oklahoma	1,993	2,961	4,885
Oregon	406	524	856
Pennsylvania	3,975	8,351	20,349
Rhode Island	87	125	184
South Carolina	353	521	921
South Dakota	70	104	173
Tennessee	537	782	1,371
Texas	22,840	30,769	53,427
Utah	1,710	2,098	2,952
Vermont	54	81	122
Virginia	889	1,191	2,086
Washington	243	360	617
West Virginia	1,091	2,088	4,697
Wisconsin	611	906	1,590
Wyoming	2,753	3,669	6,196
<b>US Total</b>	<b>71,727</b>	<b>104,951</b>	<b>176,154</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## **4. Conclusion**

Unconventional gas activity is expected to make a significant contribution to all of the economies of the lower 48 states over the next 25 years. Traditional oil and gas producing states like Texas and Louisiana will continue to lead the way in terms of their absolute contributions to the US economy. But many new and emerging energy states will drive much of the growth in the coming years, and the economic activity generated by this increase in unconventional gas activity will also reach well beyond the traditional unconventional producing states.



# The Economic and Employment Contributions of Unconventional Gas Development in State Economies

## Appendix A. Economic Contributions by State and Year

Prepared for:  
AMERICA'S NATURAL GAS ALLIANCE

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IHS Global Insight was formed by the merger of DRI and WEFA. Still active in an advisory capacity to the firm is the original founder of WEFA, Lawrence R. Klein, the 1980 winner of the Nobel Prize in Economics.

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## **Appendix A. Economic Contributions by State and Year**

Appendix A presents six different types of detailed tables by state in five-year increments over the forecast horizon (2010, 2015, 2020, 2025, 2030 and 2035). Results for the following four concepts are presented:

- 1) Employment Contribution
- 2) Value Added Contribution
- 3) Labor Income Contribution
- 4) Government Revenue and Private Lease Payments.

Employment and value added contribution results are presented twice:

- 1) Alphabetical by State
- 2) Ranked by Total Contribution (where total contribution is the sum of direct, indirect, and induced concepts)

Labor income and government revenue results are presented alphabetically by state only.

The three contribution concepts (employment, value added, and labor income) are split out into direct, indirect and induced contributions with a separate table for each of our forecast years.

A summary description of the tables is as follows:

1 - Employment Contribution: Alphabetical by State. These tables present the direct, indirect, induced, and total employment contributions for 2010, 2015, 2020, 2025, 2030, and 2035 alphabetically by state.

2- Employment Contribution by State: Ranked by Total Contribution. These tables present the direct, indirect, induced, and total employment contributions for 2010, 2015, 2020, 2025, 2030, and 2035 ranked by the total contribution for each of the years.

3 - Value Added Contribution: Alphabetical by State. These tables present the direct, indirect, induced, and total value added contributions for 2010, 2015, 2020, 2025, 2030, and 2035 alphabetically by state.

4 - Value Added Contribution by State: Ranked by Total Contribution. These tables present the direct, indirect, induced, and total value added contributions for 2010, 2015, 2020, 2025, 2030, and 2035 ranked by the total contribution for each of the years.

5 - Labor Income Contribution: Alphabetical by State. These tables present the direct, indirect, induced, and total value added contributions for 2010, 2015, 2020, 2025, 2030, and 2035 alphabetically by state.

6- Government Revenue and Private Lease Payments by State. These tables present detailed government revenue information for 2010, 2015, 2020, 2025, 2030, and 2035 alphabetically by state.

## Employment Contribution: Alphabetical by State

## US State-Level Employment Contribution of Unconventional Gas\*: 2010

(Number of workers)

	Direct	Indirect	Induced	Total
Alabama	1,195	3,417	4,063	8,675
Arizona	0	2,919	3,999	6,918
Arkansas	13,640	9,922	13,136	36,698
California	4,718	8,071	9,984	22,773
Colorado	22,535	21,759	33,172	77,466
Connecticut	0	2,166	2,851	5,017
Delaware	187	615	879	1,681
District of Columbia	0	366	539	905
Florida	3,204	5,032	7,522	15,758
Georgia	952	5,269	7,073	13,294
Idaho	0	765	1,076	1,841
Illinois	2,814	10,016	12,943	25,773
Indiana	516	5,037	5,266	10,819
Iowa	315	2,012	2,856	5,183
Kansas	658	1,992	2,703	5,353
Kentucky	2,145	3,855	4,870	10,870
Louisiana	29,896	21,997	29,130	81,022
Maine	0	637	1,029	1,666
Maryland	0	2,945	4,063	7,008
Massachusetts	136	2,046	2,787	4,968
Michigan	6,968	8,647	12,448	28,063
Minnesota	352	3,837	5,082	9,271
Mississippi	92	1,338	1,829	3,259
Missouri	4,133	3,070	4,828	12,031
Montana	90	600	902	1,591
Nebraska	104	1,323	1,773	3,199
Nevada	505	741	906	2,153
New Hampshire	0	286	361	647
New Jersey	592	2,669	3,604	6,865
New Mexico	6,797	5,462	8,159	20,417
New York	408	10,696	15,783	26,887
North Carolina	102	4,825	6,451	11,377
North Dakota	0	489	652	1,141
Ohio	4,979	12,643	13,840	31,462
Oklahoma	8,636	8,672	11,007	28,315
Oregon	670	2,690	3,396	6,756
Pennsylvania	13,594	18,342	24,948	56,884
Rhode Island	0	570	798	1,368
South Carolina	61	2,545	3,001	5,607
South Dakota	0	452	725	1,176
Tennessee	142	3,660	4,717	8,519
Texas	73,744	88,561	125,918	288,222
Utah	10,404	8,993	11,165	30,561
Vermont	0	330	518	848
Virginia	923	5,498	6,740	13,162
Washington	0	1,597	2,307	3,904
West Virginia	6,871	4,522	5,495	16,888
Wisconsin	137	4,457	5,013	9,608
Wyoming	14,753	8,647	11,386	34,787
<b>US Total</b>	<b>237,968</b>	<b>326,999</b>	<b>443,691</b>	<b>1,008,658</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**US State-Level Employment Contribution of Unconventional Gas\*: 2015**

(Number of workers)

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Alabama	2,042	4,960	5,670	12,673
Arizona	0	4,341	6,023	10,364
Arkansas	19,767	14,930	19,222	53,919
California	6,970	11,736	14,560	33,265
Colorado	40,115	35,280	51,130	126,525
Connecticut	0	2,999	4,016	7,015
Delaware	236	869	1,258	2,362
District of Columbia	0	550	798	1,348
Florida	6,838	8,328	12,236	27,402
Georgia	1,106	7,601	10,093	18,800
Idaho	0	1,150	1,616	2,766
Illinois	3,724	14,380	18,282	36,387
Indiana	586	7,100	7,521	15,206
Iowa	650	3,082	4,362	8,095
Kansas	824	2,910	3,861	7,594
Kentucky	2,336	5,321	6,596	14,252
Louisiana	40,341	35,273	49,168	124,782
Maine	0	913	1,477	2,390
Maryland	0	4,359	5,905	10,263
Massachusetts	193	3,002	4,025	7,220
Michigan	9,107	12,248	16,571	37,926
Minnesota	860	5,811	7,827	14,499
Mississippi	2,703	2,953	3,772	9,428
Missouri	6,005	4,477	6,945	17,427
Montana	85	866	1,285	2,236
Nebraska	276	2,127	2,739	5,142
Nevada	10	789	944	1,743
New Hampshire	0	410	529	938
New Jersey	465	3,742	5,064	9,271
New Mexico	6,017	5,607	7,993	19,617
New York	386	15,684	22,977	39,047
North Carolina	0	7,078	9,493	16,570
North Dakota	0	861	1,006	1,867
Ohio	5,776	17,085	18,504	41,366
Oklahoma	12,217	13,278	16,267	41,763
Oregon	185	3,704	4,627	8,516
Pennsylvania	26,007	34,594	50,423	111,024
Rhode Island	0	820	1,148	1,968
South Carolina	3	3,813	4,411	8,227
South Dakota	0	677	1,093	1,770
Tennessee	62	5,404	6,856	12,323
Texas	93,838	121,994	169,486	385,318
Utah	11,232	11,532	13,829	36,593
Vermont	0	491	770	1,261
Virginia	777	7,612	9,364	17,753
Washington	0	2,360	3,438	5,797
West Virginia	12,857	8,115	10,408	31,380
Wisconsin	263	6,599	7,424	14,285
Wyoming	18,917	9,673	17,173	45,763
<b>US Total</b>	<b>333,779</b>	<b>479,487</b>	<b>650,184</b>	<b>1,463,450</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



## US State-Level Employment Contribution of Unconventional Gas\*: 2020

(Number of workers)

	Direct	Indirect	Induced	Total
Alabama	1,232	5,519	6,137	12,888
Arizona	0	5,518	7,572	13,090
Arkansas	22,868	17,673	22,430	62,971
California	7,582	14,066	17,352	39,000
Colorado	43,714	38,518	54,818	137,050
Connecticut	0	3,586	4,727	8,312
Delaware	402	1,182	1,658	3,242
District of Columbia	0	692	997	1,689
Florida	3,274	8,916	13,232	25,422
Georgia	734	9,198	11,984	21,915
Idaho	0	1,427	2,009	3,437
Illinois	5,295	17,648	22,778	45,721
Indiana	898	8,859	9,307	19,065
Iowa	782	3,815	5,326	9,923
Kansas	880	3,509	4,645	9,034
Kentucky	2,517	6,455	7,732	16,705
Louisiana	40,665	41,093	58,797	140,556
Maine	0	1,111	1,767	2,878
Maryland	0	5,355	7,211	12,566
Massachusetts	355	3,667	4,842	8,865
Michigan	11,554	15,120	19,979	46,653
Minnesota	917	7,087	9,388	17,393
Mississippi	1,300	2,857	3,815	7,972
Missouri	7,702	5,583	8,596	21,881
Montana	82	1,045	1,551	2,677
Nebraska	332	2,695	3,407	6,433
Nevada	93	1,031	1,250	2,375
New Hampshire	0	511	661	1,171
New Jersey	676	4,540	6,156	11,371
New Mexico	4,928	5,224	7,130	17,282
New York	584	18,639	27,377	46,600
North Carolina	188	8,877	11,847	20,912
North Dakota	0	1,118	1,269	2,387
Ohio	8,875	22,668	24,203	55,747
Oklahoma	14,598	15,939	19,389	49,925
Oregon	216	4,670	5,743	10,629
Pennsylvania	41,258	50,276	73,321	164,856
Rhode Island	0	977	1,364	2,341
South Carolina	93	4,794	5,487	10,373
South Dakota	0	828	1,341	2,169
Tennessee	147	6,761	8,504	15,412
Texas	125,882	158,308	215,755	499,946
Utah	12,472	13,281	15,803	41,556
Vermont	0	597	933	1,530
Virginia	838	9,448	11,501	21,787
Washington	0	2,919	4,205	7,123
West Virginia	18,520	11,335	14,368	44,223
Wisconsin	321	8,252	9,146	17,719
Wyoming	20,698	10,630	18,675	50,002
<b>US Total</b>	<b>403,473</b>	<b>593,817</b>	<b>797,483</b>	<b>1,794,773</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Employment Contribution of Unconventional Gas\*: 2025

(Number of workers)

	Direct	Indirect	Induced	Total
Alabama	628	5,440	5,950	12,018
Arizona	0	5,745	7,917	13,662
Arkansas	23,720	18,350	23,414	65,484
California	7,247	13,892	17,412	38,551
Colorado	37,733	33,601	48,298	119,632
Connecticut	0	3,518	4,633	8,151
Delaware	363	1,147	1,653	3,163
District of Columbia	0	695	1,015	1,710
Florida	1,084	8,611	12,858	22,552
Georgia	220	9,263	11,981	21,463
Idaho	0	1,459	2,076	3,536
Illinois	4,918	17,257	22,568	44,743
Indiana	820	8,915	9,451	19,186
Iowa	798	3,993	5,511	10,302
Kansas	874	3,587	4,740	9,201
Kentucky	2,345	6,448	7,711	16,505
Louisiana	44,245	46,135	67,437	157,818
Maine	0	1,112	1,768	2,881
Maryland	0	5,241	7,279	12,519
Massachusetts	324	3,562	4,771	8,657
Michigan	10,680	14,995	19,278	44,953
Minnesota	778	7,003	9,404	17,184
Mississippi	765	2,663	3,672	7,099
Missouri	7,843	5,649	8,676	22,168
Montana	74	1,050	1,575	2,699
Nebraska	364	2,804	3,511	6,679
Nevada	12	1,015	1,256	2,284
New Hampshire	0	503	662	1,165
New Jersey	602	4,448	6,142	11,192
New Mexico	4,794	5,052	6,720	16,565
New York	512	18,108	27,049	45,669
North Carolina	0	8,829	12,018	20,847
North Dakota	0	1,190	1,340	2,531
Ohio	8,048	22,019	23,471	53,538
Oklahoma	15,245	16,289	20,097	51,631
Oregon	163	4,620	5,821	10,604
Pennsylvania	41,140	50,463	75,445	167,048
Rhode Island	0	944	1,351	2,295
South Carolina	22	4,871	5,573	10,466
South Dakota	0	829	1,372	2,201
Tennessee	91	6,887	8,678	15,656
Texas	127,899	161,495	222,082	511,476
Utah	13,054	13,810	16,613	43,477
Vermont	0	579	932	1,510
Virginia	772	9,506	11,685	21,963
Washington	0	2,984	4,265	7,249
West Virginia	18,748	11,498	14,828	45,074
Wisconsin	333	8,413	9,411	18,156
Wyoming	23,700	12,010	21,129	56,840
<b>US Total</b>	<b>400,958</b>	<b>598,495</b>	<b>812,501</b>	<b>1,811,954</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Employment Contribution of Unconventional Gas\*: 2030

(Number of workers)

	Direct	Indirect	Induced	Total
Alabama	1,047	6,198	6,546	13,791
Arizona	0	6,395	8,852	15,246
Arkansas	24,272	18,958	24,089	67,319
California	7,461	14,699	18,490	40,650
Colorado	35,346	31,695	45,636	112,677
Connecticut	0	3,715	4,797	8,512
Delaware	438	1,270	1,824	3,532
District of Columbia	0	738	1,087	1,825
Florida	4,926	10,515	15,390	30,831
Georgia	835	10,425	13,499	24,759
Idaho	0	1,579	2,255	3,833
Illinois	5,634	18,303	24,293	48,229
Indiana	986	9,744	10,204	20,934
Iowa	891	4,442	5,997	11,330
Kansas	902	3,950	5,100	9,952
Kentucky	2,365	6,992	8,166	17,523
Louisiana	44,571	47,988	70,266	162,825
Maine	0	1,189	1,873	3,063
Maryland	0	5,523	7,787	13,310
Massachusetts	396	3,724	5,014	9,134
Michigan	11,907	16,346	20,728	48,982
Minnesota	731	7,487	9,995	18,213
Mississippi	681	2,803	3,901	7,386
Missouri	8,702	6,182	9,406	24,290
Montana	65	1,118	1,680	2,862
Nebraska	405	3,095	3,799	7,299
Nevada	13	1,121	1,403	2,537
New Hampshire	0	536	713	1,249
New Jersey	709	4,686	6,525	11,920
New Mexico	4,207	4,949	6,503	15,659
New York	611	18,803	28,208	47,622
North Carolina	0	9,487	13,055	22,542
North Dakota	0	1,331	1,482	2,812
Ohio	9,588	24,532	25,813	59,933
Oklahoma	16,580	17,607	21,666	55,853
Oregon	136	4,881	6,246	11,264
Pennsylvania	47,761	56,790	84,671	189,222
Rhode Island	0	976	1,416	2,391
South Carolina	31	5,357	6,066	11,453
South Dakota	0	893	1,478	2,372
Tennessee	98	7,549	9,412	17,059
Texas	140,803	175,989	240,624	557,416
Utah	13,412	14,453	17,447	45,312
Vermont	0	600	980	1,581
Virginia	815	10,389	12,750	23,953
Washington	0	3,236	4,556	7,793
West Virginia	21,154	12,883	16,492	50,529
Wisconsin	382	9,171	10,150	19,703
Wyoming	26,183	13,152	22,994	62,329
<b>US Total</b>	<b>435,045</b>	<b>644,443</b>	<b>871,324</b>	<b>1,950,812</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Employment Contribution of Unconventional Gas\*: 2035

(Number of workers)

	Direct	Indirect	Induced	Total
Alabama	401	7,608	7,858	15,866
Arizona	0	8,273	11,465	19,737
Arkansas	28,524	22,526	28,673	79,723
California	8,617	18,016	22,861	49,494
Colorado	39,723	36,084	52,036	127,843
Connecticut	0	4,568	5,813	10,380
Delaware	673	1,694	2,403	4,770
District of Columbia	0	920	1,374	2,294
Florida	990	12,091	17,822	30,903
Georgia	113	12,728	16,422	29,262
Idaho	0	1,975	2,842	4,818
Illinois	7,879	22,797	30,981	61,657
Indiana	1,503	12,371	12,963	26,837
Iowa	1,150	5,723	7,654	14,526
Kansas	1,035	5,024	6,411	12,470
Kentucky	2,879	8,794	10,152	21,825
Louisiana	53,428	59,587	87,540	200,555
Maine	0	1,461	2,312	3,774
Maryland	0	6,854	9,780	16,634
Massachusetts	615	4,569	6,172	11,356
Michigan	15,951	20,855	26,574	63,380
Minnesota	822	9,341	12,474	22,638
Mississippi	614	3,368	4,786	8,768
Missouri	10,746	7,699	11,659	30,105
Montana	69	1,402	2,110	3,582
Nebraska	498	3,939	4,780	9,216
Nevada	17	1,438	1,823	3,278
New Hampshire	0	675	901	1,576
New Jersey	1,063	5,828	8,173	15,064
New Mexico	4,822	5,894	7,747	18,462
New York	927	22,875	34,575	58,377
North Carolina	0	11,798	16,473	28,271
North Dakota	0	1,729	1,916	3,645
Ohio	14,378	32,668	34,303	81,349
Oklahoma	20,537	21,851	26,874	69,261
Oregon	142	6,071	7,894	14,107
Pennsylvania	70,734	79,807	119,518	270,058
Rhode Island	0	1,173	1,731	2,904
South Carolina	6	6,742	7,621	14,368
South Dakota	0	1,107	1,852	2,959
Tennessee	89	9,522	11,876	21,487
Texas	170,896	216,434	295,411	682,740
Utah	14,640	16,392	19,807	50,839
Vermont	0	724	1,198	1,922
Virginia	1,069	13,368	16,296	30,732
Washington	0	4,088	5,689	9,777
West Virginia	30,390	18,110	23,121	71,620
Wisconsin	506	11,585	12,779	24,871
Wyoming	32,953	16,664	29,176	78,792
<b>US Total</b>	<b>539,398</b>	<b>806,810</b>	<b>1,092,669</b>	<b>2,438,877</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Employment Contribution by State: Ranked by Total Contribution

## US State-Level Employment Contribution of Unconventional Gas\*: 2010

(Number of workers ranked by total employment contribution)

	Direct	Indirect	Induced	Total
Texas	73,744	88,561	125,918	288,222
Louisiana	29,896	21,997	29,130	81,022
Colorado	22,535	21,759	33,172	77,466
Pennsylvania	13,594	18,342	24,948	56,884
Arkansas	13,640	9,922	13,136	36,698
Wyoming	14,753	8,647	11,386	34,787
Ohio	4,979	12,643	13,840	31,462
Utah	10,404	8,993	11,165	30,561
Oklahoma	8,636	8,672	11,007	28,315
Michigan	6,968	8,647	12,448	28,063
New York	408	10,696	15,783	26,887
Illinois	2,814	10,016	12,943	25,773
California	4,718	8,071	9,984	22,773
New Mexico	6,797	5,462	8,159	20,417
West Virginia	6,871	4,522	5,495	16,888
Florida	3,204	5,032	7,522	15,758
Georgia	952	5,269	7,073	13,294
Virginia	923	5,498	6,740	13,162
Missouri	4,133	3,070	4,828	12,031
North Carolina	102	4,825	6,451	11,377
Kentucky	2,145	3,855	4,870	10,870
Indiana	516	5,037	5,266	10,819
Wisconsin	137	4,457	5,013	9,608
Minnesota	352	3,837	5,082	9,271
Alabama	1,195	3,417	4,063	8,675
Tennessee	142	3,660	4,717	8,519
Maryland	0	2,945	4,063	7,008
Arizona	0	2,919	3,999	6,918
New Jersey	592	2,669	3,604	6,865
Oregon	670	2,690	3,396	6,756
South Carolina	61	2,545	3,001	5,607
Kansas	658	1,992	2,703	5,353
Iowa	315	2,012	2,856	5,183
Connecticut	0	2,166	2,851	5,017
Massachusetts	136	2,046	2,787	4,968
Washington	0	1,597	2,307	3,904
Mississippi	92	1,338	1,829	3,259
Nebraska	104	1,323	1,773	3,199
Nevada	505	741	906	2,153
Idaho	0	765	1,076	1,841
Delaware	187	615	879	1,681
Maine	0	637	1,029	1,666
Montana	90	600	902	1,591
Rhode Island	0	570	798	1,368
South Dakota	0	452	725	1,176
North Dakota	0	489	652	1,141
District of Columbia	0	366	539	905
Vermont	0	330	518	848
New Hampshire	0	286	361	647
<b>US Total</b>	<b>237,968</b>	<b>326,999</b>	<b>443,691</b>	<b>1,008,658</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Employment Contribution of Unconventional Gas\*: 2015

(Number of workers ranked by total employment contribution)

	Direct	Indirect	Induced	Total
Texas	93,838	121,994	169,486	385,318
Colorado	40,115	35,280	51,130	126,525
Louisiana	40,341	35,273	49,168	124,782
Pennsylvania	26,007	34,594	50,423	111,024
Arkansas	19,767	14,930	19,222	53,919
Oklahoma	12,217	13,278	16,267	41,763
Ohio	5,776	17,085	18,504	41,366
New York	386	15,684	22,977	39,047
Michigan	9,107	12,248	16,571	37,926
Wyoming	18,917	9,673	17,173	45,763
Utah	11,232	11,532	13,829	36,593
Illinois	3,724	14,380	18,282	36,387
California	6,970	11,736	14,560	33,265
West Virginia	12,857	8,115	10,408	31,380
Florida	6,838	8,328	12,236	27,402
New Mexico	6,017	5,607	7,993	19,617
Georgia	1,106	7,601	10,093	18,800
Virginia	777	7,612	9,364	17,753
Missouri	6,005	4,477	6,945	17,427
North Carolina	0	7,078	9,493	16,570
Indiana	586	7,100	7,521	15,206
Minnesota	860	5,811	7,827	14,499
Wisconsin	263	6,599	7,424	14,285
Kentucky	2,336	5,321	6,596	14,252
Alabama	2,042	4,960	5,670	12,673
Tennessee	62	5,404	6,856	12,323
Arizona	0	4,341	6,023	10,364
Maryland	0	4,359	5,905	10,263
Mississippi	2,703	2,953	3,772	9,428
New Jersey	465	3,742	5,064	9,271
Oregon	185	3,704	4,627	8,516
South Carolina	3	3,813	4,411	8,227
Iowa	650	3,082	4,362	8,095
Kansas	824	2,910	3,861	7,594
Massachusetts	193	3,002	4,025	7,220
Connecticut	0	2,999	4,016	7,015
Washington	0	2,360	3,438	5,797
Nebraska	276	2,127	2,739	5,142
Idaho	0	1,150	1,616	2,766
Maine	0	913	1,477	2,390
Delaware	236	869	1,258	2,362
Montana	85	866	1,285	2,236
Rhode Island	0	820	1,148	1,968
North Dakota	0	861	1,006	1,867
South Dakota	0	677	1,093	1,770
Nevada	10	789	944	1,743
District of Columbia	0	550	798	1,348
Vermont	0	491	770	1,261
New Hampshire	0	410	529	938
<b>US Total</b>	<b>333,779</b>	<b>479,487</b>	<b>650,184</b>	<b>1,463,450</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Employment Contribution of Unconventional Gas\*: 2020

(Number of workers ranked by total employment contribution)

	Direct	Indirect	Induced	Total
Texas	125,882	158,308	215,755	499,946
Pennsylvania	41,258	50,276	73,321	164,856
Louisiana	40,665	41,093	58,797	140,556
Colorado	43,714	38,518	54,818	137,050
Arkansas	22,868	17,673	22,430	62,971
Ohio	8,875	22,668	24,203	55,747
Oklahoma	14,598	15,939	19,389	49,925
New York	584	18,639	27,377	46,600
Michigan	11,554	15,120	19,979	46,653
Illinois	5,295	17,648	22,778	45,721
West Virginia	18,520	11,335	14,368	44,223
Utah	12,472	13,281	15,803	41,556
Wyoming	20,698	10,630	18,675	50,002
California	7,582	14,066	17,352	39,000
Florida	3,274	8,916	13,232	25,422
Georgia	734	9,198	11,984	21,915
Missouri	7,702	5,583	8,596	21,881
Virginia	838	9,448	11,501	21,787
North Carolina	188	8,877	11,847	20,912
Indiana	898	8,859	9,307	19,065
Wisconsin	321	8,252	9,146	17,719
Minnesota	917	7,087	9,388	17,393
New Mexico	4,928	5,224	7,130	17,282
Kentucky	2,517	6,455	7,732	16,705
Tennessee	147	6,761	8,504	15,412
Arizona	0	5,518	7,572	13,090
Alabama	1,232	5,519	6,137	12,888
Maryland	0	5,355	7,211	12,566
New Jersey	676	4,540	6,156	11,371
Oregon	216	4,670	5,743	10,629
South Carolina	93	4,794	5,487	10,373
Iowa	782	3,815	5,326	9,923
Kansas	880	3,509	4,645	9,034
Massachusetts	355	3,667	4,842	8,865
Connecticut	0	3,586	4,727	8,312
Mississippi	1,300	2,857	3,815	7,972
Washington	0	2,919	4,205	7,123
Nebraska	332	2,695	3,407	6,433
Idaho	0	1,427	2,009	3,437
Delaware	402	1,182	1,658	3,242
Maine	0	1,111	1,767	2,878
Montana	82	1,045	1,551	2,677
North Dakota	0	1,118	1,269	2,387
Nevada	93	1,031	1,250	2,375
Rhode Island	0	977	1,364	2,341
South Dakota	0	828	1,341	2,169
District of Columbia	0	692	997	1,689
Vermont	0	597	933	1,530
New Hampshire	0	511	661	1,171
<b>US Total</b>	<b>403,473</b>	<b>593,817</b>	<b>797,483</b>	<b>1,794,773</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Employment Contribution of Unconventional Gas\*: 2025

(Number of workers ranked by total employment contribution)

	Direct	Indirect	Induced	Total
Texas	127,899	161,495	222,082	511,476
Pennsylvania	41,140	50,463	75,445	167,048
Louisiana	44,245	46,135	67,437	157,818
Colorado	37,733	33,601	48,298	119,632
Arkansas	23,720	18,350	23,414	65,484
Ohio	8,048	22,019	23,471	53,538
Oklahoma	15,245	16,289	20,097	51,631
Wyoming	23,700	12,010	21,129	56,840
New York	512	18,108	27,049	45,669
West Virginia	18,748	11,498	14,828	45,074
Michigan	10,680	14,995	19,278	44,953
Illinois	4,918	17,257	22,568	44,743
Utah	13,054	13,810	16,613	43,477
California	7,247	13,892	17,412	38,551
Florida	1,084	8,611	12,858	22,552
Missouri	7,843	5,649	8,676	22,168
Virginia	772	9,506	11,685	21,963
Georgia	220	9,263	11,981	21,463
North Carolina	0	8,829	12,018	20,847
Indiana	820	8,915	9,451	19,186
Wisconsin	333	8,413	9,411	18,156
Minnesota	778	7,003	9,404	17,184
New Mexico	4,794	5,052	6,720	16,565
Kentucky	2,345	6,448	7,711	16,505
Tennessee	91	6,887	8,678	15,656
Arizona	0	5,745	7,917	13,662
Maryland	0	5,241	7,279	12,519
Alabama	628	5,440	5,950	12,018
New Jersey	602	4,448	6,142	11,192
Oregon	163	4,620	5,821	10,604
South Carolina	22	4,871	5,573	10,466
Iowa	798	3,993	5,511	10,302
Kansas	874	3,587	4,740	9,201
Massachusetts	324	3,562	4,771	8,657
Connecticut	0	3,518	4,633	8,151
Washington	0	2,984	4,265	7,249
Mississippi	765	2,663	3,672	7,099
Nebraska	364	2,804	3,511	6,679
Idaho	0	1,459	2,076	3,536
Delaware	363	1,147	1,653	3,163
Maine	0	1,112	1,768	2,881
Montana	74	1,050	1,575	2,699
North Dakota	0	1,190	1,340	2,531
Rhode Island	0	944	1,351	2,295
Nevada	12	1,015	1,256	2,284
South Dakota	0	829	1,372	2,201
District of Columbia	0	695	1,015	1,710
Vermont	0	579	932	1,510
New Hampshire	0	503	662	1,165
<b>US Total</b>	<b>400,958</b>	<b>598,495</b>	<b>812,501</b>	<b>1,811,954</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



## US State-Level Employment Contribution of Unconventional Gas\*: 2030

(Number of workers ranked by total employment contribution)

	Direct	Indirect	Induced	Total
Texas	140,803	175,989	240,624	557,416
Pennsylvania	47,761	56,790	84,671	189,222
Louisiana	44,571	47,988	70,266	162,825
Colorado	35,346	31,695	45,636	112,677
Arkansas	24,272	18,958	24,089	67,319
Ohio	9,588	24,532	25,813	59,933
Oklahoma	16,580	17,607	21,666	55,853
West Virginia	21,154	12,883	16,492	50,529
Wyoming	26,183	13,152	22,994	62,329
Michigan	11,907	16,346	20,728	48,982
Illinois	5,634	18,303	24,293	48,229
New York	611	18,803	28,208	47,622
Utah	13,412	14,453	17,447	45,312
California	7,461	14,699	18,490	40,650
Florida	4,926	10,515	15,390	30,831
Georgia	835	10,425	13,499	24,759
Missouri	8,702	6,182	9,406	24,290
Virginia	815	10,389	12,750	23,953
North Carolina	0	9,487	13,055	22,542
Indiana	986	9,744	10,204	20,934
Wisconsin	382	9,171	10,150	19,703
Minnesota	731	7,487	9,995	18,213
Kentucky	2,365	6,992	8,166	17,523
Tennessee	98	7,549	9,412	17,059
New Mexico	4,207	4,949	6,503	15,659
Arizona	0	6,395	8,852	15,246
Alabama	1,047	6,198	6,546	13,791
Maryland	0	5,523	7,787	13,310
New Jersey	709	4,686	6,525	11,920
South Carolina	31	5,357	6,066	11,453
Iowa	891	4,442	5,997	11,330
Oregon	136	4,881	6,246	11,264
Kansas	902	3,950	5,100	9,952
Massachusetts	396	3,724	5,014	9,134
Connecticut	0	3,715	4,797	8,512
Washington	0	3,236	4,556	7,793
Mississippi	681	2,803	3,901	7,386
Nebraska	405	3,095	3,799	7,299
Idaho	0	1,579	2,255	3,833
Delaware	438	1,270	1,824	3,532
Maine	0	1,189	1,873	3,063
Montana	65	1,118	1,680	2,862
North Dakota	0	1,331	1,482	2,812
Nevada	13	1,121	1,403	2,537
Rhode Island	0	976	1,416	2,391
South Dakota	0	893	1,478	2,372
District of Columbia	0	738	1,087	1,825
Vermont	0	600	980	1,581
New Hampshire	0	536	713	1,249
<b>US Total</b>	<b>435,045</b>	<b>644,443</b>	<b>871,324</b>	<b>1,950,812</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Employment Contribution of Unconventional Gas\*: 2035

(Number of workers ranked by total employment contribution)

	Direct	Indirect	Induced	Total
Texas	170,896	216,434	295,411	682,740
Pennsylvania	70,734	79,807	119,518	270,058
Louisiana	53,428	59,587	87,540	200,555
Colorado	39,723	36,084	52,036	127,843
Ohio	14,378	32,668	34,303	81,349
Arkansas	28,524	22,526	28,673	79,723
West Virginia	30,390	18,110	23,121	71,620
Oklahoma	20,537	21,851	26,874	69,261
Wyoming	32,953	16,664	29,176	78,792
Michigan	15,951	20,855	26,574	63,380
Illinois	7,879	22,797	30,981	61,657
New York	927	22,875	34,575	58,377
Utah	14,640	16,392	19,807	50,839
California	8,617	18,016	22,861	49,494
Florida	990	12,091	17,822	30,903
Virginia	1,069	13,368	16,296	30,732
Missouri	10,746	7,699	11,659	30,105
Georgia	113	12,728	16,422	29,262
North Carolina	0	11,798	16,473	28,271
Indiana	1,503	12,371	12,963	26,837
Wisconsin	506	11,585	12,779	24,871
Minnesota	822	9,341	12,474	22,638
Kentucky	2,879	8,794	10,152	21,825
Tennessee	89	9,522	11,876	21,487
Arizona	0	8,273	11,465	19,737
New Mexico	4,822	5,894	7,747	18,462
Maryland	0	6,854	9,780	16,634
Alabama	401	7,608	7,858	15,866
New Jersey	1,063	5,828	8,173	15,064
Iowa	1,150	5,723	7,654	14,526
South Carolina	6	6,742	7,621	14,368
Oregon	142	6,071	7,894	14,107
Kansas	1,035	5,024	6,411	12,470
Massachusetts	615	4,569	6,172	11,356
Connecticut	0	4,568	5,813	10,380
Washington	0	4,088	5,689	9,777
Nebraska	498	3,939	4,780	9,216
Mississippi	614	3,368	4,786	8,768
Idaho	0	1,975	2,842	4,818
Delaware	673	1,694	2,403	4,770
Maine	0	1,461	2,312	3,774
North Dakota	0	1,729	1,916	3,645
Montana	69	1,402	2,110	3,582
Nevada	17	1,438	1,823	3,278
South Dakota	0	1,107	1,852	2,959
Rhode Island	0	1,173	1,731	2,904
District of Columbia	0	920	1,374	2,294
Vermont	0	724	1,198	1,922
New Hampshire	0	675	901	1,576
<b>US Total</b>	<b>539,398</b>	<b>806,810</b>	<b>1,092,669</b>	<b>2,438,877</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Value Added Contribution: Alphabetical by State

## US State-Level Value Added Contribution of Unconventional Gas\*: 2010

(\$M)

	Direct	Indirect	Induced	Total
Alabama	276	341	335	952
Arizona	0	246	283	529
Arkansas	2,745	1,005	1,161	4,910
California	505	815	871	2,192
Colorado	5,587	2,913	3,758	12,258
Connecticut	0	197	224	422
Delaware	25	63	74	163
District of Columbia	0	32	40	72
Florida	180	413	570	1,163
Georgia	109	472	566	1,147
Idaho	0	66	77	142
Illinois	395	1,000	1,165	2,560
Indiana	54	478	424	957
Iowa	36	171	213	420
Kansas	99	200	213	512
Kentucky	451	376	407	1,234
Louisiana	5,664	2,497	2,859	11,020
Maine	0	52	72	124
Maryland	0	255	300	555
Massachusetts	13	190	220	423
Michigan	859	949	1,159	2,966
Minnesota	45	355	396	796
Mississippi	4	122	138	264
Missouri	314	316	427	1,057
Montana	35	60	67	162
Nebraska	8	120	137	265
Nevada	41	65	74	180
New Hampshire	0	25	27	52
New Jersey	81	253	306	640
New Mexico	2,091	529	736	3,356
New York	61	994	1,260	2,316
North Carolina	5	414	490	909
North Dakota	0	55	50	105
Ohio	539	1,302	1,204	3,045
Oklahoma	1,924	1,053	1,031	4,008
Oregon	50	242	256	548
Pennsylvania	2,444	2,162	2,515	7,121
Rhode Island	0	49	57	107
South Carolina	3	216	224	444
South Dakota	0	37	51	88
Tennessee	12	310	361	683
Texas	19,621	13,636	14,739	47,995
Utah	1,256	855	1,015	3,126
Vermont	0	29	39	68
Virginia	179	556	538	1,273
Washington	0	134	164	298
West Virginia	1,261	487	491	2,239
Wisconsin	17	386	380	783
Wyoming	5,014	807	940	6,760
<b>US Total</b>	<b>52,004</b>	<b>38,301</b>	<b>43,101</b>	<b>133,405</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Value Added Contribution of Unconventional Gas\*: 2015

(\$M)

	Direct	Indirect	Induced	Total
Alabama	243	477	463	1,183
Arizona	0	364	426	791
Arkansas	4,068	1,508	1,688	7,264
California	751	1,181	1,265	3,197
Colorado	7,777	4,613	5,772	18,162
Connecticut	0	275	313	587
Delaware	32	90	105	226
District of Columbia	0	48	60	108
Florida	387	695	953	2,034
Georgia	136	681	804	1,622
Idaho	0	100	114	214
Illinois	523	1,413	1,619	3,555
Indiana	62	667	597	1,326
Iowa	75	266	325	665
Kansas	105	295	302	702
Kentucky	519	513	540	1,572
Louisiana	11,039	4,151	4,815	20,005
Maine	0	74	103	177
Maryland	0	379	434	814
Massachusetts	18	279	316	613
Michigan	977	1,302	1,514	3,794
Minnesota	112	541	619	1,272
Mississippi	119	258	298	675
Missouri	461	458	609	1,529
Montana	32	89	94	214
Nebraska	21	197	212	429
Nevada	2	65	61	128
New Hampshire	0	36	39	75
New Jersey	73	349	418	841
New Mexico	1,898	556	706	3,160
New York	50	1,458	1,816	3,325
North Carolina	0	605	712	1,318
North Dakota	0	110	81	190
Ohio	620	1,743	1,579	3,942
Oklahoma	2,922	1,595	1,517	6,033
Oregon	23	331	334	689
Pennsylvania	7,063	4,471	5,272	16,806
Rhode Island	0	72	82	153
South Carolina	1	324	330	655
South Dakota	0	56	76	132
Tennessee	5	458	523	986
Texas	26,463	18,662	19,643	64,768
Utah	1,527	1,096	1,243	3,866
Vermont	0	43	58	101
Virginia	165	746	723	1,634
Washington	0	198	243	441
West Virginia	2,751	880	932	4,563
Wisconsin	34	573	560	1,167
Wyoming	5,953	1,099	1,763	8,815
<b>US Total</b>	<b>77,007</b>	<b>56,441</b>	<b>63,069</b>	<b>196,516</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Value Added Contribution of Unconventional Gas\*: 2020

(\$M)

	Direct	Indirect	Induced	Total
Alabama	142	525	488	1,155
Arizona	0	459	539	998
Arkansas	4,624	1,781	1,959	8,364
California	823	1,397	1,488	3,708
Colorado	7,949	4,967	6,135	19,051
Connecticut	0	326	366	693
Delaware	54	126	141	321
District of Columbia	0	61	75	135
Florida	185	720	965	1,871
Georgia	77	805	941	1,823
Idaho	0	124	142	266
Illinois	727	1,741	2,035	4,502
Indiana	94	826	735	1,656
Iowa	89	328	394	811
Kansas	110	349	360	819
Kentucky	503	613	625	1,741
Louisiana	14,111	4,897	5,741	24,749
Maine	0	90	123	213
Maryland	0	464	527	992
Massachusetts	32	343	383	758
Michigan	1,116	1,593	1,818	4,527
Minnesota	119	653	736	1,507
Mississippi	57	254	293	604
Missouri	587	568	753	1,908
Montana	28	106	112	246
Nebraska	25	252	263	540
Nevada	9	85	83	177
New Hampshire	0	45	49	94
New Jersey	106	426	508	1,040
New Mexico	1,456	525	617	2,599
New York	60	1,744	2,162	3,967
North Carolina	9	752	885	1,645
North Dakota	0	143	102	245
Ohio	936	2,338	2,091	5,366
Oklahoma	3,422	1,894	1,800	7,116
Oregon	27	417	412	856
Pennsylvania	10,777	6,585	7,774	25,136
Rhode Island	0	85	97	182
South Carolina	5	405	411	822
South Dakota	0	68	93	161
Tennessee	13	573	648	1,233
Texas	32,840	23,722	24,945	81,507
Utah	1,714	1,254	1,411	4,379
Vermont	0	52	70	123
Virginia	170	924	883	1,977
Washington	0	246	298	544
West Virginia	3,832	1,216	1,285	6,333
Wisconsin	40	713	689	1,442
Wyoming	6,394	1,200	1,910	9,503
<b>US Total</b>	<b>93,261</b>	<b>69,779</b>	<b>77,363</b>	<b>240,403</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Value Added Contribution of Unconventional Gas\*: 2025

(\$M)

	Direct	Indirect	Induced	Total
Alabama	79	517	470	1,066
Arizona	0	476	567	1,043
Arkansas	4,850	1,853	2,045	8,749
California	785	1,380	1,483	3,648
Colorado	6,932	4,365	5,367	16,664
Connecticut	0	321	359	679
Delaware	49	122	139	310
District of Columbia	0	62	76	138
Florida	65	688	910	1,662
Georgia	23	808	935	1,766
Idaho	0	127	147	275
Illinois	677	1,698	2,003	4,378
Indiana	86	827	747	1,660
Iowa	91	343	407	841
Kansas	107	357	369	834
Kentucky	457	609	622	1,689
Louisiana	16,678	5,559	6,599	28,837
Maine	0	90	124	214
Maryland	0	451	526	977
Massachusetts	29	334	377	740
Michigan	996	1,568	1,742	4,306
Minnesota	101	644	734	1,480
Mississippi	33	239	280	551
Missouri	594	576	759	1,929
Montana	26	107	114	246
Nebraska	27	266	272	565
Nevada	2	83	81	167
New Hampshire	0	44	49	93
New Jersey	94	419	505	1,019
New Mexico	1,263	510	579	2,352
New York	51	1,709	2,135	3,895
North Carolina	0	744	890	1,634
North Dakota	0	156	109	265
Ohio	846	2,263	2,019	5,127
Oklahoma	3,606	1,944	1,866	7,416
Oregon	21	408	413	842
Pennsylvania	11,507	6,730	8,015	26,252
Rhode Island	0	83	96	179
South Carolina	2	413	420	835
South Dakota	0	69	95	163
Tennessee	8	586	664	1,258
Texas	34,194	24,380	25,648	84,223
Utah	1,821	1,309	1,482	4,613
Vermont	0	50	70	121
Virginia	154	929	893	1,976
Washington	0	253	304	557
West Virginia	4,011	1,243	1,326	6,580
Wisconsin	42	730	710	1,482
Wyoming	7,211	1,348	2,162	10,722
<b>US Total</b>	<b>97,518</b>	<b>70,793</b>	<b>78,706</b>	<b>247,017</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Value Added Contribution of Unconventional Gas\*: 2030

(\$M)

	Direct	Indirect	Induced	Total
Alabama	84	587	523	1,193
Arizona	0	529	635	1,164
Arkansas	4,900	1,913	2,102	8,914
California	804	1,451	1,567	3,822
Colorado	6,360	4,103	5,033	15,496
Connecticut	0	338	371	709
Delaware	59	137	154	349
District of Columbia	0	66	82	148
Florida	277	853	1,140	2,270
Georgia	97	918	1,069	2,084
Idaho	0	138	160	298
Illinois	772	1,812	2,172	4,757
Indiana	104	902	809	1,814
Iowa	101	381	444	926
Kansas	111	392	400	904
Kentucky	441	659	659	1,759
Louisiana	17,429	5,792	6,878	30,100
Maine	0	96	132	228
Maryland	0	471	558	1,030
Massachusetts	36	350	397	783
Michigan	1,079	1,717	1,883	4,679
Minnesota	95	686	780	1,561
Mississippi	30	250	295	575
Missouri	657	629	825	2,111
Montana	22	113	121	257
Nebraska	30	297	295	622
Nevada	2	92	91	185
New Hampshire	0	47	53	100
New Jersey	111	445	539	1,095
New Mexico	1,146	505	556	2,206
New York	57	1,782	2,229	4,069
North Carolina	0	793	962	1,754
North Dakota	0	174	122	296
Ohio	1,002	2,530	2,241	5,774
Oklahoma	3,872	2,092	2,014	7,978
Oregon	17	426	439	883
Pennsylvania	12,973	7,582	9,047	29,603
Rhode Island	0	85	100	186
South Carolina	3	454	460	917
South Dakota	0	74	102	176
Tennessee	8	642	721	1,372
Texas	36,540	26,353	27,767	90,660
Utah	1,885	1,368	1,553	4,807
Vermont	0	52	73	125
Virginia	161	1,017	974	2,152
Washington	0	275	327	602
West Virginia	4,434	1,387	1,476	7,297
Wisconsin	48	796	768	1,613
Wyoming	7,758	1,465	2,354	11,578
<b>US Total</b>	<b>103,505</b>	<b>76,021</b>	<b>84,456</b>	<b>263,982</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Value Added Contribution of Unconventional Gas\*: 2035

(\$M)

	Direct	Indirect	Induced	Total
Alabama	58	722	624	1,405
Arizona	0	684	826	1,509
Arkansas	5,769	2,276	2,495	10,540
California	928	1,769	1,920	4,617
Colorado	7,123	4,664	5,698	17,485
Connecticut	0	415	450	865
Delaware	90	186	205	482
District of Columbia	0	82	104	186
Florida	61	953	1,252	2,266
Georgia	14	1,105	1,280	2,398
Idaho	0	173	202	375
Illinois	1,087	2,289	2,802	6,178
Indiana	158	1,142	1,031	2,331
Iowa	131	491	567	1,189
Kansas	130	498	506	1,135
Kentucky	525	831	818	2,174
Louisiana	21,981	7,208	8,569	37,759
Maine	0	119	163	282
Maryland	0	583	699	1,281
Massachusetts	56	433	492	981
Michigan	1,441	2,222	2,433	6,096
Minnesota	107	856	974	1,937
Mississippi	26	299	359	685
Missouri	814	782	1,020	2,616
Montana	24	143	151	318
Nebraska	37	382	372	791
Nevada	3	117	117	237
New Hampshire	0	60	68	128
New Jersey	167	559	680	1,406
New Mexico	1,323	606	660	2,589
New York	85	2,182	2,732	5,000
North Carolina	0	978	1,206	2,185
North Dakota	0	230	160	390
Ohio	1,500	3,405	3,017	7,921
Oklahoma	4,809	2,598	2,498	9,905
Oregon	18	525	550	1,093
Pennsylvania	18,808	10,741	12,889	42,438
Rhode Island	0	103	123	225
South Carolina	2	573	581	1,155
South Dakota	0	92	128	220
Tennessee	7	810	909	1,727
Texas	44,731	32,359	33,998	111,089
Utah	2,038	1,552	1,753	5,343
Vermont	0	62	89	152
Virginia	213	1,326	1,250	2,789
Washington	0	350	411	761
West Virginia	6,299	1,941	2,072	10,313
Wisconsin	64	1,011	970	2,044
Wyoming	9,894	1,855	2,986	14,735
<b>US Total</b>	<b>130,520</b>	<b>95,346</b>	<b>105,862</b>	<b>331,728</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



## Value Added Contribution by State: Ranked by Total Contribution

## US State-Level Value Added Contribution of Unconventional Gas\*: 2010

(\$M ranked by total value added contribution)

	Direct	Indirect	Induced	Total
Texas	19,621	13,636	14,739	47,995
Colorado	5,587	2,913	3,758	12,258
Louisiana	5,664	2,497	2,859	11,020
Pennsylvania	2,444	2,162	2,515	7,121
Wyoming	5,014	807	940	6,760
Arkansas	2,745	1,005	1,161	4,910
Oklahoma	1,924	1,053	1,031	4,008
New Mexico	2,091	529	736	3,356
Utah	1,256	855	1,015	3,126
Ohio	539	1,302	1,204	3,045
Michigan	859	949	1,159	2,966
Illinois	395	1,000	1,165	2,560
New York	61	994	1,260	2,316
West Virginia	1,261	487	491	2,239
California	505	815	871	2,192
Virginia	179	556	538	1,273
Kentucky	451	376	407	1,234
Florida	180	413	570	1,163
Georgia	109	472	566	1,147
Missouri	314	316	427	1,057
Indiana	54	478	424	957
Alabama	276	341	335	952
North Carolina	5	414	490	909
Minnesota	45	355	396	796
Wisconsin	17	386	380	783
Tennessee	12	310	361	683
New Jersey	81	253	306	640
Maryland	0	255	300	555
Oregon	50	242	256	548
Arizona	0	246	283	529
Kansas	99	200	213	512
South Carolina	3	216	224	444
Massachusetts	13	190	220	423
Connecticut	0	197	224	422
Iowa	36	171	213	420
Washington	0	134	164	298
Nebraska	8	120	137	265
Mississippi	4	122	138	264
Nevada	41	65	74	180
Delaware	25	63	74	163
Montana	35	60	67	162
Idaho	0	66	77	142
Maine	0	52	72	124
Rhode Island	0	49	57	107
North Dakota	0	55	50	105
South Dakota	0	37	51	88
District of Columbia	0	32	40	72
Vermont	0	29	39	68
New Hampshire	0	25	27	52
<b>US Total</b>	<b>52,004</b>	<b>38,301</b>	<b>43,101</b>	<b>133,405</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Value Added Contribution of Unconventional Gas\*: 2015

(\$M ranked by total value added contribution)

	Direct	Indirect	Induced	Total
Texas	26,463	18,662	19,643	64,768
Louisiana	11,039	4,151	4,815	20,005
Colorado	7,777	4,613	5,772	18,162
Pennsylvania	7,063	4,471	5,272	16,806
Wyoming	5,953	1,099	1,763	8,815
Arkansas	4,068	1,508	1,688	7,264
Oklahoma	2,922	1,595	1,517	6,033
West Virginia	2,751	880	932	4,563
Ohio	620	1,743	1,579	3,942
Utah	1,527	1,096	1,243	3,866
Michigan	977	1,302	1,514	3,794
Illinois	523	1,413	1,619	3,555
New York	50	1,458	1,816	3,325
California	751	1,181	1,265	3,197
New Mexico	1,898	556	706	3,160
Florida	387	695	953	2,034
Virginia	165	746	723	1,634
Georgia	136	681	804	1,622
Kentucky	519	513	540	1,572
Missouri	461	458	609	1,529
Indiana	62	667	597	1,326
North Carolina	0	605	712	1,318
Minnesota	112	541	619	1,272
Alabama	243	477	463	1,183
Wisconsin	34	573	560	1,167
Tennessee	5	458	523	986
New Jersey	73	349	418	841
Maryland	0	379	434	814
Arizona	0	364	426	791
Kansas	105	295	302	702
Oregon	23	331	334	689
Mississippi	119	258	298	675
Iowa	75	266	325	665
South Carolina	1	324	330	655
Massachusetts	18	279	316	613
Connecticut	0	275	313	587
Washington	0	198	243	441
Nebraska	21	197	212	429
Delaware	32	90	105	226
Montana	32	89	94	214
Idaho	0	100	114	214
North Dakota	0	110	81	190
Maine	0	74	103	177
Rhode Island	0	72	82	153
South Dakota	0	56	76	132
Nevada	2	65	61	128
District of Columbia	0	48	60	108
Vermont	0	43	58	101
New Hampshire	0	36	39	75
<b>US Total</b>	<b>77,007</b>	<b>56,441</b>	<b>63,069</b>	<b>196,516</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Value Added Contribution of Unconventional Gas\*: 2020

(\$M ranked by total value added contribution)

	Direct	Indirect	Induced	Total
Texas	32,840	23,722	24,945	81,507
Pennsylvania	10,777	6,585	7,774	25,136
Louisiana	14,111	4,897	5,741	24,749
Colorado	7,949	4,967	6,135	19,051
Wyoming	6,394	1,200	1,910	9,503
Arkansas	4,624	1,781	1,959	8,364
Oklahoma	3,422	1,894	1,800	7,116
West Virginia	3,832	1,216	1,285	6,333
Ohio	936	2,338	2,091	5,366
Michigan	1,116	1,593	1,818	4,527
Illinois	727	1,741	2,035	4,502
Utah	1,714	1,254	1,411	4,379
New York	60	1,744	2,162	3,967
California	823	1,397	1,488	3,708
New Mexico	1,456	525	617	2,599
Virginia	170	924	883	1,977
Missouri	587	568	753	1,908
Florida	185	720	965	1,871
Georgia	77	805	941	1,823
Kentucky	503	613	625	1,741
Indiana	94	826	735	1,656
North Carolina	9	752	885	1,645
Minnesota	119	653	736	1,507
Wisconsin	40	713	689	1,442
Tennessee	13	573	648	1,233
Alabama	142	525	488	1,155
New Jersey	106	426	508	1,040
Arizona	0	459	539	998
Maryland	0	464	527	992
Oregon	27	417	412	856
South Carolina	5	405	411	822
Kansas	110	349	360	819
Iowa	89	328	394	811
Massachusetts	32	343	383	758
Connecticut	0	326	366	693
Mississippi	57	254	293	604
Washington	0	246	298	544
Nebraska	25	252	263	540
Delaware	54	126	141	321
Idaho	0	124	142	266
Montana	28	106	112	246
North Dakota	0	143	102	245
Maine	0	90	123	213
Rhode Island	0	85	97	182
Nevada	9	85	83	177
South Dakota	0	68	93	161
District of Columbia	0	61	75	135
Vermont	0	52	70	123
New Hampshire	0	45	49	94
<b>US Total</b>	<b>93,261</b>	<b>69,779</b>	<b>77,363</b>	<b>240,403</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Value Added Contribution of Unconventional Gas\*: 2025

(\$M ranked by total value added contribution)

	Direct	Indirect	Induced	Total
Texas	34,194	24,380	25,648	84,223
Louisiana	16,678	5,559	6,599	28,837
Pennsylvania	11,507	6,730	8,015	26,252
Colorado	6,932	4,365	5,367	16,664
Wyoming	7,211	1,348	2,162	10,722
Arkansas	4,850	1,853	2,045	8,749
Oklahoma	3,606	1,944	1,866	7,416
West Virginia	4,011	1,243	1,326	6,580
Ohio	846	2,263	2,019	5,127
Utah	1,821	1,309	1,482	4,613
Illinois	677	1,698	2,003	4,378
Michigan	996	1,568	1,742	4,306
New York	51	1,709	2,135	3,895
California	785	1,380	1,483	3,648
New Mexico	1,263	510	579	2,352
Virginia	154	929	893	1,976
Missouri	594	576	759	1,929
Georgia	23	808	935	1,766
Kentucky	457	609	622	1,689
Florida	65	688	910	1,662
Indiana	86	827	747	1,660
North Carolina	0	744	890	1,634
Wisconsin	42	730	710	1,482
Minnesota	101	644	734	1,480
Tennessee	8	586	664	1,258
Alabama	79	517	470	1,066
Arizona	0	476	567	1,043
New Jersey	94	419	505	1,019
Maryland	0	451	526	977
Oregon	21	408	413	842
Iowa	91	343	407	841
South Carolina	2	413	420	835
Kansas	107	357	369	834
Massachusetts	29	334	377	740
Connecticut	0	321	359	679
Nebraska	27	266	272	565
Washington	0	253	304	557
Mississippi	33	239	280	551
Delaware	49	122	139	310
Idaho	0	127	147	275
North Dakota	0	156	109	265
Montana	26	107	114	246
Maine	0	90	124	214
Rhode Island	0	83	96	179
Nevada	2	83	81	167
South Dakota	0	69	95	163
District of Columbia	0	62	76	138
Vermont	0	50	70	121
New Hampshire	0	44	49	93
<b>US Total</b>	<b>97,518</b>	<b>70,793</b>	<b>78,706</b>	<b>247,017</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Value Added Contribution of Unconventional Gas\*: 2030

(\$M ranked by total value added contribution)

	Direct	Indirect	Induced	Total
Texas	36,540	26,353	27,767	90,660
Louisiana	17,429	5,792	6,878	30,100
Pennsylvania	12,973	7,582	9,047	29,603
Colorado	6,360	4,103	5,033	15,496
Wyoming	7,758	1,465	2,354	11,578
Arkansas	4,900	1,913	2,102	8,914
Oklahoma	3,872	2,092	2,014	7,978
West Virginia	4,434	1,387	1,476	7,297
Ohio	1,002	2,530	2,241	5,774
Utah	1,885	1,368	1,553	4,807
Illinois	772	1,812	2,172	4,757
Michigan	1,079	1,717	1,883	4,679
New York	57	1,782	2,229	4,069
California	804	1,451	1,567	3,822
Florida	277	853	1,140	2,270
New Mexico	1,146	505	556	2,206
Virginia	161	1,017	974	2,152
Missouri	657	629	825	2,111
Georgia	97	918	1,069	2,084
Indiana	104	902	809	1,814
Kentucky	441	659	659	1,759
North Carolina	0	793	962	1,754
Wisconsin	48	796	768	1,613
Minnesota	95	686	780	1,561
Tennessee	8	642	721	1,372
Alabama	84	587	523	1,193
Arizona	0	529	635	1,164
New Jersey	111	445	539	1,095
Maryland	0	471	558	1,030
Iowa	101	381	444	926
South Carolina	3	454	460	917
Kansas	111	392	400	904
Oregon	17	426	439	883
Massachusetts	36	350	397	783
Connecticut	0	338	371	709
Nebraska	30	297	295	622
Washington	0	275	327	602
Mississippi	30	250	295	575
Delaware	59	137	154	349
Idaho	0	138	160	298
North Dakota	0	174	122	296
Montana	22	113	121	257
Maine	0	96	132	228
Rhode Island	0	85	100	186
Nevada	2	92	91	185
South Dakota	0	74	102	176
District of Columbia	0	66	82	148
Vermont	0	52	73	125
New Hampshire	0	47	53	100
<b>US Total</b>	<b>103,505</b>	<b>76,021</b>	<b>84,456</b>	<b>263,982</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Value Added Contribution of Unconventional Gas\*: 2035

(\$M ranked by total value added contribution)

	Direct	Indirect	Induced	Total
Texas	44,731	32,359	33,998	111,089
Pennsylvania	18,808	10,741	12,889	42,438
Louisiana	21,981	7,208	8,569	37,759
Colorado	7,123	4,664	5,698	17,485
Wyoming	9,894	1,855	2,986	14,735
Arkansas	5,769	2,276	2,495	10,540
West Virginia	6,299	1,941	2,072	10,313
Oklahoma	4,809	2,598	2,498	9,905
Ohio	1,500	3,405	3,017	7,921
Illinois	1,087	2,289	2,802	6,178
Michigan	1,441	2,222	2,433	6,096
Utah	2,038	1,552	1,753	5,343
New York	85	2,182	2,732	5,000
California	928	1,769	1,920	4,617
Virginia	213	1,326	1,250	2,789
Missouri	814	782	1,020	2,616
New Mexico	1,323	606	660	2,589
Georgia	14	1,105	1,280	2,398
Indiana	158	1,142	1,031	2,331
Florida	61	953	1,252	2,266
North Carolina	0	978	1,206	2,185
Kentucky	525	831	818	2,174
Wisconsin	64	1,011	970	2,044
Minnesota	107	856	974	1,937
Tennessee	7	810	909	1,727
Arizona	0	684	826	1,509
New Jersey	167	559	680	1,406
Alabama	58	722	624	1,405
Maryland	0	583	699	1,281
Iowa	131	491	567	1,189
South Carolina	2	573	581	1,155
Kansas	130	498	506	1,135
Oregon	18	525	550	1,093
Massachusetts	56	433	492	981
Connecticut	0	415	450	865
Nebraska	37	382	372	791
Washington	0	350	411	761
Mississippi	26	299	359	685
Delaware	90	186	205	482
North Dakota	0	230	160	390
Idaho	0	173	202	375
Montana	24	143	151	318
Maine	0	119	163	282
Nevada	3	117	117	237
Rhode Island	0	103	123	225
South Dakota	0	92	128	220
District of Columbia	0	82	104	186
Vermont	0	62	89	152
New Hampshire	0	60	68	128
<b>US Total</b>	<b>130,520</b>	<b>95,346</b>	<b>105,862</b>	<b>331,728</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Labor Income Contribution: Alphabetical by State

## US State-Level Labor Income Contribution of Unconventional Gas\*: 2010

(\$M)

	Direct	Indirect	Induced	Total
Alabama	117	237	229	583
Arizona	0	197	233	430
Arkansas	1,171	561	582	2,314
California	349	584	620	1,553
Colorado	2,561	1,575	1,822	5,958
Connecticut	0	160	184	344
Delaware	16	46	55	116
District of Columbia	0	27	34	61
Florida	171	318	424	912
Georgia	63	366	431	860
Idaho	0	52	61	113
Illinois	291	729	808	1,828
Indiana	34	362	320	716
Iowa	27	133	161	321
Kansas	52	142	153	347
Kentucky	186	257	265	708
Louisiana	2,740	1,371	1,381	5,492
Maine	0	42	58	100
Maryland	0	211	249	460
Massachusetts	12	153	178	343
Michigan	541	612	698	1,851
Minnesota	34	277	305	616
Mississippi	4	95	107	206
Missouri	258	209	257	724
Montana	13	43	49	104
Nebraska	5	95	107	207
Nevada	38	47	49	133
New Hampshire	0	20	21	41
New Jersey	62	198	237	497
New Mexico	785	314	362	1,461
New York	39	806	1,026	1,871
North Carolina	4	335	391	731
North Dakota	0	41	39	79
Ohio	372	873	786	2,031
Oklahoma	903	563	527	1,993
Oregon	39	179	188	406
Pennsylvania	1,210	1,326	1,439	3,975
Rhode Island	0	40	47	87
South Carolina	3	172	178	353
South Dakota	0	30	40	70
Tennessee	7	246	284	537
Texas	9,377	6,538	6,925	22,840
Utah	689	501	520	1,710
Vermont	0	23	31	54
Virginia	81	405	403	889
Washington	0	110	133	243
West Virginia	556	281	254	1,091
Wisconsin	12	303	296	611
Wyoming	1,931	428	394	2,753
<b>US Total</b>	<b>24,755</b>	<b>22,633</b>	<b>24,339</b>	<b>71,727</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Labor Income Contribution of Unconventional Gas\*: 2015

(\$M)

	Direct	Indirect	Induced	Total
Alabama	135	343	322	801
Arizona	0	292	351	643
Arkansas	1,725	838	845	3,407
California	547	847	900	2,295
Colorado	3,943	2,524	2,790	9,258
Connecticut	0	222	257	479
Delaware	21	65	78	164
District of Columbia	0	40	51	91
Florida	366	519	679	1,564
Georgia	76	532	619	1,226
Idaho	0	78	91	169
Illinois	387	1,039	1,136	2,562
Indiana	39	506	454	999
Iowa	56	203	241	499
Kansas	64	207	219	491
Kentucky	214	355	361	930
Louisiana	4,723	2,210	2,304	9,238
Maine	0	60	83	143
Maryland	0	313	360	674
Massachusetts	17	225	255	498
Michigan	684	864	935	2,483
Minnesota	83	415	465	963
Mississippi	113	184	201	497
Missouri	379	304	367	1,049
Montana	12	64	70	146
Nebraska	13	152	164	329
Nevada	1	50	50	101
New Hampshire	0	28	31	59
New Jersey	54	278	330	662
New Mexico	709	335	363	1,407
New York	35	1,186	1,490	2,710
North Carolina	0	490	571	1,061
North Dakota	0	77	62	138
Ohio	434	1,189	1,061	2,684
Oklahoma	1,338	850	774	2,961
Oregon	16	251	257	524
Pennsylvania	2,981	2,526	2,844	8,351
Rhode Island	0	58	67	125
South Carolina	0	257	263	521
South Dakota	0	44	60	104
Tennessee	3	364	414	782
Texas	12,486	8,993	9,291	30,769
Utah	799	648	651	2,098
Vermont	0	35	46	81
Virginia	73	560	558	1,191
Washington	0	163	197	360
West Virginia	1,126	497	466	2,088
Wisconsin	25	447	434	906
Wyoming	2,351	580	738	3,669
<b>US Total</b>	<b>36,028</b>	<b>33,309</b>	<b>35,615</b>	<b>104,951</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



## US State-Level Labor Income Contribution of Unconventional Gas\*: 2020

(\$M)

	Direct	Indirect	Induced	Total
Alabama	80	393	361	834
Arizona	0	372	445	816
Arkansas	1,979	995	986	3,960
California	601	1,014	1,069	2,685
Colorado	4,140	2,758	2,994	9,893
Connecticut	0	265	301	566
Delaware	36	89	102	226
District of Columbia	0	51	64	115
Florida	176	570	748	1,494
Georgia	46	645	743	1,434
Idaho	0	97	112	210
Illinois	539	1,274	1,407	3,220
Indiana	60	626	556	1,243
Iowa	66	251	293	610
Kansas	67	250	265	582
Kentucky	216	430	427	1,073
Louisiana	5,672	2,594	2,749	11,015
Maine	0	73	99	172
Maryland	0	385	438	823
Massachusetts	31	276	307	614
Michigan	839	1,066	1,123	3,028
Minnesota	88	504	557	1,149
Mississippi	53	192	215	460
Missouri	482	377	451	1,310
Montana	11	77	85	173
Nebraska	16	195	203	415
Nevada	7	65	66	138
New Hampshire	0	35	38	73
New Jersey	78	339	400	817
New Mexico	556	324	334	1,215
New York	47	1,423	1,772	3,242
North Carolina	8	610	708	1,326
North Dakota	0	101	78	179
Ohio	660	1,563	1,367	3,590
Oklahoma	1,585	1,015	922	3,522
Oregon	20	317	318	654
Pennsylvania	4,590	3,654	4,093	12,336
Rhode Island	0	69	79	148
South Carolina	4	323	327	654
South Dakota	0	54	73	127
Tennessee	8	456	513	977
Texas	15,840	11,562	11,790	39,192
Utah	889	752	750	2,391
Vermont	0	42	56	99
Virginia	80	699	686	1,465
Washington	0	202	242	444
West Virginia	1,585	684	635	2,904
Wisconsin	29	559	534	1,122
Wyoming	2,534	637	804	3,974
<b>US Total</b>	<b>43,717</b>	<b>41,307</b>	<b>43,687</b>	<b>128,711</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Labor Income Contribution of Unconventional Gas\*: 2025

(\$M)

	Direct	Indirect	Induced	Total
Alabama	42	394	359	795
Arizona	0	387	469	855
Arkansas	2,066	1,032	1,027	4,124
California	578	1,005	1,071	2,655
Colorado	3,597	2,426	2,648	8,671
Connecticut	0	259	294	554
Delaware	32	87	102	221
District of Columbia	0	52	65	117
Florida	62	559	736	1,357
Georgia	14	656	753	1,422
Idaho	0	100	117	216
Illinois	502	1,247	1,397	3,146
Indiana	55	629	567	1,250
Iowa	67	263	303	633
Kansas	67	257	273	596
Kentucky	199	431	429	1,059
Louisiana	6,581	2,911	3,140	12,632
Maine	0	73	100	173
Maryland	0	374	437	811
Massachusetts	28	269	302	599
Michigan	767	1,064	1,093	2,924
Minnesota	75	500	560	1,136
Mississippi	31	184	211	426
Missouri	488	381	455	1,323
Montana	10	78	87	174
Nebraska	18	205	210	433
Nevada	1	65	66	132
New Hampshire	0	35	38	73
New Jersey	69	335	400	804
New Mexico	500	315	318	1,134
New York	40	1,393	1,754	3,187
North Carolina	0	605	717	1,323
North Dakota	0	109	83	192
Ohio	596	1,526	1,338	3,460
Oklahoma	1,659	1,037	954	3,649
Oregon	15	314	322	651
Pennsylvania	4,791	3,679	4,204	12,674
Rhode Island	0	67	79	146
South Carolina	1	329	335	665
South Dakota	0	54	75	129
Tennessee	5	467	526	998
Texas	16,331	11,822	12,132	40,285
Utah	939	782	788	2,509
Vermont	0	41	56	97
Virginia	73	707	698	1,478
Washington	0	207	246	454
West Virginia	1,634	698	655	2,986
Wisconsin	31	572	551	1,154
Wyoming	2,872	715	907	4,494
<b>US Total</b>	<b>44,834</b>	<b>41,695</b>	<b>44,445</b>	<b>130,974</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Labor Income Contribution of Unconventional Gas\*: 2030

(\$M)

	Direct	Indirect	Induced	Total
Alabama	57	447	396	900
Arizona	0	430	526	956
Arkansas	2,102	1,068	1,059	4,229
California	598	1,063	1,136	2,797
Colorado	3,333	2,300	2,511	8,143
Connecticut	0	273	304	577
Delaware	39	96	112	247
District of Columbia	0	55	70	126
Florida	262	670	872	1,804
Georgia	55	735	844	1,633
Idaho	0	108	127	235
Illinois	573	1,326	1,502	3,400
Indiana	66	684	611	1,361
Iowa	75	292	329	696
Kansas	69	283	297	649
Kentucky	196	469	458	1,122
Louisiana	6,820	3,032	3,274	13,126
Maine	0	78	106	184
Maryland	0	392	464	855
Massachusetts	35	282	318	634
Michigan	849	1,166	1,176	3,190
Minnesota	70	535	599	1,204
Mississippi	28	194	225	446
Missouri	540	416	492	1,448
Montana	8	83	93	184
Nebraska	20	229	227	476
Nevada	1	71	74	146
New Hampshire	0	37	41	78
New Jersey	82	355	425	861
New Mexico	451	315	313	1,079
New York	47	1,453	1,829	3,328
North Carolina	0	647	776	1,424
North Dakota	0	122	93	215
Ohio	708	1,694	1,466	3,867
Oklahoma	1,791	1,118	1,028	3,937
Oregon	12	331	344	688
Pennsylvania	5,453	4,130	4,706	14,289
Rhode Island	0	69	83	152
South Carolina	2	362	367	731
South Dakota	0	58	80	139
Tennessee	5	512	571	1,089
Texas	17,610	12,840	13,144	43,594
Utah	968	822	832	2,623
Vermont	0	42	59	101
Virginia	78	776	762	1,616
Washington	0	225	264	490
West Virginia	1,823	777	726	3,326
Wisconsin	35	625	596	1,256
Wyoming	3,114	778	988	4,880
<b>US Total</b>	<b>47,974</b>	<b>44,865</b>	<b>47,692</b>	<b>140,531</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Labor Income Contribution of Unconventional Gas\*: 2035

(\$M)

	Direct	Indirect	Induced	Total
Alabama	29	556	484	1,069
Arizona	0	557	684	1,241
Arkansas	2,485	1,273	1,262	5,020
California	693	1,303	1,401	3,397
Colorado	3,739	2,628	2,868	9,236
Connecticut	0	335	367	702
Delaware	60	127	146	334
District of Columbia	0	69	89	158
Florida	58	781	1,021	1,860
Georgia	8	900	1,035	1,943
Idaho	0	135	160	295
Illinois	807	1,657	1,909	4,374
Indiana	100	861	773	1,734
Iowa	97	376	420	892
Kansas	80	362	377	819
Kentucky	237	590	570	1,396
Louisiana	8,519	3,767	4,075	16,361
Maine	0	96	131	227
Maryland	0	484	580	1,064
Massachusetts	54	347	391	791
Michigan	1,136	1,495	1,504	4,135
Minnesota	80	669	751	1,500
Mississippi	25	233	276	534
Missouri	668	518	609	1,794
Montana	9	105	117	230
Nebraska	25	295	286	606
Nevada	1	91	96	189
New Hampshire	0	47	52	99
New Jersey	123	443	531	1,097
New Mexico	522	379	376	1,277
New York	71	1,772	2,233	4,075
North Carolina	0	800	975	1,775
North Dakota	0	160	122	282
Ohio	1,059	2,240	1,927	5,225
Oklahoma	2,219	1,389	1,276	4,885
Oregon	13	410	433	856
Pennsylvania	7,966	5,777	6,606	20,349
Rhode Island	0	83	101	184
South Carolina	1	457	463	921
South Dakota	0	72	100	173
Tennessee	5	646	720	1,371
Texas	21,507	15,788	16,133	53,427
Utah	1,050	944	958	2,952
Vermont	0	51	72	122
Virginia	105	1,004	977	2,086
Washington	0	286	332	617
West Virginia	2,609	1,080	1,008	4,697
Wisconsin	47	792	751	1,590
Wyoming	3,958	986	1,252	6,196
<b>US Total</b>	<b>60,162</b>	<b>56,212</b>	<b>59,780</b>	<b>176,154</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Government Revenue and Private Lease Payments by State

Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Alabama  
(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>106,963</b>	<b>130,609</b>	<b>146,576</b>	<b>122,027</b>	<b>140,167</b>	<b>162,781</b>	<b>3,371,258</b>
Personal Taxes	80,367	102,678	116,530	96,872	112,259	129,210	2,665,636
Corporate Taxes	26,596	27,931	30,046	25,155	27,908	33,571	705,621
<b>State and Local Taxes</b>	<b>132,733</b>	<b>132,137</b>	<b>127,494</b>	<b>102,580</b>	<b>114,867</b>	<b>132,590</b>	<b>3,048,698</b>
Personal Taxes	14,860	17,374	20,656	16,305	18,713	21,782	456,845
Corporate Taxes	77,599	87,180	90,141	75,246	87,779	101,166	2,148,640
Severance Taxes	35,020	23,986	14,519	9,591	7,283	8,384	385,402
Ad Valorem Taxes	5,253	3,598	2,178	1,439	1,092	1,258	57,810
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>239,696</b>	<b>262,746</b>	<b>274,070</b>	<b>224,607</b>	<b>255,034</b>	<b>295,370</b>	<b>6,419,955</b>
<b>Lease Payments to Private Landowners</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Arizona  
(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>84,003</b>	<b>126,201</b>	<b>161,891</b>	<b>173,836</b>	<b>185,989</b>	<b>241,599</b>	<b>4,053,592</b>
Personal Taxes	69,543	104,731	131,407	141,811	155,264	201,750	3,344,299
Corporate Taxes	14,460	21,470	30,483	32,026	30,725	39,849	709,293
<b>State and Local Taxes</b>	<b>51,683</b>	<b>76,580</b>	<b>139,668</b>	<b>148,362</b>	<b>110,795</b>	<b>143,395</b>	<b>2,864,717</b>
Personal Taxes	12,544	18,680	23,844	26,129	28,246	36,477	607,051
Corporate Taxes	39,138	57,900	115,824	122,233	82,549	106,917	2,257,666
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
Federal Royalty Payments	0	0	0	0	0	0	0
<b>Total Govt Revenue</b>	<b>135,685</b>	<b>202,781</b>	<b>301,558</b>	<b>322,198</b>	<b>296,785</b>	<b>384,994</b>	<b>6,918,309</b>
<b>Lease Payments to Private Landowners</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Arkansas**

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>462,301</b>	<b>682,288</b>	<b>787,205</b>	<b>830,505</b>	<b>850,157</b>	<b>1,008,556</b>	<b>19,427,923</b>
Personal Taxes	327,776	482,957	560,094	590,157	605,876	719,860	13,814,508
Corporate Taxes	134,526	199,331	227,111	240,348	244,282	288,696	5,613,414
<b>State and Local Taxes</b>	<b>715,078</b>	<b>1,085,876</b>	<b>1,250,403</b>	<b>1,394,575</b>	<b>1,475,379</b>	<b>1,721,033</b>	<b>32,121,442</b>
Personal Taxes	72,954	106,640	123,138	131,901	136,182	160,685	3,073,402
Corporate Taxes	442,061	657,459	744,563	790,555	804,748	950,997	18,469,273
Severance Taxes	153,894	247,521	294,386	363,168	411,114	468,732	8,137,513
Ad Valorem Taxes	46,168	74,256	88,316	108,951	123,334	140,620	2,441,254
<b>Federal Royalty Payments</b>	<b>15,213</b>	<b>24,044</b>	<b>28,488</b>	<b>34,955</b>	<b>39,487</b>	<b>44,918</b>	<b>785,200</b>
<b>Total Govt Revenue</b>	<b>1,192,592</b>	<b>1,792,208</b>	<b>2,066,097</b>	<b>2,260,036</b>	<b>2,365,024</b>	<b>2,774,506</b>	<b>52,334,565</b>
<b>Lease Payments to</b>							
Private Landowners	15,425	14,241	17,182	20,278	23,884	27,074	484,172

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: California**

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>832,152</b>	<b>1,222,812</b>	<b>1,437,927</b>	<b>1,441,360</b>	<b>1,518,915</b>	<b>1,863,453</b>	<b>34,844,086</b>
Personal Taxes	696,726	1,023,707	1,203,909	1,205,019	1,269,511	1,554,999	29,140,044
Corporate Taxes	135,426	199,105	234,018	236,341	249,404	308,454	5,704,042
<b>State and Local Taxes</b>	<b>684,244</b>	<b>1,013,838</b>	<b>1,187,999</b>	<b>1,208,210</b>	<b>1,280,517</b>	<b>1,576,497</b>	<b>29,104,679</b>
Personal Taxes	221,412	322,713	377,641	383,766	407,016	495,378	9,247,657
Corporate Taxes	462,832	691,125	810,358	824,444	873,501	1,081,119	19,857,023
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>1,516,396</b>	<b>2,236,651</b>	<b>2,625,926</b>	<b>2,649,571</b>	<b>2,799,432</b>	<b>3,439,950</b>	<b>63,948,766</b>
<b>Lease Payments to</b>							
Private Landowners	0	0	0	0	0	0	0

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Colorado**  
 (\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>1,386,141</b>	<b>2,114,452</b>	<b>2,230,811</b>	<b>1,973,929</b>	<b>1,848,011</b>	<b>2,098,686</b>	<b>49,548,086</b>
Personal Taxes	1,035,700	1,636,244	1,740,246	1,535,870	1,439,170	1,633,723	38,431,207
Corporate Taxes	350,442	478,208	490,565	438,059	408,842	464,962	11,116,879
<b>State and Local Taxes</b>	<b>1,579,908</b>	<b>2,066,264</b>	<b>2,084,772</b>	<b>1,971,476</b>	<b>1,925,593</b>	<b>2,131,337</b>	<b>49,518,640</b>
Personal Taxes	230,443	356,553	377,363	338,475	319,230	360,109	8,434,483
Corporate Taxes	902,728	1,213,958	1,232,441	1,110,727	1,042,570	1,187,464	28,223,964
Severance Taxes	248,187	275,419	263,871	290,152	313,218	324,313	7,144,552
Ad Valorem Taxes	198,550	220,335	211,097	232,122	250,574	259,450	5,715,641
<b>Federal Royalty Payments</b>	<b>231,273</b>	<b>253,208</b>	<b>242,252</b>	<b>265,108</b>	<b>285,247</b>	<b>295,940</b>	<b>6,547,114</b>
<b>Total Govt Revenue</b>	<b>3,197,323</b>	<b>4,433,925</b>	<b>4,557,835</b>	<b>4,210,513</b>	<b>4,058,852</b>	<b>4,525,963</b>	<b>105,613,840</b>
<b>Lease Payments to Private Landowners</b>	<b>30,577</b>	<b>80,308</b>	<b>94,206</b>	<b>79,875</b>	<b>76,709</b>	<b>79,593</b>	<b>1,930,914</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Connecticut**  
 (\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>80,441</b>	<b>113,058</b>	<b>132,467</b>	<b>130,817</b>	<b>136,020</b>	<b>165,889</b>	<b>3,177,633</b>
Personal Taxes	70,161	98,498	115,695	114,253	119,089	145,386	2,776,543
Corporate Taxes	10,280	14,560	16,772	16,564	16,932	20,502	401,090
<b>State and Local Taxes</b>	<b>35,292</b>	<b>49,465</b>	<b>57,165</b>	<b>56,935</b>	<b>58,928</b>	<b>71,380</b>	<b>1,379,147</b>
Personal Taxes	15,622	21,712	25,443	25,512	26,775	32,484	617,478
Corporate Taxes	19,670	27,752	31,722	31,423	32,153	38,896	761,670
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>115,734</b>	<b>162,523</b>	<b>189,632</b>	<b>187,752</b>	<b>194,948</b>	<b>237,269</b>	<b>4,556,781</b>
<b>Lease Payments to Private Landowners</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Delaware**

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>22,147</b>	<b>31,006</b>	<b>42,573</b>	<b>41,635</b>	<b>46,369</b>	<b>62,977</b>	<b>1,020,725</b>
Personal Taxes	18,401	25,948	35,761	35,071	39,087	53,054	857,967
Corporate Taxes	3,747	5,058	6,812	6,564	7,282	9,923	162,758
<b>State and Local Taxes</b>	<b>16,815</b>	<b>23,326</b>	<b>31,834</b>	<b>31,057</b>	<b>34,636</b>	<b>47,093</b>	<b>764,031</b>
Personal Taxes	4,380	6,137	8,457	8,424	9,455	12,757	205,208
Corporate Taxes	12,436	17,189	23,376	22,633	25,181	34,336	558,824
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>38,963</b>	<b>54,331</b>	<b>74,407</b>	<b>72,692</b>	<b>81,005</b>	<b>110,069</b>	<b>1,784,756</b>
<b>Lease Payments to</b>							
Private Landowners	0	0	0	0	0	0	0

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: District of Columbia**

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>11,493</b>	<b>17,370</b>	<b>21,887</b>	<b>22,288</b>	<b>23,878</b>	<b>30,047</b>	<b>530,962</b>
Personal Taxes	10,847	16,377	20,655	21,017	22,519	28,331	500,785
Corporate Taxes	646	993	1,232	1,271	1,358	1,716	30,177
<b>State and Local Taxes</b>	<b>3,685</b>	<b>5,606</b>	<b>7,002</b>	<b>7,180</b>	<b>7,681</b>	<b>9,682</b>	<b>170,764</b>
Personal Taxes	1,860	2,808	3,537	3,605	3,860	4,858	85,848
Corporate Taxes	1,825	2,799	3,465	3,574	3,821	4,824	84,916
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>15,178</b>	<b>22,977</b>	<b>28,889</b>	<b>29,468</b>	<b>31,559</b>	<b>39,728</b>	<b>701,726</b>
<b>Lease Payments to</b>							
Private Landowners	0	0	0	0	0	0	0

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



## Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Florida

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>321,178</b>	<b>535,885</b>	<b>551,106</b>	<b>507,671</b>	<b>641,715</b>	<b>705,608</b>	<b>13,748,850</b>
Personal Taxes	279,055	468,084	476,103	437,328	556,464	606,752	11,904,410
Corporate Taxes	42,123	67,801	75,003	70,343	85,251	98,856	1,844,440
<b>State and Local Taxes</b>	<b>215,188</b>	<b>350,570</b>	<b>376,773</b>	<b>353,285</b>	<b>434,872</b>	<b>495,319</b>	<b>9,353,767</b>
Personal Taxes	13,845	20,633	23,325	18,717	24,540	25,978	535,635
Corporate Taxes	201,342	329,936	353,448	334,568	410,332	469,340	8,818,132
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>536,365</b>	<b>886,455</b>	<b>927,879</b>	<b>860,956</b>	<b>1,076,587</b>	<b>1,200,927</b>	<b>23,102,617</b>
<b>Lease Payments to Private Landowners</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Georgia

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>164,265</b>	<b>222,406</b>	<b>272,557</b>	<b>255,042</b>	<b>294,916</b>	<b>348,617</b>	<b>6,506,813</b>
Personal Taxes	132,696	179,141	219,005	204,112	236,954	279,784	5,227,263
Corporate Taxes	31,569	43,265	53,552	50,930	57,962	68,833	1,279,550
<b>State and Local Taxes</b>	<b>106,311</b>	<b>142,021</b>	<b>181,175</b>	<b>172,285</b>	<b>190,346</b>	<b>229,130</b>	<b>4,267,743</b>
Personal Taxes	33,416	44,421	54,708	51,697	60,058	70,506	1,314,221
Corporate Taxes	72,895	97,601	126,468	120,589	130,287	158,625	2,953,522
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>270,576</b>	<b>364,428</b>	<b>453,732</b>	<b>427,328</b>	<b>485,262</b>	<b>577,747</b>	<b>10,774,556</b>
<b>Lease Payments to Private Landowners</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Idaho**

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>19,469</b>	<b>29,584</b>	<b>36,749</b>	<b>38,466</b>	<b>41,831</b>	<b>52,903</b>	<b>914,082</b>
Personal Taxes	16,294	24,713	30,591	31,893	34,575	43,558	758,489
Corporate Taxes	3,175	4,870	6,158	6,573	7,256	9,345	155,592
<b>State and Local Taxes</b>	<b>11,860</b>	<b>18,021</b>	<b>22,501</b>	<b>24,006</b>	<b>26,427</b>	<b>33,720</b>	<b>568,730</b>
Personal Taxes	3,769	5,659	6,988	7,398	8,075	10,110	175,298
Corporate Taxes	8,091	12,362	15,513	16,608	18,352	23,611	393,432
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>31,329</b>	<b>47,605</b>	<b>59,250</b>	<b>62,472</b>	<b>68,258</b>	<b>86,623</b>	<b>1,482,812</b>
<b>Lease Payments to</b>							
Private Landowners	0	0	0	0	0	0	0

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Illinois**

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>379,894</b>	<b>521,383</b>	<b>668,911</b>	<b>640,333</b>	<b>690,779</b>	<b>892,006</b>	<b>15,786,786</b>
Personal Taxes	324,743	445,680	572,687	549,461	593,771	767,184	13,537,813
Corporate Taxes	55,151	75,703	96,225	90,873	97,008	124,821	2,248,973
<b>State and Local Taxes</b>	<b>249,709</b>	<b>344,003</b>	<b>433,530</b>	<b>414,403</b>	<b>444,548</b>	<b>574,833</b>	<b>10,243,776</b>
Personal Taxes	60,373	81,191	105,131	101,341	110,241	141,636	2,494,534
Corporate Taxes	189,305	262,812	328,400	313,063	334,307	433,197	7,749,159
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	31	1	0	0	0	0	83
<b>Federal Royalty Payments</b>	<b>30</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>80</b>
<b>Total Govt Revenue</b>	<b>629,632</b>	<b>865,388</b>	<b>1,102,442</b>	<b>1,054,736</b>	<b>1,135,327</b>	<b>1,466,838</b>	<b>26,030,642</b>
<b>Lease Payments to</b>							
Private Landowners	0	0	0	0	0	0	0

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Indiana

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>128,219</b>	<b>165,739</b>	<b>221,475</b>	<b>206,855</b>	<b>224,532</b>	<b>287,185</b>	<b>5,131,521</b>
Personal Taxes	107,103	138,500	185,240	173,702	188,817	241,158	4,301,949
Corporate Taxes	21,117	27,239	36,235	33,154	35,715	46,026	829,571
<b>State and Local Taxes</b>	<b>84,074</b>	<b>109,665</b>	<b>142,773</b>	<b>131,738</b>	<b>142,250</b>	<b>186,102</b>	<b>3,307,575</b>
Personal Taxes	22,325	28,014	38,136	35,557	38,904	49,444	882,481
Corporate Taxes	61,749	81,651	104,637	96,181	103,346	136,658	2,425,094
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>212,294</b>	<b>275,405</b>	<b>364,248</b>	<b>338,594</b>	<b>366,782</b>	<b>473,287</b>	<b>8,439,095</b>
<b>Lease Payments to Private Landowners</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Iowa

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>54,558</b>	<b>86,140</b>	<b>104,873</b>	<b>109,854</b>	<b>120,756</b>	<b>155,480</b>	<b>2,633,214</b>
Personal Taxes	44,410	70,118	85,196	89,275	98,114	126,097	2,139,785
Corporate Taxes	10,149	16,022	19,677	20,579	22,641	29,383	493,428
<b>State and Local Taxes</b>	<b>42,495</b>	<b>67,006</b>	<b>81,632</b>	<b>86,075</b>	<b>94,947</b>	<b>122,609</b>	<b>2,061,061</b>
Personal Taxes	9,982	15,571	18,866	20,054	22,184	28,342	479,188
Corporate Taxes	32,513	51,434	62,766	66,022	72,762	94,267	1,581,874
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>97,054</b>	<b>153,146</b>	<b>186,506</b>	<b>195,930</b>	<b>215,702</b>	<b>278,089</b>	<b>4,694,275</b>
<b>Lease Payments to Private Landowners</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Kansas**

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>64,324</b>	<b>91,042</b>	<b>106,597</b>	<b>109,648</b>	<b>118,864</b>	<b>150,003</b>	<b>2,666,565</b>
Personal Taxes	50,753	73,379	86,332	89,077	96,813	122,315	2,160,682
Corporate Taxes	13,571	17,662	20,265	20,570	22,050	27,687	505,883
<b>State and Local Taxes</b>	<b>55,654</b>	<b>64,399</b>	<b>72,875</b>	<b>74,802</b>	<b>80,698</b>	<b>101,176</b>	<b>1,855,950</b>
Personal Taxes	11,696	16,210	18,974	19,869	21,746	27,319	481,535
Corporate Taxes	38,062	47,599	53,849	54,928	58,951	73,856	1,356,430
Severance Taxes	3,065	307	27	3	1	1	9,349
Ad Valorem Taxes	2,831	283	25	2	0	1	8,636
<b>Federal Royalty Payments</b>	<b>71</b>	<b>7</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>216</b>
<b>Total Govt Revenue</b>	<b>120,048</b>	<b>155,448</b>	<b>179,472</b>	<b>184,450</b>	<b>199,562</b>	<b>251,179</b>	<b>4,522,730</b>
<b>Lease Payments to</b>							
Private Landowners	0	0	0	0	0	0	0

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Kentucky**

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>130,244</b>	<b>155,557</b>	<b>190,668</b>	<b>170,532</b>	<b>178,348</b>	<b>221,268</b>	<b>4,354,304</b>
Personal Taxes	94,404	112,190	141,993	126,830	133,771	166,360	3,225,828
Corporate Taxes	35,840	43,367	48,675	43,702	44,577	54,907	1,128,476
<b>State and Local Taxes</b>	<b>157,598</b>	<b>196,317</b>	<b>213,700</b>	<b>193,369</b>	<b>199,676</b>	<b>247,240</b>	<b>5,027,402</b>
Personal Taxes	26,551	31,709	39,130	35,621	37,594	46,284	902,356
Corporate Taxes	105,390	131,177	143,054	129,062	131,315	165,365	3,349,935
Severance Taxes	20,992	27,353	25,786	23,470	25,172	29,119	634,183
Ad Valorem Taxes	4,665	6,078	5,730	5,216	5,594	6,471	140,929
<b>Federal Royalty Payments</b>	<b>3,315</b>	<b>4,296</b>	<b>4,044</b>	<b>3,694</b>	<b>3,946</b>	<b>4,544</b>	<b>99,545</b>
<b>Total Govt Revenue</b>	<b>291,156</b>	<b>356,170</b>	<b>408,411</b>	<b>367,595</b>	<b>381,969</b>	<b>473,052</b>	<b>9,481,251</b>
<b>Lease Payments to</b>							
Private Landowners	4,333	2,874	3,468	4,093	4,820	5,464	100,767

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Louisiana

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>1,052,791</b>	<b>1,857,187</b>	<b>2,249,761</b>	<b>2,627,846</b>	<b>2,743,095</b>	<b>3,437,170</b>	<b>58,614,351</b>
Personal Taxes	784,452	1,323,847	1,561,864	1,808,928	1,881,100	2,346,907	40,707,093
Corporate Taxes	268,338	533,340	687,897	818,918	861,995	1,090,263	17,907,258
<b>State and Local Taxes</b>	<b>1,020,976</b>	<b>2,039,799</b>	<b>2,618,671</b>	<b>3,175,771</b>	<b>3,392,989</b>	<b>4,265,159</b>	<b>69,351,485</b>
Personal Taxes	140,109	236,215	279,411	329,280	345,002	428,066	7,369,974
Corporate Taxes	804,853	1,613,738	2,062,794	2,469,303	2,600,643	3,285,162	53,957,431
Severance Taxes	28,541	63,754	89,953	111,298	122,246	135,937	2,347,450
Ad Valorem Taxes	47,474	126,091	186,515	265,889	325,097	415,995	5,676,631
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>2,073,767</b>	<b>3,896,986</b>	<b>\$4,868,433</b>	<b>5,803,617</b>	<b>6,136,084</b>	<b>7,702,330</b>	<b>127,965,836</b>
<b>Lease Payments to Private Landowners</b>	<b>39,076</b>	<b>45,855</b>	<b>57,967</b>	<b>68,439</b>	<b>81,099</b>	<b>105,496</b>	<b>1,628,231</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Maine

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>19,285</b>	<b>27,680</b>	<b>33,336</b>	<b>33,412</b>	<b>35,666</b>	<b>44,011</b>	<b>808,713</b>
Personal Taxes	17,841	25,590	30,843	30,898	32,984	40,688	747,899
Corporate Taxes	1,444	2,090	2,493	2,514	2,682	3,323	60,814
<b>State and Local Taxes</b>	<b>7,139</b>	<b>10,275</b>	<b>12,295</b>	<b>12,370</b>	<b>13,199</b>	<b>16,320</b>	<b>299,342</b>
Personal Taxes	3,059	4,388	5,281	5,301	5,654	6,977	128,210
Corporate Taxes	4,080	5,887	7,014	7,069	7,545	9,343	171,132
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>26,424</b>	<b>37,955</b>	<b>45,632</b>	<b>45,781</b>	<b>48,866</b>	<b>60,331</b>	<b>1,108,055</b>
<b>Lease Payments to Private Landowners</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Maryland**

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>91,191</b>	<b>135,376</b>	<b>164,249</b>	<b>163,116</b>	<b>171,481</b>	<b>213,435</b>	<b>3,932,673</b>
Personal Taxes	77,480	114,757	139,552	138,326	145,440	180,927	3,336,394
Corporate Taxes	13,711	20,619	24,696	24,790	26,040	32,508	596,279
<b>State and Local Taxes</b>	<b>61,298</b>	<b>91,010</b>	<b>109,101</b>	<b>109,828</b>	<b>115,812</b>	<b>143,902</b>	<b>2,641,752</b>
Personal Taxes	25,770	37,787	45,844	46,140	48,845	60,386	1,108,473
Corporate Taxes	35,527	53,222	63,257	63,688	66,967	83,517	1,533,279
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>152,489</b>	<b>226,386</b>	<b>273,350</b>	<b>272,944</b>	<b>287,293</b>	<b>357,337</b>	<b>6,574,425</b>
<b>Lease Payments to</b>							
Private Landowners	0	0	0	0	0	0	0

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Massachusetts**

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>146,851</b>	<b>216,489</b>	<b>263,407</b>	<b>260,256</b>	<b>273,278</b>	<b>339,412</b>	<b>6,282,806</b>
Personal Taxes	124,517	182,386	222,233	219,255	230,707	286,918	5,301,499
Corporate Taxes	22,335	34,102	41,174	41,001	42,570	52,494	981,307
<b>State and Local Taxes</b>	<b>115,756</b>	<b>174,528</b>	<b>210,948</b>	<b>210,866</b>	<b>220,321</b>	<b>271,652</b>	<b>5,051,833</b>
Personal Taxes	32,775	47,527	57,772	57,875	61,316	75,781	1,393,845
Corporate Taxes	82,980	127,001	153,175	152,990	159,005	195,871	3,657,988
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>262,607</b>	<b>391,017</b>	<b>474,355</b>	<b>471,122</b>	<b>493,598</b>	<b>611,065</b>	<b>11,334,639</b>
<b>Lease Payments to</b>							
Private Landowners	0	0	0	0	0	0	0

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Michigan**  
 (\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>361,495</b>	<b>484,124</b>	<b>585,590</b>	<b>570,246</b>	<b>620,494</b>	<b>806,084</b>	<b>14,221,219</b>
Personal Taxes	297,935	405,778	495,807	484,196	528,341	686,605	12,031,956
Corporate Taxes	63,560	78,346	89,783	86,050	92,153	119,479	2,189,262
<b>State and Local Taxes</b>	<b>329,377</b>	<b>398,353</b>	<b>448,739</b>	<b>431,228</b>	<b>462,232</b>	<b>596,644</b>	<b>11,017,812</b>
Personal Taxes	70,225	93,288	112,595	111,281	121,931	157,371	2,764,467
Corporate Taxes	223,399	276,796	317,197	305,844	328,707	425,972	7,766,148
Severance Taxes	27,502	21,746	14,574	10,849	8,918	10,231	374,767
Ad Valorem Taxes	8,251	6,524	4,372	3,255	2,675	3,069	112,430
<b>Federal Royalty Payments</b>	<b>1,775</b>	<b>1,393</b>	<b>933</b>	<b>692</b>	<b>567</b>	<b>648</b>	<b>23,984</b>
<b>Total Govt Revenue</b>	<b>692,647</b>	<b>883,871</b>	<b>1,035,262</b>	<b>1,002,166</b>	<b>1,083,293</b>	<b>1,403,376</b>	<b>25,263,015</b>
<b>Lease Payments to Private Landowners</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.  
 Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Minnesota**  
 (\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>124,734</b>	<b>196,771</b>	<b>233,008</b>	<b>231,463</b>	<b>244,250</b>	<b>303,979</b>	<b>5,599,240</b>
Personal Taxes	102,603	162,424	192,483	191,208	202,079	251,611	4,626,513
Corporate Taxes	22,131	34,347	40,524	40,255	42,171	52,367	972,727
<b>State and Local Taxes</b>	<b>98,883</b>	<b>153,471</b>	<b>180,190</b>	<b>180,173</b>	<b>189,753</b>	<b>235,223</b>	<b>4,353,199</b>
Personal Taxes	28,220	44,227	52,287	52,740	56,121	69,442	1,271,028
Corporate Taxes	70,663	109,244	127,903	127,433	133,633	165,781	3,082,171
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>223,617</b>	<b>350,242</b>	<b>413,198</b>	<b>411,636</b>	<b>434,003</b>	<b>539,201</b>	<b>9,952,439</b>
<b>Lease Payments to Private Landowners</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.  
 Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Mississippi**  
 (\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>32,384</b>	<b>80,389</b>	<b>72,582</b>	<b>67,240</b>	<b>70,209</b>	<b>84,006</b>	<b>1,743,071</b>
Personal Taxes	25,935	67,488	59,514	54,615	56,922	67,883	1,427,238
Corporate Taxes	6,449	12,900	13,068	12,626	13,286	16,123	315,832
<b>State and Local Taxes</b>	<b>35,043</b>	<b>72,872</b>	<b>71,584</b>	<b>68,933</b>	<b>72,569</b>	<b>87,663</b>	<b>1,736,552</b>
Personal Taxes	5,165	13,305	11,705	10,906	11,445	13,564	283,627
Corporate Taxes	29,878	59,567	59,879	58,026	61,124	74,099	1,452,926
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>67,427</b>	<b>153,261</b>	<b>144,165</b>	<b>136,173</b>	<b>142,778</b>	<b>171,669</b>	<b>3,479,623</b>
<b>Lease Payments to</b>							
<b>Private Landowners</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Missouri**  
 (\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>257,958</b>	<b>359,549</b>	<b>461,931</b>	<b>452,645</b>	<b>493,271</b>	<b>612,087</b>	<b>11,012,092</b>
Personal Taxes	215,624	300,709	386,650	379,639	413,996	513,130	9,226,856
Corporate Taxes	42,334	58,840	75,281	73,006	79,275	98,957	1,785,236
<b>State and Local Taxes</b>	<b>167,947</b>	<b>234,043</b>	<b>295,992</b>	<b>289,458</b>	<b>315,102</b>	<b>395,111</b>	<b>7,080,616</b>
Personal Taxes	45,007	61,582	79,717	78,718	86,418	106,485	1,910,908
Corporate Taxes	122,940	172,461	216,274	210,741	228,683	288,626	5,169,708
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>425,905</b>	<b>593,592</b>	<b>757,923</b>	<b>742,103</b>	<b>808,373</b>	<b>1,007,198</b>	<b>18,092,709</b>
<b>Lease Payments to</b>							
<b>Private Landowners</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



## Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Montana

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>19,456</b>	<b>27,195</b>	<b>31,891</b>	<b>32,331</b>	<b>34,036</b>	<b>42,596</b>	<b>782,396</b>
Personal Taxes	14,053	19,787	23,464	23,900	25,269	31,643	576,346
Corporate Taxes	5,403	7,408	8,427	8,431	8,767	10,952	206,050
<b>State and Local Taxes</b>	<b>22,742</b>	<b>28,919</b>	<b>31,641</b>	<b>32,203</b>	<b>33,487</b>	<b>40,884</b>	<b>790,316</b>
Personal Taxes	3,707	5,149	6,047	6,254	6,655	8,279	150,489
Corporate Taxes	13,767	18,765	21,068	21,141	21,998	27,447	517,893
Severance Taxes	4,536	4,310	3,897	4,140	4,163	4,442	104,999
Ad Valorem Taxes	732	695	629	668	671	716	16,935
<b>Federal Royalty Payments</b>	<b>1,742</b>	<b>1,645</b>	<b>1,485</b>	<b>1,571</b>	<b>1,574</b>	<b>1,673</b>	<b>39,919</b>
<b>Total Govt Revenue</b>	<b>43,940</b>	<b>57,760</b>	<b>65,017</b>	<b>66,105</b>	<b>69,097</b>	<b>85,153</b>	<b>1,612,631</b>
<b>Lease Payments to Private Landowners</b>	<b>8</b>	<b>24</b>	<b>62</b>	<b>64</b>	<b>68</b>	<b>74</b>	<b>1,302</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Nebraska

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>34,580</b>	<b>55,676</b>	<b>70,000</b>	<b>73,926</b>	<b>81,225</b>	<b>103,663</b>	<b>1,749,736</b>
Personal Taxes	28,157	45,260	56,972	60,306	66,475	84,994	1,427,939
Corporate Taxes	6,423	10,416	13,028	13,620	14,749	18,669	321,797
<b>State and Local Taxes</b>	<b>26,295</b>	<b>43,486</b>	<b>54,882</b>	<b>58,637</b>	<b>64,334</b>	<b>81,723</b>	<b>1,376,741</b>
Personal Taxes	5,404	8,601	10,802	11,611	12,888	16,376	273,964
Corporate Taxes	20,890	34,884	44,080	47,026	51,447	65,348	1,102,778
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>60,875</b>	<b>99,161</b>	<b>124,882</b>	<b>132,563</b>	<b>145,559</b>	<b>185,386</b>	<b>3,126,478</b>
<b>Lease Payments to Private Landowners</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Nevada**

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>82,974</b>	<b>64,443</b>	<b>88,824</b>	<b>84,066</b>	<b>92,896</b>	<b>119,430</b>	<b>2,157,155</b>
Personal Taxes	69,982	52,140	71,291	68,223	75,452	97,101	1,753,240
Corporate Taxes	12,992	12,303	17,533	15,843	17,444	22,329	403,915
<b>State and Local Taxes</b>	<b>56,246</b>	<b>29,323</b>	<b>61,810</b>	<b>37,742</b>	<b>41,653</b>	<b>53,265</b>	<b>1,126,420</b>
Personal Taxes	4,924	3,644	4,957	4,830	5,379	6,879	123,555
Corporate Taxes	51,323	25,679	56,854	32,912	36,275	46,386	1,002,864
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>139,221</b>	<b>93,766</b>	<b>150,634</b>	<b>121,808</b>	<b>134,550</b>	<b>172,694</b>	<b>3,283,575</b>
<b>Lease Payments to</b>							
Private Landowners	0	0	0	0	0	0	0

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: New Hampshire**

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>26,999</b>	<b>39,475</b>	<b>50,078</b>	<b>49,950</b>	<b>53,798</b>	<b>69,070</b>	<b>1,206,680</b>
Personal Taxes	23,022	33,559	42,629	42,461	45,745	58,785	1,026,487
Corporate Taxes	3,977	5,916	7,449	7,490	8,053	10,285	180,194
<b>State and Local Taxes</b>	<b>19,148</b>	<b>28,314</b>	<b>35,415</b>	<b>35,724</b>	<b>38,473</b>	<b>49,093</b>	<b>860,234</b>
Personal Taxes	1,518	2,190	2,776	2,807	3,045	3,889	67,609
Corporate Taxes	17,631	26,124	32,639	32,917	35,428	45,204	792,625
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>46,148</b>	<b>67,789</b>	<b>85,493</b>	<b>85,674</b>	<b>92,272</b>	<b>118,163</b>	<b>2,066,914</b>
<b>Lease Payments to</b>							
Private Landowners	0	0	0	0	0	0	0

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: New Jersey**  
(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>210,501</b>	<b>279,500</b>	<b>359,117</b>	<b>344,742</b>	<b>368,102</b>	<b>469,161</b>	<b>8,456,463</b>
Personal Taxes	179,321	235,390	300,322	284,887	302,450	382,690	7,020,272
Corporate Taxes	31,179	44,110	58,796	59,855	65,652	86,471	1,436,191
<b>State and Local Taxes</b>	<b>142,431</b>	<b>195,501</b>	<b>252,632</b>	<b>255,087</b>	<b>277,652</b>	<b>364,674</b>	<b>6,172,123</b>
Personal Taxes	35,561	45,219	58,438	55,364	59,139	74,416	1,365,743
Corporate Taxes	106,870	150,282	194,194	199,723	218,512	290,258	4,806,380
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>352,932</b>	<b>475,001</b>	<b>611,750</b>	<b>599,829</b>	<b>645,754</b>	<b>833,835</b>	<b>14,628,586</b>
<b>Lease Payments to Private Landowners</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.  
Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: New Mexico**  
(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>306,482</b>	<b>293,283</b>	<b>247,819</b>	<b>230,834</b>	<b>219,109</b>	<b>259,394</b>	<b>6,369,916</b>
Personal Taxes	214,571	206,500	177,450	167,712	159,406	188,737	4,563,609
Corporate Taxes	91,910	86,783	70,369	63,122	59,704	70,657	1,806,307
<b>State and Local Taxes</b>	<b>632,190</b>	<b>604,564</b>	<b>482,034</b>	<b>453,146</b>	<b>446,795</b>	<b>521,239</b>	<b>12,816,267</b>
Personal Taxes	44,673	42,544	36,403	34,852	33,348	39,239	945,514
Corporate Taxes	332,225	312,658	251,568	226,712	214,508	253,583	6,491,745
Severance Taxes	214,727	209,739	163,227	161,140	167,328	192,122	4,524,292
Ad Valorem Taxes	40,566	39,623	30,836	30,442	31,611	36,295	854,715
<b>Federal Royalty Payments</b>	<b>152,245</b>	<b>147,382</b>	<b>114,605</b>	<b>112,485</b>	<b>116,457</b>	<b>133,252</b>	<b>3,168,384</b>
<b>Total Govt Revenue</b>	<b>1,090,917</b>	<b>1,045,229</b>	<b>844,458</b>	<b>796,464</b>	<b>782,361</b>	<b>913,885</b>	<b>22,354,566</b>
<b>Lease Payments to Private Landowners</b>	<b>921</b>	<b>1,100</b>	<b>1,264</b>	<b>1,492</b>	<b>1,757</b>	<b>1,991</b>	<b>35,343</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.  
Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: New York**  
 (\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>377,030</b>	<b>543,298</b>	<b>669,605</b>	<b>649,544</b>	<b>678,123</b>	<b>834,018</b>	<b>15,730,469</b>
Personal Taxes	321,607	464,789	574,057	557,483	582,191	715,127	13,484,435
Corporate Taxes	55,423	78,509	95,548	92,061	95,932	118,890	2,246,034
<b>State and Local Taxes</b>	<b>344,139</b>	<b>494,806</b>	<b>598,912</b>	<b>588,849</b>	<b>617,323</b>	<b>764,866</b>	<b>14,271,959</b>
Personal Taxes	119,250	169,903	205,282	203,135	213,054	259,941	4,904,842
Corporate Taxes	224,169	324,479	393,363	385,522	404,111	504,737	9,359,643
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	720	424	268	192	158	188	7,475
<b>Federal Royalty Payments</b>	<b>185</b>	<b>82</b>	<b>38</b>	<b>20</b>	<b>13</b>	<b>15</b>	<b>1,258</b>
<b>Total Govt Revenue</b>	<b>721,354</b>	<b>1,038,185</b>	<b>1,268,555</b>	<b>1,238,412</b>	<b>1,295,459</b>	<b>1,598,899</b>	<b>30,003,686</b>
<b>Lease Payments to</b>							
Private Landowners	0	0	0	0	0	0	0

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: North Carolina**  
 (\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>131,483</b>	<b>193,002</b>	<b>238,469</b>	<b>241,936</b>	<b>265,848</b>	<b>334,336</b>	<b>5,860,818</b>
Personal Taxes	105,465	159,863	192,399	198,499	217,729	278,588	4,802,581
Corporate Taxes	26,018	33,139	46,070	43,437	48,119	55,748	1,058,236
<b>State and Local Taxes</b>	<b>120,058</b>	<b>106,925</b>	<b>211,571</b>	<b>171,833</b>	<b>196,139</b>	<b>184,395</b>	<b>4,193,472</b>
Personal Taxes	27,758	40,913	50,014	52,093	57,598	72,287	1,253,204
Corporate Taxes	92,300	66,012	161,557	119,740	138,541	112,107	2,940,268
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>251,541</b>	<b>299,926</b>	<b>450,040</b>	<b>413,769</b>	<b>461,987</b>	<b>518,731</b>	<b>10,054,290</b>
<b>Lease Payments to</b>							
Private Landowners	0	0	0	0	0	0	0

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: North Dakota**  
 (\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>15,676</b>	<b>28,082</b>	<b>36,272</b>	<b>39,022</b>	<b>43,701</b>	<b>57,394</b>	<b>918,061</b>
Personal Taxes	14,124	24,924	32,196	34,569	38,727	50,769	814,313
Corporate Taxes	1,552	3,159	4,076	4,452	4,974	6,625	103,748
<b>State and Local Taxes</b>	<b>6,806</b>	<b>13,171</b>	<b>16,979</b>	<b>18,451</b>	<b>20,631</b>	<b>27,333</b>	<b>431,505</b>
Personal Taxes	2,422	4,273	5,513	5,931	6,639	8,706	139,597
Corporate Taxes	4,384	8,897	11,466	12,520	13,992	18,627	291,908
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>22,482</b>	<b>41,253</b>	<b>53,251</b>	<b>57,473</b>	<b>64,332</b>	<b>84,727</b>	<b>1,349,566</b>
<b>Lease Payments to Private Landowners</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Ohio**  
 (\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>370,263</b>	<b>475,107</b>	<b>649,654</b>	<b>612,998</b>	<b>683,808</b>	<b>929,331</b>	<b>15,356,818</b>
Personal Taxes	307,420	394,464	540,120	510,220	569,746	774,209	12,776,823
Corporate Taxes	62,843	80,643	109,534	102,777	114,062	155,122	2,579,994
<b>State and Local Taxes</b>	<b>317,082</b>	<b>409,300</b>	<b>548,670</b>	<b>522,544</b>	<b>581,573</b>	<b>790,096</b>	<b>13,078,383</b>
Personal Taxes	91,344	116,411	158,358	152,385	171,298	231,333	3,798,954
Corporate Taxes	224,457	292,027	389,790	369,792	409,980	558,425	9,265,154
Severance Taxes	632	425	257	181	146	167	7,042
Ad Valorem Taxes	649	437	264	186	150	172	7,234
<b>Federal Royalty Payments</b>	<b>176</b>	<b>94</b>	<b>45</b>	<b>24</b>	<b>16</b>	<b>19</b>	<b>1,386</b>
<b>Total Govt Revenue</b>	<b>687,521</b>	<b>884,501</b>	<b>1,198,369</b>	<b>1,135,566</b>	<b>1,265,397</b>	<b>1,719,446</b>	<b>28,436,587</b>
<b>Lease Payments to Private Landowners</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Oklahoma**

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>414,348</b>	<b>621,801</b>	<b>730,719</b>	<b>765,869</b>	<b>824,078</b>	<b>1,025,377</b>	<b>18,311,639</b>
Personal Taxes	295,681	443,054	523,454	547,718	590,672	734,381	13,099,645
Corporate Taxes	118,667	178,746	207,265	218,151	233,405	290,995	5,211,994
<b>State and Local Taxes</b>	<b>447,110</b>	<b>666,949</b>	<b>770,889</b>	<b>862,468</b>	<b>958,907</b>	<b>1,185,825</b>	<b>20,378,400</b>
Personal Taxes	61,471	90,862	106,981	113,781	123,511	152,600	2,710,849
Corporate Taxes	259,335	382,226	437,836	461,800	493,227	613,705	11,058,039
Severance Taxes	104,015	159,651	186,177	236,260	281,787	345,487	5,443,128
Ad Valorem Taxes	22,289	34,211	39,895	50,627	60,383	74,033	1,166,385
<b>Federal Royalty Payments</b>	<b>13,742</b>	<b>21,340</b>	<b>24,932</b>	<b>31,508</b>	<b>37,502</b>	<b>45,849</b>	<b>725,384</b>
<b>Total Govt Revenue</b>	<b>875,199</b>	<b>1,310,090</b>	<b>1,526,540</b>	<b>1,659,844</b>	<b>1,820,487</b>	<b>2,257,050</b>	<b>39,415,423</b>
<b>Lease Payments to</b>							
Private Landowners	7,592	25,639	33,244	39,931	52,102	65,577	937,509

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Oregon**

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>77,798</b>	<b>102,988</b>	<b>127,831</b>	<b>128,349</b>	<b>135,598</b>	<b>169,332</b>	<b>3,091,657</b>
Personal Taxes	63,488	83,204	103,344	103,582	109,227	135,981	2,495,458
Corporate Taxes	14,310	19,784	24,488	24,767	26,371	33,350	596,199
<b>State and Local Taxes</b>	<b>64,768</b>	<b>89,102</b>	<b>110,425</b>	<b>112,028</b>	<b>119,183</b>	<b>149,620</b>	<b>2,689,652</b>
Personal Taxes	20,948	26,595	32,961	33,547	35,619	44,068	806,150
Corporate Taxes	43,819	62,507	77,464	78,481	83,564	105,552	1,883,502
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>142,565</b>	<b>192,090</b>	<b>238,256</b>	<b>240,376</b>	<b>254,781</b>	<b>318,952</b>	<b>5,781,309</b>
<b>Lease Payments to</b>							
Private Landowners	0	0	0	0	0	0	0

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Pennsylvania**  
 (\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>819,692</b>	<b>1,788,973</b>	<b>2,664,295</b>	<b>2,760,482</b>	<b>3,115,655</b>	<b>4,460,429</b>	<b>64,847,323</b>
Personal Taxes	653,764	1,349,558	2,010,479	2,062,636	2,332,385	3,340,073	48,759,880
Corporate Taxes	165,928	439,414	653,816	697,846	783,270	1,120,356	16,087,444
<b>State and Local Taxes</b>	<b>641,630</b>	<b>1,642,573</b>	<b>2,419,581</b>	<b>2,587,699</b>	<b>2,909,403</b>	<b>4,149,587</b>	<b>59,774,322</b>
Personal Taxes	142,330	299,334	444,253	464,989	528,309	750,423	10,916,307
Corporate Taxes	499,300	1,343,239	1,975,328	2,122,710	2,381,094	3,399,164	48,858,015
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>14,460</b>	<b>73,356</b>	<b>116,855</b>	<b>154,278</b>	<b>196,276</b>	<b>279,174</b>	<b>3,437,911</b>
<b>Total Govt Revenue</b>	<b>1,475,782</b>	<b>3,504,902</b>	<b>5,200,732</b>	<b>5,502,459</b>	<b>6,221,333</b>	<b>8,889,189</b>	<b>128,059,557</b>
<b>Lease Payments to Private Landowners</b>	<b>37,852</b>	<b>53,558</b>	<b>92,891</b>	<b>95,328</b>	<b>134,733</b>	<b>210,003</b>	<b>2,502,188</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Rhode Island**  
 (\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>16,695</b>	<b>24,085</b>	<b>28,640</b>	<b>28,064</b>	<b>29,232</b>	<b>35,451</b>	<b>680,476</b>
Personal Taxes	15,513	22,346	26,598	26,056	27,156	32,932	631,893
Corporate Taxes	1,182	1,740	2,043	2,008	2,076	2,519	48,584
<b>State and Local Taxes</b>	<b>6,000</b>	<b>8,731</b>	<b>10,301</b>	<b>10,117</b>	<b>10,495</b>	<b>12,729</b>	<b>245,041</b>
Personal Taxes	2,660	3,831	4,554	4,470	4,655	5,647	108,323
Corporate Taxes	3,340	4,900	5,746	5,647	5,840	7,082	136,718
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>22,695</b>	<b>32,817</b>	<b>38,941</b>	<b>38,181</b>	<b>39,728</b>	<b>48,179</b>	<b>925,518</b>
<b>Lease Payments to Private Landowners</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: South Carolina**

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>61,207</b>	<b>89,914</b>	<b>113,586</b>	<b>115,260</b>	<b>126,649</b>	<b>159,308</b>	<b>2,778,331</b>
Personal Taxes	49,380	74,849	91,890	94,803	103,987	133,054	2,283,732
Corporate Taxes	11,827	15,064	21,697	20,457	22,662	26,255	494,599
<b>State and Local Taxes</b>	<b>52,665</b>	<b>46,014</b>	<b>94,702</b>	<b>76,263</b>	<b>87,156</b>	<b>80,907</b>	<b>1,854,607</b>
Personal Taxes	11,003	16,218	20,218	21,058	23,283	29,221	504,445
Corporate Taxes	41,662	29,796	74,484	55,205	63,873	51,686	1,350,162
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>113,872</b>	<b>135,927</b>	<b>208,289</b>	<b>191,523</b>	<b>213,805</b>	<b>240,216</b>	<b>4,632,939</b>
<b>Lease Payments to</b>							
Private Landowners	0	0	0	0	0	0	0

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: South Dakota**

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>11,851</b>	<b>17,861</b>	<b>21,549</b>	<b>22,058</b>	<b>23,751</b>	<b>29,685</b>	<b>529,937</b>
Personal Taxes	9,690	14,584	17,611	17,991	19,342	24,110	432,142
Corporate Taxes	2,161	3,277	3,938	4,067	4,408	5,575	97,794
<b>State and Local Taxes</b>	<b>6,230</b>	<b>9,395</b>	<b>11,216</b>	<b>11,619</b>	<b>12,604</b>	<b>15,888</b>	<b>279,456</b>
Personal Taxes	722	1,075	1,296	1,344	1,455	1,802	32,159
Corporate Taxes	5,508	8,319	9,920	10,275	11,149	14,086	247,297
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>18,081</b>	<b>27,256</b>	<b>32,765</b>	<b>33,676</b>	<b>36,355</b>	<b>45,573</b>	<b>809,393</b>
<b>Lease Payments to</b>							
Private Landowners	0	0	0	0	0	0	0

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



Contribution of Unconventional Gas* to Government Revenue and Private Lease Payments: Tennessee							
(\$Th)							
	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>92,813</b>	<b>123,174</b>	<b>169,484</b>	<b>158,042</b>	<b>171,905</b>	<b>217,467</b>	<b>3,888,723</b>
Personal Taxes	77,657	102,325	141,670	131,835	143,684	180,964	3,244,123
Corporate Taxes	15,156	20,849	27,814	26,207	28,221	36,503	644,600
<b>State and Local Taxes</b>	<b>47,648</b>	<b>73,258</b>	<b>88,643</b>	<b>88,629</b>	<b>94,357</b>	<b>130,310</b>	<b>2,169,331</b>
Personal Taxes	4,077	2,996	7,347	3,974	4,334	5,432	117,030
Corporate Taxes	43,571	70,263	81,295	84,655	90,023	124,878	2,052,301
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>140,461</b>	<b>196,432</b>	<b>258,127</b>	<b>246,671</b>	<b>266,262</b>	<b>347,776</b>	<b>6,058,054</b>
<b>Lease Payments to Private Landowners</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.  
Source: IHS Global Insight

Contribution of Unconventional Gas* to Government Revenue and Private Lease Payments: Texas							
(\$Th)							
	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>5,404,857</b>	<b>7,338,322</b>	<b>9,240,879</b>	<b>9,608,788</b>	<b>10,366,027</b>	<b>12,729,949</b>	<b>228,107,095</b>
Personal Taxes	4,030,771	5,469,925	6,947,423	7,205,344	7,796,562	9,567,990	171,093,173
Corporate Taxes	1,374,086	1,868,397	2,293,456	2,403,445	2,569,465	3,161,959	57,013,923
<b>State and Local Taxes</b>	<b>5,444,695</b>	<b>7,358,503</b>	<b>8,923,748</b>	<b>9,935,765</b>	<b>11,028,021</b>	<b>13,529,109</b>	<b>233,664,694</b>
Personal Taxes	313,110	420,495	532,353	560,817	610,848	744,998	13,267,833
Corporate Taxes	3,478,954	4,673,678	5,670,580	5,958,069	6,369,334	7,830,240	141,631,292
Severance Taxes	1,304,708	1,787,630	2,148,011	2,697,536	3,195,663	3,910,950	62,183,344
Ad Valorem Taxes	347,922	476,701	572,803	719,343	852,177	1,042,920	16,582,225
<b>Federal Royalty Payments</b>	<b>41,701</b>	<b>60,285</b>	<b>77,139</b>	<b>100,201</b>	<b>121,993</b>	<b>152,541</b>	<b>2,283,696</b>
<b>Total Govt Revenue</b>	<b>10,891,252</b>	<b>14,757,110</b>	<b>18,241,767</b>	<b>19,644,754</b>	<b>21,516,041</b>	<b>26,411,599</b>	<b>464,055,485</b>
<b>Lease Payments to Private Landowners</b>	<b>111,548</b>	<b>201,214</b>	<b>312,016</b>	<b>358,963</b>	<b>468,995</b>	<b>570,309</b>	<b>8,410,580</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.  
Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Utah**

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>349,074</b>	<b>435,877</b>	<b>492,928</b>	<b>521,979</b>	<b>544,800</b>	<b>611,599</b>	<b>12,379,605</b>
Personal Taxes	278,915	346,745	391,919	414,521	432,420	486,645	9,841,928
Corporate Taxes	70,159	89,132	101,009	107,458	112,379	124,955	2,537,677
<b>State and Local Taxes</b>	<b>286,454</b>	<b>351,669</b>	<b>397,087</b>	<b>436,815</b>	<b>468,796</b>	<b>515,723</b>	<b>10,277,277</b>
Personal Taxes	64,304	78,838	88,875	95,574	100,465	112,279	2,260,221
Corporate Taxes	194,220	239,963	268,894	287,622	301,675	334,743	6,813,174
Severance Taxes	21,485	25,283	30,245	41,245	51,274	52,848	926,063
Ad Valorem Taxes	6,446	7,585	9,073	12,374	15,382	15,854	277,819
<b>Federal Royalty Payments</b>	<b>25,976</b>	<b>30,306</b>	<b>36,263</b>	<b>49,156</b>	<b>60,950</b>	<b>62,625</b>	<b>1,104,876</b>
<b>Total Govt Revenue</b>	<b>661,504</b>	<b>817,852</b>	<b>926,278</b>	<b>1,007,950</b>	<b>1,074,546</b>	<b>1,189,948</b>	<b>23,761,759</b>
<b>Lease Payments to</b>							
Private Landowners	23,893	33,101	39,026	46,416	54,974	59,487	1,076,035

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Vermont**

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>10,479</b>	<b>15,732</b>	<b>19,144</b>	<b>18,795</b>	<b>19,593</b>	<b>23,733</b>	<b>451,852</b>
Personal Taxes	9,669	14,503	17,671	17,353	18,102	21,930	417,142
Corporate Taxes	809	1,229	1,474	1,443	1,491	1,802	34,710
<b>State and Local Taxes</b>	<b>3,945</b>	<b>5,948</b>	<b>7,171</b>	<b>7,034</b>	<b>7,298</b>	<b>8,828</b>	<b>169,184</b>
Personal Taxes	1,658	2,487	3,026	2,977	3,103	3,760	71,509
Corporate Taxes	2,287	3,461	4,145	4,057	4,194	5,067	97,675
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>14,423</b>	<b>21,680</b>	<b>26,316</b>	<b>25,829</b>	<b>26,891</b>	<b>32,560</b>	<b>621,036</b>
<b>Lease Payments to</b>							
Private Landowners	0	0	0	0	0	0	0

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Virginia

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>179,773</b>	<b>226,426</b>	<b>293,992</b>	<b>281,485</b>	<b>307,547</b>	<b>400,192</b>	<b>6,997,165</b>
Personal Taxes	145,220	183,934	241,664	232,484	255,085	332,185	5,759,353
Corporate Taxes	34,553	42,492	52,328	49,001	52,462	68,006	1,237,812
<b>State and Local Taxes</b>	<b>140,970</b>	<b>174,137</b>	<b>211,537</b>	<b>200,916</b>	<b>216,806</b>	<b>283,723</b>	<b>5,078,712</b>
Personal Taxes	37,193	46,568	60,305	58,666	64,468	83,091	1,450,739
Corporate Taxes	95,797	119,719	144,454	135,506	145,216	192,407	3,444,983
Severance Taxes	5,320	5,234	4,518	4,496	4,749	5,483	121,994
Ad Valorem Taxes	2,660	2,617	2,259	2,248	2,374	2,742	60,997
<b>Federal Royalty Payments</b>	<b>493</b>	<b>633</b>	<b>594</b>	<b>607</b>	<b>645</b>	<b>742</b>	<b>15,488</b>
<b>Total Govt Revenue</b>	<b>321,236</b>	<b>401,196</b>	<b>506,123</b>	<b>483,008</b>	<b>524,999</b>	<b>684,657</b>	<b>12,091,365</b>
<b>Lease Payments to Private Landowners</b>	<b>1,083</b>	<b>719</b>	<b>867</b>	<b>1,023</b>	<b>1,205</b>	<b>1,366</b>	<b>25,192</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Washington

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>97,610</b>	<b>145,996</b>	<b>179,029</b>	<b>184,874</b>	<b>199,488</b>	<b>252,333</b>	<b>4,421,799</b>
Personal Taxes	83,606	125,024	153,365	158,330	170,846	215,985	3,786,796
Corporate Taxes	14,004	20,973	25,665	26,545	28,643	36,348	635,003
<b>State and Local Taxes</b>	<b>63,617</b>	<b>96,265</b>	<b>118,526</b>	<b>123,049</b>	<b>132,932</b>	<b>168,441</b>	<b>2,934,002</b>
Personal Taxes	3,501	5,184	6,339	6,642	7,228	9,070	158,389
Corporate Taxes	60,117	91,081	112,187	116,407	125,704	159,371	2,775,613
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>161,227</b>	<b>242,261</b>	<b>297,555</b>	<b>307,923</b>	<b>332,420</b>	<b>420,775</b>	<b>7,355,802</b>
<b>Lease Payments to Private Landowners</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: West Virginia**

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>227,900</b>	<b>434,997</b>	<b>621,405</b>	<b>631,110</b>	<b>702,947</b>	<b>996,505</b>	<b>15,013,300</b>
Personal Taxes	165,192	302,676	436,789	438,417	490,291	696,791	10,495,820
Corporate Taxes	62,708	132,321	184,616	192,692	212,656	299,714	4,517,480
<b>State and Local Taxes</b>	<b>280,197</b>	<b>658,548</b>	<b>922,013</b>	<b>1,040,158</b>	<b>1,207,815</b>	<b>1,697,928</b>	<b>24,087,982</b>
Personal Taxes	30,400	55,785	81,130	82,124	92,220	130,097	1,957,543
Corporate Taxes	174,497	380,798	521,237	549,154	604,527	852,167	12,845,244
Severance Taxes	57,923	170,742	245,881	314,523	393,129	550,511	7,142,458
Ad Valorem Taxes	17,377	51,222	73,764	94,357	117,939	165,153	2,142,737
<b>Federal Royalty Payments</b>	<b>5,750</b>	<b>17,095</b>	<b>24,627</b>	<b>31,388</b>	<b>39,126</b>	<b>54,574</b>	<b>711,988</b>
<b>Total Govt Revenue</b>	<b>513,847</b>	<b>1,110,639</b>	<b>1,568,044</b>	<b>1,702,656</b>	<b>1,949,888</b>	<b>2,749,007</b>	<b>39,813,269</b>
<b>Lease Payments to Private Landowners</b>	<b>18,034</b>	<b>21,445</b>	<b>35,298</b>	<b>36,892</b>	<b>50,936</b>	<b>76,831</b>	<b>960,022</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Wisconsin**

(\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>112,061</b>	<b>167,446</b>	<b>205,797</b>	<b>213,082</b>	<b>231,227</b>	<b>293,337</b>	<b>5,101,251</b>
Personal Taxes	93,306	139,265	171,484	177,745	193,278	245,497	4,255,871
Corporate Taxes	18,755	28,180	34,313	35,337	37,948	47,841	845,380
<b>State and Local Taxes</b>	<b>99,032</b>	<b>147,345</b>	<b>178,940</b>	<b>185,509</b>	<b>200,368</b>	<b>252,701</b>	<b>4,440,145</b>
Personal Taxes	23,734	35,205	43,184	45,503	49,804	62,797	1,084,807
Corporate Taxes	75,298	112,140	135,757	140,006	150,564	189,904	3,355,338
Severance Taxes	0	0	0	0	0	0	0
Ad Valorem Taxes	0	0	0	0	0	0	0
<b>Federal Royalty Payments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Govt Revenue</b>	<b>211,092</b>	<b>314,791</b>	<b>384,737</b>	<b>398,591</b>	<b>431,595</b>	<b>546,038</b>	<b>9,541,395</b>
<b>Lease Payments to Private Landowners</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Contribution of Unconventional Gas\* to Government Revenue and Private Lease Payments: Wyoming**  
 (\$Th)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>723,916</b>	<b>1,096,250</b>	<b>1,182,853</b>	<b>1,350,392</b>	<b>1,465,865</b>	<b>1,865,673</b>	<b>31,950,772</b>
Personal Taxes	524,060	804,405	869,349	995,113	1,083,147	1,376,649	23,511,845
Corporate Taxes	199,856	291,845	313,503	355,279	382,718	489,024	8,438,927
<b>State and Local Taxes</b>	<b>1,170,784</b>	<b>1,746,181</b>	<b>1,910,967</b>	<b>2,366,746</b>	<b>2,776,038</b>	<b>3,331,886</b>	<b>55,256,332</b>
Personal Taxes	31,098	47,418	51,145	59,461	65,199	82,334	1,399,692
Corporate Taxes	432,619	616,245	654,330	742,218	797,764	1,019,413	17,682,868
Severance Taxes	347,738	532,386	592,865	769,705	940,857	1,096,790	17,790,380
Ad Valorem Taxes	359,329	550,132	612,627	795,362	972,218	1,133,349	18,383,392
<b>Federal Royalty Payments</b>	<b>352,785</b>	<b>519,809</b>	<b>572,414</b>	<b>735,929</b>	<b>895,030</b>	<b>1,045,147</b>	<b>17,110,736</b>
<b>Total Govt Revenue</b>	<b>2,247,486</b>	<b>3,362,240</b>	<b>3,666,233</b>	<b>4,453,067</b>	<b>5,136,932</b>	<b>6,242,707</b>	<b>104,317,840</b>
<b>Lease Payments to Private Landowners</b>	<b>15,515</b>	<b>44,669</b>	<b>53,617</b>	<b>72,613</b>	<b>97,412</b>	<b>121,730</b>	<b>1,684,667</b>

Note: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



# **The Economic and Employment Contributions of Unconventional Gas Development in State Economies**

## **Appendix B. Economic Contributions by State, Industry, and Year**

Prepared for:  
AMERICA'S NATURAL GAS ALLIANCE

Submitted by:  
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## **Appendix B. Economic Contributions by State, Industry, and Year**

Appendix B presents the same contribution results as in Appendix A - employment, value added and labor income - disaggregated by major industry grouping for each of the five year increments (2010, 2015, 2020, 2025, 2030, and 2035).

A summary description of the tables is as follows:

1. Employment Contribution by State and Industry. These tables present estimates of employment contributions on a direct, indirect, induced, and total basis for each state by industry for each five-year increment.
2. Value Added Contribution by State and Industry. These tables present estimates of value added contributions on a direct, indirect, induced, and total basis for each state by industry for each five-year increment.
3. Labor Income Contribution by State and Industry. These tables present estimates of labor income contributions on a direct, indirect, induced, and total basis for each state by industry for each five-year increment.



## Employment Contribution by State and Industry

### Alabama Employment Contribution by State and Industry: Unconventional Gas\*

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	64	173	237
Mining	580	89	13	683
Construction	602	253	41	896
Manufacturing	13	1,058	479	1,549
Transportation and Utilities	0	269	236	505
Retail And WholesaleTrade	0	221	775	996
Services	0	1,402	2,274	3,676
Government	0	61	73	134
<b>Total</b>	<b>1,195</b>	<b>3,417</b>	<b>4,063</b>	<b>8,675</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	89	245	334
Mining	371	124	19	514
Construction	1,657	251	53	1,962
Manufacturing	14	1,556	696	2,265
Transportation and Utilities	0	404	336	740
Retail And WholesaleTrade	0	357	1,080	1,436
Services	0	2,093	3,140	5,233
Government	0	86	101	188
<b>Total</b>	<b>2,042</b>	<b>4,960</b>	<b>5,670</b>	<b>12,673</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	107	289	395
Mining	211	169	27	408
Construction	1,005	235	54	1,294
Manufacturing	16	1,924	841	2,782
Transportation and Utilities	0	437	362	799
Retail And WholesaleTrade	0	354	1,110	1,465
Services	0	2,193	3,341	5,534
Government	0	100	112	212
<b>Total</b>	<b>1,232</b>	<b>5,519</b>	<b>6,137</b>	<b>12,888</b>

## Alabama Employment Contribution by State and Industry: Unconventional Gas\* (Continued)

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	102	280	382
Mining	118	175	29	322
Construction	493	219	51	763
Manufacturing	17	2,045	888	2,951
Transportation and Utilities	0	414	351	765
Retail And WholesaleTrade	0	319	1,044	1,362
Services	0	2,069	3,199	5,268
Government	0	97	108	205
<b>Total</b>	<b>628</b>	<b>5,440</b>	<b>5,950</b>	<b>12,018</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	107	285	392
Mining	78	197	32	307
Construction	952	219	56	1,227
Manufacturing	17	2,392	996	3,405
Transportation and Utilities	0	453	378	831
Retail And WholesaleTrade	0	373	1,138	1,511
Services	0	2,351	3,542	5,894
Government	0	106	118	224
<b>Total</b>	<b>1,047</b>	<b>6,198</b>	<b>6,546</b>	<b>13,791</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	128	338	466
Mining	88	251	41	380
Construction	290	270	66	625
Manufacturing	23	3,138	1,292	4,453
Transportation and Utilities	0	546	462	1,008
Retail And WholesaleTrade	0	406	1,321	1,727
Services	0	2,739	4,195	6,934
Government	0	130	142	272
<b>Total</b>	<b>401</b>	<b>7,608</b>	<b>7,858</b>	<b>15,866</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Arizona Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	35	117	151
Mining	0	152	14	166
Construction	0	165	44	209
Manufacturing	0	458	209	667
Transportation and Utilities	0	242	233	474
Retail And WholesaleTrade	0	198	695	894
Services	0	1,615	2,626	4,242
Government	0	54	61	115
<b>Total</b>	<b>0</b>	<b>2,919</b>	<b>3,999</b>	<b>6,918</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	52	175	227
Mining	0	203	18	221
Construction	0	268	69	337
Manufacturing	0	643	294	938
Transportation and Utilities	0	394	375	769
Retail And WholesaleTrade	0	303	1,054	1,356
Services	0	2,399	3,949	6,348
Government	0	80	89	168
<b>Total</b>	<b>0</b>	<b>4,341</b>	<b>6,023</b>	<b>10,364</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	65	210	275
Mining	0	235	21	256
Construction	0	343	90	433
Manufacturing	0	779	349	1,128
Transportation and Utilities	0	520	490	1,010
Retail And WholesaleTrade	0	389	1,305	1,695
Services	0	3,083	4,992	8,074
Government	0	105	115	219
<b>Total</b>	<b>0</b>	<b>5,518</b>	<b>7,572</b>	<b>13,090</b>

**Arizona Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	59	201	261
Mining	0	222	21	243
Construction	0	398	99	497
Manufacturing	0	732	343	1,075
Transportation and Utilities	0	559	535	1,094
Retail And WholesaleTrade	0	405	1,348	1,753
Services	0	3,259	5,246	8,504
Government	0	112	124	236
<b>Total</b>	<b>0</b>	<b>5,745</b>	<b>7,917</b>	<b>13,662</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	69	223	291
Mining	0	238	22	260
Construction	0	428	106	535
Manufacturing	0	767	360	1,127
Transportation and Utilities	0	637	607	1,243
Retail And WholesaleTrade	0	454	1,510	1,964
Services	0	3,674	5,882	9,556
Government	0	128	141	269
<b>Total</b>	<b>0</b>	<b>6,395</b>	<b>8,852</b>	<b>15,246</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	82	272	354
Mining	0	297	28	325
Construction	0	543	133	676
Manufacturing	0	941	448	1,389
Transportation and Utilities	0	857	818	1,675
Retail And WholesaleTrade	0	575	1,941	2,516
Services	0	4,810	7,642	12,452
Government	0	168	184	352
<b>Total</b>	<b>0</b>	<b>8,273</b>	<b>11,465</b>	<b>19,737</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Arkansas Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	74	237	310
Mining	10,567	195	11	10,773
Construction	1,076	1,738	136	2,950
Manufacturing	933	888	514	2,335
Transportation and Utilities	847	1,059	745	2,651
Retail And WholesaleTrade	0	884	2,890	3,774
Services	217	4,946	8,407	13,570
Government	0	138	197	335
<b>Total</b>	<b>13,640</b>	<b>9,922</b>	<b>13,136</b>	<b>36,698</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	107	354	461
Mining	15,435	275	15	15,724
Construction	1,509	2,648	201	4,357
Manufacturing	1,837	1,299	739	3,875
Transportation and Utilities	740	1,569	1,089	3,398
Retail And WholesaleTrade	0	1,400	4,228	5,628
Services	247	7,427	12,308	19,982
Government	0	206	289	495
<b>Total</b>	<b>19,767</b>	<b>14,930</b>	<b>19,222</b>	<b>53,919</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	127	423	550
Mining	18,006	318	18	18,342
Construction	1,587	2,991	234	4,813
Manufacturing	2,207	1,601	886	4,694
Transportation and Utilities	824	1,903	1,270	3,997
Retail And WholesaleTrade	0	1,687	4,923	6,609
Services	244	8,795	14,338	23,376
Government	0	251	338	589
<b>Total</b>	<b>22,868</b>	<b>17,673</b>	<b>22,430</b>	<b>62,971</b>

## Arkansas Employment Contribution by State and Industry: Unconventional Gas\* (Continued)

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	125	428	553
Mining	18,726	329	18	19,073
Construction	1,714	3,172	245	5,131
Manufacturing	2,191	1,627	924	4,741
Transportation and Utilities	841	1,944	1,302	4,086
Retail And Wholesale Trade	0	1,749	5,150	6,899
Services	248	9,145	14,993	24,387
Government	0	259	354	613
<b>Total</b>	<b>23,720</b>	<b>18,350</b>	<b>23,414</b>	<b>65,484</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	132	446	578
Mining	19,083	338	19	19,440
Construction	1,732	3,191	253	5,176
Manufacturing	2,340	1,739	975	5,054
Transportation and Utilities	864	2,028	1,331	4,223
Retail And Wholesale Trade	0	1,820	5,288	7,108
Services	252	9,437	15,411	25,100
Government	0	272	366	639
<b>Total</b>	<b>24,272</b>	<b>18,958</b>	<b>24,089</b>	<b>67,319</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	161	546	706
Mining	22,471	407	23	22,901
Construction	1,977	3,757	302	6,037
Manufacturing	2,807	2,091	1,195	6,094
Transportation and Utilities	983	2,438	1,585	5,006
Retail And Wholesale Trade	0	2,155	6,278	8,433
Services	286	11,188	18,307	29,780
Government	0	330	437	766
<b>Total</b>	<b>28,524</b>	<b>22,526</b>	<b>28,673</b>	<b>79,723</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## California Employment Contribution by State and Industry: Unconventional Gas\*

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	160	451	610
Mining	468	96	15	580
Construction	0	299	111	410
Manufacturing	4,250	1,569	817	6,636
Transportation and Utilities	0	700	539	1,239
Retail And WholesaleTrade	0	693	1,590	2,283
Services	0	4,419	6,313	10,732
Government	0	135	149	284
<b>Total</b>	<b>4,718</b>	<b>8,071</b>	<b>9,984</b>	<b>22,773</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	225	643	868
Mining	760	137	22	920
Construction	547	456	173	1,176
Manufacturing	5,663	2,169	1,179	9,011
Transportation and Utilities	0	1,034	797	1,831
Retail And WholesaleTrade	0	1,014	2,314	3,328
Services	0	6,502	9,215	15,716
Government	0	199	217	416
<b>Total</b>	<b>6,970</b>	<b>11,736</b>	<b>14,560</b>	<b>33,265</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	276	778	1,054
Mining	810	162	28	999
Construction	0	556	220	776
Manufacturing	6,773	2,568	1,404	10,744
Transportation and Utilities	0	1,257	968	2,225
Retail And WholesaleTrade	0	1,222	2,755	3,977
Services	0	7,781	10,937	18,718
Government	0	245	262	507
<b>Total</b>	<b>7,582</b>	<b>14,066</b>	<b>17,352</b>	<b>39,000</b>

**California Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	272	793	1,065
Mining	768	163	28	959
Construction	0	587	226	813
Manufacturing	6,479	2,364	1,367	10,210
Transportation and Utilities	0	1,255	988	2,243
Retail And WholesaleTrade	0	1,205	2,763	3,968
Services	0	7,801	10,982	18,783
Government	0	245	265	510
<b>Total</b>	<b>7,247</b>	<b>13,892</b>	<b>17,412</b>	<b>38,551</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	291	845	1,137
Mining	757	172	29	958
Construction	0	631	248	879
Manufacturing	6,704	2,421	1,420	10,545
Transportation and Utilities	0	1,347	1,063	2,410
Retail And WholesaleTrade	0	1,281	2,925	4,205
Services	0	8,293	11,676	19,969
Government	0	263	284	547
<b>Total</b>	<b>7,461</b>	<b>14,699</b>	<b>18,490</b>	<b>40,650</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	358	1,054	1,412
Mining	831	213	36	1,081
Construction	0	782	306	1,088
Manufacturing	7,786	2,894	1,744	12,424
Transportation and Utilities	0	1,658	1,321	2,979
Retail And WholesaleTrade	0	1,547	3,607	5,153
Services	0	10,238	14,443	24,681
Government	0	325	351	676
<b>Total</b>	<b>8,617</b>	<b>18,016</b>	<b>22,861</b>	<b>49,494</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**Colorado Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	59	313	372
Mining	8,490	487	46	9,023
Construction	3,597	2,575	329	6,501
Manufacturing	8,747	1,033	706	10,486
Transportation and Utilities	1,163	1,892	1,637	4,692
Retail And WholesaleTrade	0	2,073	7,280	9,353
Services	539	13,248	22,324	36,111
Government	0	392	537	929
<b>Total</b>	<b>22,535</b>	<b>21,759</b>	<b>33,172</b>	<b>77,466</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	98	487	584
Mining	12,168	713	71	12,952
Construction	7,214	2,927	504	10,645
Manufacturing	16,674	1,775	1,081	19,529
Transportation and Utilities	2,894	3,393	2,547	8,834
Retail And WholesaleTrade	0	3,610	11,227	14,836
Services	1,165	22,129	34,389	57,683
Government	0	636	825	1,461
<b>Total</b>	<b>40,115</b>	<b>35,280</b>	<b>51,130</b>	<b>126,525</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	116	560	676
Mining	13,067	864	88	14,019
Construction	7,341	2,836	543	10,720
Manufacturing	19,053	2,029	1,196	22,278
Transportation and Utilities	3,136	3,762	2,754	9,652
Retail And WholesaleTrade	0	3,970	11,965	15,935
Services	1,117	24,242	36,824	62,183
Government	0	699	889	1,588
<b>Total</b>	<b>43,714</b>	<b>38,518</b>	<b>54,818</b>	<b>137,050</b>

## Colorado Employment Contribution by State and Industry: Unconventional Gas\* (Continued)

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	108	536	644
Mining	10,767	897	90	11,754
Construction	5,693	2,615	474	8,781
Manufacturing	18,157	1,775	1,082	21,013
Transportation and Utilities	2,298	3,287	2,448	8,034
Retail And WholesaleTrade	0	3,422	10,453	13,875
Services	818	20,883	32,428	54,129
Government	0	615	786	1,401
<b>Total</b>	<b>37,733</b>	<b>33,601</b>	<b>48,298</b>	<b>119,632</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	112	550	661
Mining	9,474	978	98	10,550
Construction	4,691	2,447	445	7,583
Manufacturing	18,578	1,706	1,043	21,327
Transportation and Utilities	1,926	3,119	2,326	7,371
Retail And WholesaleTrade	0	3,210	9,802	13,012
Services	678	19,537	30,628	50,844
Government	0	585	744	1,328
<b>Total</b>	<b>35,346</b>	<b>31,695</b>	<b>45,636</b>	<b>112,677</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	140	681	822
Mining	10,274	1,236	123	11,633
Construction	4,901	2,797	505	8,203
Manufacturing	21,839	1,958	1,212	25,009
Transportation and Utilities	2,006	3,552	2,667	8,225
Retail And WholesaleTrade	0	3,603	11,099	14,702
Services	702	22,130	34,903	57,735
Government	0	668	846	1,514
<b>Total</b>	<b>39,723</b>	<b>36,084</b>	<b>52,036</b>	<b>127,843</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Connecticut Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	9	33	42
Mining	0	6	1	7
Construction	0	78	25	103
Manufacturing	0	666	220	886
Transportation and Utilities	0	177	176	352
Retail And WholesaleTrade	0	130	440	570
Services	0	1,071	1,923	2,994
Government	0	29	33	63
<b>Total</b>	<b>0</b>	<b>2,166</b>	<b>2,851</b>	<b>5,017</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	13	48	60
Mining	0	9	1	11
Construction	0	124	34	157
Manufacturing	0	864	311	1,175
Transportation and Utilities	0	246	237	483
Retail And WholesaleTrade	0	191	627	818
Services	0	1,508	2,709	4,217
Government	0	45	50	95
<b>Total</b>	<b>0</b>	<b>2,999</b>	<b>4,016</b>	<b>7,015</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	16	58	74
Mining	0	12	2	13
Construction	0	151	40	191
Manufacturing	0	1,057	387	1,445
Transportation and Utilities	0	293	275	567
Retail And WholesaleTrade	0	231	737	968
Services	0	1,771	3,169	4,940
Government	0	55	59	114
<b>Total</b>	<b>0</b>	<b>3,586</b>	<b>4,727</b>	<b>8,312</b>

**Connecticut Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	15	57	72
Mining	0	11	2	13
Construction	0	157	38	195
Manufacturing	0	1,059	405	1,465
Transportation and Utilities	0	281	266	547
Retail And WholesaleTrade	0	228	723	951
Services	0	1,712	3,084	4,796
Government	0	54	58	112
<b>Total</b>	<b>0</b>	<b>3,518</b>	<b>4,633</b>	<b>8,151</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	16	59	76
Mining	0	11	2	13
Construction	0	163	39	202
Manufacturing	0	1,176	447	1,623
Transportation and Utilities	0	291	272	563
Retail And WholesaleTrade	0	244	750	994
Services	0	1,756	3,168	4,924
Government	0	56	61	117
<b>Total</b>	<b>0</b>	<b>3,715</b>	<b>4,797</b>	<b>8,512</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	20	73	93
Mining	0	13	2	15
Construction	0	203	47	250
Manufacturing	0	1,511	575	2,086
Transportation and Utilities	0	352	327	678
Retail And WholesaleTrade	0	299	906	1,205
Services	0	2,102	3,808	5,910
Government	0	68	74	142
<b>Total</b>	<b>0</b>	<b>4,568</b>	<b>5,813</b>	<b>10,380</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Delaware Employment Contribution by State and Industry: Unconventional Gas\***  
(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	13	16
Mining	0	0	0	0
Construction	0	34	10	44
Manufacturing	187	81	57	325
Transportation and Utilities	0	55	39	94
Retail And WholesaleTrade	0	53	149	202
Services	0	376	599	975
Government	0	12	12	24
<b>Total</b>	<b>187</b>	<b>615</b>	<b>879</b>	<b>1,681</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	18	22
Mining	0	0	0	0
Construction	0	50	15	65
Manufacturing	236	116	83	434
Transportation and Utilities	0	77	54	131
Retail And WholesaleTrade	0	72	205	277
Services	0	532	866	1,398
Government	0	17	17	35
<b>Total</b>	<b>236</b>	<b>869</b>	<b>1,258</b>	<b>2,362</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	23	29
Mining	0	0	0	0
Construction	0	65	19	84
Manufacturing	402	148	101	650
Transportation and Utilities	0	109	71	180
Retail And WholesaleTrade	0	110	279	389
Services	0	720	1,144	1,864
Government	0	24	23	47
<b>Total</b>	<b>402</b>	<b>1,182</b>	<b>1,658</b>	<b>3,242</b>

**Delaware Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	23	29
Mining	0	0	0	0
Construction	0	67	19	87
Manufacturing	363	134	100	596
Transportation and Utilities	0	107	71	178
Retail And WholesaleTrade	0	106	280	386
Services	0	704	1,138	1,842
Government	0	23	22	45
<b>Total</b>	<b>363</b>	<b>1,147</b>	<b>1,653</b>	<b>3,163</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	25	31
Mining	0	0	0	0
Construction	0	75	21	96
Manufacturing	438	139	106	683
Transportation and Utilities	0	123	79	202
Retail And WholesaleTrade	0	126	316	442
Services	0	776	1,252	2,028
Government	0	26	24	50
<b>Total</b>	<b>438</b>	<b>1,270</b>	<b>1,824</b>	<b>3,532</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	7	33	40
Mining	0	0	0	1
Construction	0	100	28	128
Manufacturing	673	171	132	977
Transportation and Utilities	0	172	107	279
Retail And WholesaleTrade	0	183	430	613
Services	0	1,025	1,642	2,667
Government	0	35	32	66
<b>Total</b>	<b>673</b>	<b>1,694</b>	<b>2,403</b>	<b>4,770</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**District of Columbia Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	5	3	7
Manufacturing	0	2	2	4
Transportation and Utilities	0	6	6	12
Retail And WholesaleTrade	0	5	22	27
Services	0	340	495	835
Government	0	8	13	21
<b>Total</b>	<b>0</b>	<b>366</b>	<b>539</b>	<b>905</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	7	4	10
Manufacturing	0	2	3	5
Transportation and Utilities	0	9	8	17
Retail And WholesaleTrade	0	8	31	39
Services	0	510	733	1,242
Government	0	14	20	34
<b>Total</b>	<b>0</b>	<b>550</b>	<b>798</b>	<b>1,348</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	9	5	14
Manufacturing	0	3	3	6
Transportation and Utilities	0	12	10	21
Retail And WholesaleTrade	0	10	39	49
Services	0	641	914	1,555
Government	0	18	25	43
<b>Total</b>	<b>0</b>	<b>692</b>	<b>997</b>	<b>1,689</b>

**District of Columbia Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	10	6	16
Manufacturing	0	2	3	5
Transportation and Utilities	0	12	10	22
Retail And WholesaleTrade	0	10	40	51
Services	0	641	928	1,570
Government	0	18	27	45
<b>Total</b>	<b>0</b>	<b>695</b>	<b>1,015</b>	<b>1,710</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	11	7	18
Manufacturing	0	2	3	5
Transportation and Utilities	0	13	11	25
Retail And WholesaleTrade	0	11	44	56
Services	0	681	994	1,674
Government	0	19	27	46
<b>Total</b>	<b>0</b>	<b>738</b>	<b>1,087</b>	<b>1,825</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	14	10	25
Manufacturing	0	3	3	6
Transportation and Utilities	0	18	15	32
Retail And WholesaleTrade	0	15	57	72
Services	0	845	1,252	2,098
Government	0	25	36	61
<b>Total</b>	<b>0</b>	<b>920</b>	<b>1,374</b>	<b>2,294</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**Florida Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	77	214	291
Mining	0	35	3	38
Construction	3,032	265	82	3,380
Manufacturing	172	542	300	1,014
Transportation and Utilities	0	425	394	819
Retail And WholesaleTrade	0	431	1,319	1,750
Services	0	3,180	5,118	8,298
Government	0	77	91	168
<b>Total</b>	<b>3,204</b>	<b>5,032</b>	<b>7,522</b>	<b>15,758</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	114	322	435
Mining	0	53	5	59
Construction	6,598	412	132	7,142
Manufacturing	241	873	457	1,572
Transportation and Utilities	0	710	646	1,356
Retail And WholesaleTrade	0	740	2,192	2,932
Services	0	5,307	8,340	13,647
Government	0	119	140	259
<b>Total</b>	<b>6,838</b>	<b>8,328</b>	<b>12,236</b>	<b>27,402</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	127	372	499
Mining	0	52	5	57
Construction	2,950	498	147	3,596
Manufacturing	324	923	505	1,751
Transportation and Utilities	0	762	700	1,462
Retail And WholesaleTrade	0	721	2,318	3,039
Services	0	5,690	9,025	14,716
Government	0	143	160	302
<b>Total</b>	<b>3,274</b>	<b>8,916</b>	<b>13,232</b>	<b>25,422</b>

**Florida Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	120	373	492
Mining	0	43	4	48
Construction	752	534	143	1,429
Manufacturing	331	813	476	1,621
Transportation and Utilities	0	718	678	1,396
Retail And WholesaleTrade	0	651	2,206	2,857
Services	0	5,590	8,818	14,408
Government	0	143	159	301
<b>Total</b>	<b>1,084</b>	<b>8,611</b>	<b>12,858</b>	<b>22,552</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	134	418	553
Mining	0	50	5	56
Construction	4,558	591	169	5,318
Manufacturing	368	951	520	1,839
Transportation and Utilities	0	861	803	1,664
Retail And WholesaleTrade	0	865	2,680	3,545
Services	0	6,901	10,610	17,512
Government	0	162	184	346
<b>Total</b>	<b>4,926</b>	<b>10,515</b>	<b>15,390</b>	<b>30,831</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	155	510	664
Mining	0	52	5	58
Construction	536	762	200	1,499
Manufacturing	454	1,018	597	2,069
Transportation and Utilities	0	959	911	1,870
Retail And WholesaleTrade	0	906	3,014	3,920
Services	0	8,041	12,366	20,407
Government	0	198	218	417
<b>Total</b>	<b>990</b>	<b>12,091</b>	<b>17,822</b>	<b>30,903</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.  
 Source: IHS Global Insight

**Georgia Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	74	193	266
Mining	0	56	5	61
Construction	111	219	63	393
Manufacturing	841	1,025	730	2,596
Transportation and Utilities	0	590	543	1,133
Retail And WholesaleTrade	0	447	1,237	1,684
Services	0	2,767	4,194	6,961
Government	0	91	108	199
<b>Total</b>	<b>952</b>	<b>5,269</b>	<b>7,073</b>	<b>13,294</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	95	261	356
Mining	0	68	7	75
Construction	0	291	89	379
Manufacturing	1,106	1,458	1,070	3,633
Transportation and Utilities	0	882	809	1,692
Retail And WholesaleTrade	0	634	1,759	2,393
Services	0	4,039	5,945	9,984
Government	0	134	154	289
<b>Total</b>	<b>1,106</b>	<b>7,601</b>	<b>10,093</b>	<b>18,800</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	115	309	424
Mining	0	82	9	91
Construction	174	349	113	636
Manufacturing	560	1,786	1,323	3,669
Transportation and Utilities	0	1,056	982	2,037
Retail And WholesaleTrade	0	761	2,061	2,822
Services	0	4,884	7,002	11,886
Government	0	166	185	351
<b>Total</b>	<b>734</b>	<b>9,198</b>	<b>11,984</b>	<b>21,915</b>

**Georgia Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	112	310	423
Mining	0	82	9	91
Construction	53	365	118	537
Manufacturing	166	1,819	1,380	3,366
Transportation and Utilities	0	1,035	992	2,027
Retail And WholesaleTrade	0	754	2,019	2,773
Services	0	4,929	6,967	11,896
Government	0	166	185	350
<b>Total</b>	<b>220</b>	<b>9,263</b>	<b>11,981</b>	<b>21,463</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	125	344	470
Mining	0	88	9	97
Construction	76	391	137	603
Manufacturing	759	2,027	1,507	4,292
Transportation and Utilities	0	1,172	1,103	2,275
Retail And WholesaleTrade	0	887	2,301	3,188
Services	0	5,553	7,894	13,447
Government	0	182	204	386
<b>Total</b>	<b>835</b>	<b>10,425</b>	<b>13,499</b>	<b>24,759</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	155	430	585
Mining	0	107	12	118
Construction	0	487	172	659
Manufacturing	113	2,490	1,876	4,478
Transportation and Utilities	0	1,434	1,376	2,809
Retail And WholesaleTrade	0	1,060	2,746	3,806
Services	0	6,772	9,564	16,336
Government	0	224	247	471
<b>Total</b>	<b>113</b>	<b>12,728</b>	<b>16,422</b>	<b>29,262</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Idaho Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	43	128	171
Mining	0	29	2	31
Construction	0	43	11	55
Manufacturing	0	157	103	259
Transportation and Utilities	0	78	72	150
Retail And WholesaleTrade	0	52	179	231
Services	0	347	564	911
Government	0	16	18	33
<b>Total</b>	<b>0</b>	<b>765</b>	<b>1,076</b>	<b>1,841</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	63	187	250
Mining	0	47	3	50
Construction	0	49	13	62
Manufacturing	0	241	155	395
Transportation and Utilities	0	115	105	220
Retail And WholesaleTrade	0	79	268	347
Services	0	532	860	1,392
Government	0	24	26	50
<b>Total</b>	<b>0</b>	<b>1,150</b>	<b>1,616</b>	<b>2,766</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	84	230	314
Mining	0	72	5	77
Construction	0	51	13	64
Manufacturing	0	288	189	477
Transportation and Utilities	0	138	126	264
Retail And WholesaleTrade	0	101	341	442
Services	0	662	1,073	1,735
Government	0	31	33	64
<b>Total</b>	<b>0</b>	<b>1,427</b>	<b>2,009</b>	<b>3,437</b>

**Idaho Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	86	231	317
Mining	0	81	6	87
Construction	0	50	12	62
Manufacturing	0	285	200	484
Transportation and Utilities	0	137	127	264
Retail And WholesaleTrade	0	104	355	459
Services	0	686	1,111	1,797
Government	0	31	34	65
<b>Total</b>	<b>0</b>	<b>1,459</b>	<b>2,076</b>	<b>3,536</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	93	243	336
Mining	0	92	7	99
Construction	0	49	12	62
Manufacturing	0	296	216	512
Transportation and Utilities	0	147	135	282
Retail And WholesaleTrade	0	113	385	498
Services	0	753	1,219	1,973
Government	0	34	37	71
<b>Total</b>	<b>0</b>	<b>1,579</b>	<b>2,255</b>	<b>3,833</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	116	297	413
Mining	0	123	9	132
Construction	0	59	15	73
Manufacturing	0	347	268	615
Transportation and Utilities	0	185	171	356
Retail And WholesaleTrade	0	151	486	637
Services	0	952	1,549	2,501
Government	0	43	46	90
<b>Total</b>	<b>0</b>	<b>1,975</b>	<b>2,842</b>	<b>4,818</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Illinois Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	73	265	338
Mining	2,295	181	17	2,493
Construction	0	307	118	425
Manufacturing	519	2,839	1,162	4,519
Transportation and Utilities	0	1,013	898	1,911
Retail And WholesaleTrade	0	695	2,177	2,872
Services	0	4,777	8,148	12,925
Government	0	131	159	290
<b>Total</b>	<b>2,814</b>	<b>10,016</b>	<b>12,943</b>	<b>25,773</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	109	389	498
Mining	3,163	246	22	3,432
Construction	0	476	186	662
Manufacturing	562	4,136	1,699	6,397
Transportation and Utilities	0	1,487	1,312	2,798
Retail And WholesaleTrade	0	980	3,072	4,052
Services	0	6,760	11,384	18,144
Government	0	186	220	405
<b>Total</b>	<b>3,724</b>	<b>14,380</b>	<b>18,282</b>	<b>36,387</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	132	455	587
Mining	4,515	314	27	4,856
Construction	0	565	240	805
Manufacturing	780	4,930	2,062	7,772
Transportation and Utilities	0	1,881	1,638	3,519
Retail And WholesaleTrade	0	1,200	3,834	5,034
Services	0	8,394	14,250	22,643
Government	0	232	272	504
<b>Total</b>	<b>5,295</b>	<b>17,648</b>	<b>22,778</b>	<b>45,721</b>

**Illinois Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	126	442	568
Mining	4,156	293	25	4,475
Construction	0	576	240	816
Manufacturing	762	4,650	2,051	7,463
Transportation and Utilities	0	1,866	1,652	3,518
Retail And WholesaleTrade	0	1,166	3,765	4,931
Services	0	8,353	14,125	22,478
Government	0	227	268	494
<b>Total</b>	<b>4,918</b>	<b>17,257</b>	<b>22,568</b>	<b>44,743</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	131	453	584
Mining	4,799	316	26	5,141
Construction	0	598	262	860
Manufacturing	835	4,833	2,171	7,839
Transportation and Utilities	0	2,037	1,793	3,830
Retail And WholesaleTrade	0	1,244	4,079	5,323
Services	0	8,899	15,221	24,119
Government	0	244	288	533
<b>Total</b>	<b>5,634</b>	<b>18,303</b>	<b>24,293</b>	<b>48,229</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	152	534	686
Mining	6,787	414	32	7,233
Construction	0	740	336	1,076
Manufacturing	1,092	5,854	2,702	9,648
Transportation and Utilities	0	2,593	2,276	4,870
Retail And WholesaleTrade	0	1,544	5,241	6,785
Services	0	11,191	19,494	30,685
Government	0	309	366	674
<b>Total</b>	<b>7,879</b>	<b>22,797</b>	<b>30,981</b>	<b>61,657</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**Indiana Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	52	200	251
Mining	0	59	9	69
Construction	0	169	55	223
Manufacturing	516	2,321	880	3,717
Transportation and Utilities	0	501	408	909
Retail And WholesaleTrade	0	282	827	1,109
Services	0	1,593	2,819	4,412
Government	0	60	68	128
<b>Total</b>	<b>516</b>	<b>5,037</b>	<b>5,266</b>	<b>10,819</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	77	296	373
Mining	0	80	13	93
Construction	0	266	85	351
Manufacturing	586	3,237	1,286	5,110
Transportation and Utilities	0	698	568	1,266
Retail And WholesaleTrade	0	389	1,162	1,551
Services	0	2,265	4,015	6,280
Government	0	87	96	183
<b>Total</b>	<b>586</b>	<b>7,100</b>	<b>7,521</b>	<b>15,206</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	95	349	444
Mining	0	95	15	110
Construction	0	316	104	419
Manufacturing	898	3,986	1,578	6,463
Transportation and Utilities	0	862	686	1,548
Retail And WholesaleTrade	0	499	1,447	1,947
Services	0	2,898	5,011	7,909
Government	0	108	116	224
<b>Total</b>	<b>898</b>	<b>8,859</b>	<b>9,307</b>	<b>19,065</b>

## Indiana Employment Contribution by State and Industry: Unconventional Gas\* (Continued)

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	92	341	433
Mining	0	93	15	107
Construction	0	322	101	423
Manufacturing	820	4,036	1,662	6,518
Transportation and Utilities	0	831	679	1,510
Retail And WholesaleTrade	0	489	1,448	1,937
Services	0	2,946	5,089	8,034
Government	0	107	116	223
<b>Total</b>	<b>820</b>	<b>8,915</b>	<b>9,451</b>	<b>19,186</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	96	346	442
Mining	0	97	15	112
Construction	0	334	106	440
Manufacturing	986	4,452	1,825	7,264
Transportation and Utilities	0	884	715	1,599
Retail And WholesaleTrade	0	539	1,566	2,106
Services	0	3,226	5,505	8,731
Government	0	115	125	239
<b>Total</b>	<b>986</b>	<b>9,744</b>	<b>10,204</b>	<b>20,934</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	117	415	532
Mining	0	120	18	138
Construction	0	424	134	558
Manufacturing	1,503	5,563	2,315	9,381
Transportation and Utilities	0	1,110	889	1,998
Retail And WholesaleTrade	0	710	2,003	2,714
Services	0	4,184	7,034	11,218
Government	0	144	155	299
<b>Total</b>	<b>1,503</b>	<b>12,371</b>	<b>12,963</b>	<b>26,837</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Iowa Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	81	295	376
Mining	285	21	2	309
Construction	0	93	27	120
Manufacturing	30	669	369	1,068
Transportation and Utilities	0	234	194	428
Retail And WholesaleTrade	0	142	472	614
Services	0	736	1,457	2,193
Government	0	36	40	77
<b>Total</b>	<b>315</b>	<b>2,012</b>	<b>2,856</b>	<b>5,183</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	133	485	618
Mining	555	28	3	586
Construction	0	152	44	196
Manufacturing	96	966	548	1,609
Transportation and Utilities	0	379	297	676
Retail And WholesaleTrade	0	225	724	949
Services	0	1,142	2,201	3,343
Government	0	56	61	117
<b>Total</b>	<b>650</b>	<b>3,082</b>	<b>4,362</b>	<b>8,095</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	169	595	764
Mining	656	33	4	692
Construction	0	187	55	241
Manufacturing	126	1,185	661	1,972
Transportation and Utilities	0	475	368	843
Retail And WholesaleTrade	0	272	880	1,152
Services	0	1,425	2,690	4,115
Government	0	69	74	144
<b>Total</b>	<b>782</b>	<b>3,815</b>	<b>5,326</b>	<b>9,923</b>

**Iowa Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	171	619	790
Mining	647	26	3	676
Construction	0	208	58	266
Manufacturing	151	1,248	689	2,088
Transportation and Utilities	0	495	390	884
Retail And WholesaleTrade	0	270	894	1,164
Services	0	1,504	2,784	4,289
Government	0	70	75	145
<b>Total</b>	<b>798</b>	<b>3,993</b>	<b>5,511</b>	<b>10,302</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	190	677	867
Mining	715	24	2	741
Construction	0	225	63	288
Manufacturing	177	1,410	755	2,342
Transportation and Utilities	0	570	448	1,017
Retail And WholesaleTrade	0	291	960	1,251
Services	0	1,657	3,012	4,669
Government	0	75	80	155
<b>Total</b>	<b>891</b>	<b>4,442</b>	<b>5,997</b>	<b>11,330</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	248	885	1,133
Mining	928	27	3	958
Construction	0	294	82	377
Manufacturing	222	1,824	969	3,015
Transportation and Utilities	0	735	579	1,314
Retail And WholesaleTrade	0	366	1,213	1,579
Services	0	2,135	3,824	5,960
Government	0	93	99	192
<b>Total</b>	<b>1,150</b>	<b>5,723</b>	<b>7,654</b>	<b>14,526</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Kansas Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	41	184	224
Mining	165	79	12	256
Construction	0	109	26	135
Manufacturing	493	413	248	1,155
Transportation and Utilities	0	244	182	425
Retail And WholesaleTrade	0	154	473	627
Services	0	900	1,531	2,431
Government	0	52	47	99
<b>Total</b>	<b>658</b>	<b>1,992</b>	<b>2,703</b>	<b>5,353</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	64	284	348
Mining	15	108	16	140
Construction	0	128	37	165
Manufacturing	808	607	374	1,790
Transportation and Utilities	0	381	268	649
Retail And WholesaleTrade	0	228	660	888
Services	0	1,309	2,154	3,463
Government	0	84	67	151
<b>Total</b>	<b>824</b>	<b>2,910</b>	<b>3,861</b>	<b>7,594</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	84	352	435
Mining	1	123	19	143
Construction	0	141	43	183
Manufacturing	879	753	456	2,088
Transportation and Utilities	0	459	328	787
Retail And WholesaleTrade	0	274	795	1,069
Services	0	1,577	2,573	4,150
Government	0	99	80	178
<b>Total</b>	<b>880</b>	<b>3,509</b>	<b>4,645</b>	<b>9,034</b>

**Kansas Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	84	358	442
Mining	0	120	18	137
Construction	0	143	42	185
Manufacturing	874	817	485	2,176
Transportation and Utilities	0	461	336	796
Retail And WholesaleTrade	0	274	813	1,087
Services	0	1,592	2,607	4,199
Government	0	97	80	178
<b>Total</b>	<b>874</b>	<b>3,587</b>	<b>4,740</b>	<b>9,201</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	92	387	479
Mining	0	123	18	141
Construction	0	148	44	193
Manufacturing	902	971	544	2,416
Transportation and Utilities	0	494	361	855
Retail And WholesaleTrade	0	291	862	1,153
Services	0	1,727	2,800	4,526
Government	0	104	85	189
<b>Total</b>	<b>902</b>	<b>3,950</b>	<b>5,100</b>	<b>9,952</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	120	497	617
Mining	0	151	22	173
Construction	0	182	54	236
Manufacturing	1,035	1,292	710	3,037
Transportation and Utilities	0	617	455	1,072
Retail And WholesaleTrade	0	355	1,056	1,411
Services	0	2,181	3,512	5,693
Government	0	127	105	231
<b>Total</b>	<b>1,035</b>	<b>5,024</b>	<b>6,411</b>	<b>12,470</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Kentucky Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	59	279	338
Mining	1,310	311	42	1,663
Construction	285	281	43	609
Manufacturing	281	931	476	1,688
Transportation and Utilities	215	385	333	933
Retail And WholesaleTrade	0	273	892	1,165
Services	54	1,550	2,727	4,331
Government	0	64	78	142
<b>Total</b>	<b>2,145</b>	<b>3,855</b>	<b>4,870</b>	<b>10,870</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	83	399	481
Mining	1,577	429	57	2,064
Construction	287	363	57	707
Manufacturing	291	1,405	721	2,417
Transportation and Utilities	135	528	461	1,124
Retail And WholesaleTrade	0	359	1,167	1,526
Services	45	2,066	3,629	5,739
Government	0	89	104	193
<b>Total</b>	<b>2,336</b>	<b>5,321</b>	<b>6,596</b>	<b>14,252</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	111	506	618
Mining	1,517	463	61	2,041
Construction	302	370	66	739
Manufacturing	504	1,795	891	3,189
Transportation and Utilities	150	689	576	1,416
Retail And WholesaleTrade	0	442	1,329	1,770
Services	44	2,474	4,180	6,698
Government	0	111	123	234
<b>Total</b>	<b>2,517</b>	<b>6,455</b>	<b>7,732</b>	<b>16,705</b>

**Kentucky Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	114	524	638
Mining	1,385	416	57	1,858
Construction	326	359	66	751
Manufacturing	436	1,892	938	3,266
Transportation and Utilities	153	718	612	1,483
Retail And Wholesale Trade	0	426	1,292	1,717
Services	45	2,413	4,099	6,557
Government	0	111	124	235
<b>Total</b>	<b>2,345</b>	<b>6,448</b>	<b>7,711</b>	<b>16,505</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	125	570	695
Mining	1,313	419	58	1,791
Construction	330	361	70	761
Manufacturing	518	2,165	1,034	3,717
Transportation and Utilities	158	806	679	1,642
Retail And Wholesale Trade	0	457	1,342	1,799
Services	46	2,537	4,282	6,865
Government	0	121	132	254
<b>Total</b>	<b>2,365</b>	<b>6,992</b>	<b>8,166</b>	<b>17,523</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	159	726	885
Mining	1,491	492	69	2,052
Construction	376	443	88	907
Manufacturing	781	2,786	1,312	4,879
Transportation and Utilities	179	1,027	853	2,060
Retail And Wholesale Trade	0	582	1,650	2,232
Services	52	3,149	5,287	8,487
Government	0	156	167	323
<b>Total</b>	<b>2,879</b>	<b>8,794</b>	<b>10,152</b>	<b>21,825</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**Louisiana Employment Contribution by State and Industry: Unconventional Gas\***  
(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	117	341	458
Mining	9,312	652	60	10,024
Construction	14,525	2,239	302	17,067
Manufacturing	3,329	1,725	611	5,665
Transportation and Utilities	1,870	1,896	1,430	5,196
Retail And WholesaleTrade	0	2,357	6,708	9,065
Services	859	12,816	19,333	33,008
Government	0	195	343	539
<b>Total</b>	<b>29,896</b>	<b>21,997</b>	<b>29,130</b>	<b>81,022</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	153	551	704
Mining	17,356	1,120	89	18,565
Construction	14,794	5,168	508	20,470
Manufacturing	5,421	2,508	1,010	8,939
Transportation and Utilities	2,079	2,817	2,397	7,293
Retail And WholesaleTrade	0	3,605	11,391	14,996
Services	690	19,591	32,656	52,937
Government	0	310	567	878
<b>Total</b>	<b>40,341</b>	<b>35,273</b>	<b>49,168</b>	<b>124,782</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	161	651	812
Mining	23,952	1,424	108	25,484
Construction	9,539	6,993	608	17,140
Manufacturing	4,035	2,588	1,213	7,835
Transportation and Utilities	2,427	3,144	2,866	8,438
Retail And WholesaleTrade	0	3,873	13,646	17,519
Services	712	22,541	39,027	62,279
Government	0	370	679	1,049
<b>Total</b>	<b>40,665</b>	<b>41,093</b>	<b>58,797</b>	<b>140,556</b>

## Louisiana Employment Contribution by State and Industry: Unconventional Gas\* (Continued)

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	165	720	885
Mining	28,118	1,611	115	29,845
Construction	9,367	8,464	697	18,529
Manufacturing	3,557	2,641	1,349	7,547
Transportation and Utilities	2,477	3,404	3,268	9,149
Retail And Wholesale Trade	0	4,261	15,697	19,958
Services	726	25,182	44,818	70,726
Government	0	406	774	1,180
<b>Total</b>	<b>44,245</b>	<b>46,135</b>	<b>67,437</b>	<b>157,818</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	168	748	917
Mining	29,542	1,700	122	31,364
Construction	7,892	8,923	728	17,544
Manufacturing	3,834	2,783	1,427	8,043
Transportation and Utilities	2,561	3,516	3,397	9,474
Retail And Wholesale Trade	0	4,391	16,340	20,731
Services	743	26,082	46,697	73,521
Government	0	424	806	1,230
<b>Total</b>	<b>44,571</b>	<b>47,988</b>	<b>70,266</b>	<b>162,825</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	205	931	1,136
Mining	37,440	2,142	154	39,736
Construction	8,124	11,349	908	20,382
Manufacturing	3,555	3,363	1,795	8,713
Transportation and Utilities	3,345	4,314	4,235	11,895
Retail And Wholesale Trade	0	5,333	20,359	25,691
Services	964	32,356	58,159	91,479
Government	0	524	999	1,523
<b>Total</b>	<b>53,428</b>	<b>59,587</b>	<b>87,540</b>	<b>200,555</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Maine Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	32	61	94
Mining	0	1	0	1
Construction	0	36	11	47
Manufacturing	0	156	100	256
Transportation and Utilities	0	60	55	114
Retail And WholesaleTrade	0	46	196	242
Services	0	293	590	882
Government	0	13	15	28
<b>Total</b>	<b>0</b>	<b>637</b>	<b>1,029</b>	<b>1,666</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	45	82	127
Mining	0	2	0	3
Construction	0	52	15	67
Manufacturing	0	218	147	365
Transportation and Utilities	0	83	74	157
Retail And WholesaleTrade	0	67	283	349
Services	0	426	855	1,281
Government	0	19	22	41
<b>Total</b>	<b>0</b>	<b>913</b>	<b>1,477</b>	<b>2,390</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	55	97	151
Mining	0	4	0	4
Construction	0	64	17	81
Manufacturing	0	274	184	458
Transportation and Utilities	0	97	84	181
Retail And WholesaleTrade	0	80	335	416
Services	0	514	1,024	1,537
Government	0	23	26	49
<b>Total</b>	<b>0</b>	<b>1,111</b>	<b>1,767</b>	<b>2,878</b>

**Maine Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	53	93	145
Mining	0	5	1	6
Construction	0	68	17	86
Manufacturing	0	277	189	466
Transportation and Utilities	0	92	81	173
Retail And WholesaleTrade	0	78	332	411
Services	0	516	1,030	1,546
Government	0	23	25	48
<b>Total</b>	<b>0</b>	<b>1,112</b>	<b>1,768</b>	<b>2,881</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	56	96	152
Mining	0	7	1	8
Construction	0	73	18	92
Manufacturing	0	302	205	507
Transportation and Utilities	0	95	83	178
Retail And WholesaleTrade	0	82	351	433
Services	0	549	1,094	1,643
Government	0	24	27	51
<b>Total</b>	<b>0</b>	<b>1,189</b>	<b>1,873</b>	<b>3,063</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	69	120	189
Mining	0	11	1	12
Construction	0	93	23	116
Manufacturing	0	370	256	625
Transportation and Utilities	0	113	99	212
Retail And WholesaleTrade	0	100	431	530
Services	0	676	1,352	2,028
Government	0	29	32	62
<b>Total</b>	<b>0</b>	<b>1,461</b>	<b>2,312</b>	<b>3,774</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

### Maryland Employment Contribution by State and Industry: Unconventional Gas\*

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	17	61	78
Mining	0	22	2	23
Construction	0	226	75	301
Manufacturing	0	390	219	609
Transportation and Utilities	0	272	269	541
Retail And WholesaleTrade	0	178	647	824
Services	0	1,781	2,718	4,499
Government	0	61	72	132
<b>Total</b>	<b>0</b>	<b>2,945</b>	<b>4,063</b>	<b>7,008</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	26	94	119
Mining	0	30	3	33
Construction	0	334	108	441
Manufacturing	0	573	322	894
Transportation and Utilities	0	392	375	767
Retail And WholesaleTrade	0	256	929	1,185
Services	0	2,654	3,968	6,622
Government	0	94	108	202
<b>Total</b>	<b>0</b>	<b>4,359</b>	<b>5,905</b>	<b>10,263</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	33	118	151
Mining	0	44	4	48
Construction	0	415	133	548
Manufacturing	0	698	388	1,085
Transportation and Utilities	0	484	453	937
Retail And WholesaleTrade	0	310	1,129	1,439
Services	0	3,253	4,855	8,108
Government	0	118	132	250
<b>Total</b>	<b>0</b>	<b>5,355</b>	<b>7,211</b>	<b>12,566</b>

## Maryland Employment Contribution by State and Industry: Unconventional Gas\* (Continued)

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	34	122	156
Mining	0	47	4	51
Construction	0	451	135	586
Manufacturing	0	643	382	1,025
Transportation and Utilities	0	481	451	932
Retail And Wholesale Trade	0	308	1,159	1,467
Services	0	3,157	4,889	8,047
Government	0	120	136	256
<b>Total</b>	<b>0</b>	<b>5,241</b>	<b>7,279</b>	<b>12,519</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	37	131	168
Mining	0	53	5	58
Construction	0	489	145	635
Manufacturing	0	648	395	1,043
Transportation and Utilities	0	528	490	1,018
Retail And Wholesale Trade	0	333	1,250	1,583
Services	0	3,305	5,226	8,531
Government	0	129	146	275
<b>Total</b>	<b>0</b>	<b>5,523</b>	<b>7,787</b>	<b>13,310</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	48	168	216
Mining	0	68	6	74
Construction	0	637	185	822
Manufacturing	0	770	486	1,256
Transportation and Utilities	0	683	632	1,315
Retail And Wholesale Trade	0	418	1,581	1,999
Services	0	4,065	6,537	10,602
Government	0	165	185	350
<b>Total</b>	<b>0</b>	<b>6,854</b>	<b>9,780</b>	<b>16,634</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Massachusetts Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	9	40	50
Mining	0	5	0	6
Construction	0	82	29	111
Manufacturing	136	449	221	806
Transportation and Utilities	0	142	136	278
Retail And WholesaleTrade	0	132	431	564
Services	0	1,196	1,895	3,091
Government	0	30	34	63
<b>Total</b>	<b>136</b>	<b>2,046</b>	<b>2,787</b>	<b>4,968</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	13	54	67
Mining	0	6	1	7
Construction	0	122	42	164
Manufacturing	193	648	325	1,167
Transportation and Utilities	0	205	194	399
Retail And WholesaleTrade	0	193	622	815
Services	0	1,770	2,738	4,507
Government	0	44	49	93
<b>Total</b>	<b>193</b>	<b>3,002</b>	<b>4,025</b>	<b>7,220</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	16	65	81
Mining	0	8	1	8
Construction	0	144	52	196
Manufacturing	355	802	398	1,555
Transportation and Utilities	0	250	232	482
Retail And WholesaleTrade	0	240	741	981
Services	0	2,153	3,294	5,447
Government	0	55	60	115
<b>Total</b>	<b>355</b>	<b>3,667</b>	<b>4,842</b>	<b>8,865</b>

## Massachusetts Employment Contribution by State and Industry: Unconventional Gas\* (Continued)

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	16	64	80
Mining	0	8	1	9
Construction	0	151	52	203
Manufacturing	324	733	389	1,446
Transportation and Utilities	0	239	225	464
Retail And WholesaleTrade	0	231	722	953
Services	0	2,130	3,258	5,389
Government	0	54	59	113
<b>Total</b>	<b>324</b>	<b>3,562</b>	<b>4,771</b>	<b>8,657</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	17	68	85
Mining	0	9	1	10
Construction	0	158	56	214
Manufacturing	396	741	403	1,539
Transportation and Utilities	0	247	230	477
Retail And WholesaleTrade	0	244	756	1,000
Services	0	2,251	3,438	5,688
Government	0	57	63	120
<b>Total</b>	<b>396</b>	<b>3,724</b>	<b>5,014</b>	<b>9,134</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	22	85	107
Mining	0	11	1	13
Construction	0	199	71	270
Manufacturing	615	887	494	1,995
Transportation and Utilities	0	295	274	569
Retail And WholesaleTrade	0	301	925	1,225
Services	0	2,784	4,244	7,029
Government	0	70	78	148
<b>Total</b>	<b>615</b>	<b>4,569</b>	<b>6,172</b>	<b>11,356</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**Michigan Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	70	255	325
Mining	1,230	144	10	1,384
Construction	0	437	111	548
Manufacturing	5,738	2,375	908	9,021
Transportation and Utilities	0	837	610	1,446
Retail And WholesaleTrade	0	548	2,378	2,925
Services	0	4,124	8,023	12,147
Government	0	113	154	267
<b>Total</b>	<b>6,968</b>	<b>8,647</b>	<b>12,448</b>	<b>28,063</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	104	352	455
Mining	890	198	13	1,102
Construction	0	506	155	661
Manufacturing	8,217	3,778	1,354	13,349
Transportation and Utilities	0	1,195	844	2,038
Retail And WholesaleTrade	0	747	3,107	3,853
Services	0	5,561	10,538	16,099
Government	0	160	209	369
<b>Total</b>	<b>9,107</b>	<b>12,248</b>	<b>16,571</b>	<b>37,926</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	132	413	545
Mining	573	250	16	839
Construction	0	525	187	712
Manufacturing	10,981	4,817	1,644	17,442
Transportation and Utilities	0	1,526	1,035	2,561
Retail And WholesaleTrade	0	915	3,746	4,661
Services	0	6,758	12,686	19,445
Government	0	197	252	449
<b>Total</b>	<b>11,554</b>	<b>15,120</b>	<b>19,979</b>	<b>46,653</b>

**Michigan Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	127	391	518
Mining	363	242	16	621
Construction	0	501	182	683
Manufacturing	10,317	5,036	1,691	17,044
Transportation and Utilities	0	1,486	1,020	2,507
Retail And Wholesale Trade	0	883	3,595	4,478
Services	0	6,528	12,139	18,667
Government	0	192	244	436
<b>Total</b>	<b>10,680</b>	<b>14,995</b>	<b>19,278</b>	<b>44,953</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	137	407	544
Mining	259	260	17	536
Construction	0	510	195	705
Manufacturing	11,648	5,610	1,832	19,089
Transportation and Utilities	0	1,649	1,112	2,761
Retail And Wholesale Trade	0	965	3,905	4,870
Services	0	7,009	12,998	20,007
Government	0	207	262	469
<b>Total</b>	<b>11,907</b>	<b>16,346</b>	<b>20,728</b>	<b>48,982</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	171	507	678
Mining	294	323	22	639
Construction	0	644	250	895
Manufacturing	15,657	7,051	2,312	25,020
Transportation and Utilities	0	2,165	1,437	3,602
Retail And Wholesale Trade	0	1,240	5,058	6,299
Services	0	8,998	16,655	25,653
Government	0	262	332	595
<b>Total</b>	<b>15,951</b>	<b>20,855</b>	<b>26,574</b>	<b>63,380</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Minnesota Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	72	271	343
Mining	352	123	4	480
Construction	0	123	41	164
Manufacturing	0	1,142	568	1,710
Transportation and Utilities	0	318	290	607
Retail And WholesaleTrade	0	246	786	1,032
Services	0	1,756	3,054	4,810
Government	0	58	67	125
<b>Total</b>	<b>352</b>	<b>3,837</b>	<b>5,082</b>	<b>9,271</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	104	388	493
Mining	860	187	7	1,053
Construction	0	178	65	243
Manufacturing	0	1,679	877	2,556
Transportation and Utilities	0	491	428	919
Retail And WholesaleTrade	0	382	1,237	1,618
Services	0	2,700	4,722	7,422
Government	0	91	104	195
<b>Total</b>	<b>860</b>	<b>5,811</b>	<b>7,827</b>	<b>14,499</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	130	464	593
Mining	917	225	8	1,150
Construction	0	210	79	289
Manufacturing	0	2,068	1,068	3,135
Transportation and Utilities	0	596	508	1,104
Retail And WholesaleTrade	0	462	1,467	1,929
Services	0	3,286	5,669	8,955
Government	0	112	125	237
<b>Total</b>	<b>917</b>	<b>7,087</b>	<b>9,388</b>	<b>17,393</b>

**Minnesota Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	133	480	614
Mining	778	208	9	994
Construction	0	222	79	301
Manufacturing	0	1,984	1,063	3,046
Transportation and Utilities	0	601	517	1,118
Retail And Wholesale Trade	0	461	1,463	1,924
Services	0	3,283	5,669	8,953
Government	0	111	124	235
<b>Total</b>	<b>778</b>	<b>7,003</b>	<b>9,404</b>	<b>17,184</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	147	517	663
Mining	731	213	9	953
Construction	0	239	85	324
Manufacturing	0	2,113	1,121	3,234
Transportation and Utilities	0	649	552	1,201
Retail And Wholesale Trade	0	501	1,550	2,050
Services	0	3,506	6,031	9,537
Government	0	118	131	250
<b>Total</b>	<b>731</b>	<b>7,487</b>	<b>9,995</b>	<b>18,213</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	184	646	830
Mining	822	256	12	1,090
Construction	0	306	106	411
Manufacturing	0	2,624	1,405	4,030
Transportation and Utilities	0	813	688	1,501
Retail And Wholesale Trade	0	639	1,936	2,576
Services	0	4,372	7,519	11,891
Government	0	147	162	310
<b>Total</b>	<b>822</b>	<b>9,341</b>	<b>12,474</b>	<b>22,638</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Mississippi Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	54	145	199
Mining	0	40	6	46
Construction	92	61	15	168
Manufacturing	0	389	275	665
Transportation and Utilities	0	185	176	361
Retail And WholesaleTrade	0	78	296	374
Services	0	497	877	1,375
Government	0	33	37	70
<b>Total</b>	<b>92</b>	<b>1,338</b>	<b>1,829</b>	<b>3,259</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	88	233	321
Mining	0	63	9	72
Construction	2,703	101	35	2,839
Manufacturing	0	619	419	1,038
Transportation and Utilities	0	369	319	688
Retail And WholesaleTrade	0	293	694	987
Services	0	1,362	1,991	3,354
Government	0	59	71	130
<b>Total</b>	<b>2,703</b>	<b>2,953</b>	<b>3,772</b>	<b>9,428</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	98	284	381
Mining	0	70	11	81
Construction	1,300	111	32	1,443
Manufacturing	0	700	506	1,205
Transportation and Utilities	0	397	362	759
Retail And WholesaleTrade	0	216	645	861
Services	0	1,201	1,902	3,103
Government	0	65	74	139
<b>Total</b>	<b>1,300</b>	<b>2,857</b>	<b>3,815</b>	<b>7,972</b>

**Mississippi Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	93	292	385
Mining	0	68	10	78
Construction	765	115	31	911
Manufacturing	0	661	508	1,170
Transportation and Utilities	0	382	360	743
Retail And WholesaleTrade	0	179	596	775
Services	0	1,101	1,802	2,904
Government	0	63	71	134
<b>Total</b>	<b>765</b>	<b>2,663</b>	<b>3,672</b>	<b>7,099</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	101	320	420
Mining	0	69	10	79
Construction	681	122	33	836
Manufacturing	0	678	527	1,205
Transportation and Utilities	0	407	383	790
Retail And WholesaleTrade	0	183	626	809
Services	0	1,177	1,927	3,104
Government	0	67	75	142
<b>Total</b>	<b>681</b>	<b>2,803</b>	<b>3,901</b>	<b>7,386</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	125	410	535
Mining	0	82	12	94
Construction	614	153	41	808
Manufacturing	0	772	623	1,396
Transportation and Utilities	0	501	474	974
Retail And WholesaleTrade	0	206	754	960
Services	0	1,446	2,381	3,827
Government	0	83	91	174
<b>Total</b>	<b>614</b>	<b>3,368</b>	<b>4,786</b>	<b>8,768</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Missouri Employment Contribution by State and Industry: Unconventional Gas\*

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	32	173	206
Mining	343	29	3	375
Construction	0	102	44	146
Manufacturing	3,790	525	280	4,596
Transportation and Utilities	0	421	252	673
Retail And WholesaleTrade	0	236	920	1,156
Services	0	1,661	3,078	4,739
Government	0	64	78	142
<b>Total</b>	<b>4,133</b>	<b>3,070</b>	<b>4,828</b>	<b>12,031</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	50	263	313
Mining	539	39	4	582
Construction	0	154	62	216
Manufacturing	5,467	786	420	6,672
Transportation and Utilities	0	615	365	980
Retail And WholesaleTrade	0	344	1,331	1,675
Services	0	2,396	4,387	6,783
Government	0	93	112	205
<b>Total</b>	<b>6,005</b>	<b>4,477</b>	<b>6,945</b>	<b>17,427</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	63	322	386
Mining	697	45	5	747
Construction	0	191	78	269
Manufacturing	7,005	972	511	8,489
Transportation and Utilities	0	770	452	1,222
Retail And WholesaleTrade	0	432	1,663	2,095
Services	0	2,992	5,425	8,416
Government	0	118	140	257
<b>Total</b>	<b>7,702</b>	<b>5,583</b>	<b>8,596</b>	<b>21,881</b>

**Missouri Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	61	323	384
Mining	647	42	5	694
Construction	0	199	78	278
Manufacturing	7,196	998	525	8,719
Transportation and Utilities	0	772	457	1,229
Retail And Wholesale Trade	0	432	1,681	2,112
Services	0	3,026	5,465	8,491
Government	0	118	141	260
<b>Total</b>	<b>7,843</b>	<b>5,649</b>	<b>8,676</b>	<b>22,168</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	67	344	411
Mining	699	45	5	749
Construction	0	212	85	297
Manufacturing	8,003	1,122	570	9,695
Transportation and Utilities	0	840	495	1,334
Retail And Wholesale Trade	0	469	1,830	2,299
Services	0	3,299	5,923	9,222
Government	0	129	154	283
<b>Total</b>	<b>8,702</b>	<b>6,182</b>	<b>9,406</b>	<b>24,290</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	83	429	513
Mining	885	55	6	947
Construction	0	266	106	372
Manufacturing	9,861	1,421	714	11,996
Transportation and Utilities	0	1,037	615	1,651
Retail And Wholesale Trade	0	582	2,273	2,855
Services	0	4,096	7,325	11,421
Government	0	160	190	351
<b>Total</b>	<b>10,746</b>	<b>7,699</b>	<b>11,659</b>	<b>30,105</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**Montana Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	22	92	114
Mining	89	76	9	174
Construction	0	49	9	59
Manufacturing	0	55	35	90
Transportation and Utilities	0	79	71	150
Retail And WholesaleTrade	0	39	156	196
Services	0	267	514	781
Government	0	13	15	28
<b>Total</b>	<b>90</b>	<b>600</b>	<b>902</b>	<b>1,591</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	35	150	185
Mining	81	130	15	226
Construction	2	57	11	70
Manufacturing	0	79	52	131
Transportation and Utilities	1	119	106	227
Retail And WholesaleTrade	0	54	211	265
Services	0	374	718	1,092
Government	0	19	21	40
<b>Total</b>	<b>85</b>	<b>866</b>	<b>1,285</b>	<b>2,236</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	47	195	241
Mining	73	160	18	251
Construction	6	57	13	76
Manufacturing	0	96	63	159
Transportation and Utilities	3	143	125	271
Retail And WholesaleTrade	0	64	253	318
Services	1	455	857	1,313
Government	0	23	26	49
<b>Total</b>	<b>82</b>	<b>1,045</b>	<b>1,551</b>	<b>2,677</b>

**Montana Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	49	205	254
Mining	66	159	19	244
Construction	5	57	13	75
Manufacturing	0	97	66	163
Transportation and Utilities	2	139	123	264
Retail And WholesaleTrade	0	64	258	322
Services	1	462	866	1,328
Government	0	23	26	49
<b>Total</b>	<b>74</b>	<b>1,050</b>	<b>1,575</b>	<b>2,699</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	55	228	283
Mining	57	173	20	251
Construction	5	57	14	75
Manufacturing	0	106	71	177
Transportation and Utilities	2	143	126	272
Retail And WholesaleTrade	0	68	275	343
Services	1	490	917	1,408
Government	0	25	28	53
<b>Total</b>	<b>65</b>	<b>1,118</b>	<b>1,680</b>	<b>2,862</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	72	297	369
Mining	60	226	27	313
Construction	5	69	17	92
Manufacturing	0	132	90	222
Transportation and Utilities	2	177	155	335
Retail And WholesaleTrade	0	85	344	429
Services	1	610	1,145	1,756
Government	0	31	34	65
<b>Total</b>	<b>69</b>	<b>1,402</b>	<b>2,110</b>	<b>3,582</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.  
 Source: IHS Global Insight

**Nebraska Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	45	169	214
Mining	0	10	1	11
Construction	0	66	18	84
Manufacturing	104	229	177	510
Transportation and Utilities	0	283	175	458
Retail And WholesaleTrade	0	99	276	375
Services	0	566	930	1,496
Government	0	25	26	51
<b>Total</b>	<b>104</b>	<b>1,323</b>	<b>1,773</b>	<b>3,199</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	67	249	316
Mining	0	12	1	13
Construction	0	96	25	121
Manufacturing	276	341	267	884
Transportation and Utilities	0	462	274	736
Retail And WholesaleTrade	0	169	430	599
Services	0	940	1,453	2,393
Government	0	41	40	81
<b>Total</b>	<b>276</b>	<b>2,127</b>	<b>2,739</b>	<b>5,142</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	90	318	407
Mining	0	16	2	18
Construction	0	111	30	141
Manufacturing	332	433	328	1,093
Transportation and Utilities	0	579	338	917
Retail And WholesaleTrade	0	206	528	735
Services	0	1,208	1,815	3,024
Government	0	51	48	99
<b>Total</b>	<b>332</b>	<b>2,695</b>	<b>3,407</b>	<b>6,433</b>

**Nebraska Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	90	326	416
Mining	0	17	2	19
Construction	0	123	31	154
Manufacturing	364	459	336	1,160
Transportation and Utilities	0	572	340	911
Retail And WholesaleTrade	0	212	544	757
Services	0	1,278	1,883	3,161
Government	0	52	49	101
<b>Total</b>	<b>364</b>	<b>2,804</b>	<b>3,511</b>	<b>6,679</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	100	351	452
Mining	0	17	2	19
Construction	0	136	35	171
Manufacturing	405	529	364	1,298
Transportation and Utilities	0	611	360	971
Retail And WholesaleTrade	0	231	587	817
Services	0	1,413	2,048	3,461
Government	0	57	52	109
<b>Total</b>	<b>405</b>	<b>3,095</b>	<b>3,799</b>	<b>7,299</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	123	435	557
Mining	0	19	2	21
Construction	0	176	45	221
Manufacturing	498	697	467	1,662
Transportation and Utilities	0	758	448	1,206
Retail And WholesaleTrade	0	286	735	1,021
Services	0	1,810	2,582	4,393
Government	0	70	65	135
<b>Total</b>	<b>498</b>	<b>3,939</b>	<b>4,780</b>	<b>9,216</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Nevada Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	6	8
Mining	0	57	4	60
Construction	498	31	10	539
Manufacturing	7	64	28	99
Transportation and Utilities	0	67	66	134
Retail And WholesaleTrade	0	56	165	221
Services	0	458	617	1,075
Government	0	7	10	17
<b>Total</b>	<b>505</b>	<b>741</b>	<b>906</b>	<b>2,153</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	9	12
Mining	0	75	5	79
Construction	0	27	9	36
Manufacturing	10	68	37	116
Transportation and Utilities	0	76	72	148
Retail And WholesaleTrade	0	35	144	180
Services	0	496	656	1,153
Government	0	9	11	20
<b>Total</b>	<b>10</b>	<b>789</b>	<b>944</b>	<b>1,743</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	12	15
Mining	0	95	6	101
Construction	80	30	12	122
Manufacturing	13	84	47	144
Transportation and Utilities	0	100	94	194
Retail And WholesaleTrade	0	50	195	245
Services	0	657	870	1,527
Government	0	12	14	26
<b>Total</b>	<b>93</b>	<b>1,031</b>	<b>1,250</b>	<b>2,375</b>

**Nevada Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	12	15
Mining	0	93	7	100
Construction	0	28	12	41
Manufacturing	12	76	47	135
Transportation and Utilities	0	107	102	209
Retail And WholesaleTrade	0	45	189	235
Services	0	650	873	1,522
Government	0	13	15	28
<b>Total</b>	<b>12</b>	<b>1,015</b>	<b>1,256</b>	<b>2,284</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	13	17
Mining	0	101	7	108
Construction	0	28	14	42
Manufacturing	13	79	50	142
Transportation and Utilities	0	122	116	238
Retail And WholesaleTrade	0	50	212	262
Services	0	721	974	1,696
Government	0	15	17	32
<b>Total</b>	<b>13</b>	<b>1,121</b>	<b>1,403</b>	<b>2,537</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	17	22
Mining	0	126	9	135
Construction	0	35	18	53
Manufacturing	17	95	62	174
Transportation and Utilities	0	166	158	324
Retail And WholesaleTrade	0	64	275	339
Services	0	927	1,263	2,190
Government	0	19	21	41
<b>Total</b>	<b>17</b>	<b>1,438</b>	<b>1,823</b>	<b>3,278</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**New Hampshire Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	7	11
Mining	0	1	0	1
Construction	0	10	3	14
Manufacturing	0	109	32	141
Transportation and Utilities	0	18	17	35
Retail And WholesaleTrade	0	22	77	99
Services	0	118	219	337
Government	0	4	5	9
<b>Total</b>	<b>0</b>	<b>286</b>	<b>361</b>	<b>647</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	10	15
Mining	0	2	0	2
Construction	0	15	5	20
Manufacturing	0	145	45	190
Transportation and Utilities	0	24	23	47
Retail And WholesaleTrade	0	32	113	145
Services	0	180	324	504
Government	0	7	7	14
<b>Total</b>	<b>0</b>	<b>410</b>	<b>529</b>	<b>938</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	13	19
Mining	0	2	0	3
Construction	0	19	6	24
Manufacturing	0	171	55	227
Transportation and Utilities	0	31	28	58
Retail And WholesaleTrade	0	43	142	185
Services	0	230	407	637
Government	0	8	9	18
<b>Total</b>	<b>0</b>	<b>511</b>	<b>661</b>	<b>1,171</b>

## New Hampshire Employment Contribution by State and Industry: Unconventional Gas\* (Continued)

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	13	19
Mining	0	3	0	3
Construction	0	20	6	25
Manufacturing	0	164	56	220
Transportation and Utilities	0	30	27	57
Retail And WholesaleTrade	0	42	142	184
Services	0	230	409	639
Government	0	8	10	18
<b>Total</b>	<b>0</b>	<b>503</b>	<b>662</b>	<b>1,165</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	14	20
Mining	0	3	0	3
Construction	0	21	6	27
Manufacturing	0	168	60	228
Transportation and Utilities	0	32	29	61
Retail And WholesaleTrade	0	47	153	200
Services	0	250	441	691
Government	0	9	10	19
<b>Total</b>	<b>0</b>	<b>536</b>	<b>713</b>	<b>1,249</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	8	17	25
Mining	0	4	0	4
Construction	0	27	7	35
Manufacturing	0	208	75	283
Transportation and Utilities	0	40	36	75
Retail And WholesaleTrade	0	61	193	254
Services	0	317	559	876
Government	0	11	13	25
<b>Total</b>	<b>0</b>	<b>675</b>	<b>901</b>	<b>1,576</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



### New Jersey Employment Contribution by State and Industry: Unconventional Gas\*

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	10	36	46
Mining	0	7	1	8
Construction	134	98	34	267
Manufacturing	458	434	280	1,172
Transportation and Utilities	0	278	256	534
Retail And WholesaleTrade	0	241	622	863
Services	0	1,556	2,323	3,879
Government	0	45	52	97
<b>Total</b>	<b>592</b>	<b>2,669</b>	<b>3,604</b>	<b>6,865</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	15	52	67
Mining	0	9	1	10
Construction	0	139	46	185
Manufacturing	465	554	378	1,397
Transportation and Utilities	0	407	373	780
Retail And WholesaleTrade	0	333	877	1,210
Services	0	2,220	3,265	5,485
Government	0	64	72	136
<b>Total</b>	<b>465</b>	<b>3,742</b>	<b>5,064</b>	<b>9,271</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	18	64	82
Mining	0	11	1	12
Construction	0	176	58	234
Manufacturing	676	652	453	1,781
Transportation and Utilities	0	507	457	964
Retail And WholesaleTrade	0	412	1,102	1,514
Services	0	2,684	3,932	6,616
Government	0	80	88	168
<b>Total</b>	<b>676</b>	<b>4,540</b>	<b>6,156</b>	<b>11,371</b>

**New Jersey Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	18	65	83
Mining	0	11	1	12
Construction	0	186	57	243
Manufacturing	602	576	447	1,625
Transportation and Utilities	0	512	472	984
Retail And WholesaleTrade	0	396	1,112	1,508
Services	0	2,670	3,901	6,571
Government	0	79	87	166
<b>Total</b>	<b>602</b>	<b>4,448</b>	<b>6,142</b>	<b>11,192</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	21	74	96
Mining	0	12	1	13
Construction	0	180	55	235
Manufacturing	709	573	468	1,750
Transportation and Utilities	0	561	512	1,074
Retail And WholesaleTrade	0	425	1,204	1,629
Services	0	2,830	4,117	6,947
Government	0	84	93	177
<b>Total</b>	<b>709</b>	<b>4,686</b>	<b>6,525</b>	<b>11,920</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	27	94	121
Mining	0	15	1	16
Construction	0	208	62	271
Manufacturing	1,063	675	580	2,318
Transportation and Utilities	0	712	647	1,359
Retail And WholesaleTrade	0	544	1,543	2,087
Services	0	3,543	5,129	8,672
Government	0	105	115	220
<b>Total</b>	<b>1,063</b>	<b>5,828</b>	<b>8,173</b>	<b>15,064</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**New Mexico Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	14	98	112
Mining	5,493	203	24	5,720
Construction	509	1,065	90	1,664
Manufacturing	702	141	104	947
Transportation and Utilities	53	394	370	817
Retail And WholesaleTrade	0	513	1,843	2,355
Services	39	3,032	5,483	8,554
Government	0	101	149	249
<b>Total</b>	<b>6,797</b>	<b>5,462</b>	<b>8,159</b>	<b>20,417</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	19	124	143
Mining	4,823	277	36	5,137
Construction	109	991	89	1,188
Manufacturing	1,006	181	122	1,309
Transportation and Utilities	60	440	374	874
Retail And WholesaleTrade	0	532	1,778	2,310
Services	18	3,055	5,322	8,395
Government	0	112	149	261
<b>Total</b>	<b>6,017</b>	<b>5,607</b>	<b>7,993</b>	<b>19,617</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	24	139	163
Mining	3,653	311	44	4,009
Construction	109	776	82	967
Manufacturing	1,084	208	129	1,421
Transportation and Utilities	63	439	343	846
Retail And WholesaleTrade	0	498	1,550	2,048
Services	17	2,855	4,705	7,577
Government	0	113	138	251
<b>Total</b>	<b>4,928</b>	<b>5,224</b>	<b>7,130</b>	<b>17,282</b>

**New Mexico Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	24	139	163
Mining	3,043	317	46	3,406
Construction	422	674	79	1,174
Manufacturing	1,246	197	125	1,568
Transportation and Utilities	65	438	325	828
Retail And WholesaleTrade	0	505	1,448	1,954
Services	18	2,788	4,426	7,231
Government	0	110	131	242
<b>Total</b>	<b>4,794</b>	<b>5,052</b>	<b>6,720</b>	<b>16,565</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	26	146	172
Mining	2,764	339	50	3,153
Construction	119	627	79	825
Manufacturing	1,239	194	127	1,560
Transportation and Utilities	66	439	317	822
Retail And WholesaleTrade	0	485	1,385	1,870
Services	18	2,726	4,270	7,014
Government	0	113	129	242
<b>Total</b>	<b>4,207</b>	<b>4,949</b>	<b>6,503</b>	<b>15,659</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	32	183	215
Mining	3,157	437	65	3,658
Construction	136	735	97	967
Manufacturing	1,433	228	156	1,817
Transportation and Utilities	76	521	377	973
Retail And WholesaleTrade	0	568	1,640	2,208
Services	20	3,238	5,075	8,333
Government	0	136	155	291
<b>Total</b>	<b>4,822</b>	<b>5,894</b>	<b>7,747</b>	<b>18,462</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**New York Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	51	179	230
Mining	21	57	6	83
Construction	41	467	164	671
Manufacturing	347	1,615	871	2,833
Transportation and Utilities	0	846	826	1,672
Retail And WholesaleTrade	0	685	2,187	2,872
Services	0	6,770	11,316	18,086
Government	0	206	234	440
<b>Total</b>	<b>408</b>	<b>10,696</b>	<b>15,783</b>	<b>26,887</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	76	260	336
Mining	13	81	8	102
Construction	0	559	215	774
Manufacturing	373	2,274	1,239	3,886
Transportation and Utilities	0	1,196	1,158	2,353
Retail And WholesaleTrade	0	1,000	3,150	4,150
Services	0	10,196	16,612	26,808
Government	0	303	334	637
<b>Total</b>	<b>386</b>	<b>15,684</b>	<b>22,977</b>	<b>39,047</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	94	314	408
Mining	8	105	11	124
Construction	22	602	253	876
Manufacturing	555	2,727	1,463	4,744
Transportation and Utilities	0	1,352	1,292	2,644
Retail And WholesaleTrade	0	1,226	3,858	5,084
Services	0	12,161	19,783	31,944
Government	0	373	403	776
<b>Total</b>	<b>584</b>	<b>18,639</b>	<b>27,377</b>	<b>46,600</b>

## New York Employment Contribution by State and Industry: Unconventional Gas\* (Continued)

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	93	319	412
Mining	5	107	11	123
Construction	0	588	248	836
Manufacturing	507	2,507	1,422	4,436
Transportation and Utilities	0	1,226	1,190	2,416
Retail And Wholesale Trade	0	1,207	3,845	5,052
Services	0	12,012	19,612	31,624
Government	0	368	401	769
<b>Total</b>	<b>512</b>	<b>18,108</b>	<b>27,049</b>	<b>45,669</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	106	352	458
Mining	3	115	12	130
Construction	0	559	249	808
Manufacturing	608	2,567	1,478	4,652
Transportation and Utilities	0	1,241	1,199	2,441
Retail And Wholesale Trade	0	1,297	4,066	5,363
Services	0	12,527	20,427	32,954
Government	0	392	425	817
<b>Total</b>	<b>611</b>	<b>18,803</b>	<b>28,208</b>	<b>47,622</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	131	443	574
Mining	4	142	14	160
Construction	0	652	298	950
Manufacturing	923	3,076	1,817	5,816
Transportation and Utilities	0	1,467	1,419	2,886
Retail And Wholesale Trade	0	1,630	5,077	6,707
Services	0	15,295	24,985	40,279
Government	0	482	523	1,005
<b>Total</b>	<b>927</b>	<b>22,875</b>	<b>34,575</b>	<b>58,377</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

### North Carolina Employment Contribution by State and Industry: Unconventional Gas\*

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	68	209	277
Mining	0	36	3	40
Construction	102	258	72	432
Manufacturing	0	1,342	929	2,271
Transportation and Utilities	0	371	342	713
Retail And WholesaleTrade	0	330	1,054	1,384
Services	0	2,326	3,737	6,063
Government	0	92	105	197
<b>Total</b>	<b>102</b>	<b>4,825</b>	<b>6,451</b>	<b>11,377</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	92	308	400
Mining	0	49	5	53
Construction	0	379	106	485
Manufacturing	0	1,896	1,350	3,246
Transportation and Utilities	0	525	477	1,001
Retail And WholesaleTrade	0	480	1,558	2,037
Services	0	3,519	5,536	9,055
Government	0	139	153	292
<b>Total</b>	<b>0</b>	<b>7,078</b>	<b>9,493</b>	<b>16,570</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	109	370	479
Mining	0	57	6	63
Construction	188	472	139	799
Manufacturing	0	2,334	1,626	3,960
Transportation and Utilities	0	645	580	1,225
Retail And WholesaleTrade	0	608	1,913	2,521
Services	0	4,474	7,021	11,495
Government	0	177	193	370
<b>Total</b>	<b>188</b>	<b>8,877</b>	<b>11,847</b>	<b>20,912</b>

**North Carolina Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	103	372	475
Mining	0	55	6	61
Construction	0	516	146	663
Manufacturing	0	2,183	1,592	3,775
Transportation and Utilities	0	625	577	1,202
Retail And WholesaleTrade	0	595	1,903	2,499
Services	0	4,571	7,223	11,794
Government	0	181	198	379
<b>Total</b>	<b>0</b>	<b>8,829</b>	<b>12,018</b>	<b>20,847</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	110	396	506
Mining	0	60	6	67
Construction	0	568	165	733
Manufacturing	0	2,234	1,646	3,880
Transportation and Utilities	0	661	611	1,271
Retail And WholesaleTrade	0	646	2,055	2,701
Services	0	5,009	7,961	12,970
Government	0	199	216	415
<b>Total</b>	<b>0</b>	<b>9,487</b>	<b>13,055</b>	<b>22,542</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	148	520	668
Mining	0	75	8	83
Construction	0	744	216	960
Manufacturing	0	2,623	1,992	4,615
Transportation and Utilities	0	810	754	1,564
Retail And WholesaleTrade	0	795	2,558	3,353
Services	0	6,351	10,152	16,503
Government	0	252	274	526
<b>Total</b>	<b>0</b>	<b>11,798</b>	<b>16,473</b>	<b>28,271</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.  
 Source: IHS Global Insight



**North Dakota Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	27	98	124
Mining	0	89	15	104
Construction	0	25	8	33
Manufacturing	0	70	38	108
Transportation and Utilities	0	60	49	109
Retail And WholesaleTrade	0	40	112	151
Services	0	169	321	490
Government	0	10	12	22
<b>Total</b>	<b>0</b>	<b>489</b>	<b>652</b>	<b>1,141</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	40	144	184
Mining	0	222	37	260
Construction	0	42	13	56
Manufacturing	0	114	62	176
Transportation and Utilities	0	98	78	177
Retail And WholesaleTrade	0	61	167	228
Services	0	268	486	754
Government	0	16	18	33
<b>Total</b>	<b>0</b>	<b>861</b>	<b>1,006</b>	<b>1,867</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	52	178	230
Mining	0	299	51	350
Construction	0	51	16	68
Manufacturing	0	153	85	238
Transportation and Utilities	0	120	94	213
Retail And WholesaleTrade	0	74	207	280
Services	0	351	616	967
Government	0	20	22	41
<b>Total</b>	<b>0</b>	<b>1,118</b>	<b>1,269</b>	<b>2,387</b>

**North Dakota Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	53	190	243
Mining	0	335	57	392
Construction	0	55	17	72
Manufacturing	0	162	95	257
Transportation and Utilities	0	117	92	209
Retail And WholesaleTrade	0	72	212	284
Services	0	376	655	1,031
Government	0	20	22	42
<b>Total</b>	<b>0</b>	<b>1,190</b>	<b>1,340</b>	<b>2,531</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	58	203	261
Mining	0	375	65	440
Construction	0	61	19	80
Manufacturing	0	188	110	298
Transportation and Utilities	0	124	97	221
Retail And WholesaleTrade	0	77	230	307
Services	0	425	734	1,160
Government	0	22	24	45
<b>Total</b>	<b>0</b>	<b>1,331</b>	<b>1,482</b>	<b>2,812</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	74	256	330
Mining	0	502	86	588
Construction	0	76	23	99
Manufacturing	0	238	145	383
Transportation and Utilities	0	155	121	276
Retail And WholesaleTrade	0	98	294	392
Services	0	559	960	1,519
Government	0	27	30	57
<b>Total</b>	<b>0</b>	<b>1,729</b>	<b>1,916</b>	<b>3,645</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Ohio Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	65	273	338
Mining	653	150	20	824
Construction	0	345	117	462
Manufacturing	4,326	3,976	1,280	9,581
Transportation and Utilities	0	1,282	874	2,156
Retail And WholesaleTrade	0	1,208	2,554	3,762
Services	0	5,474	8,556	14,030
Government	0	143	165	309
<b>Total</b>	<b>4,979</b>	<b>12,643</b>	<b>13,840</b>	<b>31,462</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	92	371	463
Mining	727	208	28	963
Construction	0	471	157	628
Manufacturing	5,049	5,541	1,821	12,410
Transportation and Utilities	0	1,789	1,253	3,043
Retail And WholesaleTrade	0	1,536	3,319	4,855
Services	0	7,246	11,331	18,578
Government	0	201	224	425
<b>Total</b>	<b>5,776</b>	<b>17,085</b>	<b>18,504</b>	<b>41,366</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	118	459	576
Mining	1,055	266	36	1,358
Construction	0	579	203	781
Manufacturing	7,820	7,088	2,275	17,183
Transportation and Utilities	0	2,497	1,649	4,147
Retail And WholesaleTrade	0	2,180	4,412	6,592
Services	0	9,675	14,880	24,555
Government	0	265	289	554
<b>Total</b>	<b>8,875</b>	<b>22,668</b>	<b>24,203</b>	<b>55,747</b>

**Ohio Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	115	450	565
Mining	938	263	37	1,238
Construction	0	582	197	779
Manufacturing	7,110	7,154	2,355	16,619
Transportation and Utilities	0	2,424	1,657	4,080
Retail And WholesaleTrade	0	2,031	4,214	6,245
Services	0	9,192	14,280	23,473
Government	0	258	282	540
<b>Total</b>	<b>8,048</b>	<b>22,019</b>	<b>23,471</b>	<b>53,538</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	123	469	592
Mining	1,115	282	39	1,437
Construction	0	631	219	850
Manufacturing	8,473	8,030	2,596	19,099
Transportation and Utilities	0	2,758	1,856	4,615
Retail And WholesaleTrade	0	2,304	4,672	6,976
Services	0	10,119	15,652	25,771
Government	0	284	309	593
<b>Total</b>	<b>9,588</b>	<b>24,532</b>	<b>25,813</b>	<b>59,933</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	154	587	741
Mining	1,700	364	49	2,114
Construction	0	831	294	1,125
Manufacturing	12,678	10,516	3,383	26,577
Transportation and Utilities	0	3,734	2,445	6,180
Retail And WholesaleTrade	0	3,187	6,305	9,492
Services	0	13,511	20,834	34,345
Government	0	371	405	776
<b>Total</b>	<b>14,378</b>	<b>32,668</b>	<b>34,303</b>	<b>81,349</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Oklahoma Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	48	308	356
Mining	3,482	522	82	4,086
Construction	2,918	587	98	3,603
Manufacturing	1,657	946	310	2,912
Transportation and Utilities	295	789	512	1,597
Retail And WholesaleTrade	0	870	2,294	3,165
Services	284	4,766	7,226	12,277
Government	0	144	177	321
<b>Total</b>	<b>8,636</b>	<b>8,672</b>	<b>11,007</b>	<b>28,315</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	69	445	515
Mining	5,298	742	117	6,157
Construction	2,646	874	144	3,665
Manufacturing	2,893	1,425	465	4,783
Transportation and Utilities	944	1,258	748	2,950
Retail And WholesaleTrade	0	1,331	3,394	4,724
Services	435	7,359	10,693	18,487
Government	0	221	262	482
<b>Total</b>	<b>12,217</b>	<b>13,278</b>	<b>16,267</b>	<b>41,763</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	87	540	626
Mining	6,425	852	138	7,414
Construction	2,993	980	170	4,142
Manufacturing	3,589	1,715	559	5,863
Transportation and Utilities	1,131	1,538	898	3,566
Retail And WholesaleTrade	0	1,613	4,037	5,649
Services	461	8,883	12,735	22,080
Government	0	271	313	585
<b>Total</b>	<b>14,598</b>	<b>15,939</b>	<b>19,389</b>	<b>49,925</b>

**Oklahoma Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	87	551	638
Mining	6,802	871	137	7,811
Construction	3,346	1,042	175	4,562
Manufacturing	3,444	1,706	577	5,728
Transportation and Utilities	1,174	1,554	927	3,655
Retail And WholesaleTrade	0	1,629	4,182	5,811
Services	478	9,124	13,224	22,827
Government	0	276	324	600
<b>Total</b>	<b>15,245</b>	<b>16,289</b>	<b>20,097</b>	<b>51,631</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	94	591	685
Mining	7,348	934	148	8,431
Construction	3,707	1,095	187	4,989
Manufacturing	3,649	1,866	624	6,139
Transportation and Utilities	1,337	1,675	996	4,007
Retail And WholesaleTrade	0	1,757	4,505	6,262
Services	539	9,888	14,266	24,693
Government	0	298	349	647
<b>Total</b>	<b>16,580</b>	<b>17,607</b>	<b>21,666</b>	<b>55,853</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	119	746	865
Mining	9,137	1,181	188	10,505
Construction	4,665	1,364	232	6,261
Manufacturing	4,368	2,332	784	7,484
Transportation and Utilities	1,690	2,062	1,233	4,985
Retail And WholesaleTrade	0	2,158	5,575	7,733
Services	677	12,266	17,686	30,629
Government	0	368	431	798
<b>Total</b>	<b>20,537</b>	<b>21,851</b>	<b>26,874</b>	<b>69,261</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Oregon Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	97	248	344
Mining	0	22	2	24
Construction	438	104	37	580
Manufacturing	232	738	318	1,288
Transportation and Utilities	0	228	189	417
Retail And WholesaleTrade	0	212	559	771
Services	0	1,239	1,988	3,227
Government	0	50	55	105
<b>Total</b>	<b>670</b>	<b>2,690</b>	<b>3,396</b>	<b>6,756</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	133	366	500
Mining	0	32	3	35
Construction	0	164	53	217
Manufacturing	185	1,052	469	1,706
Transportation and Utilities	0	316	256	572
Retail And WholesaleTrade	0	267	722	989
Services	0	1,670	2,688	4,358
Government	0	70	70	140
<b>Total</b>	<b>185</b>	<b>3,704</b>	<b>4,627</b>	<b>8,516</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	160	453	613
Mining	0	50	4	55
Construction	0	204	67	271
Manufacturing	216	1,318	568	2,102
Transportation and Utilities	0	394	316	710
Retail And WholesaleTrade	0	332	884	1,216
Services	0	2,124	3,364	5,489
Government	0	88	86	174
<b>Total</b>	<b>216</b>	<b>4,670</b>	<b>5,743</b>	<b>10,629</b>

**Oregon Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	154	460	614
Mining	0	60	6	66
Construction	0	215	67	282
Manufacturing	163	1,268	573	2,004
Transportation and Utilities	0	375	314	689
Retail And WholesaleTrade	0	315	885	1,201
Services	0	2,146	3,431	5,577
Government	0	85	86	171
<b>Total</b>	<b>163</b>	<b>4,620</b>	<b>5,821</b>	<b>10,604</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	160	491	650
Mining	0	72	7	79
Construction	0	229	71	300
Manufacturing	136	1,309	602	2,047
Transportation and Utilities	0	392	332	724
Retail And WholesaleTrade	0	329	948	1,277
Services	0	2,302	3,704	6,006
Government	0	89	91	181
<b>Total</b>	<b>136</b>	<b>4,881</b>	<b>6,246</b>	<b>11,264</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	191	620	812
Mining	0	97	9	107
Construction	0	293	90	382
Manufacturing	142	1,569	746	2,457
Transportation and Utilities	0	495	425	920
Retail And WholesaleTrade	0	407	1,193	1,600
Services	0	2,909	4,698	7,607
Government	0	110	114	224
<b>Total</b>	<b>142</b>	<b>6,071</b>	<b>7,894</b>	<b>14,107</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**Pennsylvania Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	90	366	456
Mining	4,991	414	51	5,456
Construction	4,718	1,086	233	6,038
Manufacturing	2,231	3,639	1,412	7,282
Transportation and Utilities	1,122	1,747	1,378	4,247
Retail And WholesaleTrade	0	1,584	4,845	6,429
Services	531	9,561	16,337	26,429
Government	0	221	326	547
<b>Total</b>	<b>13,594</b>	<b>18,342</b>	<b>24,948</b>	<b>56,884</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	141	651	792
Mining	16,603	1,007	106	17,715
Construction	4,846	3,428	456	8,730
Manufacturing	2,280	5,434	2,381	10,095
Transportation and Utilities	1,505	2,927	2,640	7,072
Retail And WholesaleTrade	0	2,787	10,214	13,000
Services	774	18,464	33,305	52,543
Government	0	407	669	1,076
<b>Total</b>	<b>26,007</b>	<b>34,594</b>	<b>50,423</b>	<b>111,024</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	193	894	1,088
Mining	26,424	1,326	134	27,885
Construction	7,367	4,973	658	12,998
Manufacturing	3,956	7,131	3,139	14,225
Transportation and Utilities	2,413	4,278	3,768	10,460
Retail And WholesaleTrade	0	4,227	15,110	19,336
Services	1,098	27,544	48,630	77,272
Government	0	603	989	1,592
<b>Total</b>	<b>41,258</b>	<b>50,276</b>	<b>73,321</b>	<b>164,856</b>

**Pennsylvania Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	189	923	1,112
Mining	27,691	1,359	135	29,186
Construction	6,725	5,492	672	12,889
Manufacturing	3,610	6,809	3,182	13,601
Transportation and Utilities	2,140	4,217	3,884	10,241
Retail And WholesaleTrade	0	4,181	15,572	19,753
Services	973	27,612	50,056	78,641
Government	0	604	1,021	1,626
<b>Total</b>	<b>41,140</b>	<b>50,463</b>	<b>75,445</b>	<b>167,048</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	214	1,027	1,241
Mining	31,475	1,479	146	33,100
Construction	8,155	6,048	751	14,954
Manufacturing	4,304	7,420	3,473	15,198
Transportation and Utilities	2,640	4,770	4,333	11,742
Retail And WholesaleTrade	0	4,807	17,566	22,374
Services	1,187	31,366	56,219	88,773
Government	0	687	1,155	1,842
<b>Total</b>	<b>47,761</b>	<b>56,790</b>	<b>84,671</b>	<b>189,222</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	289	1,404	1,693
Mining	45,607	1,990	193	47,789
Construction	12,801	8,514	1,050	22,365
Manufacturing	6,349	9,653	4,655	20,658
Transportation and Utilities	4,131	6,736	6,081	16,948
Retail And WholesaleTrade	0	6,906	25,046	31,952
Services	1,846	44,750	79,449	126,045
Government	0	969	1,639	2,608
<b>Total</b>	<b>70,734</b>	<b>79,807</b>	<b>119,518</b>	<b>270,058</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Rhode Island Employment Contribution by State and Industry: Unconventional Gas\*

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	18	22
Mining	0	1	0	2
Construction	0	23	9	33
Manufacturing	0	177	66	243
Transportation and Utilities	0	36	33	69
Retail And WholesaleTrade	0	33	113	145
Services	0	288	549	837
Government	0	8	9	17
<b>Total</b>	<b>0</b>	<b>570</b>	<b>798</b>	<b>1,368</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	25	29
Mining	0	2	0	2
Construction	0	28	13	41
Manufacturing	0	257	97	354
Transportation and Utilities	0	52	47	99
Retail And WholesaleTrade	0	49	169	218
Services	0	415	784	1,200
Government	0	12	13	25
<b>Total</b>	<b>0</b>	<b>820</b>	<b>1,148</b>	<b>1,968</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	29	35
Mining	0	2	0	3
Construction	0	30	16	46
Manufacturing	0	310	117	427
Transportation and Utilities	0	62	56	118
Retail And WholesaleTrade	0	59	197	256
Services	0	494	932	1,426
Government	0	14	16	30
<b>Total</b>	<b>0</b>	<b>977</b>	<b>1,364</b>	<b>2,341</b>

## Rhode Island Employment Contribution by State and Industry: Unconventional Gas\* (Continued)

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	27	33
Mining	0	3	0	3
Construction	0	29	16	44
Manufacturing	0	288	116	404
Transportation and Utilities	0	59	55	114
Retail And WholesaleTrade	0	58	193	251
Services	0	488	929	1,417
Government	0	14	16	29
<b>Total</b>	<b>0</b>	<b>944</b>	<b>1,351</b>	<b>2,295</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	28	34
Mining	0	3	0	3
Construction	0	29	16	45
Manufacturing	0	290	119	410
Transportation and Utilities	0	60	56	116
Retail And WholesaleTrade	0	61	200	262
Services	0	511	979	1,490
Government	0	15	16	31
<b>Total</b>	<b>0</b>	<b>976</b>	<b>1,416</b>	<b>2,391</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	8	34	42
Mining	0	4	1	4
Construction	0	35	20	55
Manufacturing	0	340	145	485
Transportation and Utilities	0	72	67	139
Retail And WholesaleTrade	0	74	243	317
Services	0	623	1,201	1,824
Government	0	18	20	37
<b>Total</b>	<b>0</b>	<b>1,173</b>	<b>1,731</b>	<b>2,904</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**South Carolina Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	43	103	147
Mining	0	14	1	15
Construction	59	110	29	198
Manufacturing	2	974	431	1,407
Transportation and Utilities	0	188	166	354
Retail And WholesaleTrade	0	137	505	642
Services	0	1,034	1,713	2,747
Government	0	46	52	97
<b>Total</b>	<b>61</b>	<b>2,545</b>	<b>3,001</b>	<b>5,607</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	62	143	205
Mining	0	23	2	26
Construction	0	170	42	212
Manufacturing	3	1,444	644	2,091
Transportation and Utilities	0	284	245	530
Retail And WholesaleTrade	0	208	741	950
Services	0	1,554	2,520	4,073
Government	0	67	74	140
<b>Total</b>	<b>3</b>	<b>3,813</b>	<b>4,411</b>	<b>8,227</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	73	174	246
Mining	0	30	3	33
Construction	89	215	53	357
Manufacturing	4	1,789	789	2,582
Transportation and Utilities	0	356	302	658
Retail And WholesaleTrade	0	264	906	1,171
Services	0	1,982	3,168	5,150
Government	0	85	92	177
<b>Total</b>	<b>93</b>	<b>4,794</b>	<b>5,487</b>	<b>10,373</b>

**South Carolina Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	68	175	244
Mining	0	30	3	34
Construction	18	226	52	296
Manufacturing	4	1,834	823	2,660
Transportation and Utilities	0	350	301	650
Retail And WholesaleTrade	0	258	900	1,158
Services	0	2,020	3,225	5,245
Government	0	85	93	179
<b>Total</b>	<b>22</b>	<b>4,871</b>	<b>5,573</b>	<b>10,466</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	72	189	261
Mining	0	35	4	39
Construction	26	241	56	323
Manufacturing	5	2,042	906	2,953
Transportation and Utilities	0	374	319	693
Retail And WholesaleTrade	0	278	969	1,247
Services	0	2,221	3,522	5,743
Government	0	93	101	194
<b>Total</b>	<b>31</b>	<b>5,357</b>	<b>6,066</b>	<b>11,453</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	86	238	324
Mining	0	46	5	51
Construction	0	304	71	375
Manufacturing	6	2,583	1,157	3,745
Transportation and Utilities	0	461	394	854
Retail And WholesaleTrade	0	341	1,202	1,543
Services	0	2,805	4,430	7,235
Government	0	115	125	240
<b>Total</b>	<b>6</b>	<b>6,742</b>	<b>7,621</b>	<b>14,368</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

### South Dakota Employment Contribution by State and Industry: Unconventional Gas\*

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	23	99	122
Mining	0	8	1	9
Construction	0	26	8	34
Manufacturing	0	117	66	183
Transportation and Utilities	0	48	42	90
Retail And WholesaleTrade	0	37	119	157
Services	0	181	378	559
Government	0	11	12	22
<b>Total</b>	<b>0</b>	<b>452</b>	<b>725</b>	<b>1,176</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	39	160	199
Mining	0	12	1	13
Construction	0	36	11	48
Manufacturing	0	168	103	271
Transportation and Utilities	0	72	61	133
Retail And WholesaleTrade	0	56	179	235
Services	0	277	560	837
Government	0	17	18	35
<b>Total</b>	<b>0</b>	<b>677</b>	<b>1,093</b>	<b>1,770</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	51	200	251
Mining	0	13	1	15
Construction	0	38	13	51
Manufacturing	0	205	129	334
Transportation and Utilities	0	90	74	164
Retail And WholesaleTrade	0	68	217	286
Services	0	342	685	1,027
Government	0	21	22	43
<b>Total</b>	<b>0</b>	<b>828</b>	<b>1,341</b>	<b>2,169</b>

**South Dakota Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	51	206	258
Mining	0	13	1	14
Construction	0	36	13	49
Manufacturing	0	194	130	324
Transportation and Utilities	0	92	77	169
Retail And WholesaleTrade	0	68	220	288
Services	0	352	703	1,055
Government	0	21	22	43
<b>Total</b>	<b>0</b>	<b>829</b>	<b>1,372</b>	<b>2,201</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	58	224	282
Mining	0	14	2	16
Construction	0	36	13	49
Manufacturing	0	204	138	342
Transportation and Utilities	0	101	83	184
Retail And WholesaleTrade	0	73	234	308
Services	0	385	760	1,145
Government	0	23	23	46
<b>Total</b>	<b>0</b>	<b>893</b>	<b>1,478</b>	<b>2,372</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	74	286	361
Mining	0	18	2	20
Construction	0	43	16	59
Manufacturing	0	244	169	414
Transportation and Utilities	0	126	104	230
Retail And WholesaleTrade	0	89	290	380
Services	0	484	954	1,439
Government	0	28	29	57
<b>Total</b>	<b>0</b>	<b>1,107</b>	<b>1,852</b>	<b>2,959</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**Tennessee Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	39	220	258
Mining	0	38	5	43
Construction	0	151	41	192
Manufacturing	142	1,101	605	1,848
Transportation and Utilities	0	522	491	1,013
Retail And WholesaleTrade	0	249	756	1,005
Services	0	1,500	2,533	4,033
Government	0	60	66	126
<b>Total</b>	<b>142</b>	<b>3,660</b>	<b>4,717</b>	<b>8,519</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	58	326	385
Mining	0	57	7	64
Construction	0	233	62	295
Manufacturing	62	1,638	917	2,616
Transportation and Utilities	0	780	725	1,505
Retail And WholesaleTrade	0	346	1,059	1,405
Services	0	2,205	3,665	5,870
Government	0	87	95	182
<b>Total</b>	<b>62</b>	<b>5,404</b>	<b>6,856</b>	<b>12,323</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	75	409	485
Mining	0	73	9	82
Construction	0	286	80	366
Manufacturing	147	2,050	1,158	3,355
Transportation and Utilities	0	954	870	1,824
Retail And WholesaleTrade	0	436	1,304	1,741
Services	0	2,776	4,556	7,333
Government	0	111	118	228
<b>Total</b>	<b>147</b>	<b>6,761</b>	<b>8,504</b>	<b>15,412</b>

**Tennessee Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	77	423	500
Mining	0	73	9	82
Construction	0	304	82	386
Manufacturing	91	2,105	1,224	3,420
Transportation and Utilities	0	945	874	1,818
Retail And Wholesale Trade	0	432	1,309	1,741
Services	0	2,840	4,637	7,477
Government	0	111	119	230
<b>Total</b>	<b>91</b>	<b>6,887</b>	<b>8,678</b>	<b>15,656</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	87	462	549
Mining	0	77	9	87
Construction	0	324	90	414
Manufacturing	98	2,370	1,356	3,824
Transportation and Utilities	0	1,012	929	1,942
Retail And Wholesale Trade	0	467	1,413	1,880
Services	0	3,092	5,024	8,116
Government	0	120	128	248
<b>Total</b>	<b>98</b>	<b>7,549</b>	<b>9,412</b>	<b>17,059</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	113	592	705
Mining	0	95	11	106
Construction	0	417	117	533
Manufacturing	89	3,014	1,742	4,845
Transportation and Utilities	0	1,265	1,162	2,427
Retail And Wholesale Trade	0	576	1,770	2,346
Services	0	3,893	6,321	10,214
Government	0	150	161	311
<b>Total</b>	<b>89</b>	<b>9,522</b>	<b>11,876</b>	<b>21,487</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Texas Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	370	2,285	2,655
Mining	27,081	3,359	533	30,972
Construction	22,368	5,724	1,149	29,241
Manufacturing	19,477	10,512	4,344	34,334
Transportation and Utilities	2,934	8,996	6,708	18,638
Retail And WholesaleTrade	0	9,301	27,870	37,171
Services	1,883	49,345	81,641	132,869
Government	0	953	1,388	2,341
<b>Total</b>	<b>73,744</b>	<b>88,561</b>	<b>125,918</b>	<b>288,222</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	502	3,126	3,628
Mining	40,817	4,723	749	46,289
Construction	17,440	7,664	1,552	26,657
Manufacturing	27,925	14,424	5,924	48,273
Transportation and Utilities	5,025	12,860	9,100	26,986
Retail And WholesaleTrade	0	12,552	37,345	49,897
Services	2,632	67,913	109,818	180,363
Government	0	1,355	1,870	3,225
<b>Total</b>	<b>93,838</b>	<b>121,994</b>	<b>169,486</b>	<b>385,318</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	646	3,919	4,566
Mining	54,613	5,624	919	61,155
Construction	23,199	8,973	1,975	34,147
Manufacturing	37,529	18,689	7,457	63,675
Transportation and Utilities	7,210	17,016	11,601	35,826
Retail And WholesaleTrade	0	16,570	47,602	64,172
Services	3,332	89,005	139,884	232,221
Government	0	1,786	2,398	4,184
<b>Total</b>	<b>125,882</b>	<b>158,308</b>	<b>215,755</b>	<b>499,946</b>

**Texas Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	644	4,017	4,661
Mining	55,749	5,851	934	62,535
Construction	24,450	9,570	2,037	36,057
Manufacturing	37,220	18,582	7,622	63,424
Transportation and Utilities	7,169	17,251	11,958	36,378
Retail And WholesaleTrade	0	16,761	48,975	65,736
Services	3,310	91,004	144,051	238,366
Government	0	1,831	2,487	4,318
<b>Total</b>	<b>127,899</b>	<b>161,495</b>	<b>222,082</b>	<b>511,476</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	702	4,325	5,027
Mining	60,333	6,193	999	67,525
Construction	27,805	10,076	2,218	40,099
Manufacturing	40,758	20,303	8,203	69,263
Transportation and Utilities	8,172	18,886	12,959	40,018
Retail And WholesaleTrade	0	18,349	53,054	71,403
Services	3,734	99,463	156,156	259,353
Government	0	2,017	2,711	4,728
<b>Total</b>	<b>140,803</b>	<b>175,989</b>	<b>240,624</b>	<b>557,416</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	863	5,347	6,210
Mining	73,098	7,675	1,238	82,011
Construction	33,384	12,482	2,741	48,607
Manufacturing	49,905	25,038	10,117	85,060
Transportation and Utilities	9,978	23,195	15,946	49,119
Retail And WholesaleTrade	0	22,438	65,032	87,470
Services	4,530	122,239	191,648	318,417
Government	0	2,504	3,342	5,846
<b>Total</b>	<b>170,896</b>	<b>216,434</b>	<b>295,411</b>	<b>682,740</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Utah Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	18	111	129
Mining	2,389	162	15	2,566
Construction	4,611	433	106	5,150
Manufacturing	1,689	806	422	2,917
Transportation and Utilities	1,285	852	580	2,717
Retail And WholesaleTrade	0	863	2,255	3,118
Services	430	5,782	7,572	13,784
Government	0	76	105	181
<b>Total</b>	<b>10,404</b>	<b>8,993</b>	<b>11,165</b>	<b>30,561</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	27	155	182
Mining	3,708	229	21	3,957
Construction	3,202	562	137	3,900
Manufacturing	2,073	1,017	574	3,664
Transportation and Utilities	1,686	1,095	730	3,511
Retail And WholesaleTrade	0	1,002	2,774	3,776
Services	563	7,497	9,304	17,364
Government	0	104	134	238
<b>Total</b>	<b>11,232</b>	<b>11,532</b>	<b>13,829</b>	<b>36,593</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	33	184	217
Mining	4,525	284	25	4,834
Construction	3,292	630	155	4,077
Manufacturing	2,278	1,203	675	4,156
Transportation and Utilities	1,835	1,252	839	3,925
Retail And WholesaleTrade	0	1,130	3,158	4,287
Services	542	8,626	10,610	19,778
Government	0	124	156	280
<b>Total</b>	<b>12,472</b>	<b>13,281</b>	<b>15,803</b>	<b>41,556</b>

## Utah Employment Contribution by State and Industry: Unconventional Gas\* (Continued)

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	34	193	227
Mining	4,768	290	26	5,084
Construction	3,581	680	160	4,421
Manufacturing	2,262	1,180	691	4,134
Transportation and Utilities	1,886	1,296	875	4,057
Retail And WholesaleTrade	0	1,174	3,324	4,498
Services	557	9,025	11,179	20,761
Government	0	130	165	295
<b>Total</b>	<b>13,054</b>	<b>13,810</b>	<b>16,613</b>	<b>43,477</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	38	207	246
Mining	4,923	314	28	5,265
Construction	3,639	712	166	4,517
Manufacturing	2,331	1,233	727	4,292
Transportation and Utilities	1,949	1,354	918	4,221
Retail And WholesaleTrade	0	1,229	3,490	4,719
Services	570	9,433	11,736	21,738
Government	0	139	175	314
<b>Total</b>	<b>13,412</b>	<b>14,453</b>	<b>17,447</b>	<b>45,312</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	45	243	289
Mining	5,257	381	33	5,671
Construction	3,966	791	187	4,943
Manufacturing	2,684	1,440	863	4,988
Transportation and Utilities	2,118	1,540	1,052	4,709
Retail And WholesaleTrade	0	1,385	3,946	5,331
Services	615	10,645	13,279	24,539
Government	0	165	204	369
<b>Total</b>	<b>14,640</b>	<b>16,392</b>	<b>19,807</b>	<b>50,839</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

### Vermont Employment Contribution by State and Industry: Unconventional Gas\*

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	10	32	42
Mining	0	6	1	7
Construction	0	18	7	25
Manufacturing	0	91	55	147
Transportation and Utilities	0	33	31	64
Retail And WholesaleTrade	0	23	93	115
Services	0	142	291	433
Government	0	7	8	15
<b>Total</b>	<b>0</b>	<b>330</b>	<b>518</b>	<b>848</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	15	47	63
Mining	0	8	1	8
Construction	0	25	10	35
Manufacturing	0	131	86	217
Transportation and Utilities	0	49	46	96
Retail And WholesaleTrade	0	34	137	171
Services	0	218	431	649
Government	0	11	12	22
<b>Total</b>	<b>0</b>	<b>491</b>	<b>770</b>	<b>1,261</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	20	58	77
Mining	0	8	1	9
Construction	0	30	11	42
Manufacturing	0	158	109	267
Transportation and Utilities	0	60	56	116
Retail And WholesaleTrade	0	41	166	207
Services	0	267	517	784
Government	0	13	14	28
<b>Total</b>	<b>0</b>	<b>597</b>	<b>933</b>	<b>1,530</b>

## Vermont Employment Contribution by State and Industry: Unconventional Gas\* (Continued)

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	20	59	79
Mining	0	7	1	8
Construction	0	33	11	44
Manufacturing	0	142	108	250
Transportation and Utilities	0	58	55	113
Retail And WholesaleTrade	0	41	167	207
Services	0	265	517	782
Government	0	13	15	28
<b>Total</b>	<b>0</b>	<b>579</b>	<b>932</b>	<b>1,510</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	21	62	84
Mining	0	7	1	8
Construction	0	35	12	47
Manufacturing	0	142	111	253
Transportation and Utilities	0	60	56	116
Retail And WholesaleTrade	0	43	177	220
Services	0	278	545	823
Government	0	14	16	30
<b>Total</b>	<b>0</b>	<b>600</b>	<b>980</b>	<b>1,581</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	26	77	104
Mining	0	9	1	10
Construction	0	44	15	59
Manufacturing	0	165	135	300
Transportation and Utilities	0	72	66	138
Retail And WholesaleTrade	0	52	218	270
Services	0	338	666	1,004
Government	0	17	19	37
<b>Total</b>	<b>0</b>	<b>724</b>	<b>1,198</b>	<b>1,922</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



## Virginia Employment Contribution by State and Industry: Unconventional Gas\*

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	46	177	223
Mining	502	127	13	643
Construction	157	361	92	611
Manufacturing	209	788	470	1,467
Transportation and Utilities	39	477	400	916
Retail And WholesaleTrade	0	308	1,144	1,452
Services	16	3,285	4,327	7,627
Government	0	106	118	224
<b>Total</b>	<b>923</b>	<b>5,498</b>	<b>6,740</b>	<b>13,162</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	65	264	328
Mining	458	165	18	641
Construction	67	457	124	648
Manufacturing	217	1,085	684	1,985
Transportation and Utilities	25	629	529	1,183
Retail And WholesaleTrade	0	413	1,563	1,976
Services	10	4,651	6,020	10,681
Government	0	148	163	311
<b>Total</b>	<b>777</b>	<b>7,612</b>	<b>9,364</b>	<b>17,753</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	81	321	402
Mining	407	198	22	628
Construction	71	513	150	734
Manufacturing	322	1,355	859	2,536
Transportation and Utilities	27	773	631	1,432
Retail And WholesaleTrade	0	501	1,922	2,423
Services	10	5,841	7,399	13,250
Government	0	186	197	382
<b>Total</b>	<b>838</b>	<b>9,448</b>	<b>11,501</b>	<b>21,787</b>

**Virginia Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	81	324	405
Mining	362	194	23	579
Construction	76	516	148	741
Manufacturing	295	1,323	872	2,490
Transportation and Utilities	28	747	622	1,397
Retail And WholesaleTrade	0	489	1,963	2,452
Services	10	5,970	7,533	13,514
Government	0	185	199	385
<b>Total</b>	<b>772</b>	<b>9,506</b>	<b>11,685</b>	<b>21,963</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	92	354	446
Mining	341	198	25	564
Construction	77	542	159	778
Manufacturing	357	1,389	914	2,661
Transportation and Utilities	29	801	657	1,487
Retail And WholesaleTrade	0	540	2,153	2,693
Services	10	6,625	8,275	14,910
Government	0	202	213	415
<b>Total</b>	<b>815</b>	<b>10,389</b>	<b>12,750</b>	<b>23,953</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	111	418	529
Mining	387	238	30	655
Construction	88	682	199	970
Manufacturing	549	1,651	1,098	3,299
Transportation and Utilities	33	1,044	843	1,920
Retail And WholesaleTrade	0	702	2,747	3,449
Services	12	8,680	10,689	19,381
Government	0	260	270	530
<b>Total</b>	<b>1,069</b>	<b>13,368</b>	<b>16,296</b>	<b>30,732</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Washington Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	54	179	233
Mining	0	14	1	15
Construction	0	101	34	135
Manufacturing	0	303	181	484
Transportation and Utilities	0	147	140	287
Retail And WholesaleTrade	0	119	378	497
Services	0	823	1,354	2,177
Government	0	35	40	76
<b>Total</b>	<b>0</b>	<b>1,597</b>	<b>2,307</b>	<b>3,904</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	81	282	363
Mining	0	14	1	16
Construction	0	152	51	203
Manufacturing	0	374	242	616
Transportation and Utilities	0	223	213	436
Retail And WholesaleTrade	0	180	569	749
Services	0	1,283	2,021	3,304
Government	0	53	59	112
<b>Total</b>	<b>0</b>	<b>2,360</b>	<b>3,438</b>	<b>5,797</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	104	349	454
Mining	0	20	2	22
Construction	0	176	61	237
Manufacturing	0	456	296	752
Transportation and Utilities	0	277	266	543
Retail And WholesaleTrade	0	221	686	907
Services	0	1,597	2,472	4,069
Government	0	67	73	140
<b>Total</b>	<b>0</b>	<b>2,919</b>	<b>4,205</b>	<b>7,123</b>

**Washington Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	105	353	458
Mining	0	23	2	24
Construction	0	183	60	244
Manufacturing	0	501	320	820
Transportation and Utilities	0	281	277	557
Retail And WholesaleTrade	0	218	687	905
Services	0	1,606	2,492	4,098
Government	0	67	74	142
<b>Total</b>	<b>0</b>	<b>2,984</b>	<b>4,265</b>	<b>7,249</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	112	373	485
Mining	0	26	2	29
Construction	0	191	64	254
Manufacturing	0	589	359	948
Transportation and Utilities	0	303	299	602
Retail And WholesaleTrade	0	234	731	966
Services	0	1,708	2,648	4,356
Government	0	72	80	152
<b>Total</b>	<b>0</b>	<b>3,236</b>	<b>4,556</b>	<b>7,793</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	137	462	599
Mining	0	37	3	40
Construction	0	235	78	313
Manufacturing	0	792	473	1,264
Transportation and Utilities	0	382	379	761
Retail And WholesaleTrade	0	289	905	1,194
Services	0	2,127	3,290	5,417
Government	0	90	99	189
<b>Total</b>	<b>0</b>	<b>4,088</b>	<b>5,689</b>	<b>9,777</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**West Virginia Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	19	82	102
Mining	3,905	448	58	4,411
Construction	1,673	492	51	2,216
Manufacturing	230	319	120	670
Transportation and Utilities	748	426	251	1,425
Retail And WholesaleTrade	0	414	1,258	1,672
Services	315	2,349	3,591	6,255
Government	0	55	83	138
<b>Total</b>	<b>6,871</b>	<b>4,522</b>	<b>5,495</b>	<b>16,888</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	26	127	153
Mining	9,372	733	84	10,190
Construction	2,014	1,236	94	3,345
Manufacturing	260	465	190	915
Transportation and Utilities	843	691	456	1,990
Retail And WholesaleTrade	0	750	2,446	3,196
Services	369	4,124	6,855	11,347
Government	0	90	155	245
<b>Total</b>	<b>12,857</b>	<b>8,115</b>	<b>10,408</b>	<b>31,380</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	33	164	197
Mining	13,466	965	108	14,539
Construction	2,891	1,662	130	4,684
Manufacturing	386	587	241	1,214
Transportation and Utilities	1,281	972	617	2,870
Retail And WholesaleTrade	0	1,069	3,399	4,468
Services	496	5,919	9,496	15,911
Government	0	127	213	340
<b>Total</b>	<b>18,520</b>	<b>11,335</b>	<b>14,368</b>	<b>44,223</b>

**West Virginia Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	32	170	203
Mining	14,025	979	110	15,114
Construction	2,764	1,806	134	4,704
Manufacturing	354	597	254	1,205
Transportation and Utilities	1,157	962	628	2,747
Retail And WholesaleTrade	0	1,076	3,507	4,583
Services	448	5,919	9,804	16,171
Government	0	127	221	348
<b>Total</b>	<b>18,748</b>	<b>11,498</b>	<b>14,828</b>	<b>45,074</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	36	189	225
Mining	15,523	1,062	120	16,705
Construction	3,274	1,960	149	5,383
Manufacturing	429	679	282	1,389
Transportation and Utilities	1,394	1,081	687	3,162
Retail And WholesaleTrade	0	1,220	3,904	5,125
Services	534	6,701	10,915	18,150
Government	0	144	246	390
<b>Total</b>	<b>21,154</b>	<b>12,883</b>	<b>16,492</b>	<b>50,529</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	48	253	301
Mining	21,843	1,369	153	23,365
Construction	4,974	2,731	208	7,913
Manufacturing	659	899	371	1,929
Transportation and Utilities	2,111	1,534	951	4,597
Retail And WholesaleTrade	0	1,745	5,505	7,251
Services	803	9,582	15,337	25,722
Government	0	201	343	545
<b>Total</b>	<b>30,390</b>	<b>18,110</b>	<b>23,121</b>	<b>71,620</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Wisconsin Employment Contribution by State and Industry: Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	69	284	352
Mining	85	23	2	110
Construction	0	135	39	175
Manufacturing	52	2,077	831	2,960
Transportation and Utilities	0	373	333	706
Retail And WholesaleTrade	0	244	782	1,026
Services	0	1,479	2,677	4,156
Government	0	58	65	123
<b>Total</b>	<b>137</b>	<b>4,457</b>	<b>5,013</b>	<b>9,608</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	104	421	525
Mining	200	31	3	234
Construction	0	195	58	253
Manufacturing	62	3,065	1,243	4,370
Transportation and Utilities	0	537	475	1,012
Retail And WholesaleTrade	0	366	1,177	1,544
Services	0	2,214	3,952	6,166
Government	0	86	95	182
<b>Total</b>	<b>263</b>	<b>6,599</b>	<b>7,424</b>	<b>14,285</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	134	524	658
Mining	226	35	3	265
Construction	0	232	71	303
Manufacturing	95	3,803	1,534	5,432
Transportation and Utilities	0	678	594	1,272
Retail And WholesaleTrade	0	456	1,433	1,889
Services	0	2,805	4,871	7,676
Government	0	107	116	224
<b>Total</b>	<b>321</b>	<b>8,252</b>	<b>9,146</b>	<b>17,719</b>

**Wisconsin Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	136	548	684
Mining	248	36	3	287
Construction	0	238	70	308
Manufacturing	84	3,786	1,560	5,430
Transportation and Utilities	0	708	635	1,342
Retail And WholesaleTrade	0	458	1,464	1,922
Services	0	2,945	5,014	7,959
Government	0	107	117	224
<b>Total</b>	<b>333</b>	<b>8,413</b>	<b>9,411</b>	<b>18,156</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	152	598	750
Mining	280	39	4	322
Construction	0	248	75	322
Manufacturing	102	4,120	1,665	5,887
Transportation and Utilities	0	778	694	1,472
Retail And WholesaleTrade	0	501	1,583	2,085
Services	0	3,218	5,404	8,622
Government	0	116	127	243
<b>Total</b>	<b>382</b>	<b>9,171</b>	<b>10,150</b>	<b>19,703</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	192	754	946
Mining	348	49	5	402
Construction	0	309	93	402
Manufacturing	158	5,159	2,084	7,402
Transportation and Utilities	0	983	879	1,861
Retail And WholesaleTrade	0	633	1,996	2,628
Services	0	4,115	6,810	10,925
Government	0	146	158	304
<b>Total</b>	<b>506</b>	<b>11,585</b>	<b>12,779</b>	<b>24,871</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



## Wyoming Employment Contribution by State and Industry: Unconventional Gas\*

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	16	67	83
Mining	10,134	401	40	10,574
Construction	2,674	2,235	130	5,039
Manufacturing	1,025	100	56	1,181
Transportation and Utilities	636	728	536	1,900
Retail And WholesaleTrade	0	867	3,033	3,900
Services	284	4,188	7,315	11,787
Government	0	112	210	322
<b>Total</b>	<b>14,753</b>	<b>8,647</b>	<b>11,386</b>	<b>34,787</b>
<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	19	102	121
Mining	12,836	405	56	13,297
Construction	3,283	2,177	195	5,655
Manufacturing	767	105	85	957
Transportation and Utilities	1,388	858	814	3,060
Retail And WholesaleTrade	0	964	4,569	5,533
Services	643	5,016	11,036	16,695
Government	0	130	316	446
<b>Total</b>	<b>18,917</b>	<b>9,673</b>	<b>17,173</b>	<b>45,763</b>
<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	21	118	139
Mining	14,317	471	68	14,856
Construction	3,404	2,316	213	5,933
Manufacturing	808	118	97	1,023
Transportation and Utilities	1,538	951	894	3,383
Retail And WholesaleTrade	0	1,057	4,960	6,017
Services	631	5,549	11,980	18,159
Government	0	145	346	491
<b>Total</b>	<b>20,698</b>	<b>10,630</b>	<b>18,675</b>	<b>50,002</b>

**Wyoming Employment Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	22	126	148
Mining	16,142	503	70	16,715
Construction	4,216	2,599	240	7,055
Manufacturing	805	126	107	1,038
Transportation and Utilities	1,800	1,064	1,007	3,871
Retail And Wholesale Trade	0	1,203	5,620	6,823
Services	737	6,330	13,568	20,636
Government	0	162	391	554
<b>Total</b>	<b>23,700</b>	<b>12,010</b>	<b>21,129</b>	<b>56,840</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	25	137	161
Mining	17,537	541	76	18,154
Construction	4,853	2,762	261	7,877
Manufacturing	832	139	118	1,089
Transportation and Utilities	2,107	1,166	1,095	4,368
Retail And Wholesale Trade	0	1,329	6,115	7,444
Services	854	7,011	14,767	22,632
Government	0	178	426	605
<b>Total</b>	<b>26,183</b>	<b>13,152</b>	<b>22,994</b>	<b>62,329</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	31	174	205
Mining	22,179	686	95	22,961
Construction	6,107	3,546	332	9,985
Manufacturing	957	174	150	1,280
Transportation and Utilities	2,644	1,465	1,392	5,502
Retail And Wholesale Trade	0	1,677	7,760	9,438
Services	1,065	8,860	18,733	28,658
Government	0	224	540	764
<b>Total</b>	<b>32,953</b>	<b>16,664</b>	<b>29,176</b>	<b>78,792</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Value Added Contribution by State and Industry

### Alabama Value Added Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	8	12
Mining	243	19	3	266
Construction	29	15	3	47
Manufacturing	4	115	59	178
Transportation and Utilities	0	35	33	68
Retail And WholesaleTrade	0	18	48	66
Services	0	130	173	303
Government	0	5	7	12
<b>Total</b>	<b>276</b>	<b>341</b>	<b>335</b>	<b>952</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	11	16
Mining	157	25	5	188
Construction	82	15	4	100
Manufacturing	4	171	86	261
Transportation and Utilities	0	49	47	97
Retail And WholesaleTrade	0	28	66	94
Services	0	176	234	410
Government	0	7	10	17
<b>Total</b>	<b>243</b>	<b>477</b>	<b>463</b>	<b>1,183</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	13	19
Mining	89	33	7	128
Construction	49	14	4	67
Manufacturing	5	209	104	317
Transportation and Utilities	0	52	50	102
Retail And WholesaleTrade	0	28	65	94
Services	0	174	235	409
Government	0	8	10	19
<b>Total</b>	<b>142</b>	<b>525</b>	<b>488</b>	<b>1,155</b>

**Alabama Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	13	19
Mining	50	34	7	91
Construction	24	13	4	41
Manufacturing	5	219	109	333
Transportation and Utilities	0	50	48	98
Retail And WholesaleTrade	0	25	60	86
Services	0	162	219	380
Government	0	8	10	18
<b>Total</b>	<b>79</b>	<b>517</b>	<b>470</b>	<b>1,066</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	13	20
Mining	33	38	8	78
Construction	46	13	4	64
Manufacturing	5	254	122	381
Transportation and Utilities	0	55	53	108
Retail And WholesaleTrade	0	30	67	96
Services	0	182	245	427
Government	0	9	11	20
<b>Total</b>	<b>84</b>	<b>587</b>	<b>523</b>	<b>1,193</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	8	16	24
Mining	37	48	10	96
Construction	14	17	5	35
Manufacturing	7	330	158	495
Transportation and Utilities	0	67	65	132
Retail And WholesaleTrade	0	32	76	108
Services	0	210	282	492
Government	0	11	13	24
<b>Total</b>	<b>58</b>	<b>722</b>	<b>624</b>	<b>1,405</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Arizona Value Added Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	5	7
Mining	0	25	3	28
Construction	0	11	3	14
Manufacturing	0	48	28	76
Transportation and Utilities	0	23	26	50
Retail And WholesaleTrade	0	15	39	54
Services	0	117	174	291
Government	0	4	6	10
<b>Total</b>	<b>0</b>	<b>246</b>	<b>283</b>	<b>529</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	8	11
Mining	0	35	4	39
Construction	0	17	5	22
Manufacturing	0	67	39	107
Transportation and Utilities	0	36	41	78
Retail And WholesaleTrade	0	23	58	81
Services	0	177	263	440
Government	0	6	8	14
<b>Total</b>	<b>0</b>	<b>364</b>	<b>426</b>	<b>791</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	10	13
Mining	0	40	5	45
Construction	0	22	7	28
Manufacturing	0	80	47	127
Transportation and Utilities	0	47	53	100
Retail And WholesaleTrade	0	30	72	102
Services	0	229	336	565
Government	0	8	10	19
<b>Total</b>	<b>0</b>	<b>459</b>	<b>539</b>	<b>998</b>

## Arizona Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	3	10	12
Mining	0	38	5	42
Construction	0	25	7	32
Manufacturing	0	75	46	121
Transportation and Utilities	0	50	57	106
Retail And WholesaleTrade	0	32	74	106
Services	0	246	358	603
Government	0	9	11	20
<b>Total</b>	<b>0</b>	<b>476</b>	<b>567</b>	<b>1,043</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	3	11	14
Mining	0	40	5	45
Construction	0	27	8	35
Manufacturing	0	78	48	126
Transportation and Utilities	0	56	63	119
Retail And WholesaleTrade	0	35	83	119
Services	0	279	405	683
Government	0	10	13	23
<b>Total</b>	<b>0</b>	<b>529</b>	<b>635</b>	<b>1,164</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	4	13	17
Mining	0	51	6	57
Construction	0	34	10	44
Manufacturing	0	96	59	155
Transportation and Utilities	0	74	84	158
Retail And WholesaleTrade	0	45	107	151
Services	0	368	530	898
Government	0	13	17	30
<b>Total</b>	<b>0</b>	<b>684</b>	<b>826</b>	<b>1,509</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Arkansas Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	14	19
Mining	2,498	48	4	2,549
Construction	46	83	8	137
Manufacturing	107	104	60	271
Transportation and Utilities	74	193	126	393
Retail And WholesaleTrade	0	85	200	284
Services	20	476	732	1,229
Government	0	12	18	29
<b>Total</b>	<b>2,745</b>	<b>1,005</b>	<b>1,161</b>	<b>4,910</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	7	21	28
Mining	3,725	70	5	3,800
Construction	65	123	12	200
Manufacturing	195	160	86	441
Transportation and Utilities	63	282	183	527
Retail And WholesaleTrade	0	136	290	427
Services	21	713	1,065	1,799
Government	0	18	25	43
<b>Total</b>	<b>4,068</b>	<b>1,508</b>	<b>1,688</b>	<b>7,264</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	8	25	33
Mining	4,235	80	6	4,321
Construction	67	139	14	220
Manufacturing	234	200	102	536
Transportation and Utilities	68	335	211	614
Retail And WholesaleTrade	0	166	337	502
Services	20	833	1,234	2,087
Government	0	21	30	51
<b>Total</b>	<b>4,624</b>	<b>1,781</b>	<b>1,959</b>	<b>8,364</b>

## Arkansas Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	8	26	33
Mining	4,454	83	6	4,543
Construction	72	147	15	234
Manufacturing	234	203	106	543
Transportation and Utilities	70	344	217	630
Retail And Wholesale Trade	0	171	352	523
Services	20	875	1,292	2,188
Government	0	22	31	54
<b>Total</b>	<b>4,850</b>	<b>1,853</b>	<b>2,045</b>	<b>8,749</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	8	27	35
Mining	4,485	84	6	4,576
Construction	73	148	15	236
Manufacturing	249	217	112	578
Transportation and Utilities	71	357	221	649
Retail And Wholesale Trade	0	179	361	540
Services	21	896	1,327	2,244
Government	0	23	32	56
<b>Total</b>	<b>4,900</b>	<b>1,913</b>	<b>2,102</b>	<b>8,914</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	10	33	42
Mining	5,281	102	8	5,390
Construction	83	173	18	274
Manufacturing	302	261	136	699
Transportation and Utilities	80	429	262	771
Retail And Wholesale Trade	0	213	428	641
Services	24	1,060	1,571	2,655
Government	0	28	39	67
<b>Total</b>	<b>5,769</b>	<b>2,276</b>	<b>2,495</b>	<b>10,540</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**California Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	7	26	34
Mining	59	25	6	90
Construction	0	20	8	28
Manufacturing	446	177	119	742
Transportation and Utilities	0	82	69	150
Retail And WholesaleTrade	0	76	110	187
Services	0	416	518	935
Government	0	11	15	26
<b>Total</b>	<b>505</b>	<b>815</b>	<b>871</b>	<b>2,192</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	10	37	48
Mining	97	38	9	144
Construction	45	29	13	87
Manufacturing	609	247	173	1,029
Transportation and Utilities	0	121	102	223
Retail And WholesaleTrade	0	110	160	270
Services	0	608	750	1,359
Government	0	17	21	38
<b>Total</b>	<b>751</b>	<b>1,181</b>	<b>1,265</b>	<b>3,197</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	13	45	58
Mining	102	45	11	158
Construction	0	36	16	52
Manufacturing	720	291	205	1,215
Transportation and Utilities	0	143	122	265
Retail And WholesaleTrade	0	131	188	319
Services	0	718	877	1,595
Government	0	21	26	46
<b>Total</b>	<b>823</b>	<b>1,397</b>	<b>1,488</b>	<b>3,708</b>

## California Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	12	46	58
Mining	98	46	11	154
Construction	0	37	16	54
Manufacturing	687	270	200	1,156
Transportation and Utilities	0	142	124	267
Retail And WholesaleTrade	0	129	187	315
Services	0	722	874	1,596
Government	0	21	26	46
<b>Total</b>	<b>785</b>	<b>1,380</b>	<b>1,483</b>	<b>3,648</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	13	49	62
Mining	96	48	11	155
Construction	0	40	18	58
Manufacturing	708	277	208	1,193
Transportation and Utilities	0	152	134	286
Retail And WholesaleTrade	0	136	197	333
Services	0	762	923	1,685
Government	0	22	28	50
<b>Total</b>	<b>804</b>	<b>1,451</b>	<b>1,567</b>	<b>3,822</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	16	61	77
Mining	106	60	14	180
Construction	0	50	22	72
Manufacturing	822	332	255	1,408
Transportation and Utilities	0	186	166	353
Retail And WholesaleTrade	0	163	239	402
Services	0	935	1,129	2,064
Government	0	27	34	61
<b>Total</b>	<b>928</b>	<b>1,769</b>	<b>1,920</b>	<b>4,617</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Colorado Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	37	41
Mining	4,354	143	20	4,518
Construction	230	174	28	432
Manufacturing	795	139	117	1,051
Transportation and Utilities	148	342	303	794
Retail And WholesaleTrade	0	258	613	871
Services	60	1,811	2,579	4,450
Government	0	43	60	103
<b>Total</b>	<b>5,587</b>	<b>2,913</b>	<b>3,758</b>	<b>12,258</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	58	64
Mining	5,286	205	32	5,523
Construction	466	193	43	702
Manufacturing	1,540	250	180	1,969
Transportation and Utilities	357	565	471	1,393
Retail And WholesaleTrade	0	466	941	1,407
Services	129	2,861	3,956	6,945
Government	0	68	91	159
<b>Total</b>	<b>7,777</b>	<b>4,613</b>	<b>5,772</b>	<b>18,162</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	7	63	70
Mining	5,244	233	38	5,515
Construction	467	186	46	699
Manufacturing	1,740	284	196	2,220
Transportation and Utilities	376	607	501	1,485
Retail And WholesaleTrade	0	514	997	1,511
Services	121	3,062	4,196	7,379
Government	0	74	98	172
<b>Total</b>	<b>7,949</b>	<b>4,967</b>	<b>6,135</b>	<b>19,051</b>

**Colorado Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	57	63
Mining	4,573	233	37	4,843
Construction	362	172	40	573
Manufacturing	1,631	247	175	2,053
Transportation and Utilities	277	529	439	1,245
Retail And WholesaleTrade	0	443	866	1,309
Services	89	2,669	3,666	6,424
Government	0	66	87	152
<b>Total</b>	<b>6,932</b>	<b>4,365</b>	<b>5,367</b>	<b>16,664</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	55	61
Mining	4,115	244	39	4,398
Construction	298	160	37	496
Manufacturing	1,643	235	168	2,046
Transportation and Utilities	229	498	412	1,139
Retail And WholesaleTrade	0	415	808	1,223
Services	74	2,483	3,432	5,989
Government	0	63	82	144
<b>Total</b>	<b>6,360</b>	<b>4,103</b>	<b>5,033</b>	<b>15,496</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	7	65	72
Mining	4,583	303	49	4,934
Construction	308	183	42	533
Manufacturing	1,918	268	193	2,379
Transportation and Utilities	237	563	468	1,268
Retail And WholesaleTrade	0	465	910	1,375
Services	77	2,804	3,879	6,759
Government	0	71	93	164
<b>Total</b>	<b>7,123</b>	<b>4,664</b>	<b>5,698</b>	<b>17,485</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Connecticut Value Added Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	2	2
Mining	0	1	0	2
Construction	0	5	2	7
Manufacturing	0	65	29	94
Transportation and Utilities	0	17	19	35
Retail And WholesaleTrade	0	10	24	34
Services	0	97	146	243
Government	0	2	3	5
<b>Total</b>	<b>0</b>	<b>197</b>	<b>224</b>	<b>422</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	2	3
Mining	0	2	0	3
Construction	0	8	2	10
Manufacturing	0	86	41	127
Transportation and Utilities	0	23	25	47
Retail And WholesaleTrade	0	15	35	50
Services	0	137	204	340
Government	0	3	4	8
<b>Total</b>	<b>0</b>	<b>275</b>	<b>313</b>	<b>587</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	3
Mining	0	3	1	3
Construction	0	9	3	12
Manufacturing	0	105	50	155
Transportation and Utilities	0	27	28	55
Retail And WholesaleTrade	0	18	41	59
Services	0	159	236	395
Government	0	4	5	10
<b>Total</b>	<b>0</b>	<b>326</b>	<b>366</b>	<b>693</b>

## Connecticut Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	1	3	3
Mining	0	3	1	3
Construction	0	10	3	13
Manufacturing	0	105	52	158
Transportation and Utilities	0	26	27	52
Retail And WholesaleTrade	0	18	41	59
Services	0	154	228	382
Government	0	4	5	9
<b>Total</b>	<b>0</b>	<b>321</b>	<b>359</b>	<b>679</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	1	3	3
Mining	0	2	0	3
Construction	0	10	3	13
Manufacturing	0	117	58	175
Transportation and Utilities	0	27	27	54
Retail And WholesaleTrade	0	19	43	62
Services	0	157	232	389
Government	0	4	6	10
<b>Total</b>	<b>0</b>	<b>338</b>	<b>371</b>	<b>709</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	1	3	4
Mining	0	3	1	3
Construction	0	13	4	16
Manufacturing	0	150	74	225
Transportation and Utilities	0	32	33	65
Retail And WholesaleTrade	0	24	52	76
Services	0	187	277	464
Government	0	5	7	12
<b>Total</b>	<b>0</b>	<b>415</b>	<b>450</b>	<b>865</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Delaware Value Added Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	0
Construction	0	2	1	3
Manufacturing	25	11	8	44
Transportation and Utilities	0	7	5	12
Retail And WholesaleTrade	0	7	9	16
Services	0	35	50	85
Government	0	1	1	2
<b>Total</b>	<b>25</b>	<b>63</b>	<b>74</b>	<b>163</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	0
Construction	0	3	1	4
Manufacturing	32	16	11	59
Transportation and Utilities	0	10	7	17
Retail And WholesaleTrade	0	9	12	21
Services	0	50	71	121
Government	0	1	2	3
<b>Total</b>	<b>32</b>	<b>90</b>	<b>105</b>	<b>226</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	0
Construction	0	4	1	6
Manufacturing	54	21	13	88
Transportation and Utilities	0	15	9	24
Retail And WholesaleTrade	0	15	17	32
Services	0	68	97	165
Government	0	2	2	4
<b>Total</b>	<b>54</b>	<b>126</b>	<b>141</b>	<b>321</b>

## Delaware Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	0
Construction	0	4	1	6
Manufacturing	49	19	13	81
Transportation and Utilities	0	15	9	24
Retail And Wholesale Trade	0	14	17	31
Services	0	68	95	163
Government	0	2	2	4
<b>Total</b>	<b>49</b>	<b>122</b>	<b>139</b>	<b>310</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	0
Construction	0	5	2	6
Manufacturing	59	21	13	93
Transportation and Utilities	0	17	11	28
Retail And Wholesale Trade	0	16	20	36
Services	0	75	106	180
Government	0	2	2	4
<b>Total</b>	<b>59</b>	<b>137</b>	<b>154</b>	<b>349</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	2	2
Mining	0	0	0	0
Construction	0	6	2	8
Manufacturing	90	27	16	134
Transportation and Utilities	0	25	15	40
Retail And Wholesale Trade	0	25	28	52
Services	0	99	140	240
Government	0	3	3	6
<b>Total</b>	<b>90</b>	<b>186</b>	<b>205</b>	<b>482</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**District of Columbia Value Added Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	0	0	0
Manufacturing	0	0	0	0
Transportation and Utilities	0	1	1	2
Retail And WholesaleTrade	0	0	1	1
Services	0	29	36	65
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>32</b>	<b>40</b>	<b>72</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	0	0	1
Manufacturing	0	0	0	0
Transportation and Utilities	0	1	1	3
Retail And WholesaleTrade	0	1	2	2
Services	0	44	54	98
Government	0	1	2	4
<b>Total</b>	<b>0</b>	<b>48</b>	<b>60</b>	<b>108</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	1	0	1
Manufacturing	0	0	0	1
Transportation and Utilities	0	2	2	3
Retail And WholesaleTrade	0	1	2	3
Services	0	56	68	123
Government	0	2	3	5
<b>Total</b>	<b>0</b>	<b>61</b>	<b>75</b>	<b>135</b>

**District of Columbia Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	1	0	1
Manufacturing	0	0	0	1
Transportation and Utilities	0	2	2	4
Retail And WholesaleTrade	0	1	2	3
Services	0	56	69	125
Government	0	2	3	5
<b>Total</b>	<b>0</b>	<b>62</b>	<b>76</b>	<b>138</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	1	0	1
Manufacturing	0	0	0	1
Transportation and Utilities	0	2	2	4
Retail And WholesaleTrade	0	1	2	3
Services	0	60	74	134
Government	0	2	3	5
<b>Total</b>	<b>0</b>	<b>66</b>	<b>82</b>	<b>148</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	1	1	2
Manufacturing	0	0	0	1
Transportation and Utilities	0	3	3	6
Retail And WholesaleTrade	0	1	3	4
Services	0	75	93	168
Government	0	3	4	7
<b>Total</b>	<b>0</b>	<b>82</b>	<b>104</b>	<b>186</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Florida Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	12	15
Mining	0	6	1	7
Construction	168	17	6	191
Manufacturing	12	55	40	108
Transportation and Utilities	0	41	49	90
Retail And WholesaleTrade	0	36	82	118
Services	0	247	371	618
Government	0	6	9	15
<b>Total</b>	<b>180</b>	<b>413</b>	<b>570</b>	<b>1,163</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	18	24
Mining	0	10	1	11
Construction	370	26	10	405
Manufacturing	17	92	63	172
Transportation and Utilities	0	70	83	153
Retail And WholesaleTrade	0	63	138	201
Services	0	419	626	1,045
Government	0	10	14	23
<b>Total</b>	<b>387</b>	<b>695</b>	<b>953</b>	<b>2,034</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	19	26
Mining	0	9	1	10
Construction	163	31	11	205
Manufacturing	23	93	68	183
Transportation and Utilities	0	74	85	159
Retail And WholesaleTrade	0	59	136	195
Services	0	436	631	1,067
Government	0	11	15	26
<b>Total</b>	<b>185</b>	<b>720</b>	<b>965</b>	<b>1,871</b>

## Florida Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	6	19	24
Mining	0	8	1	9
Construction	41	33	10	85
Manufacturing	23	81	63	167
Transportation and Utilities	0	68	80	148
Retail And WholesaleTrade	0	52	124	176
Services	0	428	598	1,026
Government	0	11	15	26
<b>Total</b>	<b>65</b>	<b>688</b>	<b>910</b>	<b>1,662</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	7	22	28
Mining	0	9	1	11
Construction	251	37	12	300
Manufacturing	26	97	71	194
Transportation and Utilities	0	82	98	180
Retail And WholesaleTrade	0	71	159	231
Services	0	536	760	1,295
Government	0	13	17	31
<b>Total</b>	<b>277</b>	<b>853</b>	<b>1,140</b>	<b>2,270</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	7	25	32
Mining	0	9	1	11
Construction	29	48	15	91
Manufacturing	32	101	79	212
Transportation and Utilities	0	91	107	197
Retail And WholesaleTrade	0	73	169	242
Services	0	608	836	1,444
Government	0	16	20	36
<b>Total</b>	<b>61</b>	<b>953</b>	<b>1,252</b>	<b>2,266</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Georgia Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	9	13
Mining	0	8	1	8
Construction	6	14	5	24
Manufacturing	103	101	83	287
Transportation and Utilities	0	61	68	129
Retail And WholesaleTrade	0	42	77	119
Services	0	235	313	548
Government	0	7	10	17
<b>Total</b>	<b>109</b>	<b>472</b>	<b>566</b>	<b>1,147</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	12	18
Mining	0	9	1	11
Construction	0	18	6	25
Manufacturing	136	144	122	402
Transportation and Utilities	0	91	101	192
Retail And WholesaleTrade	0	58	108	166
Services	0	344	440	784
Government	0	11	14	25
<b>Total</b>	<b>136</b>	<b>681</b>	<b>804</b>	<b>1,622</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	15	21
Mining	0	11	2	13
Construction	9	22	8	39
Manufacturing	69	174	149	391
Transportation and Utilities	0	105	120	225
Retail And WholesaleTrade	0	66	124	190
Services	0	407	507	915
Government	0	13	17	30
<b>Total</b>	<b>77</b>	<b>805</b>	<b>941</b>	<b>1,823</b>

## Georgia Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	6	15	21
Mining	0	11	2	13
Construction	3	23	8	34
Manufacturing	20	176	154	351
Transportation and Utilities	0	101	119	220
Retail And WholesaleTrade	0	63	121	184
Services	0	414	500	913
Government	0	13	17	30
<b>Total</b>	<b>23</b>	<b>808</b>	<b>935</b>	<b>1,766</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	7	16	24
Mining	0	12	2	14
Construction	4	24	9	38
Manufacturing	93	197	169	459
Transportation and Utilities	0	117	134	251
Retail And WholesaleTrade	0	77	141	219
Services	0	469	578	1,047
Government	0	15	19	33
<b>Total</b>	<b>97</b>	<b>918</b>	<b>1,069</b>	<b>2,084</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	9	20	29
Mining	0	15	2	17
Construction	0	30	12	42
Manufacturing	14	241	209	464
Transportation and Utilities	0	139	163	302
Retail And WholesaleTrade	0	88	166	254
Services	0	564	685	1,249
Government	0	18	23	41
<b>Total</b>	<b>14</b>	<b>1,105</b>	<b>1,280</b>	<b>2,398</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Idaho Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	6	8
Mining	0	5	0	5
Construction	0	3	1	4
Manufacturing	0	17	13	29
Transportation and Utilities	0	7	8	15
Retail And WholesaleTrade	0	4	10	14
Services	0	27	37	64
Government	0	1	2	3
<b>Total</b>	<b>0</b>	<b>66</b>	<b>77</b>	<b>142</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	9	12
Mining	0	7	1	8
Construction	0	3	1	4
Manufacturing	0	26	19	45
Transportation and Utilities	0	11	12	23
Retail And WholesaleTrade	0	6	15	21
Services	0	41	57	97
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>100</b>	<b>114</b>	<b>214</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	11	15
Mining	0	11	1	12
Construction	0	3	1	4
Manufacturing	0	31	22	53
Transportation and Utilities	0	13	14	27
Retail And WholesaleTrade	0	8	19	27
Services	0	50	71	121
Government	0	2	3	5
<b>Total</b>	<b>0</b>	<b>124</b>	<b>142</b>	<b>266</b>

**Idaho Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	11	16
Mining	0	13	1	14
Construction	0	3	1	4
Manufacturing	0	30	23	53
Transportation and Utilities	0	14	14	28
Retail And WholesaleTrade	0	8	20	28
Services	0	53	74	126
Government	0	2	3	6
<b>Total</b>	<b>0</b>	<b>127</b>	<b>147</b>	<b>275</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	12	17
Mining	0	15	1	16
Construction	0	3	1	4
Manufacturing	0	31	25	56
Transportation and Utilities	0	15	16	30
Retail And WholesaleTrade	0	9	21	30
Services	0	58	81	139
Government	0	3	3	6
<b>Total</b>	<b>0</b>	<b>138</b>	<b>160</b>	<b>298</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	7	15	21
Mining	0	20	2	21
Construction	0	4	1	5
Manufacturing	0	36	30	66
Transportation and Utilities	0	19	20	39
Retail And WholesaleTrade	0	12	27	39
Services	0	73	103	176
Government	0	3	4	8
<b>Total</b>	<b>0</b>	<b>173</b>	<b>202</b>	<b>375</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



## Illinois Value Added Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	14	17
Mining	329	40	6	375
Construction	0	20	9	29
Manufacturing	66	290	163	518
Transportation and Utilities	0	122	113	235
Retail And WholesaleTrade	0	68	149	217
Services	0	447	695	1,142
Government	0	11	16	26
<b>Total</b>	<b>395</b>	<b>1,000</b>	<b>1,165</b>	<b>2,560</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	20	25
Mining	457	54	8	520
Construction	0	30	14	44
Manufacturing	66	421	238	724
Transportation and Utilities	0	174	162	335
Retail And WholesaleTrade	0	92	207	300
Services	0	622	949	1,571
Government	0	15	21	36
<b>Total</b>	<b>523</b>	<b>1,413</b>	<b>1,619</b>	<b>3,555</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	24	30
Mining	646	70	10	726
Construction	0	36	18	54
Manufacturing	80	498	289	868
Transportation and Utilities	0	223	203	427
Retail And WholesaleTrade	0	114	262	376
Services	0	774	1,203	1,977
Government	0	19	26	45
<b>Total</b>	<b>727</b>	<b>1,741</b>	<b>2,035</b>	<b>4,502</b>

## Illinois Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	24	29
Mining	598	66	9	673
Construction	0	37	18	54
Manufacturing	79	469	287	835
Transportation and Utilities	0	217	202	418
Retail And WholesaleTrade	0	110	254	364
Services	0	777	1,183	1,960
Government	0	19	26	45
<b>Total</b>	<b>677</b>	<b>1,698</b>	<b>2,003</b>	<b>4,378</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	25	31
Mining	688	72	10	770
Construction	0	38	19	57
Manufacturing	84	486	305	875
Transportation and Utilities	0	238	219	457
Retail And WholesaleTrade	0	118	277	395
Services	0	834	1,289	2,123
Government	0	20	28	48
<b>Total</b>	<b>772</b>	<b>1,812</b>	<b>2,172</b>	<b>4,757</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	7	30	36
Mining	982	96	12	1,091
Construction	0	47	25	72
Manufacturing	105	589	381	1,075
Transportation and Utilities	0	310	282	593
Retail And WholesaleTrade	0	148	360	508
Services	0	1,066	1,676	2,742
Government	0	26	36	62
<b>Total</b>	<b>1,087</b>	<b>2,289</b>	<b>2,802</b>	<b>6,178</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Indiana Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	9	11
Mining	0	10	2	12
Construction	0	11	4	15
Manufacturing	54	258	120	433
Transportation and Utilities	0	50	47	97
Retail And WholesaleTrade	0	25	49	74
Services	0	117	188	305
Government	0	5	6	11
<b>Total</b>	<b>54</b>	<b>478</b>	<b>424</b>	<b>957</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	13	16
Mining	0	14	3	16
Construction	0	17	6	23
Manufacturing	62	361	174	597
Transportation and Utilities	0	68	64	132
Retail And WholesaleTrade	0	34	67	101
Services	0	163	261	424
Government	0	7	9	15
<b>Total</b>	<b>62</b>	<b>667</b>	<b>597</b>	<b>1,326</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	16	20
Mining	0	16	3	20
Construction	0	20	7	27
Manufacturing	94	443	212	749
Transportation and Utilities	0	84	77	161
Retail And WholesaleTrade	0	44	84	128
Services	0	206	326	531
Government	0	8	10	19
<b>Total</b>	<b>94</b>	<b>826</b>	<b>735</b>	<b>1,656</b>

## Indiana Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	16	20
Mining	0	16	3	19
Construction	0	20	7	27
Manufacturing	86	445	222	754
Transportation and Utilities	0	81	76	157
Retail And Wholesale Trade	0	43	83	126
Services	0	210	328	538
Government	0	8	10	19
<b>Total</b>	<b>86</b>	<b>827</b>	<b>747</b>	<b>1,660</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	16	20
Mining	0	17	3	20
Construction	0	21	8	28
Manufacturing	104	488	244	835
Transportation and Utilities	0	86	80	167
Retail And Wholesale Trade	0	48	90	138
Services	0	229	356	584
Government	0	9	11	20
<b>Total</b>	<b>104</b>	<b>902</b>	<b>809</b>	<b>1,814</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	20	25
Mining	0	21	4	25
Construction	0	26	9	36
Manufacturing	158	608	309	1,074
Transportation and Utilities	0	110	101	212
Retail And Wholesale Trade	0	64	117	181
Services	0	296	457	753
Government	0	11	14	25
<b>Total</b>	<b>158</b>	<b>1,142</b>	<b>1,031</b>	<b>2,331</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

Iowa Value Added Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	14	17
Mining	33	3	0	37
Construction	0	6	2	8
Manufacturing	3	66	43	112
Transportation and Utilities	0	23	21	45
Retail And WholesaleTrade	0	12	28	40
Services	0	56	101	156
Government	0	3	4	7
<b>Total</b>	<b>36</b>	<b>171</b>	<b>213</b>	<b>420</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	23	28
Mining	65	4	0	70
Construction	0	10	3	13
Manufacturing	9	97	64	170
Transportation and Utilities	0	39	33	71
Retail And WholesaleTrade	0	19	43	62
Services	0	88	153	241
Government	0	4	5	10
<b>Total</b>	<b>75</b>	<b>266</b>	<b>325</b>	<b>665</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	7	28	35
Mining	76	5	1	82
Construction	0	12	4	16
Manufacturing	12	119	76	208
Transportation and Utilities	0	48	41	89
Retail And WholesaleTrade	0	23	51	75
Services	0	108	186	294
Government	0	5	7	12
<b>Total</b>	<b>89</b>	<b>328</b>	<b>394</b>	<b>811</b>

**Iowa Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	7	30	37
Mining	76	4	0	80
Construction	0	13	4	17
Manufacturing	15	126	79	219
Transportation and Utilities	0	50	43	93
Retail And WholesaleTrade	0	23	52	75
Services	0	115	192	308
Government	0	6	7	12
<b>Total</b>	<b>91</b>	<b>343</b>	<b>407</b>	<b>841</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	8	33	40
Mining	83	4	0	87
Construction	0	14	5	19
Manufacturing	17	142	86	245
Transportation and Utilities	0	57	48	105
Retail And WholesaleTrade	0	25	56	81
Services	0	126	209	335
Government	0	6	7	13
<b>Total</b>	<b>101</b>	<b>381</b>	<b>444</b>	<b>926</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	10	43	53
Mining	109	4	0	114
Construction	0	18	6	24
Manufacturing	21	184	111	316
Transportation and Utilities	0	74	63	137
Retail And WholesaleTrade	0	32	71	102
Services	0	162	265	427
Government	0	7	9	16
<b>Total</b>	<b>131</b>	<b>491</b>	<b>567</b>	<b>1,189</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Kansas Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	8	9
Mining	44	20	4	68
Construction	0	7	2	9
Manufacturing	55	43	31	129
Transportation and Utilities	0	34	21	55
Retail And WholesaleTrade	0	14	29	43
Services	0	75	113	188
Government	0	5	4	10
<b>Total</b>	<b>99</b>	<b>200</b>	<b>213</b>	<b>512</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	12	15
Mining	4	28	6	38
Construction	0	8	3	11
Manufacturing	101	64	48	213
Transportation and Utilities	0	56	31	86
Retail And WholesaleTrade	0	22	40	62
Services	0	106	156	262
Government	0	9	6	15
<b>Total</b>	<b>105</b>	<b>295</b>	<b>302</b>	<b>702</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	15	19
Mining	0	31	6	38
Construction	0	9	3	12
Manufacturing	109	80	58	247
Transportation and Utilities	0	64	37	101
Retail And WholesaleTrade	0	25	47	73
Services	0	127	185	312
Government	0	10	7	18
<b>Total</b>	<b>110</b>	<b>349</b>	<b>360</b>	<b>819</b>

**Kansas Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	16	19
Mining	0	30	6	36
Construction	0	9	3	12
Manufacturing	107	86	62	255
Transportation and Utilities	0	64	38	102
Retail And WholesaleTrade	0	25	48	73
Services	0	129	189	318
Government	0	10	7	18
<b>Total</b>	<b>107</b>	<b>357</b>	<b>369</b>	<b>834</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	17	21
Mining	0	31	6	37
Construction	0	9	3	12
Manufacturing	111	101	69	282
Transportation and Utilities	0	69	41	109
Retail And WholesaleTrade	0	27	51	77
Services	0	141	205	346
Government	0	11	8	19
<b>Total</b>	<b>111</b>	<b>392</b>	<b>400</b>	<b>904</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	22	27
Mining	0	37	8	45
Construction	0	11	4	15
Manufacturing	130	135	91	356
Transportation and Utilities	0	85	52	137
Retail And WholesaleTrade	0	32	62	94
Services	0	180	259	438
Government	0	13	10	23
<b>Total</b>	<b>130</b>	<b>498</b>	<b>506</b>	<b>1,135</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



## Kentucky Value Added Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	11	13
Mining	384	55	10	449
Construction	14	16	3	33
Manufacturing	26	101	65	192
Transportation and Utilities	21	41	39	101
Retail And WholesaleTrade	0	25	57	82
Services	6	130	214	351
Government	0	6	8	13
<b>Total</b>	<b>451</b>	<b>376</b>	<b>407</b>	<b>1,234</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	15	19
Mining	459	77	14	549
Construction	14	21	4	39
Manufacturing	29	149	95	273
Transportation and Utilities	13	54	53	120
Retail And WholesaleTrade	0	32	73	105
Services	5	169	275	449
Government	0	8	10	18
<b>Total</b>	<b>519</b>	<b>513</b>	<b>540</b>	<b>1,572</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	20	25
Mining	420	82	15	517
Construction	15	21	5	41
Manufacturing	50	190	115	356
Transportation and Utilities	14	69	65	147
Retail And WholesaleTrade	0	40	82	123
Services	4	196	312	512
Government	0	10	12	21
<b>Total</b>	<b>503</b>	<b>613</b>	<b>625</b>	<b>1,741</b>

**Kentucky Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	21	25
Mining	378	75	14	466
Construction	16	21	5	41
Manufacturing	44	200	120	365
Transportation and Utilities	14	71	68	152
Retail And WholesaleTrade	0	39	79	118
Services	4	191	304	499
Government	0	10	12	21
<b>Total</b>	<b>457</b>	<b>609</b>	<b>622</b>	<b>1,689</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	23	28
Mining	353	75	14	442
Construction	16	21	5	42
Manufacturing	53	229	132	414
Transportation and Utilities	14	79	74	167
Retail And WholesaleTrade	0	42	82	124
Services	5	197	316	518
Government	0	11	13	23
<b>Total</b>	<b>441</b>	<b>659</b>	<b>659</b>	<b>1,759</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	7	29	36
Mining	405	90	17	511
Construction	18	26	6	50
Manufacturing	80	296	166	543
Transportation and Utilities	16	101	94	211
Retail And WholesaleTrade	0	55	101	156
Services	5	243	389	637
Government	0	14	16	29
<b>Total</b>	<b>525</b>	<b>831</b>	<b>818</b>	<b>2,174</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Louisiana Value Added Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	9	22	31
Mining	4,235	213	33	4,481
Construction	811	145	23	979
Manufacturing	344	274	99	717
Transportation and Utilities	187	315	284	785
Retail And WholesaleTrade	0	232	514	746
Services	87	1,291	1,851	3,229
Government	0	17	34	51
<b>Total</b>	<b>5,664</b>	<b>2,497</b>	<b>2,859</b>	<b>11,020</b>
<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	12	36	47
Mining	9,366	390	52	9,808
Construction	835	328	38	1,202
Manufacturing	566	419	163	1,148
Transportation and Utilities	201	529	477	1,207
Retail And WholesaleTrade	0	356	868	1,224
Services	71	2,089	3,125	5,286
Government	0	27	56	83
<b>Total</b>	<b>11,039</b>	<b>4,151</b>	<b>4,815</b>	<b>20,005</b>
<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	12	42	54
Mining	12,841	495	62	13,399
Construction	530	443	45	1,019
Manufacturing	439	449	194	1,082
Transportation and Utilities	228	627	566	1,421
Retail And WholesaleTrade	0	382	1,037	1,419
Services	73	2,456	3,727	6,255
Government	0	33	67	100
<b>Total</b>	<b>14,111</b>	<b>4,897</b>	<b>5,741</b>	<b>24,749</b>

**Louisiana Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	12	48	60
Mining	15,456	568	68	16,093
Construction	520	536	52	1,108
Manufacturing	394	470	215	1,079
Transportation and Utilities	234	705	647	1,585
Retail And WholesaleTrade	0	418	1,195	1,613
Services	74	2,812	4,299	7,185
Government	0	37	77	114
<b>Total</b>	<b>16,678</b>	<b>5,559</b>	<b>6,599</b>	<b>28,837</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	13	50	62
Mining	16,252	599	72	16,922
Construction	438	564	54	1,056
Manufacturing	424	495	227	1,146
Transportation and Utilities	239	735	672	1,646
Retail And WholesaleTrade	0	433	1,244	1,677
Services	76	2,916	4,480	7,472
Government	0	39	80	119
<b>Total</b>	<b>17,429</b>	<b>5,792</b>	<b>6,878</b>	<b>30,100</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	15	62	77
Mining	20,716	758	91	21,565
Construction	447	716	67	1,230
Manufacturing	409	601	284	1,295
Transportation and Utilities	310	911	838	2,059
Retail And WholesaleTrade	0	525	1,549	2,074
Services	99	3,634	5,578	9,311
Government	0	48	100	148
<b>Total</b>	<b>21,981</b>	<b>7,208</b>	<b>8,569</b>	<b>37,759</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Maine Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	3	5
Mining	0	0	0	0
Construction	0	2	1	3
Manufacturing	0	15	13	28
Transportation and Utilities	0	5	6	11
Retail And WholesaleTrade	0	3	10	13
Services	0	23	38	61
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>52</b>	<b>72</b>	<b>124</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	5	7
Mining	0	0	0	0
Construction	0	3	1	4
Manufacturing	0	21	18	39
Transportation and Utilities	0	7	8	15
Retail And WholesaleTrade	0	5	14	19
Services	0	33	55	88
Government	0	2	2	3
<b>Total</b>	<b>0</b>	<b>74</b>	<b>103</b>	<b>177</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	6	9
Mining	0	1	0	1
Construction	0	4	1	5
Manufacturing	0	26	22	48
Transportation and Utilities	0	8	9	17
Retail And WholesaleTrade	0	6	17	23
Services	0	40	66	106
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>90</b>	<b>123</b>	<b>213</b>

**Maine Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	5	9
Mining	0	1	0	1
Construction	0	4	1	6
Manufacturing	0	26	23	49
Transportation and Utilities	0	8	8	16
Retail And WholesaleTrade	0	6	17	23
Services	0	40	67	107
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>90</b>	<b>124</b>	<b>214</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	6	9
Mining	0	1	0	1
Construction	0	5	1	6
Manufacturing	0	28	25	53
Transportation and Utilities	0	8	8	17
Retail And WholesaleTrade	0	6	18	24
Services	0	43	71	114
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>96</b>	<b>132</b>	<b>228</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	7	12
Mining	0	1	0	2
Construction	0	6	2	8
Manufacturing	0	35	31	65
Transportation and Utilities	0	10	10	20
Retail And WholesaleTrade	0	7	22	29
Services	0	53	89	141
Government	0	2	3	5
<b>Total</b>	<b>0</b>	<b>119</b>	<b>163</b>	<b>282</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Maryland Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	3
Mining	0	3	0	3
Construction	0	15	5	20
Manufacturing	0	41	28	69
Transportation and Utilities	0	26	30	55
Retail And WholesaleTrade	0	14	36	49
Services	0	151	192	343
Government	0	5	7	12
<b>Total</b>	<b>0</b>	<b>255</b>	<b>300</b>	<b>555</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	4	5
Mining	0	4	1	5
Construction	0	21	8	28
Manufacturing	0	61	40	101
Transportation and Utilities	0	38	42	79
Retail And WholesaleTrade	0	20	51	70
Services	0	227	280	506
Government	0	8	10	18
<b>Total</b>	<b>0</b>	<b>379</b>	<b>434</b>	<b>814</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	5	7
Mining	0	6	1	7
Construction	0	26	9	35
Manufacturing	0	74	48	122
Transportation and Utilities	0	46	50	96
Retail And WholesaleTrade	0	24	61	85
Services	0	277	341	618
Government	0	10	12	22
<b>Total</b>	<b>0</b>	<b>464</b>	<b>527</b>	<b>992</b>

**Maryland Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	6	7
Mining	0	6	1	7
Construction	0	28	10	38
Manufacturing	0	68	47	115
Transportation and Utilities	0	46	50	96
Retail And WholesaleTrade	0	24	62	86
Services	0	267	338	606
Government	0	10	13	23
<b>Total</b>	<b>0</b>	<b>451</b>	<b>526</b>	<b>977</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	6	8
Mining	0	7	1	8
Construction	0	31	10	41
Manufacturing	0	68	48	116
Transportation and Utilities	0	51	53	104
Retail And WholesaleTrade	0	25	67	92
Services	0	277	359	636
Government	0	11	14	24
<b>Total</b>	<b>0</b>	<b>471</b>	<b>558</b>	<b>1,030</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	8	10
Mining	0	10	1	11
Construction	0	40	13	53
Manufacturing	0	81	59	140
Transportation and Utilities	0	66	68	134
Retail And WholesaleTrade	0	32	84	116
Services	0	339	447	786
Government	0	14	17	31
<b>Total</b>	<b>0</b>	<b>583</b>	<b>699</b>	<b>1,281</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



## Massachusetts Value Added Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	2	2
Mining	0	1	0	1
Construction	0	5	2	7
Manufacturing	13	45	31	88
Transportation and Utilities	0	13	14	27
Retail And WholesaleTrade	0	11	24	35
Services	0	112	144	256
Government	0	2	3	5
<b>Total</b>	<b>13</b>	<b>190</b>	<b>220</b>	<b>423</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	2	3
Mining	0	1	0	1
Construction	0	8	3	11
Manufacturing	18	65	45	129
Transportation and Utilities	0	18	20	38
Retail And WholesaleTrade	0	16	35	51
Services	0	166	206	372
Government	0	3	4	8
<b>Total</b>	<b>18</b>	<b>279</b>	<b>316</b>	<b>613</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	4
Mining	0	1	0	1
Construction	0	9	4	13
Manufacturing	32	81	56	169
Transportation and Utilities	0	22	24	46
Retail And WholesaleTrade	0	21	42	63
Services	0	203	249	452
Government	0	4	5	10
<b>Total</b>	<b>32</b>	<b>343</b>	<b>383</b>	<b>758</b>

## Massachusetts Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	1	3	4
Mining	0	1	0	1
Construction	0	9	4	13
Manufacturing	29	74	55	159
Transportation and Utilities	0	21	23	44
Retail And Wholesale Trade	0	20	41	61
Services	0	203	245	448
Government	0	4	5	10
<b>Total</b>	<b>29</b>	<b>334</b>	<b>377</b>	<b>740</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	1	3	4
Mining	0	1	0	2
Construction	0	10	4	14
Manufacturing	36	76	57	169
Transportation and Utilities	0	22	24	46
Retail And Wholesale Trade	0	21	43	65
Services	0	214	260	474
Government	0	4	6	10
<b>Total</b>	<b>36</b>	<b>350</b>	<b>397</b>	<b>783</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	1	4	5
Mining	0	2	0	2
Construction	0	12	5	17
Manufacturing	56	91	71	217
Transportation and Utilities	0	27	29	55
Retail And Wholesale Trade	0	27	54	81
Services	0	267	323	590
Government	0	5	7	13
<b>Total</b>	<b>56</b>	<b>433</b>	<b>492</b>	<b>981</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Michigan Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	15	18
Mining	364	34	4	401
Construction	0	27	8	36
Manufacturing	495	246	134	875
Transportation and Utilities	0	141	109	250
Retail And WholesaleTrade	0	58	166	225
Services	0	430	708	1,138
Government	0	9	14	23
<b>Total</b>	<b>859</b>	<b>949</b>	<b>1,159</b>	<b>2,966</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	21	26
Mining	266	45	5	317
Construction	0	31	11	43
Manufacturing	711	387	195	1,293
Transportation and Utilities	0	187	145	331
Retail And WholesaleTrade	0	79	214	293
Services	0	555	905	1,460
Government	0	12	19	31
<b>Total</b>	<b>977</b>	<b>1,302</b>	<b>1,514</b>	<b>3,794</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	7	25	31
Mining	170	56	6	231
Construction	0	32	14	46
Manufacturing	946	490	233	1,669
Transportation and Utilities	0	236	176	412
Retail And WholesaleTrade	0	98	257	356
Services	0	659	1,084	1,743
Government	0	15	23	39
<b>Total</b>	<b>1,116</b>	<b>1,593</b>	<b>1,818</b>	<b>4,527</b>

## Michigan Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	6	24	30
Mining	108	54	6	167
Construction	0	31	13	44
Manufacturing	888	506	236	1,629
Transportation and Utilities	0	223	169	392
Retail And Wholesale Trade	0	94	245	338
Services	0	639	1,027	1,666
Government	0	15	22	37
<b>Total</b>	<b>996</b>	<b>1,568</b>	<b>1,742</b>	<b>4,306</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	7	25	32
Mining	77	57	6	140
Construction	0	32	14	46
Manufacturing	1,002	562	253	1,817
Transportation and Utilities	0	249	184	433
Retail And Wholesale Trade	0	103	266	370
Services	0	691	1,109	1,800
Government	0	16	24	40
<b>Total</b>	<b>1,079</b>	<b>1,717</b>	<b>1,883</b>	<b>4,679</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	9	32	41
Mining	88	72	8	168
Construction	0	40	18	58
Manufacturing	1,353	708	318	2,378
Transportation and Utilities	0	335	241	576
Retail And Wholesale Trade	0	135	347	482
Services	0	903	1,438	2,342
Government	0	21	31	51
<b>Total</b>	<b>1,441</b>	<b>2,222</b>	<b>2,433</b>	<b>6,096</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Minnesota Value Added Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	12	15
Mining	45	21	1	67
Construction	0	8	3	11
Manufacturing	0	108	70	178
Transportation and Utilities	0	34	33	68
Retail And WholesaleTrade	0	20	47	67
Services	0	157	222	379
Government	0	5	6	11
<b>Total</b>	<b>45</b>	<b>355</b>	<b>396</b>	<b>796</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	18	23
Mining	112	30	1	144
Construction	0	11	5	16
Manufacturing	0	160	111	271
Transportation and Utilities	0	57	51	108
Retail And WholesaleTrade	0	32	76	107
Services	0	239	348	587
Government	0	7	9	17
<b>Total</b>	<b>112</b>	<b>541</b>	<b>619</b>	<b>1,272</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	22	27
Mining	119	36	2	156
Construction	0	13	6	19
Manufacturing	0	197	135	332
Transportation and Utilities	0	68	60	128
Retail And WholesaleTrade	0	38	89	127
Services	0	286	412	697
Government	0	9	11	20
<b>Total</b>	<b>119</b>	<b>653</b>	<b>736</b>	<b>1,507</b>

## Minnesota Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	6	23	29
Mining	101	33	2	136
Construction	0	14	6	19
Manufacturing	0	189	136	325
Transportation and Utilities	0	69	61	130
Retail And WholesaleTrade	0	38	87	125
Services	0	286	409	695
Government	0	9	11	20
<b>Total</b>	<b>101</b>	<b>644</b>	<b>734</b>	<b>1,480</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	6	24	31
Mining	95	34	2	130
Construction	0	15	6	21
Manufacturing	0	202	145	347
Transportation and Utilities	0	75	65	140
Retail And WholesaleTrade	0	41	92	133
Services	0	303	433	737
Government	0	9	12	21
<b>Total</b>	<b>95</b>	<b>686</b>	<b>780</b>	<b>1,561</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	8	31	39
Mining	107	41	2	151
Construction	0	19	7	27
Manufacturing	0	252	183	435
Transportation and Utilities	0	94	82	176
Retail And WholesaleTrade	0	52	115	168
Services	0	376	539	915
Government	0	12	15	27
<b>Total</b>	<b>107</b>	<b>856</b>	<b>974</b>	<b>1,937</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Mississippi Value Added Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	7	10
Mining	0	10	2	12
Construction	4	4	1	9
Manufacturing	0	42	31	73
Transportation and Utilities	0	19	22	41
Retail And WholesaleTrade	0	6	16	22
Services	0	36	55	91
Government	0	3	3	6
<b>Total</b>	<b>4</b>	<b>122</b>	<b>138</b>	<b>264</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	11	16
Mining	0	16	3	19
Construction	119	6	2	128
Manufacturing	0	68	48	115
Transportation and Utilities	0	40	43	83
Retail And WholesaleTrade	0	21	41	63
Services	0	97	143	240
Government	0	4	6	11
<b>Total</b>	<b>119</b>	<b>258</b>	<b>298</b>	<b>675</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	13	18
Mining	0	17	4	21
Construction	57	7	2	66
Manufacturing	0	77	58	135
Transportation and Utilities	0	42	46	88
Retail And WholesaleTrade	0	16	36	52
Services	0	84	127	212
Government	0	5	7	12
<b>Total</b>	<b>57</b>	<b>254</b>	<b>293</b>	<b>604</b>

**Mississippi Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	13	18
Mining	0	17	3	20
Construction	33	7	2	43
Manufacturing	0	74	58	132
Transportation and Utilities	0	41	45	86
Retail And WholesaleTrade	0	13	33	46
Services	0	77	118	195
Government	0	5	6	11
<b>Total</b>	<b>33</b>	<b>239</b>	<b>280</b>	<b>551</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	14	20
Mining	0	17	3	20
Construction	30	8	2	40
Manufacturing	0	76	60	136
Transportation and Utilities	0	43	48	92
Retail And WholesaleTrade	0	14	34	48
Services	0	82	125	207
Government	0	5	7	12
<b>Total</b>	<b>30</b>	<b>250</b>	<b>295</b>	<b>575</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	7	19	25
Mining	0	20	4	24
Construction	26	10	3	39
Manufacturing	0	88	71	159
Transportation and Utilities	0	54	59	113
Retail And WholesaleTrade	0	15	41	56
Services	0	100	154	254
Government	0	7	8	15
<b>Total</b>	<b>26</b>	<b>299</b>	<b>359</b>	<b>685</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



## Missouri Value Added Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	7	9
Mining	42	5	1	48
Construction	0	7	3	10
Manufacturing	271	54	40	365
Transportation and Utilities	0	52	36	88
Retail And WholesaleTrade	0	26	66	92
Services	0	165	266	431
Government	0	6	8	14
<b>Total</b>	<b>314</b>	<b>316</b>	<b>427</b>	<b>1,057</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	11	13
Mining	67	7	1	75
Construction	0	10	5	14
Manufacturing	394	81	59	534
Transportation and Utilities	0	75	52	127
Retail And WholesaleTrade	0	38	94	132
Services	0	236	377	613
Government	0	9	11	20
<b>Total</b>	<b>461</b>	<b>458</b>	<b>609</b>	<b>1,529</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	14	16
Mining	86	8	1	95
Construction	0	12	6	18
Manufacturing	501	100	71	672
Transportation and Utilities	0	94	64	158
Retail And WholesaleTrade	0	48	117	165
Services	0	293	466	759
Government	0	12	14	25
<b>Total</b>	<b>587</b>	<b>568</b>	<b>753</b>	<b>1,908</b>

**Missouri Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	14	16
Mining	80	8	1	89
Construction	0	13	6	18
Manufacturing	514	102	73	689
Transportation and Utilities	0	93	65	158
Retail And WholesaleTrade	0	48	118	166
Services	0	298	469	767
Government	0	12	14	26
<b>Total</b>	<b>594</b>	<b>576</b>	<b>759</b>	<b>1,929</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	15	17
Mining	86	8	1	96
Construction	0	13	6	20
Manufacturing	571	115	79	764
Transportation and Utilities	0	102	70	172
Retail And WholesaleTrade	0	52	129	181
Services	0	324	509	833
Government	0	13	15	28
<b>Total</b>	<b>657</b>	<b>629</b>	<b>825</b>	<b>2,111</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	18	22
Mining	110	10	1	122
Construction	0	17	8	25
Manufacturing	703	145	98	947
Transportation and Utilities	0	125	87	213
Retail And WholesaleTrade	0	64	159	224
Services	0	401	629	1,029
Government	0	16	19	35
<b>Total</b>	<b>814</b>	<b>782</b>	<b>1,020</b>	<b>2,616</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Montana Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	4	5
Mining	35	15	2	52
Construction	0	3	1	4
Manufacturing	0	6	5	11
Transportation and Utilities	0	10	10	19
Retail And WholesaleTrade	0	3	9	12
Services	0	21	35	56
Government	0	1	1	2
<b>Total</b>	<b>35</b>	<b>60</b>	<b>67</b>	<b>162</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	6	8
Mining	32	26	4	62
Construction	0	3	1	4
Manufacturing	0	9	7	17
Transportation and Utilities	0	14	14	28
Retail And WholesaleTrade	0	4	12	16
Services	0	28	48	76
Government	0	1	2	3
<b>Total</b>	<b>32</b>	<b>89</b>	<b>94</b>	<b>214</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	8	10
Mining	28	32	5	65
Construction	0	3	1	5
Manufacturing	0	11	9	20
Transportation and Utilities	0	17	16	33
Retail And WholesaleTrade	0	5	14	19
Services	0	34	57	90
Government	0	2	2	4
<b>Total</b>	<b>28</b>	<b>106</b>	<b>112</b>	<b>246</b>

## Montana Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	2	9	11
Mining	25	32	5	63
Construction	0	3	1	5
Manufacturing	0	11	9	20
Transportation and Utilities	0	16	16	32
Retail And WholesaleTrade	0	5	14	19
Services	0	35	58	92
Government	0	2	2	4
<b>Total</b>	<b>26</b>	<b>107</b>	<b>114</b>	<b>246</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	2	10	12
Mining	22	35	6	63
Construction	0	3	1	5
Manufacturing	0	12	10	22
Transportation and Utilities	0	16	16	33
Retail And WholesaleTrade	0	5	15	20
Services	0	37	61	98
Government	0	2	3	5
<b>Total</b>	<b>22</b>	<b>113</b>	<b>121</b>	<b>257</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	3	13	16
Mining	23	46	7	77
Construction	0	4	1	6
Manufacturing	0	15	12	27
Transportation and Utilities	0	20	20	40
Retail And WholesaleTrade	0	6	19	25
Services	0	45	76	122
Government	0	2	3	6
<b>Total</b>	<b>24</b>	<b>143</b>	<b>151</b>	<b>318</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Nebraska Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	8	10
Mining	0	2	0	2
Construction	0	4	1	6
Manufacturing	8	23	20	51
Transportation and Utilities	0	31	21	52
Retail And WholesaleTrade	0	9	16	24
Services	0	48	68	116
Government	0	2	2	4
<b>Total</b>	<b>8</b>	<b>120</b>	<b>137</b>	<b>265</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	12	14
Mining	0	2	0	2
Construction	0	6	2	8
Manufacturing	21	35	31	87
Transportation and Utilities	0	52	33	84
Retail And WholesaleTrade	0	16	24	40
Services	0	79	107	186
Government	0	3	4	7
<b>Total</b>	<b>21</b>	<b>197</b>	<b>212</b>	<b>429</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	15	19
Mining	0	3	0	3
Construction	0	7	2	9
Manufacturing	25	46	38	108
Transportation and Utilities	0	64	40	105
Retail And WholesaleTrade	0	19	30	49
Services	0	104	133	238
Government	0	4	4	9
<b>Total</b>	<b>25</b>	<b>252</b>	<b>263</b>	<b>540</b>

## Nebraska Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	16	19
Mining	0	3	1	4
Construction	0	8	2	10
Manufacturing	27	49	39	116
Transportation and Utilities	0	64	40	104
Retail And Wholesale Trade	0	20	31	51
Services	0	114	139	252
Government	0	5	5	9
<b>Total</b>	<b>27</b>	<b>266</b>	<b>272</b>	<b>565</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	17	21
Mining	0	3	1	4
Construction	0	9	3	11
Manufacturing	30	58	43	131
Transportation and Utilities	0	68	43	111
Retail And Wholesale Trade	0	22	33	55
Services	0	128	152	279
Government	0	5	5	10
<b>Total</b>	<b>30</b>	<b>297</b>	<b>295</b>	<b>622</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	21	26
Mining	0	4	1	4
Construction	0	11	3	14
Manufacturing	37	77	55	169
Transportation and Utilities	0	85	53	138
Retail And Wholesale Trade	0	28	41	69
Services	0	166	191	357
Government	0	6	6	12
<b>Total</b>	<b>37</b>	<b>382</b>	<b>372</b>	<b>791</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Nevada Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	10	1	11
Construction	40	2	1	43
Manufacturing	1	7	4	11
Transportation and Utilities	0	6	8	14
Retail And WholesaleTrade	0	5	11	16
Services	0	34	48	83
Government	0	1	1	2
<b>Total</b>	<b>41</b>	<b>65</b>	<b>74</b>	<b>180</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	14	1	15
Construction	0	2	1	2
Manufacturing	2	7	5	13
Transportation and Utilities	0	7	7	14
Retail And WholesaleTrade	0	3	7	10
Services	0	32	39	71
Government	0	1	1	2
<b>Total</b>	<b>2</b>	<b>65</b>	<b>61</b>	<b>128</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	18	2	19
Construction	6	2	1	9
Manufacturing	2	8	6	16
Transportation and Utilities	0	9	9	18
Retail And WholesaleTrade	0	4	10	14
Services	0	43	53	96
Government	0	1	1	2
<b>Total</b>	<b>9</b>	<b>85</b>	<b>83</b>	<b>177</b>

**Nevada Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	18	2	19
Construction	0	2	1	3
Manufacturing	2	7	6	15
Transportation and Utilities	0	9	10	19
Retail And WholesaleTrade	0	3	9	13
Services	0	43	52	94
Government	0	1	1	2
<b>Total</b>	<b>2</b>	<b>83</b>	<b>81</b>	<b>167</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	19	2	21
Construction	0	2	1	3
Manufacturing	2	8	6	16
Transportation and Utilities	0	11	11	22
Retail And WholesaleTrade	0	4	11	14
Services	0	47	58	105
Government	0	1	2	3
<b>Total</b>	<b>2</b>	<b>92</b>	<b>91</b>	<b>185</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	24	2	27
Construction	0	2	1	3
Manufacturing	3	9	8	20
Transportation and Utilities	0	14	15	29
Retail And WholesaleTrade	0	5	14	19
Services	0	61	75	136
Government	0	2	2	3
<b>Total</b>	<b>3</b>	<b>117</b>	<b>117</b>	<b>237</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**New Hampshire Value Added Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	1
Mining	0	0	0	0
Construction	0	1	0	1
Manufacturing	0	10	4	15
Transportation and Utilities	0	2	2	3
Retail And WholesaleTrade	0	2	4	6
Services	0	10	15	25
Government	0	0	0	1
<b>Total</b>	<b>0</b>	<b>25</b>	<b>27</b>	<b>52</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	0
Construction	0	1	0	1
Manufacturing	0	14	6	20
Transportation and Utilities	0	2	2	5
Retail And WholesaleTrade	0	3	6	9
Services	0	15	23	38
Government	0	1	1	1
<b>Total</b>	<b>0</b>	<b>36</b>	<b>39</b>	<b>75</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	0
Construction	0	1	0	2
Manufacturing	0	16	7	23
Transportation and Utilities	0	3	3	6
Retail And WholesaleTrade	0	4	8	12
Services	0	19	29	48
Government	0	1	1	1
<b>Total</b>	<b>0</b>	<b>45</b>	<b>49</b>	<b>94</b>

**New Hampshire Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	0
Construction	0	1	0	2
Manufacturing	0	16	7	23
Transportation and Utilities	0	3	3	6
Retail And WholesaleTrade	0	4	8	12
Services	0	19	29	48
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>44</b>	<b>49</b>	<b>93</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	0
Construction	0	1	0	2
Manufacturing	0	16	8	24
Transportation and Utilities	0	3	3	6
Retail And WholesaleTrade	0	4	9	13
Services	0	21	32	53
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>47</b>	<b>53</b>	<b>100</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	1	0	1
Construction	0	2	1	2
Manufacturing	0	20	9	29
Transportation and Utilities	0	4	4	8
Retail And WholesaleTrade	0	6	11	17
Services	0	27	41	68
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>60</b>	<b>68</b>	<b>128</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**New Jersey Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	2	2
Mining	0	1	0	1
Construction	10	6	2	19
Manufacturing	71	48	46	165
Transportation and Utilities	0	25	26	51
Retail And WholesaleTrade	0	23	39	62
Services	0	146	185	331
Government	0	4	5	8
<b>Total</b>	<b>81</b>	<b>253</b>	<b>306</b>	<b>640</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	3
Mining	0	1	0	1
Construction	0	9	3	12
Manufacturing	73	61	62	197
Transportation and Utilities	0	35	37	72
Retail And WholesaleTrade	0	30	53	84
Services	0	207	252	459
Government	0	5	6	11
<b>Total</b>	<b>73</b>	<b>349</b>	<b>418</b>	<b>841</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	4
Mining	0	2	0	2
Construction	0	11	4	15
Manufacturing	106	72	75	253
Transportation and Utilities	0	43	46	89
Retail And WholesaleTrade	0	38	66	104
Services	0	254	305	559
Government	0	6	8	14
<b>Total</b>	<b>106</b>	<b>426</b>	<b>508</b>	<b>1,040</b>

**New Jersey Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**

(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	4
Mining	0	2	0	2
Construction	0	12	4	16
Manufacturing	94	63	75	233
Transportation and Utilities	0	43	47	90
Retail And WholesaleTrade	0	36	66	101
Services	0	257	303	560
Government	0	6	8	14
<b>Total</b>	<b>94</b>	<b>419</b>	<b>505</b>	<b>1,019</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	4	5
Mining	0	2	0	2
Construction	0	11	4	15
Manufacturing	111	64	79	253
Transportation and Utilities	0	47	51	98
Retail And WholesaleTrade	0	38	71	109
Services	0	275	322	597
Government	0	7	9	15
<b>Total</b>	<b>111</b>	<b>445</b>	<b>539</b>	<b>1,095</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	5	6
Mining	0	2	0	2
Construction	0	13	5	18
Manufacturing	167	76	98	341
Transportation and Utilities	0	61	65	125
Retail And WholesaleTrade	0	50	91	142
Services	0	348	406	754
Government	0	8	11	19
<b>Total</b>	<b>167</b>	<b>559</b>	<b>680</b>	<b>1,406</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**New Mexico Value Added Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	6	7
Mining	1,990	49	8	2,047
Construction	26	64	6	96
Manufacturing	68	17	14	99
Transportation and Utilities	4	78	63	146
Retail And WholesaleTrade	0	44	134	178
Services	3	268	489	760
Government	0	10	15	24
<b>Total</b>	<b>2,091</b>	<b>529</b>	<b>736</b>	<b>3,356</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	7	7
Mining	1,784	70	13	1,867
Construction	6	58	6	70
Manufacturing	102	22	17	141
Transportation and Utilities	5	83	62	149
Retail And WholesaleTrade	0	47	126	173
Services	2	265	462	729
Government	0	10	14	25
<b>Total</b>	<b>1,898</b>	<b>556</b>	<b>706</b>	<b>3,160</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	7	8
Mining	1,329	80	15	1,424
Construction	5	46	6	57
Manufacturing	115	25	18	159
Transportation and Utilities	5	77	54	136
Retail And WholesaleTrade	0	44	107	151
Services	1	242	398	641
Government	0	10	13	24
<b>Total</b>	<b>1,456</b>	<b>525</b>	<b>617</b>	<b>2,599</b>

## New Mexico Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	1	7	8
Mining	1,109	82	16	1,206
Construction	21	40	5	66
Manufacturing	127	24	18	168
Transportation and Utilities	5	74	50	129
Retail And WholesaleTrade	0	45	99	144
Services	2	235	371	608
Government	0	10	13	23
<b>Total</b>	<b>1,263</b>	<b>510</b>	<b>579</b>	<b>2,352</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	1	7	8
Mining	1,001	88	17	1,106
Construction	6	37	5	48
Manufacturing	132	24	19	174
Transportation and Utilities	5	73	47	126
Retail And WholesaleTrade	0	44	94	138
Services	2	228	354	584
Government	0	10	12	23
<b>Total</b>	<b>1,146</b>	<b>505</b>	<b>556</b>	<b>2,206</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	1	8	10
Mining	1,153	114	23	1,290
Construction	7	43	7	56
Manufacturing	155	28	23	206
Transportation and Utilities	6	86	56	148
Retail And WholesaleTrade	0	51	110	161
Services	2	270	418	690
Government	0	12	15	27
<b>Total</b>	<b>1,323</b>	<b>606</b>	<b>660</b>	<b>2,589</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## New York Value Added Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	8	10
Mining	27	10	1	39
Construction	3	30	11	45
Manufacturing	31	164	118	314
Transportation and Utilities	0	79	89	167
Retail And WholesaleTrade	0	57	127	184
Services	0	635	884	1,519
Government	0	16	21	37
<b>Total</b>	<b>61</b>	<b>994</b>	<b>1,260</b>	<b>2,316</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	12	15
Mining	17	14	2	34
Construction	0	35	15	50
Manufacturing	33	235	169	436
Transportation and Utilities	0	111	124	236
Retail And WholesaleTrade	0	82	181	263
Services	0	954	1,284	2,238
Government	0	23	30	53
<b>Total</b>	<b>50</b>	<b>1,458</b>	<b>1,816</b>	<b>3,325</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	15	19
Mining	10	18	3	31
Construction	2	38	17	56
Manufacturing	49	282	199	531
Transportation and Utilities	0	127	140	267
Retail And WholesaleTrade	0	101	221	322
Services	0	1,145	1,530	2,675
Government	0	29	36	65
<b>Total</b>	<b>60</b>	<b>1,744</b>	<b>2,162</b>	<b>3,967</b>

## New York Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	4	15	19
Mining	6	18	3	27
Construction	0	37	17	54
Manufacturing	45	262	195	502
Transportation and Utilities	0	117	131	248
Retail And Wholesale Trade	0	99	220	319
Services	0	1,144	1,518	2,661
Government	0	29	36	65
<b>Total</b>	<b>51</b>	<b>1,709</b>	<b>2,135</b>	<b>3,895</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	5	17	22
Mining	4	19	3	27
Construction	0	35	17	52
Manufacturing	53	270	204	528
Transportation and Utilities	0	119	133	252
Retail And Wholesale Trade	0	107	234	341
Services	0	1,196	1,583	2,779
Government	0	31	39	69
<b>Total</b>	<b>57</b>	<b>1,782</b>	<b>2,229</b>	<b>4,069</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	6	21	27
Mining	5	24	4	33
Construction	0	41	20	61
Manufacturing	80	327	252	660
Transportation and Utilities	0	141	158	299
Retail And Wholesale Trade	0	136	294	430
Services	0	1,469	1,936	3,405
Government	0	38	47	85
<b>Total</b>	<b>85</b>	<b>2,182</b>	<b>2,732</b>	<b>5,000</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**North Carolina Value Added Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	9	13
Mining	0	5	1	6
Construction	5	17	5	27
Manufacturing	0	135	120	255
Transportation and Utilities	0	33	37	71
Retail And WholesaleTrade	0	26	61	87
Services	0	187	247	434
Government	0	7	10	17
<b>Total</b>	<b>5</b>	<b>414</b>	<b>490</b>	<b>909</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	14	18
Mining	0	7	1	8
Construction	0	24	8	31
Manufacturing	0	195	175	369
Transportation and Utilities	0	47	51	98
Retail And WholesaleTrade	0	38	89	127
Services	0	280	362	641
Government	0	11	14	25
<b>Total</b>	<b>0</b>	<b>605</b>	<b>712</b>	<b>1,318</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	16	22
Mining	0	8	1	9
Construction	9	30	10	48
Manufacturing	0	240	210	450
Transportation and Utilities	0	56	62	118
Retail And WholesaleTrade	0	48	110	158
Services	0	349	459	808
Government	0	14	17	31
<b>Total</b>	<b>9</b>	<b>752</b>	<b>885</b>	<b>1,645</b>

## North Carolina Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	5	16	21
Mining	0	8	1	9
Construction	0	32	10	43
Manufacturing	0	226	206	432
Transportation and Utilities	0	53	60	113
Retail And WholesaleTrade	0	47	109	157
Services	0	357	470	827
Government	0	14	18	32
<b>Total</b>	<b>0</b>	<b>744</b>	<b>890</b>	<b>1,634</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	5	17	23
Mining	0	9	1	10
Construction	0	36	12	47
Manufacturing	0	232	213	445
Transportation and Utilities	0	56	63	118
Retail And WholesaleTrade	0	51	118	170
Services	0	388	518	906
Government	0	16	20	35
<b>Total</b>	<b>0</b>	<b>793</b>	<b>962</b>	<b>1,754</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	7	23	31
Mining	0	11	2	13
Construction	0	46	15	62
Manufacturing	0	273	258	531
Transportation and Utilities	0	68	77	145
Retail And WholesaleTrade	0	63	147	210
Services	0	489	660	1,149
Government	0	20	25	45
<b>Total</b>	<b>0</b>	<b>978</b>	<b>1,206</b>	<b>2,185</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**North Dakota Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	5	6
Mining	0	22	5	26
Construction	0	2	1	2
Manufacturing	0	6	4	11
Transportation and Utilities	0	7	6	13
Retail And WholesaleTrade	0	3	7	10
Services	0	14	21	35
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>55</b>	<b>50</b>	<b>105</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	7	8
Mining	0	56	12	68
Construction	0	3	1	4
Manufacturing	0	10	7	17
Transportation and Utilities	0	11	10	21
Retail And WholesaleTrade	0	5	10	15
Services	0	21	32	53
Government	0	1	2	3
<b>Total</b>	<b>0</b>	<b>110</b>	<b>81</b>	<b>190</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	8	11
Mining	0	75	17	91
Construction	0	3	1	4
Manufacturing	0	14	9	23
Transportation and Utilities	0	14	12	26
Retail And WholesaleTrade	0	6	12	18
Services	0	28	41	69
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>143</b>	<b>102</b>	<b>245</b>

**North Dakota Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	9	11
Mining	0	84	18	103
Construction	0	3	1	5
Manufacturing	0	15	10	25
Transportation and Utilities	0	14	12	26
Retail And WholesaleTrade	0	6	13	18
Services	0	30	44	74
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>156</b>	<b>109</b>	<b>265</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	10	12
Mining	0	94	21	115
Construction	0	4	1	5
Manufacturing	0	17	12	29
Transportation and Utilities	0	15	13	28
Retail And WholesaleTrade	0	6	14	20
Services	0	34	50	84
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>174</b>	<b>122</b>	<b>296</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	12	15
Mining	0	127	28	155
Construction	0	5	2	6
Manufacturing	0	21	16	37
Transportation and Utilities	0	19	16	35
Retail And WholesaleTrade	0	8	17	25
Services	0	45	66	111
Government	0	2	3	5
<b>Total</b>	<b>0</b>	<b>230</b>	<b>160</b>	<b>390</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Ohio Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	14	16
Mining	82	32	6	120
Construction	0	22	9	30
Manufacturing	457	448	177	1,081
Transportation and Utilities	0	155	118	274
Retail And WholesaleTrade	0	136	171	307
Services	0	494	694	1,188
Government	0	12	16	28
<b>Total</b>	<b>539</b>	<b>1,302</b>	<b>1,204</b>	<b>3,045</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	18	22
Mining	83	46	8	137
Construction	0	29	11	40
Manufacturing	536	623	251	1,410
Transportation and Utilities	0	210	162	373
Retail And WholesaleTrade	0	171	216	387
Services	0	644	890	1,535
Government	0	16	21	37
<b>Total</b>	<b>620</b>	<b>1,743</b>	<b>1,579</b>	<b>3,942</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	24	29
Mining	109	60	11	180
Construction	0	35	15	50
Manufacturing	827	808	315	1,950
Transportation and Utilities	0	298	215	513
Retail And WholesaleTrade	0	249	293	542
Services	0	862	1,191	2,053
Government	0	22	28	49
<b>Total</b>	<b>936</b>	<b>2,338</b>	<b>2,091</b>	<b>5,366</b>

**Ohio Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	23	28
Mining	96	59	11	166
Construction	0	36	14	50
Manufacturing	750	806	325	1,881
Transportation and Utilities	0	282	210	492
Retail And WholesaleTrade	0	230	277	507
Services	0	823	1,132	1,955
Government	0	21	27	48
<b>Total</b>	<b>846</b>	<b>2,263</b>	<b>2,019</b>	<b>5,127</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	25	30
Mining	112	64	12	187
Construction	0	39	16	54
Manufacturing	890	906	359	2,155
Transportation and Utilities	0	320	234	554
Retail And WholesaleTrade	0	264	310	574
Services	0	909	1,256	2,166
Government	0	23	30	53
<b>Total</b>	<b>1,002</b>	<b>2,530</b>	<b>2,241</b>	<b>5,774</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	7	32	39
Mining	171	84	15	270
Construction	0	51	21	72
Manufacturing	1,329	1,195	470	2,994
Transportation and Utilities	0	439	313	752
Retail And WholesaleTrade	0	372	425	797
Services	0	1,226	1,702	2,929
Government	0	31	39	70
<b>Total</b>	<b>1,500</b>	<b>3,405</b>	<b>3,017</b>	<b>7,921</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.  
 Source: IHS Global Insight

Oklahoma Value Added Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	13	15
Mining	1,364	168	34	1,566
Construction	133	30	6	169
Manufacturing	368	128	47	543
Transportation and Utilities	37	170	107	314
Retail And WholesaleTrade	0	89	169	259
Services	22	451	637	1,111
Government	0	15	17	32
<b>Total</b>	<b>1,924</b>	<b>1,053</b>	<b>1,031</b>	<b>4,008</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	18	21
Mining	2,062	242	50	2,355
Construction	122	44	9	175
Manufacturing	587	196	70	853
Transportation and Utilities	113	263	157	533
Retail And WholesaleTrade	0	142	249	391
Services	37	684	937	1,658
Government	0	22	25	47
<b>Total</b>	<b>2,922</b>	<b>1,595</b>	<b>1,517</b>	<b>6,033</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	22	26
Mining	2,372	278	59	2,708
Construction	136	49	11	195
Manufacturing	744	235	83	1,062
Transportation and Utilities	132	318	186	636
Retail And WholesaleTrade	0	172	296	468
Services	39	812	1,112	1,962
Government	0	27	31	58
<b>Total</b>	<b>3,422</b>	<b>1,894</b>	<b>1,800</b>	<b>7,116</b>

**Oklahoma Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	23	27
Mining	2,538	285	58	2,881
Construction	151	52	11	215
Manufacturing	738	234	85	1,057
Transportation and Utilities	138	323	192	653
Retail And WholesaleTrade	0	173	307	480
Services	41	847	1,157	2,045
Government	0	28	32	60
<b>Total</b>	<b>3,606</b>	<b>1,944</b>	<b>1,866</b>	<b>7,416</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	25	29
Mining	2,699	305	63	3,067
Construction	168	55	12	234
Manufacturing	804	254	92	1,150
Transportation and Utilities	155	347	207	709
Retail And WholesaleTrade	0	186	331	517
Services	46	912	1,250	2,208
Government	0	30	34	65
<b>Total</b>	<b>3,872</b>	<b>2,092</b>	<b>2,014</b>	<b>7,978</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	31	36
Mining	3,375	386	80	3,842
Construction	209	68	15	292
Manufacturing	973	315	115	1,402
Transportation and Utilities	195	427	256	878
Retail And WholesaleTrade	0	228	410	638
Services	57	1,132	1,548	2,738
Government	0	37	42	80
<b>Total</b>	<b>4,809</b>	<b>2,598</b>	<b>2,498</b>	<b>9,905</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**Oregon Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	12	18
Mining	0	3	0	3
Construction	25	7	3	35
Manufacturing	24	79	39	143
Transportation and Utilities	0	23	22	45
Retail And WholesaleTrade	0	20	35	55
Services	0	100	140	240
Government	0	4	5	9
<b>Total</b>	<b>50</b>	<b>242</b>	<b>256</b>	<b>548</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	7	17	25
Mining	0	4	0	5
Construction	0	10	4	14
Manufacturing	23	115	58	196
Transportation and Utilities	0	32	28	60
Retail And WholesaleTrade	0	26	43	68
Services	0	131	178	309
Government	0	6	6	12
<b>Total</b>	<b>23</b>	<b>331</b>	<b>334</b>	<b>689</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	9	21	30
Mining	0	7	1	8
Construction	0	13	5	18
Manufacturing	27	145	71	243
Transportation and Utilities	0	39	34	73
Retail And WholesaleTrade	0	32	52	84
Services	0	165	221	385
Government	0	7	8	15
<b>Total</b>	<b>27</b>	<b>417</b>	<b>412</b>	<b>856</b>

**Oregon Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	8	21	30
Mining	0	8	1	9
Construction	0	13	5	18
Manufacturing	21	139	72	232
Transportation and Utilities	0	37	34	70
Retail And WholesaleTrade	0	29	52	81
Services	0	166	221	387
Government	0	7	8	15
<b>Total</b>	<b>21</b>	<b>408</b>	<b>413</b>	<b>842</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	9	22	31
Mining	0	10	1	11
Construction	0	14	5	19
Manufacturing	17	144	75	237
Transportation and Utilities	0	37	35	73
Retail And WholesaleTrade	0	30	55	84
Services	0	175	236	411
Government	0	7	8	16
<b>Total</b>	<b>17</b>	<b>426</b>	<b>439</b>	<b>883</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	10	28	38
Mining	0	14	2	16
Construction	0	18	6	25
Manufacturing	18	173	93	284
Transportation and Utilities	0	46	45	91
Retail And WholesaleTrade	0	36	69	105
Services	0	218	296	515
Government	0	9	10	19
<b>Total</b>	<b>18</b>	<b>525</b>	<b>550</b>	<b>1,093</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Pennsylvania Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	19	23
Mining	1,647	96	17	1,760
Construction	308	74	19	401
Manufacturing	239	437	220	896
Transportation and Utilities	185	252	224	662
Retail And WholesaleTrade	0	179	371	550
Services	64	1,101	1,614	2,779
Government	0	18	32	49
<b>Total</b>	<b>2,444</b>	<b>2,162</b>	<b>2,515</b>	<b>7,121</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	7	35	42
Mining	6,173	249	37	6,458
Construction	320	232	38	589
Manufacturing	243	676	390	1,310
Transportation and Utilities	240	505	470	1,215
Retail And WholesaleTrade	0	311	806	1,117
Services	87	2,458	3,433	5,977
Government	0	33	64	97
<b>Total</b>	<b>7,063</b>	<b>4,471</b>	<b>5,272</b>	<b>16,806</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	10	49	59
Mining	9,392	337	48	9,777
Construction	479	336	55	870
Manufacturing	410	918	529	1,857
Transportation and Utilities	375	760	694	1,828
Retail And WholesaleTrade	0	483	1,208	1,691
Services	120	3,692	5,097	8,909
Government	0	49	96	145
<b>Total</b>	<b>10,777</b>	<b>6,585</b>	<b>7,774</b>	<b>25,136</b>

**Pennsylvania Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	10	51	61
Mining	10,254	350	48	10,652
Construction	437	371	56	864
Manufacturing	375	880	538	1,792
Transportation and Utilities	334	770	715	1,819
Retail And WholesaleTrade	0	475	1,247	1,721
Services	107	3,825	5,262	9,194
Government	0	49	99	148
<b>Total</b>	<b>11,507</b>	<b>6,730</b>	<b>8,015</b>	<b>26,252</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	12	57	69
Mining	11,460	383	53	11,896
Construction	530	408	63	1,001
Manufacturing	445	970	593	2,008
Transportation and Utilities	407	874	808	2,089
Retail And WholesaleTrade	0	550	1,415	1,965
Services	131	4,328	5,948	10,407
Government	0	56	112	169
<b>Total</b>	<b>12,973</b>	<b>7,582</b>	<b>9,047</b>	<b>29,603</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	16	79	95
Mining	16,495	527	72	17,093
Construction	823	574	89	1,486
Manufacturing	653	1,294	811	2,758
Transportation and Utilities	633	1,250	1,156	3,038
Retail And WholesaleTrade	0	800	2,033	2,833
Services	204	6,201	8,490	14,896
Government	0	80	159	239
<b>Total</b>	<b>18,808</b>	<b>10,741</b>	<b>12,889</b>	<b>42,438</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Rhode Island Value Added Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	0
Construction	0	2	1	2
Manufacturing	0	17	8	25
Transportation and Utilities	0	3	3	6
Retail And WholesaleTrade	0	3	6	9
Services	0	24	37	62
Government	0	1	1	1
<b>Total</b>	<b>0</b>	<b>49</b>	<b>57</b>	<b>107</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	0
Construction	0	2	1	3
Manufacturing	0	25	12	37
Transportation and Utilities	0	5	5	9
Retail And WholesaleTrade	0	4	9	13
Services	0	35	53	88
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>72</b>	<b>82</b>	<b>153</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	2
Mining	0	0	0	0
Construction	0	2	1	3
Manufacturing	0	30	14	45
Transportation and Utilities	0	5	5	10
Retail And WholesaleTrade	0	5	11	15
Services	0	41	63	104
Government	0	1	1	3
<b>Total</b>	<b>0</b>	<b>85</b>	<b>97</b>	<b>182</b>

## Rhode Island Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	0	1	1
Mining	0	0	0	1
Construction	0	2	1	3
Manufacturing	0	28	14	42
Transportation and Utilities	0	5	5	10
Retail And WholesaleTrade	0	5	11	15
Services	0	41	63	104
Government	0	1	1	3
<b>Total</b>	<b>0</b>	<b>83</b>	<b>96</b>	<b>179</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	0	1	2
Mining	0	1	0	1
Construction	0	2	1	3
Manufacturing	0	28	14	43
Transportation and Utilities	0	5	5	10
Retail And WholesaleTrade	0	5	11	16
Services	0	43	66	110
Government	0	1	1	3
<b>Total</b>	<b>0</b>	<b>85</b>	<b>100</b>	<b>186</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	0	2	2
Mining	0	1	0	1
Construction	0	2	1	3
Manufacturing	0	33	17	51
Transportation and Utilities	0	6	6	12
Retail And WholesaleTrade	0	6	13	19
Services	0	53	81	134
Government	0	1	2	3
<b>Total</b>	<b>0</b>	<b>103</b>	<b>123</b>	<b>225</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## South Carolina Value Added Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	5	7
Mining	0	2	0	2
Construction	3	7	2	12
Manufacturing	1	99	55	154
Transportation and Utilities	0	20	21	40
Retail And WholesaleTrade	0	11	28	39
Services	0	73	108	181
Government	0	4	5	8
<b>Total</b>	<b>3</b>	<b>216</b>	<b>224</b>	<b>444</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	7	11
Mining	0	3	0	4
Construction	0	11	3	14
Manufacturing	1	148	83	231
Transportation and Utilities	0	29	30	60
Retail And WholesaleTrade	0	16	42	58
Services	0	108	158	266
Government	0	5	7	12
<b>Total</b>	<b>1</b>	<b>324</b>	<b>330</b>	<b>655</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	9	13
Mining	0	4	1	5
Construction	4	13	4	22
Manufacturing	1	183	102	285
Transportation and Utilities	0	36	37	73
Retail And WholesaleTrade	0	21	51	72
Services	0	137	200	337
Government	0	7	8	15
<b>Total</b>	<b>5</b>	<b>405</b>	<b>411</b>	<b>822</b>

**South Carolina Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	9	12
Mining	0	4	1	5
Construction	1	14	4	19
Manufacturing	1	187	107	295
Transportation and Utilities	0	36	37	73
Retail And WholesaleTrade	0	20	51	71
Services	0	141	204	345
Government	0	7	8	15
<b>Total</b>	<b>2</b>	<b>413</b>	<b>420</b>	<b>835</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	9	13
Mining	0	5	1	6
Construction	1	15	4	21
Manufacturing	1	207	118	327
Transportation and Utilities	0	38	39	78
Retail And WholesaleTrade	0	22	55	77
Services	0	155	225	380
Government	0	7	9	16
<b>Total</b>	<b>3</b>	<b>454</b>	<b>460</b>	<b>917</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	11	16
Mining	0	7	1	8
Construction	0	19	5	24
Manufacturing	2	262	151	415
Transportation and Utilities	0	47	49	96
Retail And WholesaleTrade	0	27	68	95
Services	0	197	284	481
Government	0	9	11	20
<b>Total</b>	<b>2</b>	<b>573</b>	<b>581</b>	<b>1,155</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**South Dakota Value Added Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	4	5
Mining	0	1	0	2
Construction	0	2	1	2
Manufacturing	0	11	7	18
Transportation and Utilities	0	5	5	10
Retail And WholesaleTrade	0	3	7	10
Services	0	14	26	40
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>37</b>	<b>51</b>	<b>88</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	7	8
Mining	0	2	0	2
Construction	0	2	1	3
Manufacturing	0	16	11	27
Transportation and Utilities	0	8	7	15
Retail And WholesaleTrade	0	4	10	15
Services	0	21	38	59
Government	0	1	2	3
<b>Total</b>	<b>0</b>	<b>56</b>	<b>76</b>	<b>132</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	9	11
Mining	0	2	0	3
Construction	0	2	1	3
Manufacturing	0	19	14	33
Transportation and Utilities	0	10	9	18
Retail And WholesaleTrade	0	5	13	18
Services	0	26	46	72
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>68</b>	<b>93</b>	<b>161</b>

**South Dakota Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	9	11
Mining	0	2	0	3
Construction	0	2	1	3
Manufacturing	0	18	14	32
Transportation and Utilities	0	10	9	19
Retail And WholesaleTrade	0	5	13	18
Services	0	27	47	74
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>69</b>	<b>95</b>	<b>163</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	10	12
Mining	0	2	0	3
Construction	0	2	1	3
Manufacturing	0	19	15	33
Transportation and Utilities	0	12	10	22
Retail And WholesaleTrade	0	6	14	19
Services	0	29	51	80
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>74</b>	<b>102</b>	<b>176</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	13	16
Mining	0	3	0	4
Construction	0	3	1	4
Manufacturing	0	23	18	40
Transportation and Utilities	0	15	13	28
Retail And WholesaleTrade	0	7	17	24
Services	0	36	64	100
Government	0	2	3	5
<b>Total</b>	<b>0</b>	<b>92</b>	<b>128</b>	<b>220</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Tennessee Value Added Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	8	9
Mining	0	6	1	7
Construction	0	10	3	13
Manufacturing	12	111	78	201
Transportation and Utilities	0	42	49	90
Retail And WholesaleTrade	0	21	44	65
Services	0	114	172	286
Government	0	5	6	11
<b>Total</b>	<b>12</b>	<b>310</b>	<b>361</b>	<b>683</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	11	14
Mining	0	9	2	11
Construction	0	15	5	19
Manufacturing	5	168	119	292
Transportation and Utilities	0	60	71	131
Retail And WholesaleTrade	0	29	62	90
Services	0	167	246	413
Government	0	7	9	16
<b>Total</b>	<b>5</b>	<b>458</b>	<b>523</b>	<b>986</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	14	18
Mining	0	12	2	14
Construction	0	18	6	24
Manufacturing	13	211	150	374
Transportation and Utilities	0	73	83	156
Retail And WholesaleTrade	0	37	76	113
Services	0	210	306	516
Government	0	9	11	20
<b>Total</b>	<b>13</b>	<b>573</b>	<b>648</b>	<b>1,233</b>

**Tennessee Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	15	18
Mining	0	12	2	14
Construction	0	19	6	25
Manufacturing	8	217	159	384
Transportation and Utilities	0	71	82	154
Retail And WholesaleTrade	0	36	77	113
Services	0	219	312	531
Government	0	9	11	20
<b>Total</b>	<b>8</b>	<b>586</b>	<b>664</b>	<b>1,258</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	16	20
Mining	0	12	2	14
Construction	0	20	6	27
Manufacturing	8	244	176	428
Transportation and Utilities	0	76	87	163
Retail And WholesaleTrade	0	39	83	122
Services	0	238	339	576
Government	0	10	12	21
<b>Total</b>	<b>8</b>	<b>642</b>	<b>721</b>	<b>1,372</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	21	26
Mining	0	15	3	18
Construction	0	26	8	34
Manufacturing	7	310	226	543
Transportation and Utilities	0	95	108	203
Retail And WholesaleTrade	0	48	103	151
Services	0	300	425	725
Government	0	12	15	27
<b>Total</b>	<b>7</b>	<b>810</b>	<b>909</b>	<b>1,727</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Texas Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	20	121	141
Mining	14,752	1,654	424	16,830
Construction	1,368	380	94	1,842
Manufacturing	2,788	1,742	878	5,408
Transportation and Utilities	498	2,122	1,612	4,233
Retail And WholesaleTrade	0	1,233	2,391	3,624
Services	216	6,422	9,109	15,746
Government	0	63	109	172
<b>Total</b>	<b>19,621</b>	<b>13,636</b>	<b>14,739</b>	<b>47,995</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	26	164	189
Mining	20,276	2,279	591	23,147
Construction	1,078	498	126	1,702
Manufacturing	3,983	2,390	1,189	7,563
Transportation and Utilities	823	3,007	2,162	5,991
Retail And WholesaleTrade	0	1,699	3,174	4,873
Services	303	8,674	12,092	21,070
Government	0	89	146	235
<b>Total</b>	<b>26,463</b>	<b>18,662</b>	<b>19,643</b>	<b>64,768</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	34	207	241
Mining	24,667	2,738	732	28,136
Construction	1,411	582	160	2,153
Manufacturing	5,238	3,091	1,494	9,823
Transportation and Utilities	1,147	3,856	2,744	7,747
Retail And WholesaleTrade	0	2,251	4,042	6,292
Services	377	11,054	15,380	26,811
Government	0	118	187	305
<b>Total</b>	<b>32,840</b>	<b>23,722</b>	<b>24,945</b>	<b>81,507</b>

**Texas Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	34	213	247
Mining	25,997	2,833	742	29,573
Construction	1,486	620	165	2,270
Manufacturing	5,190	3,092	1,526	9,808
Transportation and Utilities	1,144	3,930	2,814	7,888
Retail And WholesaleTrade	0	2,271	4,154	6,425
Services	377	11,479	15,838	27,694
Government	0	122	195	317
<b>Total</b>	<b>34,194</b>	<b>24,380</b>	<b>25,648</b>	<b>84,223</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	37	231	267
Mining	27,455	3,009	797	31,261
Construction	1,690	651	179	2,520
Manufacturing	5,678	3,369	1,641	10,688
Transportation and Utilities	1,291	4,259	3,044	8,594
Retail And WholesaleTrade	0	2,484	4,501	6,985
Services	425	12,409	17,162	29,997
Government	0	135	213	347
<b>Total</b>	<b>36,540</b>	<b>26,353</b>	<b>27,767</b>	<b>90,660</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	45	285	330
Mining	33,667	3,724	987	38,377
Construction	2,009	805	220	3,034
Manufacturing	6,975	4,139	2,014	13,127
Transportation and Utilities	1,565	5,220	3,727	10,513
Retail And WholesaleTrade	0	3,038	5,507	8,545
Services	516	15,222	20,996	36,733
Government	0	168	263	431
<b>Total</b>	<b>44,731</b>	<b>32,359</b>	<b>33,998</b>	<b>111,089</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Utah Value Added Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	7	8
Mining	695	30	4	729
Construction	247	26	8	281
Manufacturing	161	93	60	313
Transportation and Utilities	116	120	96	331
Retail And WholesaleTrade	0	84	172	256
Services	38	495	659	1,192
Government	0	6	9	16
<b>Total</b>	<b>1,256</b>	<b>855</b>	<b>1,015</b>	<b>3,126</b>
<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	10	11
Mining	960	43	6	1,008
Construction	173	34	10	217
Manufacturing	199	118	82	398
Transportation and Utilities	147	153	118	419
Retail And WholesaleTrade	0	100	208	308
Services	48	639	799	1,485
Government	0	8	12	20
<b>Total</b>	<b>1,527</b>	<b>1,096</b>	<b>1,243</b>	<b>3,866</b>
<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	11	13
Mining	1,122	51	7	1,180
Construction	175	38	11	224
Manufacturing	216	139	96	451
Transportation and Utilities	156	173	134	462
Retail And WholesaleTrade	0	112	234	346
Services	46	729	904	1,679
Government	0	10	14	24
<b>Total</b>	<b>1,714</b>	<b>1,254</b>	<b>1,411</b>	<b>4,379</b>

## Utah Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	2	12	14
Mining	1,207	52	7	1,266
Construction	190	40	12	242
Manufacturing	216	138	99	453
Transportation and Utilities	161	180	139	480
Retail And WholesaleTrade	0	116	245	362
Services	47	770	954	1,770
Government	0	11	15	25
<b>Total</b>	<b>1,821</b>	<b>1,309</b>	<b>1,482</b>	<b>4,613</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	2	13	15
Mining	1,256	56	7	1,320
Construction	193	42	12	248
Manufacturing	223	145	105	473
Transportation and Utilities	164	187	145	497
Retail And WholesaleTrade	0	121	256	377
Services	48	802	1,000	1,850
Government	0	11	16	27
<b>Total</b>	<b>1,885</b>	<b>1,368</b>	<b>1,553</b>	<b>4,807</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	2	14	17
Mining	1,344	68	9	1,421
Construction	209	47	14	269
Manufacturing	256	171	124	551
Transportation and Utilities	177	212	164	553
Retail And WholesaleTrade	0	136	286	422
Services	52	903	1,124	2,079
Government	0	13	18	32
<b>Total</b>	<b>2,038</b>	<b>1,552</b>	<b>1,753</b>	<b>5,343</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



## Vermont Value Added Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	2
Mining	0	1	0	1
Construction	0	1	0	2
Manufacturing	0	10	8	18
Transportation and Utilities	0	3	4	7
Retail And WholesaleTrade	0	2	5	6
Services	0	11	20	31
Government	0	1	1	1
<b>Total</b>	<b>0</b>	<b>29</b>	<b>39</b>	<b>68</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	2	3
Mining	0	1	0	1
Construction	0	2	1	2
Manufacturing	0	14	12	26
Transportation and Utilities	0	5	5	10
Retail And WholesaleTrade	0	2	7	9
Services	0	17	30	47
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>43</b>	<b>58</b>	<b>101</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	4
Mining	0	1	0	1
Construction	0	2	1	3
Manufacturing	0	17	15	32
Transportation and Utilities	0	6	6	12
Retail And WholesaleTrade	0	3	8	11
Services	0	21	36	57
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>52</b>	<b>70</b>	<b>123</b>

## Vermont Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	4
Mining	0	1	0	1
Construction	0	2	1	3
Manufacturing	0	15	14	29
Transportation and Utilities	0	6	6	12
Retail And Wholesale Trade	0	3	8	11
Services	0	22	36	58
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>50</b>	<b>70</b>	<b>121</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	4
Mining	0	1	0	1
Construction	0	2	1	3
Manufacturing	0	15	15	29
Transportation and Utilities	0	6	7	12
Retail And Wholesale Trade	0	3	9	12
Services	0	23	38	61
Government	0	1	1	3
<b>Total</b>	<b>0</b>	<b>52</b>	<b>73</b>	<b>125</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	4	5
Mining	0	1	0	1
Construction	0	3	1	4
Manufacturing	0	17	17	35
Transportation and Utilities	0	7	8	15
Retail And Wholesale Trade	0	4	11	14
Services	0	28	47	74
Government	0	1	2	3
<b>Total</b>	<b>0</b>	<b>62</b>	<b>89</b>	<b>152</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Virginia Value Added Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	7	9
Mining	122	22	3	147
Construction	9	23	7	39
Manufacturing	41	81	58	180
Transportation and Utilities	5	69	49	124
Retail And WholesaleTrade	0	27	67	94
Services	2	324	335	661
Government	0	9	11	20
<b>Total</b>	<b>179</b>	<b>556</b>	<b>538</b>	<b>1,273</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	10	14
Mining	112	29	4	144
Construction	4	29	9	41
Manufacturing	45	112	84	241
Transportation and Utilities	3	86	64	154
Retail And WholesaleTrade	0	35	88	123
Services	1	441	449	891
Government	0	12	15	27
<b>Total</b>	<b>165</b>	<b>746</b>	<b>723</b>	<b>1,634</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	13	17
Mining	95	35	5	135
Construction	4	32	11	47
Manufacturing	67	141	104	311
Transportation and Utilities	3	110	77	190
Retail And WholesaleTrade	0	42	106	148
Services	1	545	549	1,095
Government	0	15	18	34
<b>Total</b>	<b>170</b>	<b>924</b>	<b>883</b>	<b>1,977</b>

## Virginia Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	4	13	17
Mining	84	34	5	123
Construction	4	32	10	47
Manufacturing	61	138	105	304
Transportation and Utilities	4	104	75	183
Retail And WholesaleTrade	0	40	107	147
Services	1	561	558	1,120
Government	0	15	19	34
<b>Total</b>	<b>154</b>	<b>929</b>	<b>893</b>	<b>1,976</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	5	15	19
Mining	78	36	6	119
Construction	4	34	11	49
Manufacturing	74	145	111	329
Transportation and Utilities	4	116	80	200
Retail And WholesaleTrade	0	45	117	162
Services	1	621	615	1,237
Government	0	17	20	37
<b>Total</b>	<b>161</b>	<b>1,017</b>	<b>974</b>	<b>2,152</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	6	17	23
Mining	89	45	7	141
Construction	5	42	14	61
Manufacturing	114	173	133	420
Transportation and Utilities	4	159	104	267
Retail And WholesaleTrade	0	59	150	210
Services	1	820	799	1,621
Government	0	22	25	47
<b>Total</b>	<b>213</b>	<b>1,326</b>	<b>1,250</b>	<b>2,789</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Washington Value Added Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	8	11
Mining	0	2	0	2
Construction	0	6	2	9
Manufacturing	0	30	22	52
Transportation and Utilities	0	13	15	28
Retail And WholesaleTrade	0	9	22	31
Services	0	68	91	158
Government	0	3	4	6
<b>Total</b>	<b>0</b>	<b>134</b>	<b>164</b>	<b>298</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	13	17
Mining	0	2	0	2
Construction	0	10	4	13
Manufacturing	0	38	30	68
Transportation and Utilities	0	20	23	43
Retail And WholesaleTrade	0	14	32	46
Services	0	106	136	242
Government	0	4	5	10
<b>Total</b>	<b>0</b>	<b>198</b>	<b>243</b>	<b>441</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	16	21
Mining	0	3	0	3
Construction	0	11	4	15
Manufacturing	0	47	37	84
Transportation and Utilities	0	25	29	53
Retail And WholesaleTrade	0	18	39	56
Services	0	132	166	299
Government	0	5	7	12
<b>Total</b>	<b>0</b>	<b>246</b>	<b>298</b>	<b>544</b>

**Washington Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	16	22
Mining	0	4	0	4
Construction	0	11	4	16
Manufacturing	0	51	40	91
Transportation and Utilities	0	25	30	55
Retail And WholesaleTrade	0	17	39	56
Services	0	135	168	303
Government	0	5	7	12
<b>Total</b>	<b>0</b>	<b>253</b>	<b>304</b>	<b>557</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	17	23
Mining	0	4	0	5
Construction	0	12	4	16
Manufacturing	0	60	45	105
Transportation and Utilities	0	27	32	59
Retail And WholesaleTrade	0	19	41	60
Services	0	143	179	322
Government	0	6	7	13
<b>Total</b>	<b>0</b>	<b>275</b>	<b>327</b>	<b>602</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	7	22	28
Mining	0	6	1	7
Construction	0	15	5	20
Manufacturing	0	80	59	139
Transportation and Utilities	0	34	41	75
Retail And WholesaleTrade	0	23	51	74
Services	0	179	223	403
Government	0	7	9	16
<b>Total</b>	<b>0</b>	<b>350</b>	<b>411</b>	<b>761</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**West Virginia Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	4
Mining	996	87	15	1,098
Construction	96	33	4	132
Manufacturing	55	40	18	112
Transportation and Utilities	87	88	49	225
Retail And WholesaleTrade	0	35	85	120
Services	28	198	310	536
Government	0	4	7	11
<b>Total</b>	<b>1,261</b>	<b>487</b>	<b>491</b>	<b>2,239</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	4	6
Mining	2,446	150	23	2,618
Construction	117	81	7	204
Manufacturing	62	61	29	153
Transportation and Utilities	95	152	92	339
Retail And WholesaleTrade	0	62	165	227
Services	31	366	599	996
Government	0	7	14	20
<b>Total</b>	<b>2,751</b>	<b>880</b>	<b>932</b>	<b>4,563</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	5	7
Mining	3,394	197	29	3,620
Construction	165	108	10	283
Manufacturing	92	79	37	208
Transportation and Utilities	141	212	125	478
Retail And WholesaleTrade	0	89	229	318
Services	41	519	832	1,392
Government	0	9	19	28
<b>Total</b>	<b>3,832</b>	<b>1,216</b>	<b>1,285</b>	<b>6,333</b>

**West Virginia Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	6	7
Mining	3,605	202	30	3,836
Construction	157	117	10	285
Manufacturing	84	81	38	204
Transportation and Utilities	128	213	127	468
Retail And WholesaleTrade	0	89	236	326
Services	37	529	860	1,425
Government	0	9	19	29
<b>Total</b>	<b>4,011</b>	<b>1,243</b>	<b>1,326</b>	<b>6,580</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	6	8
Mining	3,949	220	32	4,202
Construction	186	127	11	325
Manufacturing	102	92	42	236
Transportation and Utilities	152	239	140	531
Retail And WholesaleTrade	0	102	263	365
Services	44	594	959	1,597
Government	0	11	22	32
<b>Total</b>	<b>4,434</b>	<b>1,387</b>	<b>1,476</b>	<b>7,297</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	8	11
Mining	5,567	289	42	5,898
Construction	280	177	16	473
Manufacturing	157	124	56	337
Transportation and Utilities	229	340	196	765
Retail And WholesaleTrade	0	146	372	519
Services	67	847	1,352	2,266
Government	0	15	30	45
<b>Total</b>	<b>6,299</b>	<b>1,941</b>	<b>2,072</b>	<b>10,313</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**Wisconsin Value Added Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	12	15
Mining	11	3	0	15
Construction	0	9	3	12
Manufacturing	6	195	99	299
Transportation and Utilities	0	34	35	69
Retail And WholesaleTrade	0	19	44	63
Services	0	120	181	300
Government	0	4	6	10
<b>Total</b>	<b>17</b>	<b>386</b>	<b>380</b>	<b>783</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	18	22
Mining	27	4	0	31
Construction	0	12	4	16
Manufacturing	7	287	148	442
Transportation and Utilities	0	50	50	100
Retail And WholesaleTrade	0	29	66	95
Services	0	180	265	445
Government	0	7	9	15
<b>Total</b>	<b>34</b>	<b>573</b>	<b>560</b>	<b>1,167</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	23	28
Mining	30	5	1	35
Construction	0	15	5	20
Manufacturing	10	354	181	545
Transportation and Utilities	0	62	62	124
Retail And WholesaleTrade	0	36	80	116
Services	0	227	327	554
Government	0	8	10	19
<b>Total</b>	<b>40</b>	<b>713</b>	<b>689</b>	<b>1,442</b>

## Wisconsin Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	-	6	24	30
Mining	33	5	1	38
Construction	0	15	5	20
Manufacturing	9	351	184	544
Transportation and Utilities	0	65	65	130
Retail And WholesaleTrade	0	37	82	118
Services	0	244	339	583
Government	0	8	11	19
<b>Total</b>	<b>42</b>	<b>730</b>	<b>710</b>	<b>1,482</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	6	26	33
Mining	37	5	1	43
Construction	0	16	5	21
Manufacturing	11	380	196	587
Transportation and Utilities	0	71	71	142
Retail And WholesaleTrade	0	40	89	129
Services	0	269	368	637
Government	0	9	11	21
<b>Total</b>	<b>48</b>	<b>796</b>	<b>768</b>	<b>1,613</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	8	33	42
Mining	47	6	1	54
Construction	0	19	7	26
Manufacturing	17	476	245	738
Transportation and Utilities	0	90	90	181
Retail And WholesaleTrade	0	51	112	163
Services	0	348	467	815
Government	0	11	14	26
<b>Total</b>	<b>64</b>	<b>1,011</b>	<b>970</b>	<b>2,044</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Wyoming Value Added Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	4
Mining	4,639	79	10	4,727
Construction	164	136	9	308
Manufacturing	112	11	7	129
Transportation and Utilities	76	156	102	334
Retail And WholesaleTrade	0	66	186	252
Services	23	351	608	981
Government	0	8	16	24
<b>Total</b>	<b>5,014</b>	<b>807</b>	<b>940</b>	<b>6,760</b>
<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	6	7
Mining	5,436	100	19	5,555
Construction	204	161	16	381
Manufacturing	103	14	13	129
Transportation and Utilities	160	214	193	568
Retail And WholesaleTrade	0	93	348	441
Services	50	504	1,139	1,692
Government	0	11	30	41
<b>Total</b>	<b>5,953</b>	<b>1,099</b>	<b>1,763</b>	<b>8,815</b>
<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	7	8
Mining	5,858	114	22	5,993
Construction	208	171	17	397
Manufacturing	107	16	14	137
Transportation and Utilities	173	232	209	614
Retail And WholesaleTrade	0	102	376	479
Services	48	551	1,231	1,829
Government	0	13	33	46
<b>Total</b>	<b>6,394</b>	<b>1,200</b>	<b>1,910</b>	<b>9,503</b>

**Wyoming Value Added Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	8	9
Mining	6,590	121	22	6,734
Construction	257	192	20	469
Manufacturing	104	17	16	136
Transportation and Utilities	203	255	236	694
Retail And WholesaleTrade	0	117	426	543
Services	56	631	1,397	2,085
Government	0	14	37	52
<b>Total</b>	<b>7,211</b>	<b>1,348</b>	<b>2,162</b>	<b>10,722</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	9	10
Mining	7,056	130	24	7,210
Construction	296	204	21	522
Manufacturing	105	18	17	141
Transportation and Utilities	236	274	257	766
Retail And WholesaleTrade	0	129	464	593
Services	65	693	1,521	2,280
Government	0	16	41	57
<b>Total</b>	<b>7,758</b>	<b>1,465</b>	<b>2,354</b>	<b>11,578</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	11	13
Mining	9,029	165	31	9,226
Construction	369	261	27	657
Manufacturing	120	23	21	164
Transportation and Utilities	294	344	326	964
Retail And WholesaleTrade	0	162	589	751
Services	82	878	1,929	2,889
Government	0	20	52	72
<b>Total</b>	<b>9,894</b>	<b>1,855</b>	<b>2,986</b>	<b>14,735</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Labor Income Contribution by State and Industry

## Alabama Labor Income Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	4	6
Mining	88	10	2	100
Construction	28	14	3	44
Manufacturing	1	84	40	125
Transportation and Utilities	0	24	22	46
Retail And WholesaleTrade	0	13	35	48
Services	0	85	117	202
Government	0	5	7	12
<b>Total</b>	<b>117</b>	<b>237</b>	<b>229</b>	<b>583</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	6	9
Mining	57	14	3	73
Construction	77	14	3	95
Manufacturing	1	125	58	184
Transportation and Utilities	0	35	33	68
Retail And WholesaleTrade	0	20	48	69
Services	0	125	162	287
Government	0	7	10	17
<b>Total</b>	<b>135</b>	<b>343</b>	<b>322</b>	<b>801</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	7	11
Mining	32	19	4	55
Construction	46	14	4	63
Manufacturing	2	154	70	226
Transportation and Utilities	0	39	36	75
Retail And WholesaleTrade	0	22	51	73
Services	0	133	178	312
Government	0	8	11	19
<b>Total</b>	<b>80</b>	<b>393</b>	<b>361</b>	<b>834</b>

**Alabama Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	7	10
Mining	18	20	4	42
Construction	23	13	3	39
Manufacturing	2	163	74	239
Transportation and Utilities	0	38	36	74
Retail And Wholesale Trade	0	21	49	69
Services	0	128	175	303
Government	0	8	10	19
<b>Total</b>	<b>42</b>	<b>394</b>	<b>359</b>	<b>795</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	7	11
Mining	12	22	5	39
Construction	44	13	4	61
Manufacturing	2	188	83	273
Transportation and Utilities	0	42	39	81
Retail And Wholesale Trade	0	24	53	77
Services	0	145	193	337
Government	0	9	11	20
<b>Total</b>	<b>57</b>	<b>447</b>	<b>396</b>	<b>900</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	9	13
Mining	14	28	6	48
Construction	13	16	4	34
Manufacturing	2	246	108	356
Transportation and Utilities	0	53	49	102
Retail And Wholesale Trade	0	27	63	90
Services	0	170	231	402
Government	0	11	14	25
<b>Total</b>	<b>29</b>	<b>556</b>	<b>484</b>	<b>1,069</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Arizona Labor Income Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	4
Mining	0	15	2	17
Construction	0	10	3	13
Manufacturing	0	36	19	55
Transportation and Utilities	0	19	20	39
Retail And WholesaleTrade	0	13	33	46
Services	0	98	148	246
Government	0	4	6	10
<b>Total</b>	<b>0</b>	<b>197</b>	<b>233</b>	<b>430</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	5	6
Mining	0	20	2	23
Construction	0	17	5	21
Manufacturing	0	50	27	77
Transportation and Utilities	0	29	32	61
Retail And WholesaleTrade	0	20	49	69
Services	0	148	223	371
Government	0	7	9	15
<b>Total</b>	<b>0</b>	<b>292</b>	<b>351</b>	<b>643</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	5	7
Mining	0	24	3	27
Construction	0	21	6	27
Manufacturing	0	60	32	92
Transportation and Utilities	0	38	40	79
Retail And WholesaleTrade	0	26	61	87
Services	0	192	286	478
Government	0	9	11	20
<b>Total</b>	<b>0</b>	<b>372</b>	<b>445</b>	<b>816</b>

## Arizona Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	2	5	7
Mining	0	23	3	25
Construction	0	25	7	31
Manufacturing	0	56	31	87
Transportation and Utilities	0	40	43	84
Retail And Wholesale Trade	0	27	63	90
Services	0	205	304	509
Government	0	9	12	21
<b>Total</b>	<b>0</b>	<b>387</b>	<b>469</b>	<b>855</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	2	6	8
Mining	0	24	3	27
Construction	0	26	7	34
Manufacturing	0	58	33	91
Transportation and Utilities	0	45	49	94
Retail And Wholesale Trade	0	31	71	101
Services	0	233	344	577
Government	0	11	14	24
<b>Total</b>	<b>0</b>	<b>430</b>	<b>526</b>	<b>956</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	2	7	9
Mining	0	30	4	34
Construction	0	33	9	43
Manufacturing	0	71	41	112
Transportation and Utilities	0	60	65	124
Retail And Wholesale Trade	0	39	91	129
Services	0	307	450	757
Government	0	14	18	32
<b>Total</b>	<b>0</b>	<b>557</b>	<b>684</b>	<b>1,241</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



## Arkansas Labor Income Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	6	8
Mining	999	17	2	1,018
Construction	43	78	6	127
Manufacturing	68	66	35	170
Transportation and Utilities	46	82	63	191
Retail And WholesaleTrade	0	46	110	156
Services	14	261	345	620
Government	0	9	15	25
<b>Total</b>	<b>1,171</b>	<b>561</b>	<b>582</b>	<b>2,314</b>
<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	9	12
Mining	1,482	24	2	1,508
Construction	61	116	9	186
Manufacturing	127	99	50	276
Transportation and Utilities	39	120	91	250
Retail And WholesaleTrade	0	73	160	233
Services	16	388	501	905
Government	0	14	22	36
<b>Total</b>	<b>1,725</b>	<b>838</b>	<b>845</b>	<b>3,407</b>
<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	10	15
Mining	1,702	28	3	1,733
Construction	63	130	11	205
Manufacturing	156	124	61	341
Transportation and Utilities	42	144	105	292
Retail And WholesaleTrade	0	89	186	275
Services	15	458	584	1,057
Government	0	17	26	43
<b>Total</b>	<b>1,979</b>	<b>995</b>	<b>986</b>	<b>3,960</b>

**Arkansas Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**

(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	11	15
Mining	1,782	29	3	1,814
Construction	68	138	11	218
Manufacturing	156	126	63	346
Transportation and Utilities	43	147	107	297
Retail And WholesaleTrade	0	92	194	286
Services	16	477	611	1,104
Government	0	18	27	45
<b>Total</b>	<b>2,066</b>	<b>1,032</b>	<b>1,027</b>	<b>4,124</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	11	15
Mining	1,805	30	3	1,838
Construction	69	139	12	220
Manufacturing	167	135	67	369
Transportation and Utilities	44	153	109	306
Retail And WholesaleTrade	0	96	200	296
Services	16	492	629	1,137
Government	0	19	28	47
<b>Total</b>	<b>2,102</b>	<b>1,068</b>	<b>1,059</b>	<b>4,229</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	14	19
Mining	2,137	36	4	2,177
Construction	78	163	14	256
Manufacturing	202	164	82	447
Transportation and Utilities	50	184	130	364
Retail And WholesaleTrade	0	114	238	352
Services	18	583	747	1,349
Government	0	23	34	57
<b>Total</b>	<b>2,485</b>	<b>1,273</b>	<b>1,262</b>	<b>5,020</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**California Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	14	18
Mining	44	14	3	62
Construction	0	19	8	27
Manufacturing	305	120	76	501
Transportation and Utilities	0	55	47	102
Retail And WholesaleTrade	0	50	81	131
Services	0	309	378	686
Government	0	12	15	27
<b>Total</b>	<b>349</b>	<b>584</b>	<b>620</b>	<b>1,553</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	19	25
Mining	72	21	5	98
Construction	42	29	12	83
Manufacturing	433	167	110	710
Transportation and Utilities	0	81	69	151
Retail And WholesaleTrade	0	73	117	190
Services	0	452	546	998
Government	0	17	22	39
<b>Total</b>	<b>547</b>	<b>847</b>	<b>900</b>	<b>2,295</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	7	23	31
Mining	76	26	6	107
Construction	0	35	15	50
Manufacturing	525	199	132	855
Transportation and Utilities	0	99	84	183
Retail And WholesaleTrade	0	89	139	227
Services	0	540	645	1,184
Government	0	21	26	47
<b>Total</b>	<b>601</b>	<b>1,014</b>	<b>1,069</b>	<b>2,685</b>

## California Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	7	24	31
Mining	72	26	6	104
Construction	0	37	15	52
Manufacturing	506	184	129	819
Transportation and Utilities	0	99	86	186
Retail And Wholesale Trade	0	87	139	226
Services	0	543	646	1,189
Government	0	21	26	47
<b>Total</b>	<b>578</b>	<b>1,005</b>	<b>1,071</b>	<b>2,655</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	8	25	33
Mining	71	28	6	105
Construction	0	39	16	56
Manufacturing	526	190	134	850
Transportation and Utilities	0	107	94	201
Retail And Wholesale Trade	0	93	147	239
Services	0	576	685	1,261
Government	0	23	28	51
<b>Total</b>	<b>598</b>	<b>1,063</b>	<b>1,136</b>	<b>2,797</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	10	31	41
Mining	79	34	8	121
Construction	0	49	20	69
Manufacturing	614	228	165	1,007
Transportation and Utilities	0	133	117	250
Retail And Wholesale Trade	0	112	180	291
Services	0	710	845	1,555
Government	0	28	35	63
<b>Total</b>	<b>693</b>	<b>1,303</b>	<b>1,401</b>	<b>3,397</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Colorado Labor Income Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	8	9
Mining	1,588	60	9	1,657
Construction	218	163	22	402
Manufacturing	618	79	56	753
Transportation and Utilities	92	151	140	382
Retail And WholesaleTrade	0	135	325	461
Services	46	953	1,213	2,213
Government	0	32	49	81
<b>Total</b>	<b>2,561</b>	<b>1,575</b>	<b>1,822</b>	<b>5,958</b>
<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	12	14
Mining	1,989	88	14	2,091
Construction	441	181	33	656
Manufacturing	1,193	138	86	1,417
Transportation and Utilities	221	256	216	693
Retail And WholesaleTrade	0	242	499	741
Services	99	1,566	1,856	3,521
Government	0	51	75	126
<b>Total</b>	<b>3,943</b>	<b>2,524</b>	<b>2,790</b>	<b>9,258</b>
<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	14	17
Mining	2,017	106	17	2,140
Construction	442	175	36	653
Manufacturing	1,354	159	95	1,609
Transportation and Utilities	233	280	234	746
Retail And WholesaleTrade	0	269	532	801
Services	94	1,710	1,986	3,791
Government	0	57	81	137
<b>Total</b>	<b>4,140</b>	<b>2,758</b>	<b>2,994</b>	<b>9,893</b>

**Colorado Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**

(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	13	16
Mining	1,738	110	18	1,866
Construction	342	162	31	535
Manufacturing	1,275	140	87	1,502
Transportation and Utilities	171	246	207	625
Retail And WholesaleTrade	0	233	465	698
Services	69	1,484	1,755	3,308
Government	0	50	71	121
<b>Total</b>	<b>3,597</b>	<b>2,426</b>	<b>2,648</b>	<b>8,671</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	14	16
Mining	1,557	119	19	1,695
Construction	282	151	29	462
Manufacturing	1,294	135	84	1,513
Transportation and Utilities	142	233	197	573
Retail And WholesaleTrade	0	220	437	656
Services	58	1,392	1,663	3,112
Government	0	48	68	116
<b>Total</b>	<b>3,333</b>	<b>2,300</b>	<b>2,511</b>	<b>8,143</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	17	20
Mining	1,727	150	24	1,901
Construction	292	172	33	497
Manufacturing	1,514	156	98	1,768
Transportation and Utilities	147	266	226	639
Retail And WholesaleTrade	0	247	495	742
Services	60	1,578	1,898	3,536
Government	0	55	77	132
<b>Total</b>	<b>3,739</b>	<b>2,628</b>	<b>2,868</b>	<b>9,236</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Connecticut Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	1	0	1
Construction	0	5	2	7
Manufacturing	0	49	20	68
Transportation and Utilities	0	13	14	28
Retail And WholesaleTrade	0	9	21	29
Services	0	81	124	205
Government	0	2	3	6
<b>Total</b>	<b>0</b>	<b>160</b>	<b>184</b>	<b>344</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	1	0	1
Construction	0	8	2	10
Manufacturing	0	64	28	92
Transportation and Utilities	0	18	19	37
Retail And WholesaleTrade	0	13	29	42
Services	0	114	173	287
Government	0	4	5	8
<b>Total</b>	<b>0</b>	<b>222</b>	<b>257</b>	<b>479</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	2
Mining	0	2	0	2
Construction	0	9	3	12
Manufacturing	0	78	34	113
Transportation and Utilities	0	22	21	43
Retail And WholesaleTrade	0	16	35	50
Services	0	133	200	334
Government	0	4	6	10
<b>Total</b>	<b>0</b>	<b>265</b>	<b>301</b>	<b>566</b>

**Connecticut Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	2
Mining	0	2	0	2
Construction	0	10	3	12
Manufacturing	0	79	36	114
Transportation and Utilities	0	21	20	41
Retail And WholesaleTrade	0	15	34	50
Services	0	129	193	322
Government	0	4	6	10
<b>Total</b>	<b>0</b>	<b>259</b>	<b>294</b>	<b>554</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	2
Mining	0	1	0	2
Construction	0	10	3	13
Manufacturing	0	87	39	127
Transportation and Utilities	0	22	21	43
Retail And WholesaleTrade	0	17	36	53
Services	0	131	197	328
Government	0	5	6	10
<b>Total</b>	<b>0</b>	<b>273</b>	<b>304</b>	<b>577</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	2	2
Mining	0	2	0	2
Construction	0	12	3	16
Manufacturing	0	112	51	163
Transportation and Utilities	0	26	25	52
Retail And WholesaleTrade	0	21	44	64
Services	0	156	235	391
Government	0	6	7	13
<b>Total</b>	<b>0</b>	<b>335</b>	<b>367</b>	<b>702</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**Delaware Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	2	1	3
Manufacturing	16	7	5	29
Transportation and Utilities	0	4	3	7
Retail And WholesaleTrade	0	4	7	11
Services	0	27	37	64
Government	0	1	1	2
<b>Total</b>	<b>16</b>	<b>46</b>	<b>55</b>	<b>116</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	1
Mining	0	0	0	0
Construction	0	3	1	4
Manufacturing	21	11	7	39
Transportation and Utilities	0	6	4	10
Retail And WholesaleTrade	0	5	9	15
Services	0	39	54	93
Government	0	1	2	3
<b>Total</b>	<b>21</b>	<b>65</b>	<b>78</b>	<b>164</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	0
Construction	0	4	1	5
Manufacturing	36	14	9	58
Transportation and Utilities	0	8	6	14
Retail And WholesaleTrade	0	9	12	21
Services	0	52	71	123
Government	0	2	2	4
<b>Total</b>	<b>36</b>	<b>89</b>	<b>102</b>	<b>226</b>

**Delaware Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	0
Construction	0	4	1	5
Manufacturing	32	12	8	53
Transportation and Utilities	0	8	6	14
Retail And WholesaleTrade	0	8	13	21
Services	0	52	71	123
Government	0	2	2	4
<b>Total</b>	<b>32</b>	<b>87</b>	<b>102</b>	<b>221</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	0
Construction	0	5	1	6
Manufacturing	39	13	9	61
Transportation and Utilities	0	10	7	17
Retail And WholesaleTrade	0	10	14	24
Services	0	56	78	134
Government	0	2	2	4
<b>Total</b>	<b>39</b>	<b>96</b>	<b>112</b>	<b>247</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	0
Construction	0	6	2	8
Manufacturing	60	16	11	87
Transportation and Utilities	0	14	9	23
Retail And WholesaleTrade	0	14	20	34
Services	0	74	101	174
Government	0	3	3	6
<b>Total</b>	<b>60</b>	<b>127</b>	<b>146</b>	<b>334</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**District of Columbia Labor Income Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	0	0	0
Manufacturing	0	0	0	0
Transportation and Utilities	0	1	1	1
Retail And WholesaleTrade	0	0	1	1
Services	0	24	31	55
Government	0	1	2	2
<b>Total</b>	<b>0</b>	<b>27</b>	<b>34</b>	<b>61</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	0	0	1
Manufacturing	0	0	0	0
Transportation and Utilities	0	1	1	2
Retail And WholesaleTrade	0	1	1	2
Services	0	37	46	83
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>40</b>	<b>51</b>	<b>91</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	1	0	1
Manufacturing	0	0	0	0
Transportation and Utilities	0	1	1	3
Retail And WholesaleTrade	0	1	2	2
Services	0	47	57	104
Government	0	2	3	5
<b>Total</b>	<b>0</b>	<b>51</b>	<b>64</b>	<b>115</b>

**District of Columbia Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	1	0	1
Manufacturing	0	0	0	0
Transportation and Utilities	0	1	1	3
Retail And Wholesale Trade	0	1	2	2
Services	0	47	59	106
Government	0	2	3	5
<b>Total</b>	<b>0</b>	<b>52</b>	<b>65</b>	<b>117</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	1	0	1
Manufacturing	0	0	0	0
Transportation and Utilities	0	2	2	3
Retail And Wholesale Trade	0	1	2	2
Services	0	50	63	113
Government	0	2	3	5
<b>Total</b>	<b>0</b>	<b>55</b>	<b>70</b>	<b>126</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	1	1	1
Manufacturing	0	0	0	0
Transportation and Utilities	0	2	2	4
Retail And Wholesale Trade	0	1	2	3
Services	0	63	79	142
Government	0	3	4	7
<b>Total</b>	<b>0</b>	<b>69</b>	<b>89</b>	<b>158</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Florida Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	6	8
Mining	0	3	0	4
Construction	159	17	6	181
Manufacturing	12	38	26	76
Transportation and Utilities	0	31	34	65
Retail And WholesaleTrade	0	27	62	89
Services	0	193	280	473
Government	0	6	9	15
<b>Total</b>	<b>171</b>	<b>318</b>	<b>424</b>	<b>912</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	9	12
Mining	0	5	1	6
Construction	350	25	9	384
Manufacturing	16	62	40	118
Transportation and Utilities	0	51	55	106
Retail And WholesaleTrade	0	45	101	146
Services	0	318	451	769
Government	0	10	14	23
<b>Total</b>	<b>366</b>	<b>519</b>	<b>679</b>	<b>1,564</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	10	14
Mining	0	5	1	6
Construction	154	31	10	195
Manufacturing	22	67	45	133
Transportation and Utilities	0	57	61	118
Retail And WholesaleTrade	0	46	108	154
Services	0	349	498	847
Government	0	12	15	27
<b>Total</b>	<b>176</b>	<b>570</b>	<b>748</b>	<b>1,494</b>

## Florida Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	10	13
Mining	0	5	1	5
Construction	39	33	10	82
Manufacturing	22	59	43	124
Transportation and Utilities	0	54	60	114
Retail And Wholesale Trade	0	43	103	146
Services	0	350	495	845
Government	0	12	15	27
<b>Total</b>	<b>62</b>	<b>559</b>	<b>736</b>	<b>1,357</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	11	15
Mining	0	5	1	6
Construction	237	36	11	285
Manufacturing	25	69	46	140
Transportation and Utilities	0	63	70	133
Retail And Wholesale Trade	0	55	124	179
Services	0	425	590	1,015
Government	0	14	18	31
<b>Total</b>	<b>262</b>	<b>670</b>	<b>872</b>	<b>1,804</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	13	18
Mining	0	6	1	6
Construction	28	47	14	88
Manufacturing	31	75	54	159
Transportation and Utilities	0	73	81	153
Retail And Wholesale Trade	0	61	141	202
Services	0	500	697	1,196
Government	0	17	21	38
<b>Total</b>	<b>58</b>	<b>781</b>	<b>1,021</b>	<b>1,860</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Georgia Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	5	8
Mining	0	5	1	5
Construction	5	14	4	23
Manufacturing	57	74	56	187
Transportation and Utilities	0	45	49	95
Retail And WholesaleTrade	0	32	61	93
Services	0	187	245	432
Government	0	8	10	18
<b>Total</b>	<b>63</b>	<b>366</b>	<b>431</b>	<b>860</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	7	10
Mining	0	6	1	6
Construction	0	18	6	24
Manufacturing	76	105	82	263
Transportation and Utilities	0	69	74	143
Retail And WholesaleTrade	0	45	86	131
Services	0	275	349	624
Government	0	11	15	26
<b>Total</b>	<b>76</b>	<b>532</b>	<b>619</b>	<b>1,226</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	8	12
Mining	0	7	1	8
Construction	8	21	7	37
Manufacturing	38	129	101	268
Transportation and Utilities	0	83	90	172
Retail And WholesaleTrade	0	54	102	156
Services	0	335	416	750
Government	0	14	18	31
<b>Total</b>	<b>46</b>	<b>645</b>	<b>743</b>	<b>1,434</b>

## Georgia Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	4	8	12
Mining	0	7	1	8
Construction	3	23	8	33
Manufacturing	11	131	105	248
Transportation and Utilities	0	81	91	172
Retail And WholesaleTrade	0	53	102	155
Services	0	343	420	763
Government	0	14	18	32
<b>Total</b>	<b>14</b>	<b>656</b>	<b>753</b>	<b>1,422</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	4	9	13
Mining	0	7	1	8
Construction	4	24	9	37
Manufacturing	51	146	115	312
Transportation and Utilities	0	91	101	192
Retail And WholesaleTrade	0	63	116	179
Services	0	383	474	857
Government	0	15	20	35
<b>Total</b>	<b>55</b>	<b>735</b>	<b>844</b>	<b>1,633</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	5	11	16
Mining	0	9	1	10
Construction	0	30	11	41
Manufacturing	8	180	143	331
Transportation and Utilities	0	112	125	238
Retail And WholesaleTrade	0	75	140	216
Services	0	470	579	1,049
Government	0	19	24	43
<b>Total</b>	<b>8</b>	<b>900</b>	<b>1,035</b>	<b>1,943</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**Idaho Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	5
Mining	0	3	0	3
Construction	0	3	1	4
Manufacturing	0	13	9	21
Transportation and Utilities	0	6	6	12
Retail And WholesaleTrade	0	4	9	12
Services	0	22	32	54
Government	0	1	2	3
<b>Total</b>	<b>0</b>	<b>52</b>	<b>61</b>	<b>113</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	5	7
Mining	0	4	0	5
Construction	0	3	1	4
Manufacturing	0	19	13	32
Transportation and Utilities	0	9	9	17
Retail And WholesaleTrade	0	5	13	18
Services	0	34	48	82
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>78</b>	<b>91</b>	<b>169</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	6	9
Mining	0	7	1	7
Construction	0	3	1	4
Manufacturing	0	23	15	38
Transportation and Utilities	0	10	11	21
Retail And WholesaleTrade	0	7	16	23
Services	0	42	60	102
Government	0	3	3	6
<b>Total</b>	<b>0</b>	<b>97</b>	<b>112</b>	<b>210</b>

**Idaho Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	6	9
Mining	0	8	1	8
Construction	0	3	1	4
Manufacturing	0	22	16	38
Transportation and Utilities	0	11	11	22
Retail And WholesaleTrade	0	7	17	23
Services	0	44	62	106
Government	0	3	3	6
<b>Total</b>	<b>0</b>	<b>100</b>	<b>117</b>	<b>216</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	6	9
Mining	0	9	1	10
Construction	0	3	1	4
Manufacturing	0	23	17	40
Transportation and Utilities	0	12	12	24
Retail And WholesaleTrade	0	7	18	25
Services	0	48	69	117
Government	0	3	4	6
<b>Total</b>	<b>0</b>	<b>108</b>	<b>127</b>	<b>235</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	8	12
Mining	0	12	1	13
Construction	0	4	1	5
Manufacturing	0	27	21	48
Transportation and Utilities	0	15	15	30
Retail And WholesaleTrade	0	10	23	33
Services	0	60	87	147
Government	0	4	4	8
<b>Total</b>	<b>0</b>	<b>135</b>	<b>160</b>	<b>295</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Illinois Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	7	9
Mining	244	18	3	264
Construction	0	20	8	28
Manufacturing	47	211	106	364
Transportation and Utilities	0	77	75	152
Retail And WholesaleTrade	0	50	107	156
Services	0	342	487	829
Government	0	11	16	26
<b>Total</b>	<b>291</b>	<b>729</b>	<b>808</b>	<b>1,828</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	10	13
Mining	339	24	4	366
Construction	0	30	13	42
Manufacturing	48	307	155	510
Transportation and Utilities	0	112	108	220
Retail And WholesaleTrade	0	70	150	220
Services	0	479	674	1,154
Government	0	15	21	36
<b>Total</b>	<b>387</b>	<b>1,039</b>	<b>1,136</b>	<b>2,562</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	12	15
Mining	479	30	4	513
Construction	0	35	16	51
Manufacturing	60	365	189	614
Transportation and Utilities	0	141	135	276
Retail And WholesaleTrade	0	86	187	272
Services	0	595	838	1,433
Government	0	19	26	45
<b>Total</b>	<b>539</b>	<b>1,274</b>	<b>1,407</b>	<b>3,220</b>

## Illinois Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	12	15
Mining	443	28	4	475
Construction	0	36	16	52
Manufacturing	59	343	188	590
Transportation and Utilities	0	139	135	274
Retail And WholesaleTrade	0	83	183	265
Services	0	597	833	1,430
Government	0	19	26	45
<b>Total</b>	<b>502</b>	<b>1,247</b>	<b>1,397</b>	<b>3,146</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	12	15
Mining	510	30	4	544
Construction	0	37	18	55
Manufacturing	63	356	199	618
Transportation and Utilities	0	150	146	296
Retail And WholesaleTrade	0	88	197	285
Services	0	640	898	1,538
Government	0	20	28	48
<b>Total</b>	<b>573</b>	<b>1,326</b>	<b>1,502</b>	<b>3,400</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	14	18
Mining	727	39	5	772
Construction	0	46	22	68
Manufacturing	80	431	247	758
Transportation and Utilities	0	192	185	377
Retail And WholesaleTrade	0	109	252	362
Services	0	810	1,148	1,958
Government	0	26	35	61
<b>Total</b>	<b>807</b>	<b>1,657</b>	<b>1,909</b>	<b>4,374</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Indiana Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	5	6
Mining	0	6	1	7
Construction	0	11	4	14
Manufacturing	34	190	82	306
Transportation and Utilities	0	37	34	72
Retail And WholesaleTrade	0	19	39	58
Services	0	93	149	242
Government	0	5	6	11
<b>Total</b>	<b>34</b>	<b>362</b>	<b>320</b>	<b>716</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	7	9
Mining	0	8	2	10
Construction	0	16	6	22
Manufacturing	39	265	118	422
Transportation and Utilities	0	52	47	99
Retail And WholesaleTrade	0	26	54	81
Services	0	130	210	341
Government	0	7	9	16
<b>Total</b>	<b>39</b>	<b>506</b>	<b>454</b>	<b>999</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	9	11
Mining	0	10	2	12
Construction	0	19	7	26
Manufacturing	60	326	144	530
Transportation and Utilities	0	63	57	120
Retail And WholesaleTrade	0	34	67	101
Services	0	164	259	423
Government	0	9	11	20
<b>Total</b>	<b>60</b>	<b>626</b>	<b>556</b>	<b>1,243</b>

**Indiana Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	8	11
Mining	0	9	2	11
Construction	0	20	7	27
Manufacturing	55	328	151	534
Transportation and Utilities	0	61	56	117
Retail And WholesaleTrade	0	33	67	100
Services	0	167	263	431
Government	0	9	11	20
<b>Total</b>	<b>55</b>	<b>629</b>	<b>567</b>	<b>1,250</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	9	11
Mining	0	10	2	12
Construction	0	21	7	28
Manufacturing	66	359	166	591
Transportation and Utilities	0	65	60	124
Retail And WholesaleTrade	0	36	73	109
Services	0	181	283	465
Government	0	9	12	21
<b>Total</b>	<b>66</b>	<b>684</b>	<b>611</b>	<b>1,361</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	10	13
Mining	0	12	2	15
Construction	0	26	9	35
Manufacturing	100	446	210	756
Transportation and Utilities	0	81	74	156
Retail And WholesaleTrade	0	48	93	141
Services	0	233	359	592
Government	0	12	15	26
<b>Total</b>	<b>100</b>	<b>861</b>	<b>773</b>	<b>1,734</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Iowa Labor Income Contribution by State and Industry: Unconventional Gas\***  
 (\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	8	10
Mining	25	2	0	27
Construction	0	6	2	8
Manufacturing	2	49	29	80
Transportation and Utilities	0	17	16	32
Retail And WholesaleTrade	0	10	22	32
Services	0	45	80	125
Government	0	3	4	7
<b>Total</b>	<b>27</b>	<b>133</b>	<b>161</b>	<b>321</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	12	16
Mining	49	2	0	51
Construction	0	9	3	12
Manufacturing	7	72	43	121
Transportation and Utilities	0	27	24	50
Retail And WholesaleTrade	0	15	34	49
Services	0	70	119	189
Government	0	4	6	10
<b>Total</b>	<b>56</b>	<b>203</b>	<b>241</b>	<b>499</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	15	19
Mining	57	3	0	60
Construction	0	11	4	15
Manufacturing	9	88	52	149
Transportation and Utilities	0	34	29	63
Retail And WholesaleTrade	0	18	41	59
Services	0	87	145	232
Government	0	6	7	13
<b>Total</b>	<b>66</b>	<b>251</b>	<b>293</b>	<b>610</b>

## Iowa Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	16	20
Mining	57	2	0	59
Construction	0	13	4	17
Manufacturing	11	93	54	157
Transportation and Utilities	0	35	31	66
Retail And WholesaleTrade	0	18	41	59
Services	0	92	150	242
Government	0	6	7	13
<b>Total</b>	<b>67</b>	<b>263</b>	<b>303</b>	<b>633</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	17	22
Mining	62	2	0	64
Construction	0	14	4	18
Manufacturing	12	105	59	176
Transportation and Utilities	0	40	35	75
Retail And WholesaleTrade	0	19	44	63
Services	0	101	162	263
Government	0	6	7	14
<b>Total</b>	<b>75</b>	<b>292</b>	<b>329</b>	<b>696</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	23	29
Mining	82	2	0	84
Construction	0	18	6	24
Manufacturing	15	136	75	227
Transportation and Utilities	0	52	46	98
Retail And WholesaleTrade	0	24	55	80
Services	0	129	205	335
Government	0	7	9	17
<b>Total</b>	<b>97</b>	<b>376</b>	<b>420</b>	<b>892</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**Kansas Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	4	5
Mining	16	12	2	30
Construction	0	7	2	8
Manufacturing	36	31	21	88
Transportation and Utilities	0	20	15	35
Retail And WholesaleTrade	0	10	22	32
Services	0	56	83	139
Government	0	5	4	9
<b>Total</b>	<b>52</b>	<b>142</b>	<b>153</b>	<b>347</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	6	8
Mining	2	16	3	21
Construction	0	8	2	10
Manufacturing	63	47	32	142
Transportation and Utilities	0	31	22	53
Retail And WholesaleTrade	0	16	30	46
Services	0	81	117	197
Government	0	7	6	14
<b>Total</b>	<b>64</b>	<b>207</b>	<b>219</b>	<b>491</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	8	10
Mining	0	18	4	22
Construction	0	9	3	11
Manufacturing	67	58	39	165
Transportation and Utilities	0	38	27	64
Retail And WholesaleTrade	0	19	36	55
Services	0	98	141	239
Government	0	9	7	16
<b>Total</b>	<b>67</b>	<b>250</b>	<b>265</b>	<b>582</b>

## Kansas Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	2	8	10
Mining	0	18	4	21
Construction	0	9	3	12
Manufacturing	66	63	42	172
Transportation and Utilities	0	38	27	66
Retail And Wholesale Trade	0	19	37	56
Services	0	100	144	244
Government	0	8	8	16
<b>Total</b>	<b>67</b>	<b>257</b>	<b>273</b>	<b>596</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	2	9	11
Mining	0	18	4	21
Construction	0	9	3	12
Manufacturing	69	75	47	191
Transportation and Utilities	0	41	30	71
Retail And Wholesale Trade	0	20	39	59
Services	0	110	157	267
Government	0	9	8	17
<b>Total</b>	<b>69</b>	<b>283</b>	<b>297</b>	<b>649</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	3	12	14
Mining	0	22	4	26
Construction	0	11	4	15
Manufacturing	80	99	62	241
Transportation and Utilities	0	52	38	89
Retail And Wholesale Trade	0	24	48	72
Services	0	140	200	340
Government	0	11	10	21
<b>Total</b>	<b>80</b>	<b>362</b>	<b>377</b>	<b>819</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Kentucky Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	6	7
Mining	139	30	6	175
Construction	13	15	3	31
Manufacturing	16	73	42	132
Transportation and Utilities	13	27	26	66
Retail And WholesaleTrade	0	17	39	55
Services	4	89	136	230
Government	0	5	7	12
<b>Total</b>	<b>186</b>	<b>257</b>	<b>265</b>	<b>708</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	8	10
Mining	170	42	8	220
Construction	14	20	4	37
Manufacturing	19	108	63	189
Transportation and Utilities	8	37	36	81
Retail And WholesaleTrade	0	22	51	73
Services	3	118	183	304
Government	0	7	10	17
<b>Total</b>	<b>214</b>	<b>355</b>	<b>361</b>	<b>930</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	10	13
Mining	157	46	8	211
Construction	14	20	4	39
Manufacturing	33	138	77	248
Transportation and Utilities	9	47	45	101
Retail And WholesaleTrade	0	28	58	86
Services	3	139	213	355
Government	0	9	11	21
<b>Total</b>	<b>216</b>	<b>430</b>	<b>427</b>	<b>1,073</b>

**Kentucky Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	11	14
Mining	142	41	8	191
Construction	15	20	4	39
Manufacturing	29	146	80	255
Transportation and Utilities	9	49	48	106
Retail And WholesaleTrade	0	27	57	83
Services	3	136	210	349
Government	0	9	11	21
<b>Total</b>	<b>199</b>	<b>431</b>	<b>429</b>	<b>1,059</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	12	15
Mining	133	42	8	183
Construction	15	20	4	40
Manufacturing	35	167	88	291
Transportation and Utilities	9	55	53	117
Retail And WholesaleTrade	0	29	59	88
Services	3	142	220	366
Government	0	10	12	22
<b>Total</b>	<b>196</b>	<b>469</b>	<b>458</b>	<b>1,122</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	15	19
Mining	153	50	9	212
Construction	17	25	6	48
Manufacturing	53	216	111	381
Transportation and Utilities	10	71	67	148
Retail And WholesaleTrade	0	37	73	110
Services	4	174	272	450
Government	0	13	16	28
<b>Total</b>	<b>237</b>	<b>590</b>	<b>570</b>	<b>1,396</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.  
 Source: IHS Global Insight

**Louisiana Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	7	12
Mining	1,587	81	12	1,680
Construction	766	137	17	920
Manufacturing	202	147	55	403
Transportation and Utilities	115	145	126	386
Retail And WholesaleTrade	0	123	278	401
Services	70	720	856	1,645
Government	0	14	30	44
<b>Total</b>	<b>2,740</b>	<b>1,371</b>	<b>1,381</b>	<b>5,492</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	12	17
Mining	3,422	136	18	3,576
Construction	789	309	28	1,126
Manufacturing	333	220	89	642
Transportation and Utilities	124	228	210	562
Retail And WholesaleTrade	0	188	467	655
Services	56	1,102	1,432	2,589
Government	0	23	48	71
<b>Total</b>	<b>4,723</b>	<b>2,210</b>	<b>2,304</b>	<b>9,238</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	14	19
Mining	4,703	171	22	4,896
Construction	501	417	33	951
Manufacturing	271	238	107	616
Transportation and Utilities	141	264	250	654
Retail And WholesaleTrade	0	203	559	762
Services	57	1,269	1,706	3,032
Government	0	27	58	85
<b>Total</b>	<b>5,672</b>	<b>2,594</b>	<b>2,749</b>	<b>11,015</b>

## Louisiana Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	5	15	21
Mining	5,641	192	24	5,857
Construction	491	504	38	1,033
Manufacturing	247	245	117	609
Transportation and Utilities	144	290	283	717
Retail And WholesaleTrade	0	221	641	862
Services	58	1,423	1,956	3,438
Government	0	30	66	96
<b>Total</b>	<b>6,581</b>	<b>2,911</b>	<b>3,140</b>	<b>12,632</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	6	16	21
Mining	5,932	203	25	6,160
Construction	414	531	39	984
Manufacturing	267	259	124	651
Transportation and Utilities	147	301	294	742
Retail And WholesaleTrade	0	229	668	897
Services	60	1,472	2,039	3,571
Government	0	31	69	100
<b>Total</b>	<b>6,820</b>	<b>3,032</b>	<b>3,274</b>	<b>13,126</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	7	20	26
Mining	7,562	257	32	7,850
Construction	422	674	49	1,145
Manufacturing	267	317	156	740
Transportation and Utilities	191	371	366	929
Retail And WholesaleTrade	0	277	831	1,109
Services	78	1,826	2,535	4,439
Government	0	38	85	124
<b>Total</b>	<b>8,519</b>	<b>3,767</b>	<b>4,075</b>	<b>16,361</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Maine Labor Income Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	2	3
Mining	0	0	0	0
Construction	0	2	1	3
Manufacturing	0	11	9	20
Transportation and Utilities	0	4	4	9
Retail And WholesaleTrade	0	3	8	11
Services	0	19	33	52
Government	0	1	1	3
<b>Total</b>	<b>0</b>	<b>42</b>	<b>58</b>	<b>100</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	3	4
Mining	0	0	0	0
Construction	0	3	1	4
Manufacturing	0	16	12	28
Transportation and Utilities	0	6	6	12
Retail And WholesaleTrade	0	4	12	16
Services	0	28	47	75
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>60</b>	<b>83</b>	<b>143</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	3	5
Mining	0	0	0	0
Construction	0	4	1	5
Manufacturing	0	19	15	35
Transportation and Utilities	0	7	7	13
Retail And WholesaleTrade	0	5	14	19
Services	0	33	56	90
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>73</b>	<b>99</b>	<b>172</b>

**Maine Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	3	5
Mining	0	0	0	0
Construction	0	4	1	5
Manufacturing	0	19	16	35
Transportation and Utilities	0	6	6	13
Retail And WholesaleTrade	0	5	14	19
Services	0	34	57	90
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>73</b>	<b>100</b>	<b>173</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	3	5
Mining	0	1	0	1
Construction	0	5	1	6
Manufacturing	0	21	17	38
Transportation and Utilities	0	7	6	13
Retail And WholesaleTrade	0	5	15	20
Services	0	36	61	96
Government	0	2	3	5
<b>Total</b>	<b>0</b>	<b>78</b>	<b>106</b>	<b>184</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	4	6
Mining	0	1	0	1
Construction	0	6	2	7
Manufacturing	0	26	21	47
Transportation and Utilities	0	8	8	16
Retail And WholesaleTrade	0	6	19	25
Services	0	44	75	119
Government	0	2	3	6
<b>Total</b>	<b>0</b>	<b>96</b>	<b>131</b>	<b>227</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**Maryland Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	2
Mining	0	2	0	2
Construction	0	14	5	19
Manufacturing	0	31	19	50
Transportation and Utilities	0	20	23	43
Retail And WholesaleTrade	0	12	30	42
Services	0	127	163	290
Government	0	5	7	12
<b>Total</b>	<b>0</b>	<b>211</b>	<b>249</b>	<b>460</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	2	3
Mining	0	2	0	3
Construction	0	21	7	28
Manufacturing	0	45	27	73
Transportation and Utilities	0	30	32	62
Retail And WholesaleTrade	0	17	43	60
Services	0	189	237	427
Government	0	8	11	19
<b>Total</b>	<b>0</b>	<b>313</b>	<b>360</b>	<b>674</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	4
Mining	0	4	0	4
Construction	0	26	9	35
Manufacturing	0	55	33	88
Transportation and Utilities	0	37	38	75
Retail And WholesaleTrade	0	21	52	72
Services	0	232	290	522
Government	0	10	13	23
<b>Total</b>	<b>0</b>	<b>385</b>	<b>438</b>	<b>823</b>

## Maryland Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	1	3	4
Mining	0	4	0	4
Construction	0	28	9	37
Manufacturing	0	51	32	83
Transportation and Utilities	0	37	38	75
Retail And Wholesale Trade	0	20	53	73
Services	0	223	288	511
Government	0	10	14	24
<b>Total</b>	<b>0</b>	<b>374</b>	<b>437</b>	<b>811</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	1	3	4
Mining	0	4	1	5
Construction	0	30	10	40
Manufacturing	0	51	33	84
Transportation and Utilities	0	41	41	82
Retail And Wholesale Trade	0	22	57	79
Services	0	231	305	536
Government	0	11	14	25
<b>Total</b>	<b>0</b>	<b>392</b>	<b>464</b>	<b>855</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	1	4	6
Mining	0	6	1	7
Construction	0	39	12	52
Manufacturing	0	60	41	101
Transportation and Utilities	0	53	53	105
Retail And Wholesale Trade	0	28	72	99
Services	0	283	379	662
Government	0	14	18	32
<b>Total</b>	<b>0</b>	<b>484</b>	<b>580</b>	<b>1,064</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Massachusetts Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	0
Construction	0	5	2	7
Manufacturing	12	33	21	67
Transportation and Utilities	0	10	11	21
Retail And WholesaleTrade	0	9	20	29
Services	0	93	120	212
Government	0	2	3	6
<b>Total</b>	<b>12</b>	<b>153</b>	<b>178</b>	<b>343</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	2
Mining	0	1	0	1
Construction	0	8	3	10
Manufacturing	17	48	31	97
Transportation and Utilities	0	15	15	29
Retail And WholesaleTrade	0	13	29	42
Services	0	137	171	308
Government	0	4	5	8
<b>Total</b>	<b>17</b>	<b>225</b>	<b>255</b>	<b>498</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	2	2
Mining	0	1	0	1
Construction	0	9	3	12
Manufacturing	31	60	38	129
Transportation and Utilities	0	18	18	35
Retail And WholesaleTrade	0	17	35	51
Services	0	167	205	372
Government	0	5	6	10
<b>Total</b>	<b>31</b>	<b>276</b>	<b>307</b>	<b>614</b>

**Massachusetts Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**

(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	2	2
Mining	0	1	0	1
Construction	0	9	3	13
Manufacturing	28	55	37	121
Transportation and Utilities	0	17	17	34
Retail And WholesaleTrade	0	16	34	50
Services	0	166	203	369
Government	0	4	6	10
<b>Total</b>	<b>28</b>	<b>269</b>	<b>302</b>	<b>599</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	2	2
Mining	0	1	0	1
Construction	0	10	4	13
Manufacturing	35	56	39	130
Transportation and Utilities	0	17	18	35
Retail And WholesaleTrade	0	17	36	53
Services	0	176	214	390
Government	0	5	6	11
<b>Total</b>	<b>35</b>	<b>282</b>	<b>318</b>	<b>634</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	2	3
Mining	0	1	0	1
Construction	0	12	5	17
Manufacturing	54	68	48	169
Transportation and Utilities	0	21	21	42
Retail And WholesaleTrade	0	21	44	65
Services	0	217	264	481
Government	0	6	8	13
<b>Total</b>	<b>54</b>	<b>347</b>	<b>391</b>	<b>791</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Michigan Labor Income Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	6	8
Mining	135	15	1	152
Construction	0	26	7	33
Manufacturing	406	174	85	665
Transportation and Utilities	0	71	59	130
Retail And WholesaleTrade	0	38	106	144
Services	0	276	419	695
Government	0	9	14	23
<b>Total</b>	<b>541</b>	<b>612</b>	<b>698</b>	<b>1,851</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	9	12
Mining	99	22	2	122
Construction	0	30	10	40
Manufacturing	585	275	126	986
Transportation and Utilities	0	99	81	180
Retail And WholesaleTrade	0	52	139	191
Services	0	370	550	920
Government	0	13	19	32
<b>Total</b>	<b>684</b>	<b>864</b>	<b>935</b>	<b>2,483</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	11	14
Mining	63	28	2	93
Construction	0	31	12	43
Manufacturing	776	350	151	1,276
Transportation and Utilities	0	126	99	225
Retail And WholesaleTrade	0	65	167	232
Services	0	446	658	1,104
Government	0	16	23	39
<b>Total</b>	<b>839</b>	<b>1,066</b>	<b>1,123</b>	<b>3,028</b>

## Michigan Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	4	10	14
Mining	40	28	2	70
Construction	0	30	12	42
Manufacturing	727	363	153	1,243
Transportation and Utilities	0	123	97	220
Retail And Wholesale Trade	0	63	161	224
Services	0	439	634	1,073
Government	0	15	22	38
<b>Total</b>	<b>767</b>	<b>1,064</b>	<b>1,093</b>	<b>2,924</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	4	11	15
Mining	28	30	3	61
Construction	0	31	13	43
Manufacturing	820	404	165	1,388
Transportation and Utilities	0	136	106	242
Retail And Wholesale Trade	0	69	175	244
Services	0	476	680	1,156
Government	0	17	24	41
<b>Total</b>	<b>849</b>	<b>1,166</b>	<b>1,176</b>	<b>3,190</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	5	13	18
Mining	33	37	3	73
Construction	0	39	16	55
Manufacturing	1,104	507	206	1,817
Transportation and Utilities	0	180	137	317
Retail And Wholesale Trade	0	89	227	315
Services	0	618	871	1,489
Government	0	21	31	52
<b>Total</b>	<b>1,136</b>	<b>1,495</b>	<b>1,504</b>	<b>4,135</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Minnesota Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	7	8
Mining	34	12	1	46
Construction	0	8	3	11
Manufacturing	0	80	48	128
Transportation and Utilities	0	25	24	49
Retail And WholesaleTrade	0	17	38	55
Services	0	129	179	307
Government	0	5	6	11
<b>Total</b>	<b>34</b>	<b>277</b>	<b>305</b>	<b>616</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	10	12
Mining	83	17	1	101
Construction	0	11	4	15
Manufacturing	0	119	74	193
Transportation and Utilities	0	39	36	75
Retail And WholesaleTrade	0	26	59	85
Services	0	193	271	464
Government	0	7	10	17
<b>Total</b>	<b>83</b>	<b>415</b>	<b>465</b>	<b>963</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	11	15
Mining	88	20	1	109
Construction	0	13	5	18
Manufacturing	0	146	91	238
Transportation and Utilities	0	48	43	91
Retail And WholesaleTrade	0	32	70	101
Services	0	232	324	556
Government	0	9	12	21
<b>Total</b>	<b>88</b>	<b>504</b>	<b>557</b>	<b>1,149</b>

## Minnesota Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	3	12	15
Mining	75	19	1	95
Construction	0	14	5	19
Manufacturing	0	141	92	233
Transportation and Utilities	0	50	44	93
Retail And Wholesale Trade	0	32	69	101
Services	0	233	325	558
Government	0	9	12	21
<b>Total</b>	<b>75</b>	<b>500</b>	<b>560</b>	<b>1,136</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	4	13	17
Mining	70	19	1	91
Construction	0	15	6	20
Manufacturing	0	151	98	249
Transportation and Utilities	0	55	47	102
Retail And Wholesale Trade	0	35	74	108
Services	0	248	347	595
Government	0	10	13	22
<b>Total</b>	<b>70</b>	<b>535</b>	<b>599</b>	<b>1,204</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	5	16	21
Mining	80	23	1	105
Construction	0	19	7	26
Manufacturing	0	188	124	313
Transportation and Utilities	0	70	60	130
Retail And Wholesale Trade	0	44	93	137
Services	0	308	434	742
Government	0	12	15	28
<b>Total</b>	<b>80</b>	<b>669</b>	<b>751</b>	<b>1,500</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**Mississippi Labor Income Contribution by State and Industry: Unconventional Gas\***  
 (\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	4	5
Mining	0	6	1	7
Construction	4	4	1	9
Manufacturing	0	31	21	52
Transportation and Utilities	0	16	17	32
Retail And WholesaleTrade	0	5	14	19
Services	0	30	46	76
Government	0	3	4	6
<b>Total</b>	<b>4</b>	<b>95</b>	<b>107</b>	<b>206</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	6	9
Mining	0	9	2	11
Construction	113	6	2	121
Manufacturing	0	48	32	80
Transportation and Utilities	0	29	29	58
Retail And WholesaleTrade	0	14	29	43
Services	0	70	94	165
Government	0	5	6	11
<b>Total</b>	<b>113</b>	<b>184</b>	<b>201</b>	<b>497</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	7	10
Mining	0	10	2	12
Construction	53	7	2	62
Manufacturing	0	57	39	96
Transportation and Utilities	0	33	34	66
Retail And WholesaleTrade	0	12	28	40
Services	0	66	96	161
Government	0	5	7	12
<b>Total</b>	<b>53</b>	<b>192</b>	<b>215</b>	<b>460</b>

**Mississippi Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	7	10
Mining	0	10	2	12
Construction	31	7	2	41
Manufacturing	0	54	40	94
Transportation and Utilities	0	32	34	66
Retail And WholesaleTrade	0	10	27	37
Services	0	62	93	155
Government	0	5	7	12
<b>Total</b>	<b>31</b>	<b>184</b>	<b>211</b>	<b>426</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	8	11
Mining	0	10	2	12
Construction	28	7	2	38
Manufacturing	0	56	41	97
Transportation and Utilities	0	35	36	71
Retail And WholesaleTrade	0	11	28	39
Services	0	66	100	166
Government	0	5	7	13
<b>Total</b>	<b>28</b>	<b>194</b>	<b>225</b>	<b>446</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	10	14
Mining	0	12	2	14
Construction	25	9	3	37
Manufacturing	0	65	49	114
Transportation and Utilities	0	43	45	88
Retail And WholesaleTrade	0	12	34	46
Services	0	81	125	206
Government	0	7	9	15
<b>Total</b>	<b>25</b>	<b>233</b>	<b>276</b>	<b>534</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Missouri Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	4
Mining	31	2	0	34
Construction	0	6	3	9
Manufacturing	226	38	23	288
Transportation and Utilities	0	29	21	50
Retail And WholesaleTrade	0	16	40	57
Services	0	111	159	269
Government	0	5	7	13
<b>Total</b>	<b>258</b>	<b>209</b>	<b>257</b>	<b>724</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	5	6
Mining	50	3	0	54
Construction	0	9	4	13
Manufacturing	329	57	35	421
Transportation and Utilities	0	43	30	73
Retail And WholesaleTrade	0	24	58	82
Services	0	158	224	383
Government	0	8	10	18
<b>Total</b>	<b>379</b>	<b>304</b>	<b>367</b>	<b>1,049</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	6	8
Mining	64	4	1	68
Construction	0	12	5	17
Manufacturing	418	70	42	530
Transportation and Utilities	0	53	37	90
Retail And WholesaleTrade	0	30	72	102
Services	0	197	275	472
Government	0	10	13	23
<b>Total</b>	<b>482</b>	<b>377</b>	<b>451</b>	<b>1,310</b>

**Missouri Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	6	8
Mining	60	4	0	64
Construction	0	12	5	17
Manufacturing	428	72	43	543
Transportation and Utilities	0	53	37	90
Retail And WholesaleTrade	0	30	73	102
Services	0	199	277	476
Government	0	10	13	23
<b>Total</b>	<b>488</b>	<b>381</b>	<b>455</b>	<b>1,323</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	7	8
Mining	64	4	1	69
Construction	0	13	5	18
Manufacturing	476	81	47	603
Transportation and Utilities	0	58	40	98
Retail And WholesaleTrade	0	32	79	111
Services	0	216	299	515
Government	0	11	14	25
<b>Total</b>	<b>540</b>	<b>416</b>	<b>492</b>	<b>1,448</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	9	11
Mining	82	5	1	87
Construction	0	16	7	23
Manufacturing	586	103	58	746
Transportation and Utilities	0	71	50	121
Retail And WholesaleTrade	0	40	98	138
Services	0	267	369	636
Government	0	14	17	31
<b>Total</b>	<b>668</b>	<b>518</b>	<b>609</b>	<b>1,794</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Montana Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	2	3
Mining	13	9	1	23
Construction	0	3	1	3
Manufacturing	0	5	3	8
Transportation and Utilities	0	7	7	14
Retail And WholesaleTrade	0	2	7	9
Services	0	15	26	42
Government	0	1	1	2
<b>Total</b>	<b>13</b>	<b>43</b>	<b>49</b>	<b>104</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	4
Mining	12	16	2	30
Construction	0	3	1	4
Manufacturing	0	7	5	12
Transportation and Utilities	0	11	10	21
Retail And WholesaleTrade	0	3	9	13
Services	0	21	37	59
Government	0	2	2	4
<b>Total</b>	<b>12</b>	<b>64</b>	<b>70</b>	<b>146</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	4	6
Mining	10	19	3	32
Construction	0	3	1	4
Manufacturing	0	8	6	14
Transportation and Utilities	0	13	12	25
Retail And WholesaleTrade	0	4	11	15
Services	0	26	45	72
Government	0	2	2	4
<b>Total</b>	<b>11</b>	<b>77</b>	<b>85</b>	<b>173</b>

**Montana Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	5	6
Mining	9	19	3	32
Construction	0	3	1	4
Manufacturing	0	8	6	15
Transportation and Utilities	0	12	12	24
Retail And WholesaleTrade	0	4	11	15
Services	0	27	46	74
Government	0	2	3	4
<b>Total</b>	<b>10</b>	<b>78</b>	<b>87</b>	<b>174</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	5	7
Mining	8	21	3	32
Construction	0	3	1	4
Manufacturing	0	9	7	16
Transportation and Utilities	0	13	12	25
Retail And WholesaleTrade	0	4	12	17
Services	0	29	50	79
Government	0	2	3	5
<b>Total</b>	<b>8</b>	<b>83</b>	<b>93</b>	<b>184</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	7	9
Mining	8	28	4	40
Construction	0	4	1	5
Manufacturing	0	11	8	20
Transportation and Utilities	0	16	15	31
Retail And WholesaleTrade	0	5	15	21
Services	0	36	62	99
Government	0	3	3	6
<b>Total</b>	<b>9</b>	<b>105</b>	<b>117</b>	<b>230</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Nebraska Labor Income Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	4	5
Mining	0	1	0	1
Construction	0	4	1	5
Manufacturing	5	17	14	35
Transportation and Utilities	0	25	16	40
Retail And WholesaleTrade	0	7	13	20
Services	0	39	56	96
Government	0	2	3	5
<b>Total</b>	<b>5</b>	<b>95</b>	<b>107</b>	<b>207</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	6	8
Mining	0	1	0	1
Construction	0	6	2	8
Manufacturing	13	26	21	60
Transportation and Utilities	0	40	25	64
Retail And WholesaleTrade	0	11	20	31
Services	0	63	87	150
Government	0	3	4	7
<b>Total</b>	<b>13</b>	<b>152</b>	<b>164</b>	<b>329</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	8	10
Mining	0	2	0	2
Construction	0	7	2	9
Manufacturing	16	33	26	75
Transportation and Utilities	0	50	30	80
Retail And WholesaleTrade	0	14	24	38
Services	0	84	108	192
Government	0	4	5	9
<b>Total</b>	<b>16</b>	<b>195</b>	<b>203</b>	<b>415</b>

## Nebraska Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	8	11
Mining	0	2	0	2
Construction	0	8	2	10
Manufacturing	18	36	27	81
Transportation and Utilities	0	49	31	80
Retail And Wholesale Trade	0	14	25	39
Services	0	90	112	203
Government	0	4	5	9
<b>Total</b>	<b>18</b>	<b>205</b>	<b>210</b>	<b>433</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	9	12
Mining	0	2	0	2
Construction	0	8	2	11
Manufacturing	20	42	29	91
Transportation and Utilities	0	52	32	85
Retail And Wholesale Trade	0	15	26	42
Services	0	102	122	224
Government	0	5	5	10
<b>Total</b>	<b>20</b>	<b>229</b>	<b>227</b>	<b>476</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	11	14
Mining	0	2	0	2
Construction	0	11	3	14
Manufacturing	25	56	37	119
Transportation and Utilities	0	65	40	106
Retail And Wholesale Trade	0	19	33	52
Services	0	133	154	287
Government	0	6	6	12
<b>Total</b>	<b>25</b>	<b>295</b>	<b>286</b>	<b>606</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**Nevada Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	6	0	7
Construction	38	2	1	41
Manufacturing	1	5	2	7
Transportation and Utilities	0	4	5	10
Retail And WholesaleTrade	0	3	7	11
Services	0	26	31	57
Government	0	1	1	2
<b>Total</b>	<b>38</b>	<b>47</b>	<b>49</b>	<b>133</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	8	1	9
Construction	0	2	1	2
Manufacturing	1	5	3	9
Transportation and Utilities	0	5	5	11
Retail And WholesaleTrade	0	2	6	8
Services	0	27	33	59
Government	0	1	1	2
<b>Total</b>	<b>1</b>	<b>50</b>	<b>50</b>	<b>101</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	11	1	12
Construction	6	2	1	9
Manufacturing	1	6	4	11
Transportation and Utilities	0	7	7	14
Retail And WholesaleTrade	0	3	8	11
Services	0	35	43	79
Government	0	1	1	2
<b>Total</b>	<b>7</b>	<b>65</b>	<b>66</b>	<b>138</b>

**Nevada Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	11	1	12
Construction	0	2	1	3
Manufacturing	1	5	4	10
Transportation and Utilities	0	8	8	15
Retail And WholesaleTrade	0	3	8	11
Services	0	35	44	79
Government	0	1	1	2
<b>Total</b>	<b>1</b>	<b>65</b>	<b>66</b>	<b>132</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	12	1	13
Construction	0	2	1	3
Manufacturing	1	6	4	11
Transportation and Utilities	0	9	9	17
Retail And WholesaleTrade	0	3	9	12
Services	0	39	49	88
Government	0	1	2	3
<b>Total</b>	<b>1</b>	<b>71</b>	<b>74</b>	<b>146</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	1
Mining	0	14	1	16
Construction	0	2	1	3
Manufacturing	1	7	5	13
Transportation and Utilities	0	11	11	23
Retail And WholesaleTrade	0	4	12	16
Services	0	50	63	113
Government	0	2	2	4
<b>Total</b>	<b>1</b>	<b>91</b>	<b>96</b>	<b>189</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**New Hampshire Labor Income Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	1	0	1
Manufacturing	0	8	3	11
Transportation and Utilities	0	1	1	3
Retail And WholesaleTrade	0	1	3	5
Services	0	8	13	21
Government	0	0	0	1
<b>Total</b>	<b>0</b>	<b>20</b>	<b>21</b>	<b>41</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	1	0	1
Manufacturing	0	10	4	14
Transportation and Utilities	0	2	2	4
Retail And WholesaleTrade	0	2	5	7
Services	0	12	19	31
Government	0	1	1	1
<b>Total</b>	<b>0</b>	<b>28</b>	<b>31</b>	<b>59</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	1
Mining	0	0	0	0
Construction	0	1	0	2
Manufacturing	0	12	5	17
Transportation and Utilities	0	2	2	4
Retail And WholesaleTrade	0	3	6	9
Services	0	16	23	39
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>35</b>	<b>38</b>	<b>73</b>

**New Hampshire Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	1
Mining	0	0	0	0
Construction	0	1	0	2
Manufacturing	0	12	5	17
Transportation and Utilities	0	2	2	4
Retail And WholesaleTrade	0	3	6	9
Services	0	16	23	39
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>35</b>	<b>38</b>	<b>73</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	1
Mining	0	0	0	0
Construction	0	1	0	2
Manufacturing	0	12	5	17
Transportation and Utilities	0	2	2	5
Retail And WholesaleTrade	0	3	7	10
Services	0	17	25	42
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>37</b>	<b>41</b>	<b>78</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	1
Mining	0	0	0	0
Construction	0	2	1	2
Manufacturing	0	15	6	21
Transportation and Utilities	0	3	3	6
Retail And WholesaleTrade	0	4	9	13
Services	0	21	32	53
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>47</b>	<b>52</b>	<b>99</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**New Jersey Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	1	0	1
Construction	10	6	2	18
Manufacturing	52	35	31	118
Transportation and Utilities	0	19	19	38
Retail And WholesaleTrade	0	17	31	49
Services	0	116	147	263
Government	0	4	5	9
<b>Total</b>	<b>62</b>	<b>198</b>	<b>237</b>	<b>497</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	2
Mining	0	1	0	1
Construction	0	9	3	12
Manufacturing	54	45	42	141
Transportation and Utilities	0	27	28	55
Retail And WholesaleTrade	0	24	44	67
Services	0	167	206	373
Government	0	5	7	12
<b>Total</b>	<b>54</b>	<b>278</b>	<b>330</b>	<b>662</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	2	2
Mining	0	1	0	1
Construction	0	11	4	15
Manufacturing	78	52	51	181
Transportation and Utilities	0	33	34	67
Retail And WholesaleTrade	0	29	54	83
Services	0	205	247	452
Government	0	7	8	15
<b>Total</b>	<b>78</b>	<b>339</b>	<b>400</b>	<b>817</b>

## New Jersey Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	0	2	2
Mining	0	1	0	1
Construction	0	12	4	15
Manufacturing	69	46	50	166
Transportation and Utilities	0	34	35	69
Retail And WholesaleTrade	0	28	54	81
Services	0	208	247	454
Government	0	6	8	15
<b>Total</b>	<b>69</b>	<b>335</b>	<b>400</b>	<b>804</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	1	2	2
Mining	0	1	0	1
Construction	0	11	4	15
Manufacturing	82	46	53	181
Transportation and Utilities	0	37	38	75
Retail And WholesaleTrade	0	30	58	87
Services	0	222	261	483
Government	0	7	9	16
<b>Total</b>	<b>82</b>	<b>355</b>	<b>425</b>	<b>861</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	1	2	3
Mining	0	1	0	1
Construction	0	13	4	17
Manufacturing	123	55	66	243
Transportation and Utilities	0	47	48	95
Retail And WholesaleTrade	0	38	74	112
Services	0	279	325	605
Government	0	9	11	20
<b>Total</b>	<b>123</b>	<b>443</b>	<b>531</b>	<b>1,097</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**New Mexico Labor Income Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	2	3
Mining	710	26	5	740
Construction	24	60	5	89
Manufacturing	45	11	8	64
Transportation and Utilities	3	32	30	64
Retail And WholesaleTrade	0	24	72	95
Services	3	154	228	385
Government	0	8	13	20
<b>Total</b>	<b>785</b>	<b>314</b>	<b>362</b>	<b>1,461</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	3	3
Mining	633	38	7	678
Construction	5	55	5	65
Manufacturing	67	15	10	92
Transportation and Utilities	3	35	30	69
Retail And WholesaleTrade	0	26	70	95
Services	1	157	226	384
Government	0	9	13	21
<b>Total</b>	<b>709</b>	<b>335</b>	<b>363</b>	<b>1,407</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	4
Mining	472	45	9	526
Construction	5	43	4	53
Manufacturing	75	18	11	103
Transportation and Utilities	3	35	28	65
Retail And WholesaleTrade	0	25	61	86
Services	1	151	206	357
Government	0	9	12	21
<b>Total</b>	<b>556</b>	<b>324</b>	<b>334</b>	<b>1,215</b>

**New Mexico Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	4
Mining	394	46	9	449
Construction	20	37	4	62
Manufacturing	82	16	11	109
Transportation and Utilities	3	34	26	63
Retail And WholesaleTrade	0	25	58	83
Services	1	147	196	344
Government	0	9	12	20
<b>Total</b>	<b>500</b>	<b>315</b>	<b>318</b>	<b>1,134</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	4
Mining	356	50	10	416
Construction	6	35	4	45
Manufacturing	85	16	12	113
Transportation and Utilities	3	34	25	62
Retail And WholesaleTrade	0	25	55	80
Services	1	145	192	338
Government	0	9	11	20
<b>Total</b>	<b>451</b>	<b>315</b>	<b>313</b>	<b>1,079</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	4	5
Mining	410	65	13	489
Construction	6	41	5	53
Manufacturing	100	19	15	134
Transportation and Utilities	4	40	30	74
Retail And WholesaleTrade	0	29	66	95
Services	1	173	229	404
Government	0	11	14	24
<b>Total</b>	<b>522</b>	<b>379</b>	<b>376</b>	<b>1,277</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**New York Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	4	6
Mining	10	6	1	17
Construction	3	30	11	43
Manufacturing	26	121	80	227
Transportation and Utilities	0	61	66	127
Retail And WholesaleTrade	0	47	105	152
Services	0	522	737	1,259
Government	0	17	22	39
<b>Total</b>	<b>39</b>	<b>806</b>	<b>1,026</b>	<b>1,871</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	7	9
Mining	6	8	1	16
Construction	0	35	14	49
Manufacturing	28	173	114	316
Transportation and Utilities	0	88	94	181
Retail And WholesaleTrade	0	69	151	220
Services	0	787	1,078	1,864
Government	0	25	32	56
<b>Total</b>	<b>35</b>	<b>1,186</b>	<b>1,490</b>	<b>2,710</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	8	10
Mining	4	11	1	16
Construction	1	37	16	55
Manufacturing	42	209	136	386
Transportation and Utilities	0	100	106	206
Retail And WholesaleTrade	0	84	184	269
Services	0	948	1,283	2,231
Government	0	31	38	69
<b>Total</b>	<b>47</b>	<b>1,423</b>	<b>1,772</b>	<b>3,242</b>

**New York Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	8	11
Mining	2	11	2	15
Construction	0	36	16	52
Manufacturing	38	194	133	365
Transportation and Utilities	0	92	99	191
Retail And WholesaleTrade	0	83	184	267
Services	0	944	1,275	2,219
Government	0	30	38	68
<b>Total</b>	<b>40</b>	<b>1,393</b>	<b>1,754</b>	<b>3,187</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	9	12
Mining	2	11	2	15
Construction	0	34	16	50
Manufacturing	45	200	139	385
Transportation and Utilities	0	94	100	194
Retail And WholesaleTrade	0	89	196	285
Services	0	988	1,327	2,315
Government	0	32	41	73
<b>Total</b>	<b>47</b>	<b>1,453</b>	<b>1,829</b>	<b>3,328</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	11	15
Mining	2	14	2	18
Construction	0	40	19	59
Manufacturing	69	242	171	482
Transportation and Utilities	0	111	118	229
Retail And WholesaleTrade	0	113	245	358
Services	0	1,208	1,616	2,825
Government	0	40	50	90
<b>Total</b>	<b>71</b>	<b>1,772</b>	<b>2,233</b>	<b>4,075</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**North Carolina Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	5	7
Mining	0	3	0	3
Construction	4	16	5	26
Manufacturing	0	101	82	182
Transportation and Utilities	0	27	29	55
Retail And WholesaleTrade	0	22	51	74
Services	0	156	209	365
Government	0	8	10	18
<b>Total</b>	<b>4</b>	<b>335</b>	<b>391</b>	<b>731</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	7	10
Mining	0	4	1	5
Construction	0	23	7	31
Manufacturing	0	144	119	263
Transportation and Utilities	0	38	39	77
Retail And WholesaleTrade	0	33	75	108
Services	0	233	308	541
Government	0	11	15	26
<b>Total</b>	<b>0</b>	<b>490</b>	<b>571</b>	<b>1,061</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	9	12
Mining	0	5	1	6
Construction	8	29	9	47
Manufacturing	0	179	143	322
Transportation and Utilities	0	46	47	93
Retail And WholesaleTrade	0	41	93	134
Services	0	292	388	680
Government	0	15	18	33
<b>Total</b>	<b>8</b>	<b>610</b>	<b>708</b>	<b>1,326</b>

**North Carolina Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**

(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	9	12
Mining	0	5	1	5
Construction	0	32	10	42
Manufacturing	0	168	141	309
Transportation and Utilities	0	43	46	89
Retail And WholesaleTrade	0	41	93	134
Services	0	298	400	698
Government	0	15	19	34
<b>Total</b>	<b>0</b>	<b>605</b>	<b>717</b>	<b>1,323</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	9	13
Mining	0	5	1	6
Construction	0	35	11	46
Manufacturing	0	173	146	319
Transportation and Utilities	0	45	48	94
Retail And WholesaleTrade	0	44	100	145
Services	0	325	440	765
Government	0	16	21	37
<b>Total</b>	<b>0</b>	<b>647</b>	<b>776</b>	<b>1,424</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	13	17
Mining	0	7	1	8
Construction	0	46	15	60
Manufacturing	0	204	177	380
Transportation and Utilities	0	55	59	115
Retail And WholesaleTrade	0	54	125	179
Services	0	409	560	969
Government	0	21	26	47
<b>Total</b>	<b>0</b>	<b>800</b>	<b>975</b>	<b>1,775</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**North Dakota Labor Income Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	3
Mining	0	13	3	16
Construction	0	2	1	2
Manufacturing	0	5	3	8
Transportation and Utilities	0	6	5	10
Retail And WholesaleTrade	0	3	6	8
Services	0	11	18	30
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>41</b>	<b>39</b>	<b>79</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	4	5
Mining	0	33	7	40
Construction	0	3	1	4
Manufacturing	0	8	5	12
Transportation and Utilities	0	9	8	17
Retail And WholesaleTrade	0	4	9	13
Services	0	18	27	45
Government	0	1	2	3
<b>Total</b>	<b>0</b>	<b>77</b>	<b>62</b>	<b>138</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	5	6
Mining	0	45	10	54
Construction	0	3	1	4
Manufacturing	0	10	6	17
Transportation and Utilities	0	11	9	20
Retail And WholesaleTrade	0	5	11	16
Services	0	23	35	58
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>101</b>	<b>78</b>	<b>179</b>

**North Dakota Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	5	6
Mining	0	50	11	61
Construction	0	3	1	5
Manufacturing	0	11	7	18
Transportation and Utilities	0	11	9	21
Retail And WholesaleTrade	0	5	11	16
Services	0	25	37	62
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>109</b>	<b>83</b>	<b>192</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	5	7
Mining	0	56	12	69
Construction	0	4	1	5
Manufacturing	0	12	8	21
Transportation and Utilities	0	12	10	22
Retail And WholesaleTrade	0	5	12	17
Services	0	29	42	71
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>122</b>	<b>93</b>	<b>215</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	7	8
Mining	0	76	16	92
Construction	0	5	2	6
Manufacturing	0	16	11	27
Transportation and Utilities	0	15	12	28
Retail And WholesaleTrade	0	7	15	22
Services	0	38	56	94
Government	0	2	3	5
<b>Total</b>	<b>0</b>	<b>160</b>	<b>122</b>	<b>282</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.  
 Source: IHS Global Insight

**Ohio Labor Income Contribution by State and Industry: Unconventional Gas\***  
 (\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	6	8
Mining	51	17	3	70
Construction	0	21	7	28
Manufacturing	322	307	115	744
Transportation and Utilities	0	92	75	167
Retail And WholesaleTrade	0	81	113	194
Services	0	342	451	792
Government	0	11	16	27
<b>Total</b>	<b>372</b>	<b>873</b>	<b>786</b>	<b>2,031</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	9	11
Mining	55	24	4	83
Construction	0	28	10	38
Manufacturing	378	431	164	973
Transportation and Utilities	0	129	106	235
Retail And WholesaleTrade	0	103	148	251
Services	0	456	599	1,055
Government	0	16	21	37
<b>Total</b>	<b>434</b>	<b>1,189</b>	<b>1,061</b>	<b>2,684</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	11	14
Mining	78	30	6	114
Construction	0	34	13	47
Manufacturing	582	552	205	1,340
Transportation and Utilities	0	177	138	315
Retail And WholesaleTrade	0	146	194	340
Services	0	599	773	1,372
Government	0	21	27	48
<b>Total</b>	<b>660</b>	<b>1,563</b>	<b>1,367</b>	<b>3,590</b>

**Ohio Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	11	14
Mining	69	31	6	105
Construction	0	35	12	47
Manufacturing	527	556	213	1,296
Transportation and Utilities	0	170	137	306
Retail And WholesaleTrade	0	136	186	322
Services	0	575	747	1,322
Government	0	21	27	47
<b>Total</b>	<b>596</b>	<b>1,526</b>	<b>1,338</b>	<b>3,460</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	11	15
Mining	81	33	6	120
Construction	0	38	14	51
Manufacturing	626	623	235	1,484
Transportation and Utilities	0	190	151	342
Retail And WholesaleTrade	0	155	205	360
Services	0	630	814	1,443
Government	0	23	29	52
<b>Total</b>	<b>708</b>	<b>1,694</b>	<b>1,466</b>	<b>3,867</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	14	18
Mining	125	42	8	175
Construction	0	49	18	67
Manufacturing	934	814	305	2,054
Transportation and Utilities	0	255	198	453
Retail And WholesaleTrade	0	214	275	489
Services	0	831	1,070	1,901
Government	0	30	38	68
<b>Total</b>	<b>1,059</b>	<b>2,240</b>	<b>1,927</b>	<b>5,225</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



Oklahoma Labor Income Contribution by State and Industry: Unconventional Gas\*

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	5	6
Mining	515	81	17	613
Construction	126	28	5	159
Manufacturing	221	78	26	326
Transportation and Utilities	23	74	50	147
Retail And WholesaleTrade	0	49	95	144
Services	19	240	313	572
Government	0	11	15	26
<b>Total</b>	<b>903</b>	<b>563</b>	<b>527</b>	<b>1,993</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	7	9
Mining	766	115	24	906
Construction	115	42	7	164
Manufacturing	357	118	39	515
Transportation and Utilities	70	115	73	258
Retail And WholesaleTrade	0	76	140	216
Services	29	365	460	854
Government	0	17	22	39
<b>Total</b>	<b>1,338</b>	<b>850</b>	<b>774</b>	<b>2,961</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	9	11
Mining	895	133	28	1,056
Construction	128	46	8	183
Manufacturing	450	142	47	639
Transportation and Utilities	82	140	88	309
Retail And WholesaleTrade	0	93	167	260
Services	30	438	548	1,016
Government	0	21	26	47
<b>Total</b>	<b>1,585</b>	<b>1,015</b>	<b>922</b>	<b>3,522</b>

**Oklahoma Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**

(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	9	11
Mining	955	136	28	1,119
Construction	143	49	9	201
Manufacturing	444	141	48	633
Transportation and Utilities	85	142	90	317
Retail And WholesaleTrade	0	93	173	266
Services	32	452	569	1,053
Government	0	21	27	49
<b>Total</b>	<b>1,659</b>	<b>1,037</b>	<b>954</b>	<b>3,649</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	10	12
Mining	1,019	146	30	1,195
Construction	159	52	9	220
Manufacturing	482	153	52	688
Transportation and Utilities	96	152	97	345
Retail And WholesaleTrade	0	100	186	286
Services	36	490	614	1,139
Government	0	23	29	52
<b>Total</b>	<b>1,791</b>	<b>1,118</b>	<b>1,028</b>	<b>3,937</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	13	15
Mining	1,275	185	39	1,499
Construction	198	64	11	273
Manufacturing	582	191	65	838
Transportation and Utilities	120	187	120	427
Retail And WholesaleTrade	0	123	231	353
Services	45	607	762	1,414
Government	0	29	36	65
<b>Total</b>	<b>2,219</b>	<b>1,389</b>	<b>1,276</b>	<b>4,885</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Oregon Labor Income Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	6	10
Mining	0	2	0	2
Construction	24	7	2	33
Manufacturing	15	56	26	97
Transportation and Utilities	0	16	15	31
Retail And WholesaleTrade	0	14	26	41
Services	0	77	106	183
Government	0	4	5	10
<b>Total</b>	<b>39</b>	<b>179</b>	<b>188</b>	<b>406</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	9	14
Mining	0	3	0	3
Construction	0	10	3	14
Manufacturing	16	82	39	138
Transportation and Utilities	0	22	21	43
Retail And WholesaleTrade	0	19	34	53
Services	0	104	143	248
Government	0	6	7	13
<b>Total</b>	<b>16</b>	<b>251</b>	<b>257</b>	<b>524</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	11	17
Mining	0	4	0	5
Construction	0	13	4	17
Manufacturing	20	104	48	172
Transportation and Utilities	0	28	25	53
Retail And WholesaleTrade	0	23	42	65
Services	0	132	178	310
Government	0	7	8	16
<b>Total</b>	<b>20</b>	<b>317</b>	<b>318</b>	<b>654</b>

**Oregon Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	11	16
Mining	0	5	1	6
Construction	0	13	4	18
Manufacturing	15	101	49	164
Transportation and Utilities	0	27	25	52
Retail And WholesaleTrade	0	22	42	64
Services	0	134	181	315
Government	0	7	8	15
<b>Total</b>	<b>15</b>	<b>314</b>	<b>322</b>	<b>651</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	12	17
Mining	0	6	1	7
Construction	0	14	5	19
Manufacturing	12	105	51	169
Transportation and Utilities	0	28	27	55
Retail And WholesaleTrade	0	23	45	68
Services	0	143	195	338
Government	0	7	9	16
<b>Total</b>	<b>12</b>	<b>331</b>	<b>344</b>	<b>688</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	15	21
Mining	0	8	1	9
Construction	0	18	6	24
Manufacturing	13	127	64	203
Transportation and Utilities	0	35	34	69
Retail And WholesaleTrade	0	28	57	85
Services	0	179	246	424
Government	0	9	11	20
<b>Total</b>	<b>13</b>	<b>410</b>	<b>433</b>	<b>856</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Pennsylvania Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	8	11
Mining	601	45	8	654
Construction	292	70	16	378
Manufacturing	156	286	126	567
Transportation and Utilities	115	135	117	367
Retail And WholesaleTrade	0	103	217	320
Services	46	668	920	1,634
Government	0	16	28	45
<b>Total</b>	<b>1,210</b>	<b>1,326</b>	<b>1,439</b>	<b>3,975</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	14	18
Mining	2,293	106	17	2,416
Construction	303	218	30	552
Manufacturing	169	433	209	811
Transportation and Utilities	149	243	229	621
Retail And WholesaleTrade	0	175	450	626
Services	67	1,317	1,838	3,222
Government	0	30	57	87
<b>Total</b>	<b>2,981</b>	<b>2,526</b>	<b>2,844</b>	<b>8,351</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	20	25
Mining	3,521	137	21	3,680
Construction	453	316	43	813
Manufacturing	289	572	273	1,134
Transportation and Utilities	233	356	329	918
Retail And WholesaleTrade	0	267	663	930
Services	93	1,956	2,660	4,709
Government	0	44	83	127
<b>Total</b>	<b>4,590</b>	<b>3,654</b>	<b>4,093</b>	<b>12,336</b>

**Pennsylvania Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	20	26
Mining	3,822	141	21	3,984
Construction	413	349	44	807
Manufacturing	265	546	276	1,087
Transportation and Utilities	207	357	339	903
Retail And WholesaleTrade	0	262	683	945
Services	83	1,975	2,734	4,792
Government	0	44	86	130
<b>Total</b>	<b>4,791</b>	<b>3,679</b>	<b>4,204</b>	<b>12,674</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6	22	29
Mining	4,283	152	23	4,458
Construction	501	384	49	935
Manufacturing	315	596	301	1,211
Transportation and Utilities	253	403	380	1,036
Retail And WholesaleTrade	0	302	771	1,072
Services	102	2,238	3,062	5,401
Government	0	50	97	147
<b>Total</b>	<b>5,453</b>	<b>4,130</b>	<b>4,706</b>	<b>14,289</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	8	30	39
Mining	6,174	203	30	6,408
Construction	779	539	69	1,388
Manufacturing	462	776	402	1,640
Transportation and Utilities	393	569	536	1,498
Retail And WholesaleTrade	0	433	1,097	1,531
Services	158	3,178	4,304	7,640
Government	0	70	137	207
<b>Total</b>	<b>7,966</b>	<b>5,777</b>	<b>6,606</b>	<b>20,349</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Rhode Island Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	0	1
Mining	0	0	0	0
Construction	0	1	1	2
Manufacturing	0	13	6	18
Transportation and Utilities	0	3	2	5
Retail And WholesaleTrade	0	2	5	7
Services	0	20	32	52
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>40</b>	<b>47</b>	<b>87</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	0
Construction	0	2	1	3
Manufacturing	0	19	8	27
Transportation and Utilities	0	4	3	7
Retail And WholesaleTrade	0	3	8	11
Services	0	29	45	74
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>58</b>	<b>67</b>	<b>125</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	0
Construction	0	2	1	3
Manufacturing	0	23	10	32
Transportation and Utilities	0	4	4	8
Retail And WholesaleTrade	0	4	9	13
Services	0	35	53	88
Government	0	1	2	3
<b>Total</b>	<b>0</b>	<b>69</b>	<b>79</b>	<b>148</b>

**Rhode Island Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	0
Construction	0	2	1	3
Manufacturing	0	21	9	31
Transportation and Utilities	0	4	4	8
Retail And WholesaleTrade	0	4	9	13
Services	0	35	53	88
Government	0	1	2	3
<b>Total</b>	<b>0</b>	<b>67</b>	<b>79</b>	<b>146</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	0
Construction	0	2	1	3
Manufacturing	0	21	10	31
Transportation and Utilities	0	4	4	8
Retail And WholesaleTrade	0	4	9	14
Services	0	36	56	93
Government	0	1	2	3
<b>Total</b>	<b>0</b>	<b>69</b>	<b>83</b>	<b>152</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	0	0	1
Construction	0	2	1	3
Manufacturing	0	25	12	37
Transportation and Utilities	0	5	5	9
Retail And WholesaleTrade	0	5	11	16
Services	0	44	69	113
Government	0	1	2	3
<b>Total</b>	<b>0</b>	<b>83</b>	<b>101</b>	<b>184</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**South Carolina Labor Income Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	3	4
Mining	0	1	0	1
Construction	3	7	2	12
Manufacturing	0	73	37	111
Transportation and Utilities	0	16	16	32
Retail And WholesaleTrade	0	9	24	33
Services	0	61	91	152
Government	0	4	5	9
<b>Total</b>	<b>3</b>	<b>172</b>	<b>178</b>	<b>353</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	4	6
Mining	0	2	0	2
Construction	0	11	3	13
Manufacturing	0	110	56	166
Transportation and Utilities	0	24	23	47
Retail And WholesaleTrade	0	14	35	49
Services	0	90	134	224
Government	0	5	7	12
<b>Total</b>	<b>0</b>	<b>257</b>	<b>263</b>	<b>521</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	5	7
Mining	0	3	0	3
Construction	4	13	4	21
Manufacturing	0	136	69	206
Transportation and Utilities	0	29	28	58
Retail And WholesaleTrade	0	18	43	61
Services	0	114	169	283
Government	0	7	9	16
<b>Total</b>	<b>4</b>	<b>323</b>	<b>327</b>	<b>654</b>

**South Carolina Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	5	7
Mining	0	3	0	3
Construction	1	14	4	18
Manufacturing	0	139	73	212
Transportation and Utilities	0	29	28	57
Retail And WholesaleTrade	0	17	43	60
Services	0	117	173	291
Government	0	7	9	16
<b>Total</b>	<b>1</b>	<b>329</b>	<b>335</b>	<b>665</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	5	7
Mining	0	3	0	4
Construction	1	15	4	20
Manufacturing	1	155	81	236
Transportation and Utilities	0	31	30	61
Retail And WholesaleTrade	0	19	46	65
Services	0	130	190	320
Government	0	8	10	17
<b>Total</b>	<b>2</b>	<b>362</b>	<b>367</b>	<b>731</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	6	9
Mining	0	4	1	5
Construction	0	19	5	24
Manufacturing	1	195	104	300
Transportation and Utilities	0	38	38	76
Retail And WholesaleTrade	0	23	57	81
Services	0	165	241	405
Government	0	9	12	21
<b>Total</b>	<b>1</b>	<b>457</b>	<b>463</b>	<b>921</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**South Dakota Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	2	3
Mining	0	1	0	1
Construction	0	2	1	2
Manufacturing	0	8	5	13
Transportation and Utilities	0	4	4	7
Retail And WholesaleTrade	0	3	6	8
Services	0	12	22	33
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>30</b>	<b>40</b>	<b>70</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	4	5
Mining	0	1	0	1
Construction	0	2	1	3
Manufacturing	0	12	7	19
Transportation and Utilities	0	6	5	11
Retail And WholesaleTrade	0	4	9	13
Services	0	17	32	50
Government	0	1	2	3
<b>Total</b>	<b>0</b>	<b>44</b>	<b>60</b>	<b>104</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	5	6
Mining	0	1	0	2
Construction	0	2	1	3
Manufacturing	0	14	9	23
Transportation and Utilities	0	7	6	14
Retail And WholesaleTrade	0	5	11	15
Services	0	21	39	60
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>54</b>	<b>73</b>	<b>127</b>

## South Dakota Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	5	6
Mining	0	1	0	2
Construction	0	2	1	3
Manufacturing	0	13	9	23
Transportation and Utilities	0	8	7	14
Retail And Wholesale Trade	0	5	11	15
Services	0	22	40	62
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>54</b>	<b>75</b>	<b>129</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	5	7
Mining	0	1	0	2
Construction	0	2	1	3
Manufacturing	0	14	10	24
Transportation and Utilities	0	8	8	16
Retail And Wholesale Trade	0	5	11	16
Services	0	24	43	67
Government	0	2	2	4
<b>Total</b>	<b>0</b>	<b>58</b>	<b>80</b>	<b>139</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	7	9
Mining	0	2	0	2
Construction	0	3	1	4
Manufacturing	0	17	12	29
Transportation and Utilities	0	11	10	20
Retail And Wholesale Trade	0	6	14	20
Services	0	30	53	83
Government	0	2	3	5
<b>Total</b>	<b>0</b>	<b>72</b>	<b>100</b>	<b>173</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Tennessee Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	4	5
Mining	0	4	1	4
Construction	0	10	3	12
Manufacturing	7	83	53	143
Transportation and Utilities	0	33	37	70
Retail And WholesaleTrade	0	17	37	54
Services	0	94	143	237
Government	0	5	6	11
<b>Total</b>	<b>7</b>	<b>246</b>	<b>284</b>	<b>537</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	6	8
Mining	0	5	1	6
Construction	0	14	4	19
Manufacturing	3	125	81	209
Transportation and Utilities	0	48	54	102
Retail And WholesaleTrade	0	24	52	76
Services	0	139	207	346
Government	0	7	9	16
<b>Total</b>	<b>3</b>	<b>364</b>	<b>414</b>	<b>782</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	8	10
Mining	0	7	1	8
Construction	0	18	5	23
Manufacturing	8	157	102	267
Transportation and Utilities	0	58	64	122
Retail And WholesaleTrade	0	30	64	95
Services	0	175	257	432
Government	0	9	11	20
<b>Total</b>	<b>8</b>	<b>456</b>	<b>513</b>	<b>977</b>

**Tennessee Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	8	10
Mining	0	7	1	8
Construction	0	19	6	24
Manufacturing	5	161	108	275
Transportation and Utilities	0	57	63	121
Retail And WholesaleTrade	0	30	65	95
Services	0	181	264	445
Government	0	9	11	21
<b>Total</b>	<b>5</b>	<b>467</b>	<b>526</b>	<b>998</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	9	11
Mining	0	7	1	9
Construction	0	20	6	26
Manufacturing	5	181	120	307
Transportation and Utilities	0	61	67	128
Retail And WholesaleTrade	0	32	70	102
Services	0	197	286	483
Government	0	10	12	22
<b>Total</b>	<b>5</b>	<b>512</b>	<b>571</b>	<b>1,089</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	11	14
Mining	0	9	1	11
Construction	0	26	8	34
Manufacturing	5	231	154	390
Transportation and Utilities	0	76	83	160
Retail And WholesaleTrade	0	40	87	127
Services	0	249	359	608
Government	0	12	15	28
<b>Total</b>	<b>5</b>	<b>646</b>	<b>720</b>	<b>1,371</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Texas Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	9	41	50
Mining	5,749	578	135	6,463
Construction	1,294	358	71	1,723
Manufacturing	1,860	910	406	3,176
Transportation and Utilities	306	873	687	1,866
Retail And WholesaleTrade	0	648	1,283	1,931
Services	168	3,097	4,194	7,459
Government	0	64	108	172
<b>Total</b>	<b>9,377</b>	<b>6,538</b>	<b>6,925</b>	<b>22,840</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	12	56	67
Mining	8,049	809	189	9,046
Construction	1,020	470	95	1,584
Manufacturing	2,677	1,257	554	4,488
Transportation and Utilities	505	1,242	928	2,676
Retail And WholesaleTrade	0	894	1,713	2,607
Services	235	4,218	5,611	10,065
Government	0	91	145	237
<b>Total</b>	<b>12,486</b>	<b>8,993</b>	<b>9,291</b>	<b>30,769</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	15	69	84
Mining	9,962	965	232	11,159
Construction	1,335	549	120	2,004
Manufacturing	3,543	1,626	695	5,864
Transportation and Utilities	705	1,608	1,179	3,492
Retail And WholesaleTrade	0	1,186	2,181	3,367
Services	295	5,494	7,127	12,915
Government	0	120	187	307
<b>Total</b>	<b>15,840</b>	<b>11,562</b>	<b>11,790</b>	<b>39,192</b>

## Texas Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	15	71	86
Mining	10,427	1,004	235	11,666
Construction	1,405	584	124	2,114
Manufacturing	3,500	1,618	709	5,827
Transportation and Utilities	704	1,638	1,211	3,553
Retail And Wholesale Trade	0	1,195	2,243	3,439
Services	295	5,643	7,345	13,283
Government	0	124	194	318
<b>Total</b>	<b>16,331</b>	<b>11,822</b>	<b>12,132</b>	<b>40,285</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	16	76	92
Mining	11,060	1,062	252	12,374
Construction	1,599	615	135	2,348
Manufacturing	3,825	1,765	762	6,352
Transportation and Utilities	794	1,781	1,311	3,886
Retail And Wholesale Trade	0	1,308	2,431	3,740
Services	333	6,156	7,964	14,454
Government	0	137	212	348
<b>Total</b>	<b>17,610</b>	<b>12,840</b>	<b>13,144</b>	<b>43,594</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	20	94	114
Mining	13,545	1,319	312	15,176
Construction	1,900	759	167	2,826
Manufacturing	4,695	2,177	938	7,810
Transportation and Utilities	962	2,187	1,610	4,759
Retail And Wholesale Trade	0	1,602	2,981	4,583
Services	404	7,555	9,769	17,727
Government	0	170	262	432
<b>Total</b>	<b>21,507</b>	<b>15,788</b>	<b>16,133</b>	<b>53,427</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**Utah Labor Income Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	2	2
Mining	259	16	2	278
Construction	233	25	6	264
Manufacturing	97	55	33	185
Transportation and Utilities	72	60	48	180
Retail And WholesaleTrade	0	45	94	139
Services	28	294	326	648
Government	0	5	8	14
<b>Total</b>	<b>689</b>	<b>501</b>	<b>520</b>	<b>1,710</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	3
Mining	379	23	3	406
Construction	164	32	8	204
Manufacturing	127	73	46	246
Transportation and Utilities	91	78	61	230
Retail And WholesaleTrade	0	54	115	169
Services	37	380	405	823
Government	0	7	11	18
<b>Total</b>	<b>799</b>	<b>648</b>	<b>651</b>	<b>2,098</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	4	4
Mining	454	28	4	486
Construction	166	36	9	210
Manufacturing	138	88	55	281
Transportation and Utilities	97	89	70	255
Retail And WholesaleTrade	0	61	130	192
Services	36	440	465	941
Government	0	9	13	22
<b>Total</b>	<b>889</b>	<b>752</b>	<b>750</b>	<b>2,391</b>

**Utah Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**

(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	4	4
Mining	486	29	4	518
Construction	180	39	9	228
Manufacturing	137	87	57	281
Transportation and Utilities	100	93	72	265
Retail And WholesaleTrade	0	64	137	200
Services	37	461	492	990
Government	0	9	13	23
<b>Total</b>	<b>939</b>	<b>782</b>	<b>788</b>	<b>2,509</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	4	5
Mining	504	31	4	540
Construction	183	40	10	233
Manufacturing	141	92	60	293
Transportation and Utilities	102	97	76	275
Retail And WholesaleTrade	0	67	143	210
Services	38	484	521	1,042
Government	0	10	14	25
<b>Total</b>	<b>968</b>	<b>822</b>	<b>832</b>	<b>2,623</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	5	6
Mining	540	38	5	583
Construction	197	45	11	253
Manufacturing	162	109	73	344
Transportation and Utilities	110	112	87	309
Retail And WholesaleTrade	0	76	162	238
Services	41	551	598	1,190
Government	0	12	17	29
<b>Total</b>	<b>1,050</b>	<b>944</b>	<b>958</b>	<b>2,952</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Vermont Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	0	1	0	1
Construction	0	1	0	2
Manufacturing	0	8	5	13
Transportation and Utilities	0	3	3	5
Retail And WholesaleTrade	0	1	4	5
Services	0	9	17	26
Government	0	1	1	1
<b>Total</b>	<b>0</b>	<b>23</b>	<b>31</b>	<b>54</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	2
Mining	0	1	0	1
Construction	0	2	1	2
Manufacturing	0	11	8	19
Transportation and Utilities	0	4	4	8
Retail And WholesaleTrade	0	2	6	8
Services	0	14	25	40
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>35</b>	<b>46</b>	<b>81</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	2	2
Mining	0	1	0	1
Construction	0	2	1	3
Manufacturing	0	13	10	23
Transportation and Utilities	0	5	5	10
Retail And WholesaleTrade	0	2	7	10
Services	0	18	31	49
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>42</b>	<b>56</b>	<b>99</b>

**Vermont Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	2	2
Mining	0	1	0	1
Construction	0	2	1	3
Manufacturing	0	11	10	21
Transportation and Utilities	0	5	5	10
Retail And Wholesale Trade	0	2	7	9
Services	0	18	31	49
Government	0	1	1	2
<b>Total</b>	<b>0</b>	<b>41</b>	<b>56</b>	<b>97</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	2	2
Mining	0	1	0	1
Construction	0	2	1	3
Manufacturing	0	11	10	21
Transportation and Utilities	0	5	5	10
Retail And Wholesale Trade	0	3	7	10
Services	0	19	32	51
Government	0	1	1	3
<b>Total</b>	<b>0</b>	<b>42</b>	<b>59</b>	<b>101</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	2	3
Mining	0	1	0	1
Construction	0	3	1	4
Manufacturing	0	13	12	25
Transportation and Utilities	0	6	6	12
Retail And Wholesale Trade	0	3	9	12
Services	0	23	40	63
Government	0	1	2	3
<b>Total</b>	<b>0</b>	<b>51</b>	<b>72</b>	<b>122</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Virginia Labor Income Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	4	5
Mining	45	12	2	58
Construction	9	22	6	37
Manufacturing	23	59	39	121
Transportation and Utilities	3	39	35	77
Retail And WholesaleTrade	0	20	51	71
Services	1	243	256	500
Government	0	9	11	20
<b>Total</b>	<b>81</b>	<b>405</b>	<b>403</b>	<b>889</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	5	7
Mining	41	15	2	59
Construction	4	28	8	40
Manufacturing	25	83	56	164
Transportation and Utilities	2	52	46	100
Retail And WholesaleTrade	0	27	69	96
Services	1	341	355	697
Government	0	12	16	28
<b>Total</b>	<b>73</b>	<b>560</b>	<b>558</b>	<b>1,191</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	7	9
Mining	36	19	3	57
Construction	4	31	10	45
Manufacturing	37	104	70	211
Transportation and Utilities	2	65	55	123
Retail And WholesaleTrade	0	32	84	117
Services	1	430	437	868
Government	0	15	19	35
<b>Total</b>	<b>80</b>	<b>699</b>	<b>686</b>	<b>1,465</b>

**Virginia Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	7	9
Mining	31	19	3	53
Construction	4	32	10	45
Manufacturing	34	102	71	207
Transportation and Utilities	2	63	55	120
Retail And WholesaleTrade	0	31	85	117
Services	1	443	447	892
Government	0	15	19	35
<b>Total</b>	<b>73</b>	<b>707</b>	<b>698</b>	<b>1,478</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	8	10
Mining	29	19	3	52
Construction	4	33	10	48
Manufacturing	41	107	75	223
Transportation and Utilities	2	69	59	129
Retail And WholesaleTrade	0	35	94	128
Services	1	493	493	988
Government	0	17	21	38
<b>Total</b>	<b>78</b>	<b>776</b>	<b>762</b>	<b>1,616</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	9	12
Mining	34	24	4	61
Construction	5	42	13	59
Manufacturing	63	128	90	281
Transportation and Utilities	2	91	76	169
Retail And WholesaleTrade	0	45	120	165
Services	1	650	639	1,291
Government	0	22	26	48
<b>Total</b>	<b>105</b>	<b>1,004</b>	<b>977</b>	<b>2,086</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Washington Labor Income Contribution by State and Industry: Unconventional Gas\***

(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	4	6
Mining	0	1	0	1
Construction	0	6	2	9
Manufacturing	0	22	15	37
Transportation and Utilities	0	10	12	22
Retail And WholesaleTrade	0	8	18	26
Services	0	57	77	134
Government	0	3	4	7
<b>Total</b>	<b>0</b>	<b>110</b>	<b>133</b>	<b>243</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	7	9
Mining	0	1	0	1
Construction	0	9	3	13
Manufacturing	0	28	20	49
Transportation and Utilities	0	16	18	34
Retail And WholesaleTrade	0	12	27	40
Services	0	89	115	204
Government	0	4	6	10
<b>Total</b>	<b>0</b>	<b>163</b>	<b>197</b>	<b>360</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	9	12
Mining	0	2	0	2
Construction	0	11	4	15
Manufacturing	0	35	25	60
Transportation and Utilities	0	20	22	42
Retail And WholesaleTrade	0	15	33	48
Services	0	111	142	252
Government	0	6	7	13
<b>Total</b>	<b>0</b>	<b>202</b>	<b>242</b>	<b>444</b>

**Washington Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	9	12
Mining	0	2	0	2
Construction	0	11	4	15
Manufacturing	0	38	27	65
Transportation and Utilities	0	20	23	43
Retail And WholesaleTrade	0	15	33	48
Services	0	112	143	255
Government	0	6	7	13
<b>Total</b>	<b>0</b>	<b>207</b>	<b>246</b>	<b>454</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	9	13
Mining	0	3	0	3
Construction	0	12	4	16
Manufacturing	0	44	31	75
Transportation and Utilities	0	22	25	47
Retail And WholesaleTrade	0	16	35	51
Services	0	120	152	272
Government	0	6	8	14
<b>Total</b>	<b>0</b>	<b>225</b>	<b>264</b>	<b>490</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	12	16
Mining	0	4	0	4
Construction	0	14	5	20
Manufacturing	0	59	41	100
Transportation and Utilities	0	27	31	59
Retail And WholesaleTrade	0	20	43	63
Services	0	150	190	339
Government	0	7	10	17
<b>Total</b>	<b>0</b>	<b>286</b>	<b>332</b>	<b>617</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**West Virginia Labor Income Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	1	2
Mining	362	46	9	416
Construction	91	31	3	124
Manufacturing	30	26	11	67
Transportation and Utilities	54	37	24	114
Retail And WholesaleTrade	0	19	48	67
Services	20	118	152	290
Government	0	4	7	11
<b>Total</b>	<b>556</b>	<b>281</b>	<b>254</b>	<b>1,091</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	2	3
Mining	899	73	12	984
Construction	110	76	5	191
Manufacturing	34	39	17	89
Transportation and Utilities	59	61	42	161
Retail And WholesaleTrade	0	34	91	125
Services	24	209	284	517
Government	0	6	12	19
<b>Total</b>	<b>1,126</b>	<b>497</b>	<b>466</b>	<b>2,088</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	2	3
Mining	1,260	95	16	1,371
Construction	156	102	7	265
Manufacturing	50	49	21	120
Transportation and Utilities	87	84	56	227
Retail And WholesaleTrade	0	48	125	173
Services	32	296	390	719
Government	0	9	17	26
<b>Total</b>	<b>1,585</b>	<b>684</b>	<b>635</b>	<b>2,904</b>

## West Virginia Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)

(\$M)

2025	Direct	Indirect	Induced	Total
Agriculture	0	1	2	3
Mining	1,332	97	16	1,445
Construction	149	111	8	267
Manufacturing	45	50	22	118
Transportation and Utilities	79	83	56	219
Retail And WholesaleTrade	0	48	129	177
Services	29	298	403	730
Government	0	9	18	26
<b>Total</b>	<b>1,634</b>	<b>698</b>	<b>655</b>	<b>2,986</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	1	3	4
Mining	1,463	106	18	1,587
Construction	176	120	8	304
Manufacturing	55	58	25	137
Transportation and Utilities	94	93	61	248
Retail And WholesaleTrade	0	54	144	198
Services	35	336	448	819
Government	0	10	20	29
<b>Total</b>	<b>1,823</b>	<b>777</b>	<b>726</b>	<b>3,326</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	1	3	5
Mining	2,065	137	23	2,224
Construction	265	167	12	443
Manufacturing	85	76	32	193
Transportation and Utilities	142	130	84	356
Retail And WholesaleTrade	0	78	202	279
Services	52	477	625	1,155
Government	0	14	27	41
<b>Total</b>	<b>2,609</b>	<b>1,080</b>	<b>1,008</b>	<b>4,697</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Wisconsin Labor Income Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2	7	8
Mining	8	2	0	10
Construction	0	9	3	11
Manufacturing	4	144	68	216
Transportation and Utilities	0	26	26	53
Retail And WholesaleTrade	0	16	36	52
Services	0	99	150	249
Government	0	5	6	11
<b>Total</b>	<b>12</b>	<b>303</b>	<b>296</b>	<b>611</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	10	12
Mining	20	2	0	23
Construction	0	12	4	16
Manufacturing	5	213	100	318
Transportation and Utilities	0	39	37	76
Retail And WholesaleTrade	0	24	54	78
Services	0	148	219	367
Government	0	7	9	16
<b>Total</b>	<b>25</b>	<b>447</b>	<b>434</b>	<b>906</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	12	16
Mining	22	3	0	25
Construction	0	14	5	19
Manufacturing	7	263	124	393
Transportation and Utilities	0	48	46	95
Retail And WholesaleTrade	0	30	66	96
Services	0	188	270	458
Government	0	9	11	20
<b>Total</b>	<b>29</b>	<b>559</b>	<b>534</b>	<b>1,122</b>

**Wisconsin Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
 (\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3	13	16
Mining	25	3	0	28
Construction	0	15	5	19
Manufacturing	6	261	125	392
Transportation and Utilities	0	50	49	100
Retail And WholesaleTrade	0	30	68	98
Services	0	201	280	481
Government	0	9	11	20
<b>Total</b>	<b>31</b>	<b>572</b>	<b>551</b>	<b>1,154</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4	14	18
Mining	28	3	0	31
Construction	0	15	5	20
Manufacturing	8	283	134	424
Transportation and Utilities	0	55	54	109
Retail And WholesaleTrade	0	33	73	107
Services	0	222	303	525
Government	0	9	12	21
<b>Total</b>	<b>35</b>	<b>625</b>	<b>596</b>	<b>1,256</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	5	18	23
Mining	35	4	0	39
Construction	0	19	6	25
Manufacturing	12	354	167	533
Transportation and Utilities	0	70	68	138
Retail And WholesaleTrade	0	42	92	135
Services	0	286	384	670
Government	0	12	15	27
<b>Total</b>	<b>47</b>	<b>792</b>	<b>751</b>	<b>1,590</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**Wyoming Labor Income Contribution by State and Industry: Unconventional Gas\***  
(\$M)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	1	1
Mining	1,650	35	5	1,691
Construction	155	128	6	289
Manufacturing	61	6	4	71
Transportation and Utilities	47	55	40	142
Retail And WholesaleTrade	0	34	96	130
Services	17	163	228	408
Government	0	6	14	20
<b>Total</b>	<b>1,931</b>	<b>428</b>	<b>394</b>	<b>2,753</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	2	2
Mining	1,965	45	10	2,019
Construction	193	152	11	357
Manufacturing	55	8	7	71
Transportation and Utilities	100	78	75	252
Retail And WholesaleTrade	0	48	180	228
Services	39	240	428	706
Government	0	9	25	34
<b>Total</b>	<b>2,351</b>	<b>580</b>	<b>738</b>	<b>3,669</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	2	2
Mining	2,134	52	11	2,198
Construction	197	162	13	371
Manufacturing	58	10	8	76
Transportation and Utilities	108	85	82	275
Retail And WholesaleTrade	0	53	195	248
Services	38	264	464	766
Government	0	10	28	38
<b>Total</b>	<b>2,534</b>	<b>637</b>	<b>804</b>	<b>3,974</b>

**Wyoming Labor Income Contribution by State and Industry: Unconventional Gas\* (Continued)**  
(\$M)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	2	2
Mining	2,402	55	12	2,469
Construction	243	181	14	439
Manufacturing	56	10	9	75
Transportation and Utilities	126	95	92	313
Retail And WholesaleTrade	0	60	221	281
Services	44	302	525	872
Government	0	11	31	43
<b>Total</b>	<b>2,872</b>	<b>715</b>	<b>907</b>	<b>4,494</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	0	2	3
Mining	2,579	59	13	2,651
Construction	280	192	15	488
Manufacturing	57	11	10	77
Transportation and Utilities	146	103	101	350
Retail And WholesaleTrade	0	66	241	307
Services	51	334	572	957
Government	0	13	34	47
<b>Total</b>	<b>3,114</b>	<b>778</b>	<b>988</b>	<b>4,880</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1	3	3
Mining	3,298	75	16	3,389
Construction	349	246	20	615
Manufacturing	65	13	13	91
Transportation and Utilities	183	129	128	439
Retail And WholesaleTrade	0	83	306	389
Services	64	422	725	1,211
Government	0	16	43	59
<b>Total</b>	<b>3,958</b>	<b>986</b>	<b>1,252</b>	<b>6,196</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



# **The Economic and Employment Contributions of Unconventional Gas Development in State Economies**

## **Appendix C. Economic Contributions Excluding Cross-State Contributions by State and Year**

Prepared for:  
AMERICA'S NATURAL GAS ALLIANCE

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## **Appendix C. Economic Contributions Excluding Cross-State Contributions by State and Year**

Appendix C presents three different types of detailed tables by state in five-year increments over the forecast horizon (2010, 2015, 2020, 2025, 2030 and 2035). The tables presented in this appendix are similar in structure to the tables presented in Appendix A; however, these tables present the indirect and induced contributions generated by the direct activity in each state independent of all other states. In doing so, these tables present only the indirect and induced employment, value added, and labor income contributions attributed to supporting those directly employed by the industry's unconventional gas activity in the source state through production and/or capital expenditure. In other words, the indirect and induced contributions do not include leakages (cross-state contributions) in the supply chain from activities supported outside of the reported state. As a function of this methodology, all direct contributions remain unchanged from Appendix A and changes are only observed within the indirect and induced contributions. The results in this appendix are obtained directly from the IMPLAN model's single state runs.

Results for the following three concepts are presented:

- 1) Employment Contribution
- 2) Value Added Contribution
- 3) Labor Income Contribution

Each contribution table is split out into direct, indirect, induced and total contribution. Also included are state multipliers defined as

$(\text{indirect contribution} + \text{induced contribution}) / \text{direct contribution}$

For each concept, there is a separate table for each of our forecast years.

A summary description of the tables is as follows:

1. Employment Contribution Excluding Cross-State Contributions: Alphabetical by State. These tables present the direct, indirect, induced, and total employment contributions for 2010, 2015, 2020, 2025, 2030, and 2035 alphabetically by state.
2. Value Added Contribution Excluding Cross-State Contributions: Alphabetical by State. These tables present the direct, indirect, induced, and total value added contributions for 2010, 2015, 2020, 2025, 2030, and 2035 alphabetically by state.
3. Labor Income Contribution Excluding Cross-State Contributions: Alphabetical by State. These tables present the direct, indirect, induced, and total value added contributions for 2010, 2015, 2020, 2025, 2030, and 2035 alphabetically by state.

The tables present the indirect and induced contributions generated by the direct activity in each state independent of all other states' activity—the indirect and induced contributions do not include leakages (cross-state contributions) in the supply chain from activities supported outside of the reported state.

## Employment Contribution Excluding Cross-State Contributions: Alphabetical by State

US State-Level Employment Contribution of Unconventional Gas\* Excluding Cross-State Contributions, 2010  
(Number of workers)

	Direct	Indirect	Induced	Total	State Multiplier
Alabama	1,195	702	943	2,839	1.38
Arizona	0	0	0	0	0.00
Arkansas	13,640	7,353	9,296	30,289	1.22
California	4,718	5,753	5,076	15,547	2.30
Colorado	22,535	17,985	26,230	66,750	1.96
Connecticut	0	0	0	0	0.00
Delaware	187	151	152	490	1.62
District of Columbia	0	0	0	0	0.00
Florida	3,204	1,754	2,087	7,044	1.20
Georgia	952	486	679	2,117	1.22
Idaho	0	0	0	0	0.00
Illinois	2,814	1,363	2,623	6,800	1.42
Indiana	516	412	378	1,306	1.53
Iowa	315	87	182	584	0.85
Kansas	658	355	470	1,484	1.25
Kentucky	2,145	1,115	1,504	4,764	1.22
Louisiana	29,896	18,486	23,313	71,694	1.40
Maine	0	0	0	0	0.00
Maryland	0	0	0	0	0.00
Massachusetts	136	110	135	380	1.80
Michigan	6,968	3,064	5,636	15,668	1.25
Minnesota	352	125	284	762	1.16
Mississippi	92	31	31	153	0.68
Missouri	4,133	1,353	2,401	7,887	0.91
Montana	90	75	110	275	2.07
Nebraska	104	86	62	252	1.43
Nevada	505	196	251	952	0.88
New Hampshire	0	0	0	0	0.00
New Jersey	592	470	511	1,573	1.66
New Mexico	6,797	4,108	5,912	16,816	1.47
New York	408	287	368	1,063	1.60
North Carolina	102	38	44	184	0.81
North Dakota	0	0	0	0	0.00
Ohio	4,979	4,786	4,928	14,693	1.95
Oklahoma	8,636	6,041	7,552	22,229	1.57
Oregon	670	462	463	1,595	1.38
Pennsylvania	13,594	9,580	13,028	36,201	1.66
Rhode Island	0	0	0	0	0.00
South Carolina	61	27	28	116	0.90
South Dakota	0	0	0	0	0.00
Tennessee	142	112	97	351	1.46
Texas	73,744	71,300	97,671	242,714	2.29
Utah	10,404	7,021	8,126	25,551	1.46
Vermont	0	0	0	0	0.00
Virginia	923	729	775	2,428	1.63
Washington	0	0	0	0	0.00
West Virginia	6,871	3,028	3,682	13,581	0.98
Wisconsin	137	93	124	354	1.57
Wyoming	14,753	7,406	9,475	31,635	1.14
<b>US Total</b>	<b>237,968</b>	<b>176,528</b>	<b>234,626</b>	<b>649,122</b>	<b>1.73</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**US State-Level Employment Contribution of Unconventional Gas\* Excluding Cross-State Contributions, 2015**  
 (Number of workers)

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>	<b>State Multiplier</b>
Alabama	2,042	933	1,087	4,063	0.99
Arizona	0	0	0	0	0.00
Arkansas	19,767	11,099	13,720	44,586	1.26
California	6,970	8,031	7,434	22,435	2.22
Colorado	40,115	29,308	40,923	110,347	1.75
Connecticut	0	0	0	0	0.00
Delaware	236	207	202	645	1.73
District of Columbia	0	0	0	0	0.00
Florida	6,838	3,658	4,385	14,882	1.18
Georgia	1,106	578	822	2,506	1.27
Idaho	0	0	0	0	0.00
Illinois	3,724	1,658	3,376	8,758	1.35
Indiana	586	469	429	1,484	1.53
Iowa	650	206	382	1,239	0.90
Kansas	824	518	618	1,960	1.38
Kentucky	2,336	1,251	1,709	5,296	1.27
Louisiana	40,341	28,681	38,716	107,738	1.67
Maine	0	0	0	0	0.00
Maryland	0	0	0	0	0.00
Massachusetts	193	153	188	534	1.76
Michigan	9,107	3,763	7,059	19,929	1.19
Minnesota	860	306	694	1,860	1.16
Mississippi	2,703	909	920	4,532	0.68
Missouri	6,005	1,960	3,494	11,460	0.91
Montana	85	70	101	256	2.02
Nebraska	276	251	175	702	1.54
Nevada	10	19	9	38	2.66
New Hampshire	0	0	0	0	0.00
New Jersey	465	424	456	1,345	1.89
New Mexico	6,017	3,850	5,367	15,234	1.53
New York	386	270	336	992	1.57
North Carolina	0	0	0	0	0.00
North Dakota	0	0	0	0	0.00
Ohio	5,776	5,643	5,749	17,168	1.97
Oklahoma	12,217	9,154	11,071	32,442	1.66
Oregon	185	376	289	850	3.60
Pennsylvania	26,007	20,237	30,191	76,436	1.94
Rhode Island	0	0	0	0	0.00
South Carolina	3	6	4	13	3.54
South Dakota	0	0	0	0	0.00
Tennessee	62	70	53	185	1.99
Texas	93,838	94,117	128,173	316,129	2.37
Utah	11,232	8,331	9,386	28,948	1.58
Vermont	0	0	0	0	0.00
Virginia	777	681	711	2,169	1.79
Washington	0	0	0	0	0.00
West Virginia	12,857	5,670	7,346	25,873	1.01
Wisconsin	263	139	225	626	1.38
Wyoming	18,917	9,301	11,349	39,567	1.09
<b>US Total</b>	<b>333,779</b>	<b>252,299</b>	<b>337,148</b>	<b>923,226</b>	<b>1.77</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**US State-Level Employment Contribution of Unconventional Gas\* Excluding Cross-State Contributions, 2020**  
 (Number of workers)

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>	<b>State Multiplier</b>
Alabama	1,232	569	657	2,458	1.00
Arizona	0	0	0	0	0.00
Arkansas	22,868	13,063	15,983	51,914	1.27
California	7,582	9,246	8,467	25,296	2.34
Colorado	43,714	31,791	44,012	119,517	1.73
Connecticut	0	0	0	0	0.00
Delaware	402	371	356	1,129	1.81
District of Columbia	0	0	0	0	0.00
Florida	3,274	1,862	2,189	7,325	1.24
Georgia	734	363	498	1,594	1.17
Idaho	0	0	0	0	0.00
Illinois	5,295	2,277	4,728	12,300	1.32
Indiana	898	714	655	2,267	1.52
Iowa	782	256	461	1,500	0.92
Kansas	880	559	659	2,099	1.38
Kentucky	2,517	1,444	1,802	5,762	1.29
Louisiana	40,665	33,514	46,838	121,017	1.98
Maine	0	0	0	0	0.00
Maryland	0	0	0	0	0.00
Massachusetts	355	274	337	967	1.72
Michigan	11,554	4,647	8,759	24,960	1.16
Minnesota	917	327	740	1,983	1.16
Mississippi	1,300	437	442	2,179	0.68
Missouri	7,702	2,512	4,484	14,697	0.91
Montana	82	65	92	240	1.93
Nebraska	332	318	218	867	1.61
Nevada	93	50	50	194	1.08
New Hampshire	0	0	0	0	0.00
New Jersey	676	614	663	1,953	1.89
New Mexico	4,928	3,251	4,336	12,515	1.54
New York	584	380	461	1,426	1.44
North Carolina	188	70	82	340	0.81
North Dakota	0	0	0	0	0.00
Ohio	8,875	8,844	8,909	26,628	2.00
Oklahoma	14,598	11,120	13,363	39,081	1.68
Oregon	216	467	356	1,040	3.82
Pennsylvania	41,258	32,426	47,602	121,286	1.94
Rhode Island	0	0	0	0	0.00
South Carolina	93	42	43	178	0.91
South Dakota	0	0	0	0	0.00
Tennessee	147	125	105	377	1.57
Texas	125,882	124,485	166,567	416,935	2.31
Utah	12,472	9,467	10,632	32,571	1.61
Vermont	0	0	0	0	0.00
Virginia	838	803	815	2,455	1.93
Washington	0	0	0	0	0.00
West Virginia	18,520	8,217	10,493	37,230	1.01
Wisconsin	321	187	280	788	1.45
Wyoming	20,698	10,221	12,415	43,333	1.09
<b>US Total</b>	<b>403,473</b>	<b>315,383</b>	<b>419,547</b>	<b>1,138,404</b>	<b>1.82</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**US State-Level Employment Contribution of Unconventional Gas\* Excluding Cross-State Contributions, 2025**  
 (Number of workers)

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>	<b>State Multiplier</b>
Alabama	628	306	353	1,287	1.05
Arizona	0	0	0	0	0.00
Arkansas	23,720	13,561	16,642	53,922	1.27
California	7,247	8,881	8,150	24,278	2.35
Colorado	37,733	27,263	38,344	103,340	1.74
Connecticut	0	0	0	0	0.00
Delaware	363	337	323	1,023	1.82
District of Columbia	0	0	0	0	0.00
Florida	1,084	743	827	2,653	1.45
Georgia	220	112	151	482	1.19
Idaho	0	0	0	0	0.00
Illinois	4,918	2,130	4,397	11,445	1.33
Indiana	820	650	598	2,068	1.52
Iowa	798	279	475	1,552	0.94
Kansas	874	547	650	2,071	1.37
Kentucky	2,345	1,340	1,654	5,340	1.28
Louisiana	44,245	38,078	54,164	136,487	2.08
Maine	0	0	0	0	0.00
Maryland	0	0	0	0	0.00
Massachusetts	324	250	307	881	1.72
Michigan	10,680	4,238	8,023	22,942	1.15
Minnesota	778	277	627	1,682	1.16
Mississippi	765	257	260	1,282	0.68
Missouri	7,843	2,561	4,558	14,962	0.91
Montana	74	59	84	217	1.93
Nebraska	364	366	247	977	1.68
Nevada	12	22	11	46	2.66
New Hampshire	0	0	0	0	0.00
New Jersey	602	538	587	1,728	1.87
New Mexico	4,794	3,100	3,963	11,857	1.47
New York	512	334	402	1,248	1.44
North Carolina	0	0	0	0	0.00
North Dakota	0	0	0	0	0.00
Ohio	8,048	8,026	8,076	24,150	2.00
Oklahoma	15,245	11,448	13,941	40,633	1.67
Oregon	163	352	268	783	3.81
Pennsylvania	41,140	32,817	49,234	123,191	1.99
Rhode Island	0	0	0	0	0.00
South Carolina	22	15	13	50	1.25
South Dakota	0	0	0	0	0.00
Tennessee	91	100	76	267	1.93
Texas	127,899	127,234	171,641	426,774	2.34
Utah	13,054	9,930	11,216	34,201	1.62
Vermont	0	0	0	0	0.00
Virginia	772	732	742	2,246	1.91
Washington	0	0	0	0	0.00
West Virginia	18,748	8,326	10,800	37,874	1.02
Wisconsin	333	179	286	797	1.40
Wyoming	23,700	11,612	14,073	49,385	1.08
<b>US Total</b>	<b>400,958</b>	<b>317,000</b>	<b>426,163</b>	<b>1,144,121</b>	<b>1.85</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**US State-Level Employment Contribution of Unconventional Gas\* Excluding Cross-State Contributions, 2030**  
 (Number of workers)

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>	<b>State Multiplier</b>
Alabama	1,047	450	483	1,980	0.89
Arizona	0	0	0	0	0.00
Arkansas	24,272	13,873	16,990	55,135	1.27
California	7,461	9,180	8,435	25,076	2.36
Colorado	35,346	25,122	35,724	96,192	1.72
Connecticut	0	0	0	0	0.00
Delaware	438	410	391	1,239	1.83
District of Columbia	0	0	0	0	0.00
Florida	4,926	2,742	3,245	10,914	1.22
Georgia	835	428	600	1,863	1.23
Idaho	0	0	0	0	0.00
Illinois	5,634	2,399	5,014	13,047	1.32
Indiana	986	781	719	2,486	1.52
Iowa	891	316	532	1,739	0.95
Kansas	902	569	674	2,144	1.38
Kentucky	2,365	1,388	1,654	5,407	1.29
Louisiana	44,571	39,351	56,238	140,160	2.14
Maine	0	0	0	0	0.00
Maryland	0	0	0	0	0.00
Massachusetts	396	305	375	1,076	1.72
Michigan	11,907	4,708	8,904	25,520	1.14
Minnesota	731	260	590	1,581	1.16
Mississippi	681	229	232	1,142	0.68
Missouri	8,702	2,842	5,055	16,599	0.91
Montana	65	52	73	190	1.93
Nebraska	405	418	280	1,103	1.72
Nevada	13	24	12	49	2.66
New Hampshire	0	0	0	0	0.00
New Jersey	709	629	690	2,028	1.86
New Mexico	4,207	2,880	3,618	10,705	1.54
New York	611	394	471	1,476	1.42
North Carolina	0	0	0	0	0.00
North Dakota	0	0	0	0	0.00
Ohio	9,588	9,464	9,565	28,617	1.98
Oklahoma	16,580	12,361	15,060	44,001	1.65
Oregon	136	295	225	656	3.81
Pennsylvania	47,761	37,885	56,408	142,053	1.97
Rhode Island	0	0	0	0	0.00
South Carolina	31	19	17	66	1.17
South Dakota	0	0	0	0	0.00
Tennessee	98	104	80	283	1.89
Texas	140,803	138,443	185,984	465,229	2.30
Utah	13,412	10,225	11,587	35,224	1.63
Vermont	0	0	0	0	0.00
Virginia	815	810	811	2,436	1.99
Washington	0	0	0	0	0.00
West Virginia	21,154	9,392	12,089	42,634	1.02
Wisconsin	382	210	330	921	1.41
Wyoming	26,183	12,708	15,314	54,205	1.07
<b>US Total</b>	<b>435,045</b>	<b>341,664</b>	<b>458,469</b>	<b>1,235,178</b>	<b>1.84</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Employment Contribution of Unconventional Gas\* Excluding Cross-State Contributions, 2035

(Number of workers)

	Direct	Indirect	Induced	Total	State Multiplier
Alabama	401	213	244	857	1.14
Arizona	0	0	0	0	0.00
Arkansas	28,524	16,253	19,949	64,726	1.27
California	8,617	10,609	9,766	28,992	2.36
Colorado	39,723	27,928	40,045	107,696	1.71
Connecticut	0	0	0	0	0.00
Delaware	673	633	603	1,910	1.84
District of Columbia	0	0	0	0	0.00
Florida	990	765	826	2,581	1.61
Georgia	113	63	86	262	1.33
Idaho	0	0	0	0	0.00
Illinois	7,879	3,282	6,967	18,128	1.30
Indiana	1,503	1,193	1,097	3,793	1.52
Iowa	1,150	401	684	2,235	0.94
Kansas	1,035	669	786	2,490	1.41
Kentucky	2,879	1,766	2,028	6,673	1.32
Louisiana	53,428	48,387	69,516	171,331	2.21
Maine	0	0	0	0	0.00
Maryland	0	0	0	0	0.00
Massachusetts	615	474	583	1,673	1.72
Michigan	15,951	6,368	11,963	34,282	1.15
Minnesota	822	293	663	1,779	1.16
Mississippi	614	207	209	1,030	0.68
Missouri	10,746	3,507	6,247	20,501	0.91
Montana	69	55	78	201	1.92
Nebraska	498	520	347	1,364	1.74
Nevada	17	30	15	62	2.66
New Hampshire	0	0	0	0	0.00
New Jersey	1,063	939	1,034	3,036	1.86
New Mexico	4,822	3,309	4,159	12,290	1.55
New York	927	595	710	2,232	1.41
North Carolina	0	0	0	0	0.00
North Dakota	0	0	0	0	0.00
Ohio	14,378	13,904	14,190	42,473	1.95
Oklahoma	20,537	15,232	18,589	54,358	1.65
Oregon	142	308	234	684	3.81
Pennsylvania	70,734	55,639	82,294	208,666	1.95
Rhode Island	0	0	0	0	0.00
South Carolina	6	11	8	25	3.54
South Dakota	0	0	0	0	0.00
Tennessee	89	108	79	275	2.11
Texas	170,896	168,726	226,717	566,339	2.31
Utah	14,640	11,160	12,602	38,402	1.62
Vermont	0	0	0	0	0.00
Virginia	1,069	1,137	1,124	3,331	2.12
Washington	0	0	0	0	0.00
West Virginia	30,390	13,490	17,230	61,109	1.01
Wisconsin	506	299	443	1,248	1.47
Wyoming	32,953	16,023	19,365	68,340	1.07
<b>US Total</b>	<b>539,398</b>	<b>424,496</b>	<b>571,480</b>	<b>1,535,374</b>	<b>1.85</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Value Added Contribution Excluding Cross-State Contributions: Alphabetical by State

US State-Level Value Added Contribution of Unconventional Gas\* Excluding Cross-State Contributions, 2010  
(\$M)

	Direct	Indirect	Induced	Total	State Multiplier
Alabama	276	72	65	413	0.50
Arizona	0	0	0	0	0.00
Arkansas	2,745	643	608	3,995	0.46
California	505	630	446	1,581	2.13
Colorado	5,587	2,059	2,134	9,780	0.75
Connecticut	0	0	0	0	0.00
Delaware	25	16	11	53	1.11
District of Columbia	0	0	0	0	0.00
Florida	180	146	164	490	1.72
Georgia	109	46	49	204	0.88
Idaho	0	0	0	0	0.00
Illinois	395	182	237	814	1.06
Indiana	54	34	24	112	1.06
Iowa	36	9	12	57	0.57
Kansas	99	36	30	165	0.67
Kentucky	451	98	102	650	0.44
Louisiana	5,664	1,732	1,614	9,010	0.59
Maine	0	0	0	0	0.00
Maryland	0	0	0	0	0.00
Massachusetts	13	13	12	38	1.95
Michigan	859	345	406	1,609	0.87
Minnesota	45	15	23	84	0.84
Mississippi	4	2	2	8	1.00
Missouri	314	127	159	600	0.91
Montana	35	7	7	49	0.41
Nebraska	8	7	4	18	1.39
Nevada	41	17	21	80	0.92
New Hampshire	0	0	0	0	0.00
New Jersey	81	57	47	186	1.28
New Mexico	2,091	330	397	2,818	0.35
New York	61	40	36	137	1.24
North Carolina	5	3	3	11	1.29
North Dakota	0	0	0	0	0.00
Ohio	539	439	328	1,306	1.42
Oklahoma	1,924	588	508	3,020	0.57
Oregon	50	42	33	125	1.51
Pennsylvania	2,444	1,086	1,068	4,598	0.88
Rhode Island	0	0	0	0	0.00
South Carolina	3	2	2	7	1.14
South Dakota	0	0	0	0	0.00
Tennessee	12	9	7	28	1.33
Texas	19,621	9,249	8,079	36,949	0.88
Utah	1,256	550	530	2,335	0.86
Vermont	0	0	0	0	0.00
Virginia	179	100	63	342	0.91
Washington	0	0	0	0	0.00
West Virginia	1,261	263	241	1,765	0.40
Wisconsin	17	8	9	34	1.00
Wyoming	5,014	722	695	6,430	0.28
<b>US Total</b>	<b>52,004</b>	<b>19,722</b>	<b>18,176</b>	<b>89,902</b>	<b>0.73</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



**US State-Level Value Added Contribution of Unconventional Gas\* Excluding Cross-State Contributions, 2015**  
(\$M)

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>	<b>State Multiplier</b>
Alabama	243	87	78	408	0.68
Arizona	0	0	0	0	0.00
Arkansas	4,068	983	908	5,959	0.46
California	751	898	667	2,315	2.08
Colorado	7,777	3,294	3,376	14,447	0.86
Connecticut	0	0	0	0	0.00
Delaware	32	22	15	70	1.19
District of Columbia	0	0	0	0	0.00
Florida	387	306	349	1,042	1.69
Georgia	136	56	59	251	0.84
Idaho	0	0	0	0	0.00
Illinois	523	227	310	1,059	1.03
Indiana	62	39	27	128	1.06
Iowa	75	20	25	120	0.61
Kansas	105	53	39	197	0.87
Kentucky	519	113	118	749	0.44
Louisiana	11,039	2,923	2,789	16,752	0.52
Maine	0	0	0	0	0.00
Maryland	0	0	0	0	0.00
Massachusetts	18	19	17	54	1.96
Michigan	977	414	507	1,898	0.94
Minnesota	112	37	58	207	0.84
Mississippi	119	61	58	239	1.00
Missouri	461	185	234	880	0.91
Montana	32	7	7	45	0.42
Nebraska	21	21	10	51	1.50
Nevada	2	1	1	4	1.07
New Hampshire	0	0	0	0	0.00
New Jersey	73	52	42	167	1.27
New Mexico	1,898	312	362	2,572	0.36
New York	50	38	32	120	1.39
North Carolina	0	0	0	0	0.00
North Dakota	0	0	0	0	0.00
Ohio	620	524	385	1,528	1.47
Oklahoma	2,922	906	766	4,594	0.57
Oregon	23	37	19	79	2.42
Pennsylvania	7,063	2,589	2,580	12,232	0.73
Rhode Island	0	0	0	0	0.00
South Carolina	1	0	0	1	0.73
South Dakota	0	0	0	0	0.00
Tennessee	5	6	4	15	1.83
Texas	26,463	12,518	10,876	49,857	0.88
Utah	1,527	669	629	2,824	0.85
Vermont	0	0	0	0	0.00
Virginia	165	97	58	321	0.94
Washington	0	0	0	0	0.00
West Virginia	2,751	519	494	3,764	0.37
Wisconsin	34	13	16	63	0.86
Wyoming	5,953	908	854	7,716	0.30
<b>US Total</b>	<b>77,007</b>	<b>28,953</b>	<b>26,770</b>	<b>132,730</b>	<b>0.72</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.  
Source: IHS Global Insight

**US State-Level Value Added Contribution of Unconventional Gas\* Excluding Cross-State Contributions, 2020**  
 (\$M)

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>	<b>State Multiplier</b>
Alabama	142	51	46	239	0.68
Arizona	0	0	0	0	0.00
Arkansas	4,624	1,144	1,043	6,811	0.47
California	823	1,019	745	2,587	2.14
Colorado	7,949	3,485	3,553	14,986	0.89
Connecticut	0	0	0	0	0.00
Delaware	54	40	27	121	1.24
District of Columbia	0	0	0	0	0.00
Florida	185	156	171	512	1.76
Georgia	77	35	37	149	0.92
Idaho	0	0	0	0	0.00
Illinois	727	309	430	1,466	1.02
Indiana	94	58	41	194	1.06
Iowa	89	25	30	144	0.62
Kansas	110	57	41	207	0.89
Kentucky	503	126	121	750	0.49
Louisiana	14,111	3,439	3,321	20,871	0.48
Maine	0	0	0	0	0.00
Maryland	0	0	0	0	0.00
Massachusetts	32	34	30	96	1.96
Michigan	1,116	501	621	2,238	1.01
Minnesota	119	39	61	219	0.84
Mississippi	57	29	28	113	1.00
Missouri	587	236	298	1,120	0.91
Montana	28	6	6	40	0.43
Nebraska	25	26	13	63	1.56
Nevada	9	4	4	17	0.96
New Hampshire	0	0	0	0	0.00
New Jersey	106	74	60	241	1.26
New Mexico	1,456	259	287	2,002	0.37
New York	60	52	44	157	1.59
North Carolina	9	5	6	20	1.29
North Dakota	0	0	0	0	0.00
Ohio	936	816	592	2,344	1.50
Oklahoma	3,422	1,079	906	5,407	0.58
Oregon	27	45	24	96	2.51
Pennsylvania	10,777	4,051	3,993	18,821	0.75
Rhode Island	0	0	0	0	0.00
South Carolina	5	3	3	11	1.13
South Dakota	0	0	0	0	0.00
Tennessee	13	11	7	30	1.43
Texas	32,840	15,993	13,874	62,707	0.91
Utah	1,714	745	698	3,157	0.84
Vermont	0	0	0	0	0.00
Virginia	170	113	65	349	1.05
Washington	0	0	0	0	0.00
West Virginia	3,832	736	695	5,263	0.37
Wisconsin	40	17	19	77	0.91
Wyoming	6,394	979	919	8,292	0.30
<b>US Total</b>	<b>93,261</b>	<b>35,799</b>	<b>32,857</b>	<b>161,917</b>	<b>0.74</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**US State-Level Value Added Contribution of Unconventional Gas\* Excluding Cross-State Contributions, 2025**  
 (\$M)

	Direct	Indirect	Induced	Total	State Multiplier
Alabama	79	28	24	130	0.66
Arizona	0	0	0	0	0.00
Arkansas	4,850	1,190	1,089	7,129	0.47
California	785	978	717	2,480	2.16
Colorado	6,932	2,982	3,057	12,971	0.87
Connecticut	0	0	0	0	0.00
Delaware	49	36	24	109	1.24
District of Columbia	0	0	0	0	0.00
Florida	65	65	63	192	1.97
Georgia	23	11	11	45	0.94
Idaho	0	0	0	0	0.00
Illinois	677	290	401	1,368	1.02
Indiana	86	53	38	177	1.05
Iowa	91	27	31	148	0.64
Kansas	107	55	40	203	0.89
Kentucky	457	116	111	684	0.50
Louisiana	16,678	3,939	3,838	24,455	0.47
Maine	0	0	0	0	0.00
Maryland	0	0	0	0	0.00
Massachusetts	29	31	27	87	1.96
Michigan	996	454	567	2,017	1.03
Minnesota	101	33	52	186	0.84
Mississippi	33	17	16	67	1.00
Missouri	594	240	302	1,136	0.91
Montana	26	5	6	37	0.43
Nebraska	27	30	14	71	1.63
Nevada	2	2	1	5	1.07
New Hampshire	0	0	0	0	0.00
New Jersey	94	65	53	213	1.25
New Mexico	1,263	243	259	1,766	0.40
New York	51	45	39	135	1.66
North Carolina	0	0	0	0	0.00
North Dakota	0	0	0	0	0.00
Ohio	846	741	537	2,124	1.51
Oklahoma	3,606	1,111	943	5,660	0.57
Oregon	21	34	18	73	2.50
Pennsylvania	11,507	4,167	4,130	19,804	0.72
Rhode Island	0	0	0	0	0.00
South Carolina	2	1	1	4	0.94
South Dakota	0	0	0	0	0.00
Tennessee	8	8	5	21	1.78
Texas	34,194	16,380	14,228	64,802	0.90
Utah	1,821	780	733	3,334	0.83
Vermont	0	0	0	0	0.00
Virginia	154	103	59	316	1.05
Washington	0	0	0	0	0.00
West Virginia	4,011	752	716	5,479	0.37
Wisconsin	42	17	20	79	0.87
Wyoming	7,211	1,105	1,040	9,355	0.30
<b>US Total</b>	<b>97,518</b>	<b>36,135</b>	<b>33,211</b>	<b>166,863</b>	<b>0.71</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**US State-Level Value Added Contribution of Unconventional Gas\* Excluding Cross-State Contributions, 2030**  
 (\$M)

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>	<b>State Multiplier</b>
Alabama	84	37	33	154	0.84
Arizona	0	0	0	0	0.00
Arkansas	4,900	1,214	1,106	7,219	0.47
California	804	1,008	740	2,552	2.17
Colorado	6,360	2,731	2,813	11,904	0.87
Connecticut	0	0	0	0	0.00
Delaware	59	44	29	132	1.25
District of Columbia	0	0	0	0	0.00
Florida	277	228	253	758	1.74
Georgia	97	41	43	181	0.87
Idaho	0	0	0	0	0.00
Illinois	772	327	456	1,555	1.01
Indiana	104	64	45	213	1.05
Iowa	101	30	35	165	0.64
Kansas	111	58	41	210	0.89
Kentucky	441	119	110	670	0.52
Louisiana	17,429	4,075	3,972	25,476	0.46
Maine	0	0	0	0	0.00
Maryland	0	0	0	0	0.00
Massachusetts	36	37	33	106	1.96
Michigan	1,079	503	628	2,210	1.05
Minnesota	95	31	49	175	0.84
Mississippi	30	15	14	59	1.00
Missouri	657	265	334	1,256	0.91
Montana	22	5	5	32	0.43
Nebraska	30	34	16	80	1.66
Nevada	2	2	1	5	1.07
New Hampshire	0	0	0	0	0.00
New Jersey	111	76	62	250	1.24
New Mexico	1,146	226	235	1,607	0.40
New York	57	53	45	156	1.71
North Carolina	0	0	0	0	0.00
North Dakota	0	0	0	0	0.00
Ohio	1,002	873	635	2,510	1.50
Oklahoma	3,872	1,194	1,016	6,081	0.57
Oregon	17	29	15	61	2.49
Pennsylvania	12,973	4,757	4,707	22,437	0.73
Rhode Island	0	0	0	0	0.00
South Carolina	3	1	1	5	0.98
South Dakota	0	0	0	0	0.00
Tennessee	8	9	6	23	1.73
Texas	36,540	17,650	15,344	69,533	0.90
Utah	1,885	800	754	3,439	0.82
Vermont	0	0	0	0	0.00
Virginia	161	113	64	338	1.11
Washington	0	0	0	0	0.00
West Virginia	4,434	842	798	6,073	0.37
Wisconsin	48	19	23	91	0.88
Wyoming	7,758	1,196	1,126	10,081	0.30
<b>US Total</b>	<b>103,505</b>	<b>38,704</b>	<b>35,588</b>	<b>177,797</b>	<b>0.72</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**US State-Level Value Added Contribution of Unconventional Gas\* Excluding Cross-State Contributions, 2035**  
 (\$M)

	Direct	Indirect	Induced	Total	State Multiplier
Alabama	58	20	17	94	72.47
Arizona	0	0	0	0	0.00
Arkansas	5,769	1,435	1,308	8,511	642.57
California	928	1,164	857	2,949	629.93
Colorado	7,123	3,042	3,147	13,311	2,059.06
Connecticut	0	0	0	0	0.00
Delaware	90	68	45	204	16.22
District of Columbia	0	0	0	0	0.00
Florida	61	67	62	190	146.00
Georgia	14	6	6	26	46.18
Idaho	0	0	0	0	0.00
Illinois	1,087	452	639	2,178	181.76
Indiana	158	97	69	324	33.77
Iowa	131	39	45	214	8.64
Kansas	130	68	48	247	35.81
Kentucky	525	152	134	810	97.60
Louisiana	21,981	5,077	4,963	32,021	1,731.86
Maine	0	0	0	0	0.00
Maryland	0	0	0	0	0.00
Massachusetts	56	58	51	165	13.36
Michigan	1,441	683	844	2,967	344.59
Minnesota	107	35	55	198	14.91
Mississippi	26	14	13	53	2.05
Missouri	814	328	413	1,555	126.88
Montana	24	5	5	34	6.99
Nebraska	37	42	20	100	7.01
Nevada	3	2	1	6	16.76
New Hampshire	0	0	0	0	0.00
New Jersey	167	113	94	374	56.84
New Mexico	1,323	261	272	1,856	329.60
New York	85	80	68	234	40.36
North Carolina	0	0	0	0	2.92
North Dakota	0	0	0	0	0.00
Ohio	1,500	1,284	943	3,727	439.01
Oklahoma	4,809	1,476	1,259	7,544	587.99
Oregon	18	30	15	63	42.50
Pennsylvania	18,808	6,972	6,895	32,676	1,085.60
Rhode Island	0	0	0	0	0.00
South Carolina	2	1	0	3	1.97
South Dakota	0	0	0	0	0.00
Tennessee	7	9	5	22	9.47
Texas	44,731	21,590	18,756	85,076	9,249.34
Utah	2,038	873	820	3,731	549.58
Vermont	0	0	0	0	0.00
Virginia	213	160	89	462	99.88
Washington	0	0	0	0	0.00
West Virginia	6,299	1,210	1,142	8,651	262.69
Wisconsin	64	28	31	122	8.31
Wyoming	9,894	1,517	1,432	12,843	721.87
<b>US Total</b>	<b>130,520</b>	<b>48,458</b>	<b>44,566</b>	<b>223,544</b>	<b>0.71</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## Labor Income Contribution Excluding Cross-State Contributions: Alphabetical by State

US State-Level Labor Income Contribution of Unconventional Gas\* Excluding Cross-State Contributions, 2010  
(\$M)

	Direct	Indirect	Induced	Total	State Multiplier
Alabama	117	40	35	192	0.64
Arizona	0	0	0	0	0.00
Arkansas	1,171	401	331	1,903	0.63
California	349	400	249	998	1.86
Colorado	2,561	1,276	1,174	5,011	0.96
Connecticut	0	0	0	0	0.00
Delaware	16	10	6	32	1.03
District of Columbia	0	0	0	0	0.00
Florida	171	98	89	357	1.09
Georgia	63	28	27	117	0.87
Idaho	0	0	0	0	0.00
Illinois	291	114	133	538	0.85
Indiana	34	21	13	68	0.98
Iowa	27	5	7	39	0.43
Kansas	52	21	16	89	0.71
Kentucky	186	62	56	305	0.63
Louisiana	2,740	1,110	887	4,738	0.73
Maine	0	0	0	0	0.00
Maryland	0	0	0	0	0.00
Massachusetts	12	9	7	28	1.27
Michigan	541	204	223	968	0.79
Minnesota	34	9	13	56	0.65
Mississippi	4	1	1	6	0.65
Missouri	258	81	89	428	0.66
Montana	13	4	4	20	0.61
Nebraska	5	4	2	11	1.32
Nevada	38	12	11	61	0.59
New Hampshire	0	0	0	0	0.00
New Jersey	62	37	26	125	1.01
New Mexico	785	218	211	1,214	0.55
New York	39	25	20	85	1.17
North Carolina	4	2	2	8	0.83
North Dakota	0	0	0	0	0.00
Ohio	372	277	183	832	1.23
Oklahoma	903	338	274	1,516	0.68
Oregon	39	27	18	84	1.18
Pennsylvania	1,210	683	606	2,499	1.07
Rhode Island	0	0	0	0	0.00
South Carolina	3	1	1	5	0.82
South Dakota	0	0	0	0	0.00
Tennessee	7	6	4	17	1.34
Texas	9,377	5,128	4,341	18,846	1.01
Utah	689	363	293	1,345	0.95
Vermont	0	0	0	0	0.00
Virginia	81	55	34	169	1.09
Washington	0	0	0	0	0.00
West Virginia	556	169	130	855	0.54
Wisconsin	12	5	5	23	0.82
Wyoming	1,931	448	337	2,716	0.41
<b>US Total</b>	<b>24,755</b>	<b>11,693</b>	<b>9,858</b>	<b>46,305</b>	<b>0.87</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Labor Income Contribution of Unconventional Gas\* Excluding Cross-State Contributions, 2015

(\$M)

	Direct	Indirect	Induced	Total	State Multiplier
Alabama	135	53	41	230	0.70
Arizona	0	0	0	0	0.00
Arkansas	1,725	611	492	2,828	0.64
California	547	572	371	1,491	1.72
Colorado	3,943	2,082	1,849	7,874	1.00
Connecticut	0	0	0	0	0.00
Delaware	21	14	9	43	1.08
District of Columbia	0	0	0	0	0.00
Florida	366	206	189	761	1.08
Georgia	76	33	32	141	0.86
Idaho	0	0	0	0	0.00
Illinois	387	142	173	702	0.81
Indiana	39	24	15	78	0.98
Iowa	56	12	14	81	0.46
Kansas	64	30	21	115	0.79
Kentucky	214	71	64	350	0.63
Louisiana	4,723	1,802	1,513	8,038	0.70
Maine	0	0	0	0	0.00
Maryland	0	0	0	0	0.00
Massachusetts	17	13	10	40	1.27
Michigan	684	249	278	1,210	0.77
Minnesota	83	22	32	138	0.65
Mississippi	113	42	31	186	0.65
Missouri	379	119	130	628	0.66
Montana	12	4	4	19	0.61
Nebraska	13	13	6	32	1.39
Nevada	1	1	0	2	1.58
New Hampshire	0	0	0	0	0.00
New Jersey	54	33	23	110	1.04
New Mexico	709	204	192	1,106	0.56
New York	35	24	18	77	1.22
North Carolina	0	0	0	0	0.00
North Dakota	0	0	0	0	0.00
Ohio	434	330	215	978	1.26
Oklahoma	1,338	522	411	2,271	0.70
Oregon	16	23	11	50	2.05
Pennsylvania	2,981	1,525	1,448	5,953	1.00
Rhode Island	0	0	0	0	0.00
South Carolina	0	0	0	1	1.07
South Dakota	0	0	0	0	0.00
Tennessee	3	4	2	9	1.69
Texas	12,486	6,905	5,806	25,198	1.02
Utah	799	435	344	1,577	0.98
Vermont	0	0	0	0	0.00
Virginia	73	52	31	156	1.14
Washington	0	0	0	0	0.00
West Virginia	1,126	330	263	1,718	0.53
Wisconsin	25	8	9	42	0.70
Wyoming	2,351	560	412	3,323	0.41
<b>US Total</b>	<b>36,028</b>	<b>17,069</b>	<b>14,459</b>	<b>67,556</b>	<b>0.88</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Labor Income Contribution of Unconventional Gas\* Excluding Cross-State Contributions, 2020

(\$M)

	Direct	Indirect	Induced	Total	State Multiplier
Alabama	80	32	24	136	0.70
Arizona	0	0	0	0	0.00
Arkansas	1,979	712	567	3,258	0.65
California	601	650	415	1,666	1.77
Colorado	4,140	2,222	1,953	8,316	1.01
Connecticut	0	0	0	0	0.00
Delaware	36	25	15	75	1.11
District of Columbia	0	0	0	0	0.00
Florida	176	104	92	372	1.12
Georgia	46	21	20	87	0.88
Idaho	0	0	0	0	0.00
Illinois	539	194	240	973	0.80
Indiana	60	36	22	118	0.97
Iowa	66	15	16	97	0.47
Kansas	67	31	22	121	0.80
Kentucky	216	80	66	363	0.68
Louisiana	5,672	2,102	1,808	9,582	0.69
Maine	0	0	0	0	0.00
Maryland	0	0	0	0	0.00
Massachusetts	31	22	17	71	1.27
Michigan	839	302	340	1,481	0.77
Minnesota	88	24	34	146	0.65
Mississippi	53	20	15	88	0.65
Missouri	482	151	166	799	0.66
Montana	11	3	3	17	0.62
Nebraska	16	16	7	39	1.43
Nevada	7	3	2	12	0.71
New Hampshire	0	0	0	0	0.00
New Jersey	78	47	33	159	1.03
New Mexico	556	169	152	877	0.58
New York	47	33	25	105	1.25
North Carolina	8	4	3	15	0.83
North Dakota	0	0	0	0	0.00
Ohio	660	512	330	1,502	1.28
Oklahoma	1,585	625	488	2,698	0.70
Oregon	20	28	13	60	2.10
Pennsylvania	4,590	2,405	2,247	9,242	1.01
Rhode Island	0	0	0	0	0.00
South Carolina	4	2	2	8	0.82
South Dakota	0	0	0	0	0.00
Tennessee	8	7	4	18	1.41
Texas	15,840	8,948	7,427	32,215	1.03
Utah	889	486	383	1,759	0.98
Vermont	0	0	0	0	0.00
Virginia	80	61	35	175	1.20
Washington	0	0	0	0	0.00
West Virginia	1,585	469	371	2,425	0.53
Wisconsin	29	11	11	51	0.74
Wyoming	2,534	605	444	3,583	0.41
<b>US Total</b>	<b>43,717</b>	<b>21,177</b>	<b>17,815</b>	<b>82,709</b>	<b>0.89</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



## US State-Level Labor Income Contribution of Unconventional Gas\* Excluding Cross-State Contributions, 2025

(\$M)

	Direct	Indirect	Induced	Total	State Multiplier
Alabama	42	17	13	72	0.70
Arizona	0	0	0	0	0.00
Arkansas	2,066	741	591	3,398	0.64
California	578	624	399	1,601	1.77
Colorado	3,597	1,896	1,686	7,178	1.00
Connecticut	0	0	0	0	0.00
Delaware	32	22	14	68	1.11
District of Columbia	0	0	0	0	0.00
Florida	62	42	34	138	1.23
Georgia	14	6	6	26	0.89
Idaho	0	0	0	0	0.00
Illinois	502	182	224	907	0.81
Indiana	55	33	20	107	0.97
Iowa	67	16	17	100	0.49
Kansas	67	31	22	119	0.79
Kentucky	199	74	61	334	0.68
Louisiana	6,581	2,399	2,091	11,071	0.68
Maine	0	0	0	0	0.00
Maryland	0	0	0	0	0.00
Massachusetts	28	20	16	64	1.27
Michigan	767	274	310	1,351	0.76
Minnesota	75	20	29	124	0.65
Mississippi	31	12	9	52	0.65
Missouri	488	154	168	809	0.66
Montana	10	3	3	16	0.62
Nebraska	18	18	8	45	1.47
Nevada	1	1	0	2	1.58
New Hampshire	0	0	0	0	0.00
New Jersey	69	41	30	140	1.02
New Mexico	500	158	138	796	0.59
New York	40	29	22	91	1.27
North Carolina	0	0	0	0	0.00
North Dakota	0	0	0	0	0.00
Ohio	596	464	299	1,359	1.28
Oklahoma	1,659	643	508	2,810	0.69
Oregon	15	21	10	45	2.10
Pennsylvania	4,791	2,448	2,327	9,566	1.00
Rhode Island	0	0	0	0	0.00
South Carolina	1	1	0	2	0.90
South Dakota	0	0	0	0	0.00
Tennessee	5	5	3	13	1.65
Texas	16,331	9,136	7,628	33,094	1.03
Utah	939	510	404	1,853	0.97
Vermont	0	0	0	0	0.00
Virginia	73	55	32	160	1.20
Washington	0	0	0	0	0.00
West Virginia	1,634	480	382	2,496	0.53
Wisconsin	31	11	11	53	0.71
Wyoming	2,872	685	503	4,060	0.41
<b>US Total</b>	<b>44,834</b>	<b>21,271</b>	<b>18,017</b>	<b>84,123</b>	<b>0.88</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

**US State-Level Labor Income Contribution of Unconventional Gas\* Excluding Cross-State Contributions, 2030**  
 (\$M)

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>	<b>State Multiplier</b>
Alabama	57	24	18	99	0.74
Arizona	0	0	0	0	0.00
Arkansas	2,102	756	602	3,459	0.65
California	598	644	412	1,654	1.77
Colorado	3,333	1,736	1,556	6,625	0.99
Connecticut	0	0	0	0	0.00
Delaware	39	27	16	83	1.11
District of Columbia	0	0	0	0	0.00
Florida	262	152	137	552	1.10
Georgia	55	24	23	103	0.87
Idaho	0	0	0	0	0.00
Illinois	573	204	255	1,032	0.80
Indiana	66	39	24	129	0.97
Iowa	75	18	19	111	0.49
Kansas	69	32	23	123	0.79
Kentucky	196	76	60	332	0.70
Louisiana	6,820	2,477	2,166	11,463	0.68
Maine	0	0	0	0	0.00
Maryland	0	0	0	0	0.00
Massachusetts	35	25	19	78	1.27
Michigan	849	304	343	1,496	0.76
Minnesota	70	19	27	116	0.65
Mississippi	28	10	8	46	0.65
Missouri	540	170	186	896	0.66
Montana	8	3	3	14	0.62
Nebraska	20	21	9	50	1.49
Nevada	1	1	0	3	1.58
New Hampshire	0	0	0	0	0.00
New Jersey	82	48	35	165	1.02
New Mexico	451	146	125	723	0.60
New York	47	34	26	107	1.28
North Carolina	0	0	0	0	0.00
North Dakota	0	0	0	0	0.00
Ohio	708	547	353	1,608	1.27
Oklahoma	1,791	693	549	3,033	0.69
Oregon	12	17	8	38	2.10
Pennsylvania	5,453	2,810	2,656	10,920	1.00
Rhode Island	0	0	0	0	0.00
South Carolina	2	1	1	3	0.88
South Dakota	0	0	0	0	0.00
Tennessee	5	6	3	14	1.63
Texas	17,610	9,896	8,240	35,746	1.03
Utah	968	524	416	1,908	0.97
Vermont	0	0	0	0	0.00
Virginia	78	61	34	173	1.23
Washington	0	0	0	0	0.00
West Virginia	1,823	538	427	2,787	0.53
Wisconsin	35	12	13	61	0.72
Wyoming	3,114	744	546	4,403	0.41
<b>US Total</b>	<b>47,974</b>	<b>22,841</b>	<b>19,336</b>	<b>90,152</b>	<b>0.88</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight

## US State-Level Labor Income Contribution of Unconventional Gas\* Excluding Cross-State Contributions, 2035

(\$M)

	Direct	Indirect	Induced	Total	State Multiplier
Alabama	29	12	9	49	0.71
Arizona	0	0	0	0	0.00
Arkansas	2,485	892	711	4,088	0.65
California	693	745	477	1,914	1.76
Colorado	3,739	1,929	1,740	7,409	0.98
Connecticut	0	0	0	0	0.00
Delaware	60	42	25	127	1.12
District of Columbia	0	0	0	0	0.00
Florida	58	43	33	135	1.31
Georgia	8	4	3	15	0.90
Idaho	0	0	0	0	0.00
Illinois	807	283	357	1,447	0.79
Indiana	100	60	37	197	0.97
Iowa	97	23	24	144	0.49
Kansas	80	38	26	144	0.80
Kentucky	237	96	74	407	0.72
Louisiana	8,519	3,080	2,703	14,302	0.68
Maine	0	0	0	0	0.00
Maryland	0	0	0	0	0.00
Massachusetts	54	39	29	122	1.27
Michigan	1,136	411	461	2,008	0.77
Minnesota	80	21	31	132	0.65
Mississippi	25	9	7	41	0.65
Missouri	668	210	230	1,107	0.66
Montana	9	3	3	14	0.62
Nebraska	25	26	11	62	1.51
Nevada	1	1	1	3	1.58
New Hampshire	0	0	0	0	0.00
New Jersey	123	72	52	247	1.01
New Mexico	522	169	145	836	0.60
New York	71	52	38	161	1.28
North Carolina	0	0	0	0	0.00
North Dakota	0	0	0	0	0.00
Ohio	1,059	804	524	2,388	1.25
Oklahoma	2,219	856	679	3,754	0.69
Oregon	13	18	9	40	2.10
Pennsylvania	7,966	4,135	3,889	15,989	1.01
Rhode Island	0	0	0	0	0.00
South Carolina	1	0	0	1	1.07
South Dakota	0	0	0	0	0.00
Tennessee	5	6	3	14	1.76
Texas	21,507	12,088	10,064	43,658	1.03
Utah	1,050	571	452	2,073	0.97
Vermont	0	0	0	0	0.00
Virginia	105	86	47	238	1.27
Washington	0	0	0	0	0.00
West Virginia	2,609	773	610	3,992	0.53
Wisconsin	47	18	17	82	0.75
Wyoming	3,958	943	693	5,594	0.41
<b>US Total</b>	<b>60,162</b>	<b>28,557</b>	<b>24,216</b>	<b>112,935</b>	<b>0.88</b>

NOTE: \*Unconventional gas includes gas from shale, tight sands, and coal bed methane.

Source: IHS Global Insight



# **The Economic and Employment Contributions of Unconventional Gas Development in State Economies**

## **Appendix D. The Economic and Employment Contributions of Non-Shale Unconventional Gas in the United States**

Prepared for:  
AMERICA'S NATURAL GAS ALLIANCE

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## Key Findings: The Economic and Employment Contributions of Non-Shale Unconventional Gas in the United States

As a companion to the IHS Global Insight study "The Economic and Employment Contributions of Shale Gas in the United States," this study examines the growth in production of natural gas extracted from unconventional sources other than shale—namely, tight sands and coal bed methane (CBM)—and the economic benefits of this growth, including the additional employment generated by the increased activity. The same technologies that have allowed the development of natural gas from shale formations have also opened up the development of non-shale types of unconventional gas extracted from tight sands and CBM. Natural gas extracted from these non-shale unconventional sources will be referred to in this report as "other" unconventional gas.

This report focuses on the economic impact of other unconventional gas development and production:

- In 2010, total unconventional gas (from shale and other) represented 53 percent of all US natural gas production. By 2035, their combined share will be 79 percent - 60 percent shale gas and 19 percent other unconventional gas. The growth will be driven by strong growth in shale gas production and some additional growth in other unconventional gas production throughout the forecast time horizon, 2010 through 2035.
- Nearly \$1.3 trillion in cumulative capital investment in other unconventional gas alone is expected between 2010 and 2035. This, combined with capital investments in shale gas, will amount to nearly a \$3.2 trillion investment in unconventional gas production during this time.
- In 2010, other unconventional gas activity supported 407,000 jobs; by 2015, employment will expand to nearly 594,000 and, by 2035, to nearly 779,000. When combined with shale gas, unconventional natural gas activity supported just over 1 million jobs in 2010; this will increase to 1.7 million jobs in 2015 and more than 2.4 million jobs in 2035.
- The contribution to US gross domestic product (GDP) from other unconventional gas activity was \$57 billion in 2010. This will increase to \$78 billion by 2015 and to \$101 billion in 2035.
- In 2010, other unconventional gas production contributed over \$15 billion in federal, state and local government tax revenues, and this will nearly double to nearly \$28 billion in 2035. Between 2010 and 2035, other unconventional gas activity will generate a total of nearly \$566 billion in government tax revenues.

As with shale gas activity, the dramatic impact on employment and the economy from other unconventional gas activity reflects the significant capital intensity of the industry, the ability to source inputs from domestic US sources, the coast-to-coast structure of the supply chain, and the high quality of the jobs created.<sup>1</sup>

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<sup>1</sup> For more information, see "The Economic and Employment Contributions of Shale Gas in the United States:" <http://www.ihs.com/info/ecc/a/shale-gas-jobs-report.aspx>





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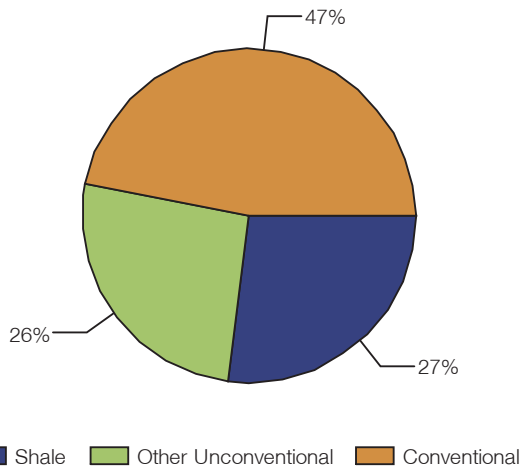
## Executive Summary

IHS Global Insight’s December report, “The Economic and Employment Contributions of Shale Gas in the United States,” the first in a series of studies about natural gas development in North America, presented the economic contribution of increasing development of US shale gas plays.<sup>2</sup> This new companion study focuses on the economic contributions of what is called “other,” or non-shale, sources of unconventional gas, namely tight sands and coal bed methane (CBM). Like the prior shale study, this study examines the impact in terms of jobs, economic growth, and labor income and government revenues—today and in the future – from the development of other unconventional natural gas.

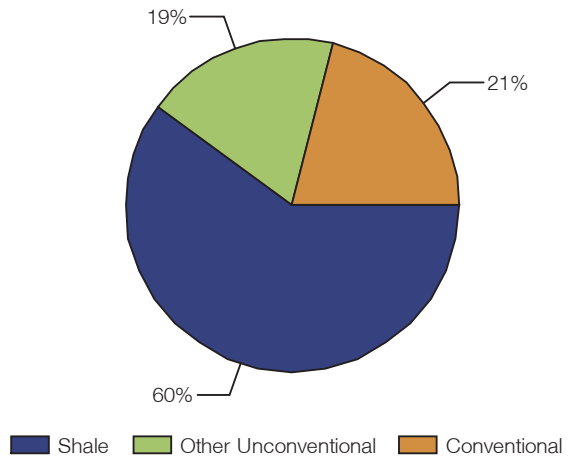
This research demonstrates that other unconventional gas will make a significant and steady economic contribution in the near term upon which the strong, long-term growth offered by natural gas development will be built. For the reader’s convenience, this study provides the economic and related impacts of natural gas development in two ways: 1) for other unconventional gas (tight sands and CBM) and 2) for total unconventional gas (shale, tight sands, and CBM).

The shale gas story over the next quarter century is one of powerful growth—in investment, production, employment, and economic growth. But other unconventional gas will also be an important story of a secure and steady foundation that will provide an additional production source of natural gas that will also contribute to US economic growth. But because other unconventional gas production is forecast to grow more slowly than shale gas production, its share of total unconventional gas production will decline. In 2010, unconventional gas represented 53 percent of total US natural gas production—27 percent from shale gas and 26 percent from other unconventional.<sup>3</sup> By 2035, unconventional gas will account for 79 percent of total US gas production—60 percent from shale gas and 19 percent from other unconventional gas. The following is a breakdown of the economic benefits from other unconventional natural gas activity in terms of employment growth, GDP growth, tax revenues and capital expenditures.

Share of Natural Gas Production by Type, 2010



Share of Natural Gas Production by Type, 2035



<sup>2</sup> A “play” is a geographic area associated with a petroleum-bearing geologic formation

<sup>3</sup> The remainder is conventional natural gas production, which involves accessing the most readily available sources of natural gas, using wells drilled vertically into gas reserves. Unconventional gas production, as discussed in prior reports, requires horizontal or other unconventional drilling techniques.

## Jobs: Nearly 600,000 by 2015

The economic contribution of other unconventional gas is measured by the sum of the direct contribution to employment, the indirect contribution through the reliance on supplier industries, and the so-called “induced” contribution that results when workers in the gas and supplier industries spend their additional incomes on consumer and other goods, boosting the entire economy. In 2010, other unconventional gas activity supported more than 407,000 jobs in total; this was made up of nearly 90,000 direct jobs in the United States, more than 133,000 indirect jobs in supplier industries, and more than 184,000 induced jobs.

US Employment Contribution			
(Number of workers)			
Other Unconventional Gas*			
	2010	2015	2035
Direct	89,824	135,781	179,063
Indirect	133,289	196,297	259,704
Induced	184,195	261,687	340,021
<b>Total</b>	<b>407,308</b>	<b>593,765</b>	<b>778,787</b>
Total Unconventional Gas**			
	2010	2015	2035
Direct	237,968	333,780	539,398
Indirect	326,999	479,487	806,810
Induced	443,690	650,182	1,092,669
<b>Total</b>	<b>1,008,657</b>	<b>1,463,449</b>	<b>2,438,877</b>

Source: IHS Global Insight

NOTES: \*Other unconventional gas includes gas from tight sands and coal bed methane.  
 \*\*Total unconventional gas includes gas from shale, tight sands, and coal bed methane.

## Value Added to GDP: \$100 Billion by 2035

In terms of its contribution to GDP, other unconventional gas activity contributed more than \$56 billion to the US economy in 2010 alone. This will increase to more than \$78 billion by 2015 and to more than \$100 billion in 2035. The growth in other unconventional gas production and capital expenditures begins with strong expansion during the first decade, followed by more moderate growth during the last fifteen years of the 25-year forecast. Due to the slowdown in the growth of production during the second part of the forecast, the value added to GDP during the first decade of the forecast period will exceed gains made in the remaining years of the forecast.

US Value Added Contribution			
(\$M)			
Other Unconventional Gas*			
	2010	2015	2035
Direct	22,822	29,944	37,477
Indirect	15,885	22,940	30,112
Induced	17,818	25,418	33,079
<b>Total</b>	<b>56,525</b>	<b>78,302</b>	<b>100,667</b>
Total Unconventional Gas**			
	2010	2015	2035
Direct	52,004	77,007	130,520
Indirect	38,301	56,441	95,346
Induced	43,101	63,069	105,862
<b>Total</b>	<b>133,405</b>	<b>196,516</b>	<b>331,728</b>

Source: IHS Global Insight

NOTES: \*Other unconventional gas includes gas from tight sands and coal bed methane.  
 \*\*Total unconventional gas includes gas from shale, tight sands, and coal bed methane.

## Government Revenues: Nearly \$566 Billion in 2010-35

In 2010, other unconventional gas activity contributed just over \$15 billion to federal, state, and local governments through income taxes, royalty payments, and other taxes. By 2035, these revenues will grow to nearly \$28 billion. During the entire forecast period, 2010 through 2035, other unconventional gas will contribute nearly \$566 billion in total government revenues.<sup>4</sup>

US Estimated Government Revenue				
(\$M)				
Other Unconventional Gas*				
	2010	2015	2035	2010-2035
Federal Taxes	6,888	9,733	12,619	262,165
State and Local Taxes	7,597	10,121	13,690	276,003
Federal Royalty Payments	700	916	1,539	27,524
<b>Total Government Revenue</b>	<b>15,185</b>	<b>20,770</b>	<b>27,847</b>	<b>565,692</b>
Lease Payments to Private Landowners	127	239	484	8,263
Total Unconventional Gas**				
	2010	2015	2035	2010-2035
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Source: IHS Global Insight

NOTES: \*Other unconventional gas includes gas from tight sands and coal bed methane.  
\*\*Total unconventional gas includes gas from shale, tight sands, and coal bed methane.

## Capital Investment: \$1.3 Trillion in 2010-2035

Continued expected growth in the demand for other unconventional gas over the next 25 years will drive the need for higher levels of capital expenditures. IHS expects capital investment in other unconventional gas production to total nearly \$1.3 trillion between 2010 and 2035. Capital expenditure growth is forecast to be stronger during the initial ten years compared with the remainder of the forecast horizon.

US Annual Capital Expenditure by Type: Other Unconventional Gas*				
(\$M)				
	2010	2015	2035	Total 2010-2035**
Total Upstream Capital Expenditure	17,614	33,195	67,093	1,190,908
Infrastructure Capital Expenditure	1,630	2,903	6,010	106,605
<b>TOTAL CAPITAL EXPENDITURE</b>	<b>19,244</b>	<b>36,097</b>	<b>73,104</b>	<b>1,297,513</b>

Source: IHS CERA

NOTES: \*Other unconventional gas includes gas from tight sands and coal bed methane.  
\*\*Total 2010-2035 represents the total for all years including those years not reported.

US Annual Capital Expenditure by Type: Total Unconventional Gas**				
(\$M)				
	2010	2015	2035	Total 2010-2035**
Total Upstream Capital Expenditure	42,455	72,882	183,898	2,845,224
Infrastructure Capital Expenditure	10,049	11,922	15,797	328,145
<b>TOTAL CAPITAL EXPENDITURE</b>	<b>52,505</b>	<b>84,804</b>	<b>199,695</b>	<b>3,173,369</b>

Source: IHS CERA

NOTES: \*Total unconventional gas includes gas from shale, tight sands, and coal bed methane.  
\*\*Total 2010-2035 represents the total for all years including those years not reported.

<sup>4</sup> This results from summing government revenues for each year in the 25-year period.

## Conclusion

Although other unconventional gas production will not keep pace with that exhibited by shale gas activity, the level of capital intensity required by other unconventional gas production ensures that it will still have an important role to play in the total unconventional gas activity's overall economic and employment contribution. Similar to contributions brought about by shale gas activity, other unconventional gas activity's economic and employment contributions will be led by direct employment, indirect employment through a broad supplier base supporting the activity, and the tremendous income effects brought about by consumer spending as a result of these direct and indirect employment opportunities.

At a time when the US economy continues to struggle to pull out of the Great Recession and create enough jobs to reduce the high US unemployment rate, a thriving natural gas industry based not just on shale gas, but also on other unconventional gas, offers great prospects for future employment and other growth opportunities for the US economy.

## 1. Introduction

The supply of natural gas in North America, long viewed as being in decline, is now expanding at a rapid pace. Rising production, fueled by technological advances, has significantly reduced gas prices. Natural gas prices plunged from a 2008 high of \$8.84 per million British thermal units (MMBtus) to less than \$3 per MMBtus currently. Natural gas production in the United States has grown so much that the market's future expansion is now contingent on new demand—supply is no longer a constraint.

The resurgence of the US natural gas industry is being driven primarily by development of new shale gas resources, which have fundamentally changed the outlook for natural gas supply and price in North America. Shale gas development has provided substantial benefits to employment and the economy, which were documented in our December 2011 report, “The Economic and Employment Contributions of Shale Gas in the United States.”<sup>5</sup> However, this is just one aspect of a revolution in unconventional gas that has wider effects. The same technologies that have opened up the development of shale gas have also permitted the development of other types of unconventional gas—specifically, gas from tight sands and coal bed methane (CBM).

Over the next 25 years, this other unconventional gas production will supplement declining traditional gas supplies at the same time that shale gas production also steadily expands. The production mix of the two will be determined by the economics of individual plays and individual wells within each play.

IHS has produced two reports on unconventional gas development in North America. The first report was limited to shale gas production and the economic impact to the US economy of developing this unconventional form of gas. This report looks at other unconventional gas development in the United States.

This analysis begins with production outlooks for major tight sands gas and CBM plays in the United States through 2035. In addition to production, IHS CERA's analysis of each play calculates the investment of capital, labor, and other inputs required for the projected level of output. The benefits of these investments are then calculated using IHS Global Insight's proprietary economic impact assessment and macroeconomic models to generate the employment, GDP growth, labor income, and tax revenues that will result from this higher level of unconventional gas development.

### The Structure of This Report

The remainder of this report is divided into three sections and three appendices.

- The next section, Section 2, provides an overview of other unconventional gas.
- Section 3 presents the critical inputs to the economic analysis, namely, the production and capital expenditure outlooks for other unconventional gas. The outlook for other unconventional gas is consistent with forecasts for the US natural gas market supply and demand through 2035 presented in the IHS Global Insight study “The Economic and Employment Contributions of Shale Gas in the United States.”
- Section 4 presents the results of IHS Global Insight's economic contribution analysis.
- Appendices are provided to facilitate the readers' understanding of the methodologies, research, and data used in our analysis and to present more detailed results from our study.
  - Appendix A contains the underlying methodology and detailed data related to the assumed future production profile and capital expenditure outlook for other unconventional gas.
  - Appendix B provides detailed results of the economic contribution assessment.
  - Appendix C presents the data and modeling approach underlying the economic contribution assessment.

<sup>5</sup> <http://www.ihs.com/info/ecc/a/shale-gas-jobs-report.aspx>

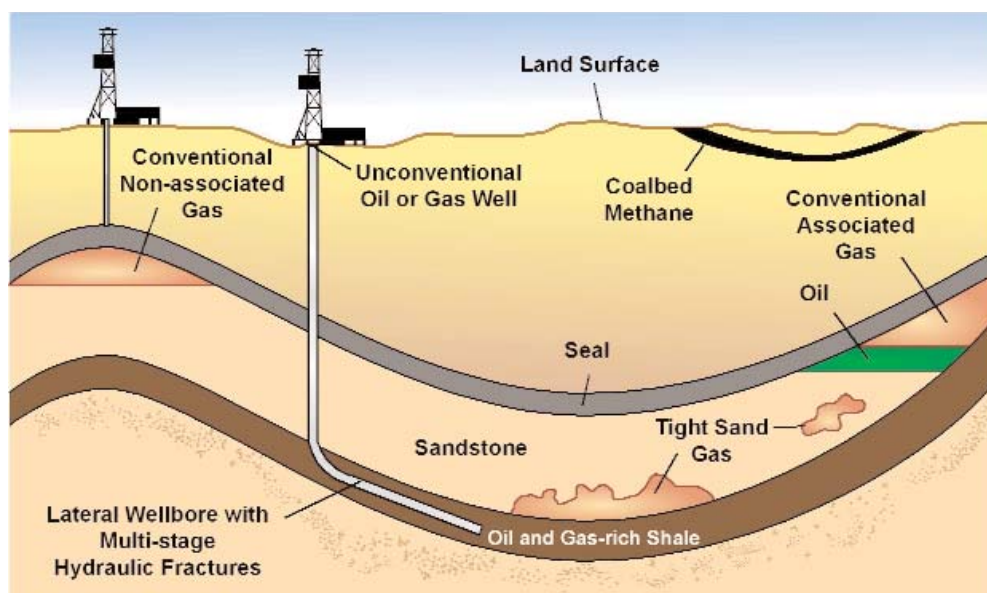


## 2. An Introduction to Unconventional Gas

In a conventional natural gas reservoir, oil or natural gas has migrated upward over geologic time from a lower source rock, through permeable rocks until it hits an impermeable layer of rock and then moves along this hard barrier until it encounters a “trap.”<sup>6</sup> These accumulations of natural gas are sometimes found in association with crude oil and sometimes not. A well is usually drilled vertically into the reservoir to allow the oil and/or natural gas to flow into the wellbore and up to the surface. Historically, these reservoirs have been relatively “easy” to access using traditional technology.

Unconventional gas, by contrast, is embedded in impermeable geologic formations that restrict the flow of gas. Shale gas is contained in shale rock with low permeability, tight sands gas is contained in low-permeability sandstone, and CBM is contained in low-permeability coal seams. Permeability is what drives whether development requires conventional techniques or newer approaches to extract natural gas or oil in an economically feasible manner.

### The Geology of Conventional and Unconventional Oil and Gas



Source: EIA  
10402-4

It has long been known that the low-permeability source rock existed and that it contained significant amounts of natural gas and oil. However, conventional well-completion techniques did not generally yield sufficient production to justify developing these gas reserves. Through innovation and technological evolution in the oil and gas industry, production techniques have been developed over the past two decades that allow the economical extraction of natural gas and oil from low-permeability source rock.

Two technologies in particular are critical—both of them with long histories of use preceding unconventional gas development. Conventional well-completion techniques for decades have turned to either to horizontal drilling or to hydraulic fracturing to improve oil or gas flow. These well-completion technologies were used primarily in the start-up phase of traditional wells to initiate production and, less often, to sustain production in an already producing well.

Horizontal drilling techniques were also adapted to produce unconventional hydrocarbons, including natural gas. Horizontal drilling involves first drilling a vertical well to the desired depth and then drilling laterally to access a larger portion of the source rock and to intersect natural fractures in the rock in order to enhance flow. Hydraulic fracturing involves the injection of fluid (usually a mixture of water, sand, and chemicals) under high pressure into a natural gas or oil well to create new fractures in the source rock. The sand prevents the cracks from closing when the

<sup>6</sup> Permeability refers to how easily gasses and fluids are able to flow through a rock.

water pressure is removed, creating permeable pathways for natural gas to move into the wellbore and then to the surface. Hydraulic fracturing is a one-time process that takes place over a few days to release the flow of gas from the impermeable rock into the wellbore. Some of the injected water returns to the surface and is recovered and some remains in the reservoir. Over the course of hours or days, this “flowback” is increasingly dominated by the natural gas that is the goal of the production process. Once gas is flowing, the well is connected to gathering pipelines that send the gas to processing facilities and from there to the consumer market. No further hydraulic fracturing

takes place unless later, during the producing life of the well (typically years later), remedial work is required to enhance well flow. The combination of horizontal drilling and hydraulic fracturing allows producers to access large areas of source rock with a single well and allows commercial production from formations so tight or lacking in permeability that significant amounts of oil and/or gas had never been able to escape over millions of years.

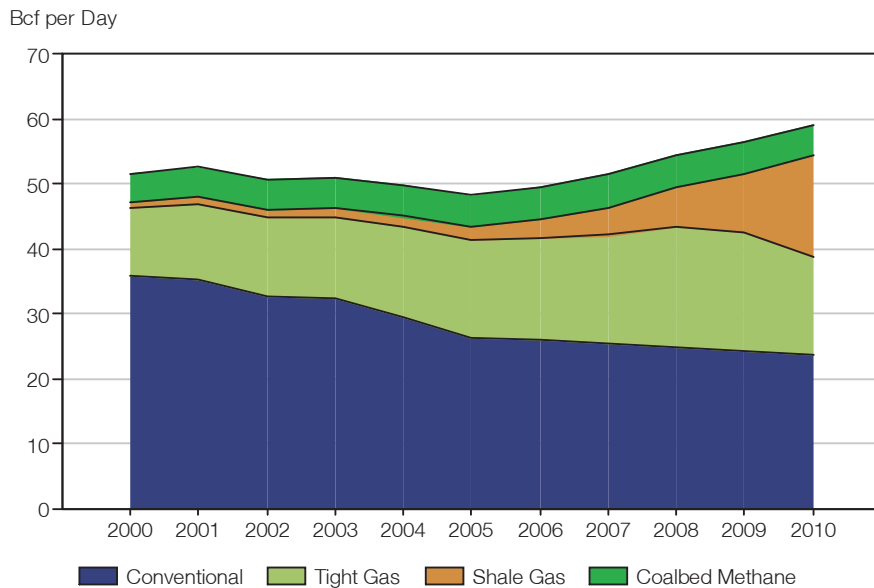
The unconventional gas revolution began in the Barnett shale gas play in Texas, where, over the course of two decades, the combination of horizontal drilling and hydraulic fracturing in well completions showed impressive results in hydrocarbon production. The technology spread to other shale and tight sands plays throughout the United States, leading to a long-term climb in US gas production beginning in 2007, which was interrupted only by Hurricane Ike in 2008 and the Great Recession in 2009. In January 2007, total natural gas production in the US lower 48 states was 49.7 billion cubic feet (Bcf) per day. By July 2008, it had climbed to 56.1 Bcf per day and currently exceeds 64 Bcf per day.

### Unconventional Gas Supply and Costs

Significant differences exist between conventional and unconventional natural gas in terms of the unique geology, technology, and productivity of each. But technically there is very little difference between most shale and tight sands formations. Many plays contain both types of formations, and the designation of a particular play as a shale or a tight sand play is usually the result of geologists’ consensus based on the predominant rock characteristics (portions of a play can vary from shale-dominant to tight sands-dominant by depth or geographical location). Once designated a shale play, all gas production from that play is considered shale gas, even though it may have come from a sandstone formation within the larger play. Similarly, all natural gas produced from a tight sands play is considered to be tight sands gas, even though it may have originated in shale rock within the tight sands play.

Well productivity and costs are roughly similar for the two types of unconventional gas. Differences in production cost are driven by the characteristics and complexities of individual plays or well requirements rather than by the play’s designation as shale or tight sands. In comparison to conventional gas, production per well for all types of unconventional gas is usually much higher, which drives down their unit costs of production. This also demonstrates that the availability of other unconventional gas reinforces the price and supply effects of the shale-gas revolution discussed in the previous report:

US Lower 48 Natural Gas Production By Type: 2000 to 2010



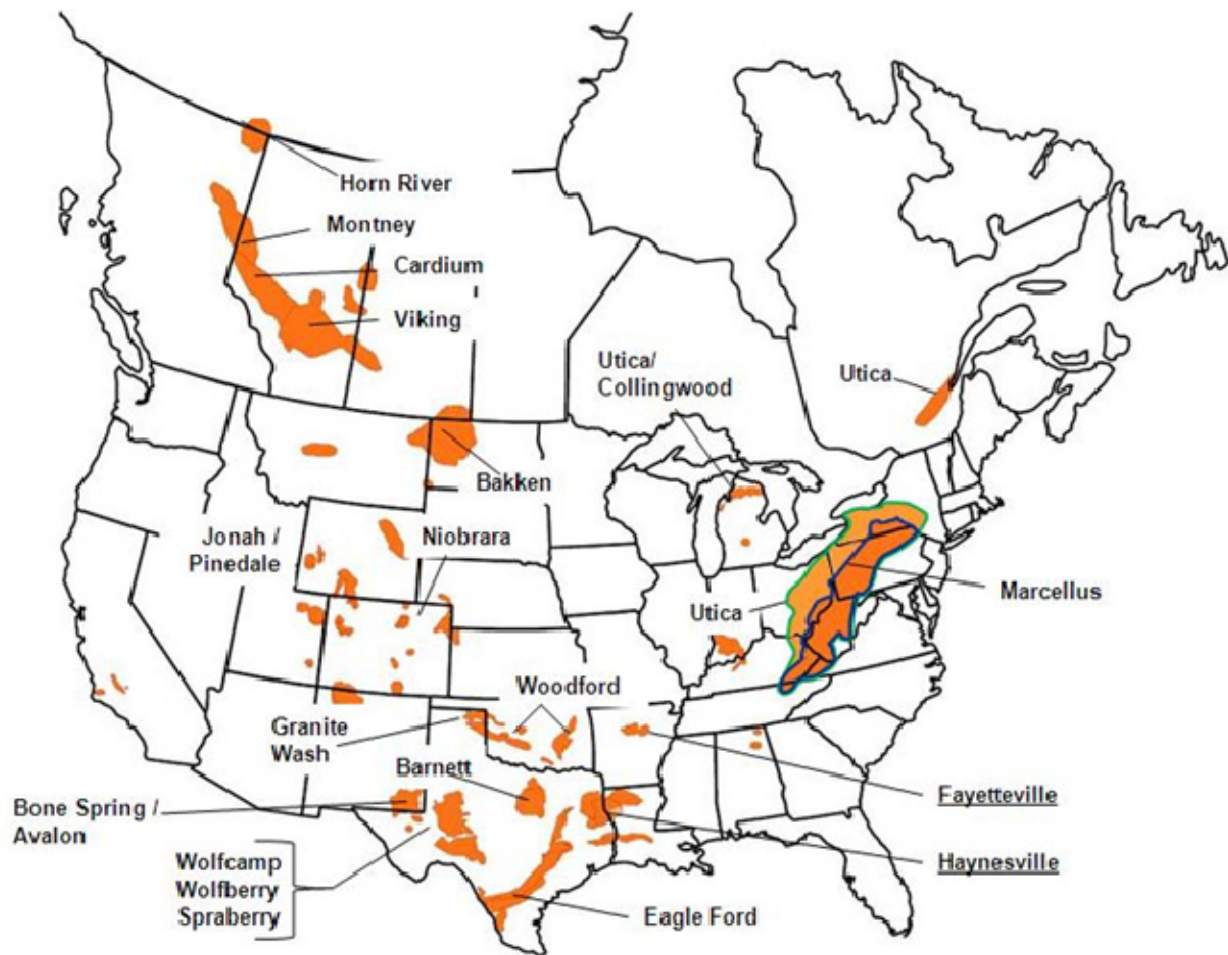
Source: EIA, IHS CERA

*Because so much unconventional gas resource is available at a low cost, the supply curve for natural gas has become relatively elastic. In other words, the US natural gas resource base can now accommodate significant increases in demand without requiring a higher price to elicit new supply<sup>7</sup>.*

There is one significant difference between tight sands gas and shale gas in the US lower 48, however. The estimated recoverable resource base for tight sands gas is much less than for shale gas, and the outlook for growth in tight sands gas production is below that of shale gas.

An IHS CERA study published in February 2010, "Fueling North America's Energy Future," examined nine tight sands gas plays and six shale plays in the US lower 48 and estimated the recoverable resource in each play. The tight sands gas plays—the Cotton Valley, Bossier, Deep Bossier, Colony Wash, Granite Wash, Piceance, Jonah, Pinedale, and Natural Buttes—contain an estimated 200 trillion cubic feet (Tcf) of recoverable resources. In contrast, shale gas resources were estimated to be more than 1,100 Tcf in the US lower 48. The February study did not estimate CBM resources, but the Potential Gas Committee at the Colorado School of Mines put CBM resources in the US lower 48 at 101 Tcf.

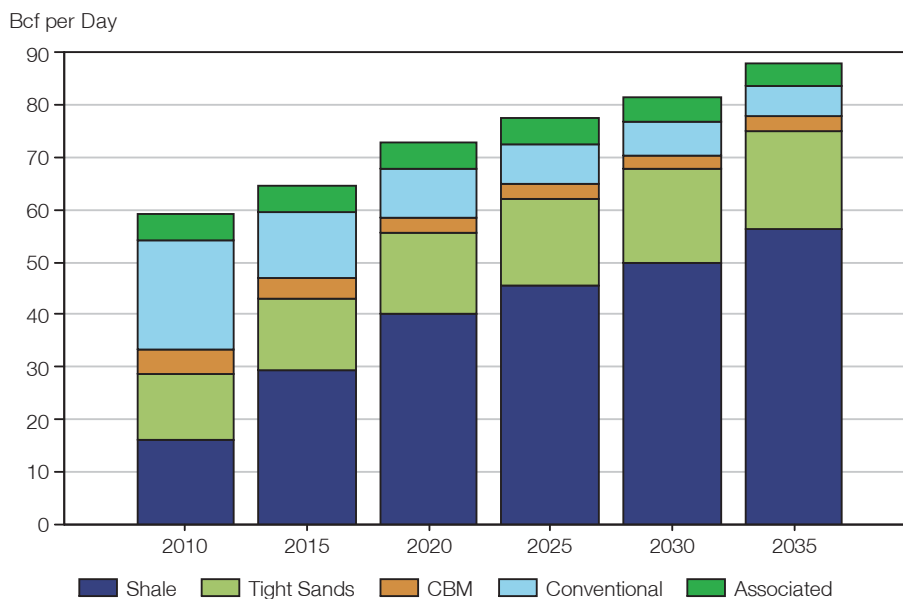
**Major Unconventional Gas Plays in North America**



<sup>7</sup> IHS Global Insight, "The Economic and Employment Contributions of Shale Gas in the United States", December 2011, p. 8.

Tight sands have played a significant role in the US gas supply picture for many years. According to the US Energy Information Administration, tight sands gas production peaked in 2008 at more than 18 Bcf per day, accounting for more than half of US lower 48 gas supply. IHS CERA expects tight sands gas to continue to provide substantial volumes in the future, though it is unlikely to exhibit the rapid growth expected from shale gas plays. CBM supply has grown from about 1 Bcf per day in the 1990s to 5 Bcf today and is unlikely to increase further.

US Lower 48 Natural Gas Productive Capacity Outlook by Type: 2010 to 2035



Source: EIA, IHS CERA

### 3. Outlook for Production and Capital Expenditures for Other Unconventional Gas

IHS CERA's outlook for other unconventional gas in the US lower 48 comprises production from 23 tight gas plays and sub-plays and 14 coal bed methane plays. The 37 other unconventional gas plays considered for this analysis are:

Unconventional Gas Plays	Play Type	Geographic Extent of Play*
Big Sandy	Tight Sand	Kentucky, Virginia, West Virginia
Trenton-Black River	Tight Sand	Kentucky, New York, Ohio, Pennsylvania, Virginia, West Virginia
Cotton Valley	Tight Sand	Louisiana
Vernon/Terryville	Tight Sand	Louisiana
E. Cotton Valley	Tight Sand	Texas
W. Cotton Valley	Tight Sand	Texas
Deep Bossier (>14k feet)	Tight Sand	Texas
S Texas Wilcox (Lobo)	Tight Sand	Texas
Granite Wash	Tight Sand	Texas, Oklahoma
Sahara	Tight Sand	Oklahoma
Colony Wash	Tight Sand	Arkansas
Hartshorne	Tight Sand	Oklahoma
Haley Deep	Tight Sand	Texas
Wattenberg-Niobrara-Codell	Tight Sand	Colorado
Wamwash-Lewis MV	Tight Sand	Colorado ,Wyoming
Jonah	Tight Sand	Wyoming
Pinedale	Tight Sand	Wyoming
Mamm Creek - Williams Fork	Tight Sand	Colorado
Piceance Emerging	Tight Sand	Colorado
Lower Cretaceous-Mesozoic	Tight Sand	Colorado
Natural Buttes	Tight Sand	Utah
Buttes Deep	Tight Sand	Utah
Lance	Tight Sand	Wyoming
Coal Bed Methane (Appalachian, avg)	Coal Bed Methane	Pennsylvania, Virginia, West Virginia
CBM (Black Warrior - Pottsville)	Coal Bed Methane	Alabama
CBM (Arkoma - Hartshorne)	Coal Bed Methane	Oklahoma
CBM (Chatauqua)	Coal Bed Methane	Oklahoma
CBM (Cherokee)	Coal Bed Methane	Kansas
CBM (E. Green River)	Coal Bed Methane	Wyoming
Las Vegas (LV Raton)	Coal Bed Methane	Colorado, New Mexico
CBM (Piceance)	Coal Bed Methane	Colorado
Big George (Powder River)	Coal Bed Methane	Wyoming, Montana
Wyodak (Powder River)	Coal Bed Methane	Wyoming, Montana
Canyon (Powder River)	Coal Bed Methane	Wyoming, Montana
Anderson (Powder River)	Coal Bed Methane	Wyoming, Montana
Other Coal (Powder River)	Coal Bed Methane	Wyoming, Montana
CBM (Uinta)	Coal Bed Methane	Utah
Fruitland (San Juan)	Coal Bed Methane	New Mexico, Colorado

\*The list of gas plays provides the state location or locations of the full extent of the underground gas play. However, states containing part of a play do not necessarily have production from that play. For example, the Marcellus play extends into Virginia and Kentucky, but no extractions of Marcellus gas take place in those states at present or in the outlook for this study. This study also assumes that no Marcellus production is forthcoming from New York.



## The Process of Natural Gas Development

Gas produced from conventional and unconventional sources are virtually identical in the fundamental aspects of their exploration, development, production, transportation, processing, and marketing. In terms of well construction, however, unconventional wells tend to be more capital intensive due to the more difficult drilling requirements for long horizontal wellbores and due to the far greater complexity of well completion, which requires multi-stage hydraulic fractures during the production start-up stage.

### *Prospecting and Exploration*

Numerous geological evaluations, seismic surveys, pilot drilling and testing, and land acquisitions are required to determine whether a gas field has the potential for commercial development. Once an operator has acquired a prospective lease for mineral rights, the producer is typically bound to drill and/or produce in the time period specified by the lease and stands to forfeit leasing rights if the deadline is not met or an extension is not negotiated. Lease terms are typically three to five years, and the effective date of the lease starts the clock on well construction. Development plans are formulated with an eye toward minimizing environmental and other local disturbances and ensuring all necessary permits are secured.

### *Well Construction*

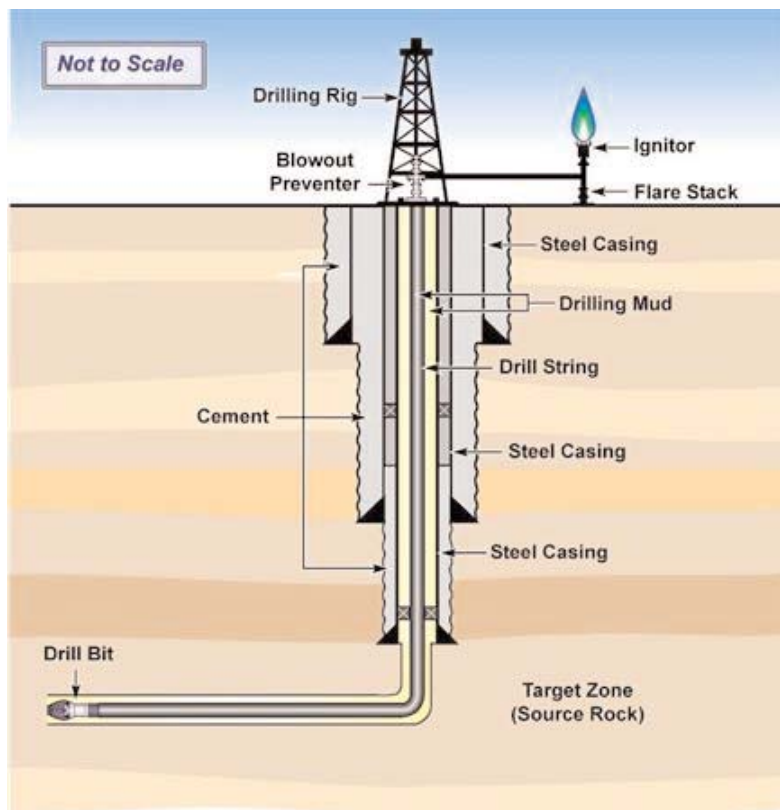
Well construction starts with detailed planning of the location of a well, both at the surface and for the trajectory and target below ground. Once a well location has been surveyed and staked out, and a drilling permit has been granted by the state and/or local regulatory authorities (or by federal authorities if on federal land), the site is prepared for drilling. Surface preparation is performed to ensure even, stable ground on which a rig can stand erect and operate. Tie-in lines are laid from the well site to the nearest gathering and sales pipeline.

### **Drilling**

A drilling rig penetrates the ground by means of a rotating drill bit attached to the bottom of a steel pipe, known as the drill string. Often, a specialized “mud” is continuously pumped down the drill string and up the wellbore in order to keep the drill bit cool and lift rock cuttings away from the bit and up to the surface. As drilling progresses, steel sleeves, also known as casing, are lowered and cemented in place, starting at the surface and moving downward, to isolate the wellbore from the adjacent formations. After drilling the vertical segment, the drill bit is directed to “kick off” in an arc until it reaches a target horizontal trajectory, where it continues with a lateral segment to a designed length, often 5,000-10,000 feet.

### **Completion**

Well completion is the process of preparing a well, after drilling, to begin production. Completion steps include installation of the remainder of the casing, followed by perforation. To draw the natural gas



Source: IHS CERA  
10802-2

from the source rock up through the well, the steel and cement barriers in the wellbore are perforated within the targeted zone only, creating holes in the well through which the gas will flow. Perforation is accomplished by means of controlled explosive charges set off at the correct position in the wellbore and mounted in specially designed “guns.” Once the casing is perforated, the target zone area accessed by the well is ready to be hydraulically fractured. Pumps inject large volumes of water down the well bore, under very high pressure. The pressure from the pumps is propagated by the fluid coursing down the wellbore and against the reservoir rock, creating fractures in the geologic matrix. The water contains small quantities of additives and sand, which remain in the fractures to prop them open. Natural gas then migrates into the fractures, travels along the fractures to the wellbore, up the wellbore to the surface wellhead, and on to gathering facilities leading to processing plants and then to sales and marketing pipelines.

A well is typically hydraulically fractured in several stages, from 10 to as many as 25 stages per well. This technique exposes only a small horizontal segment at a time to fracturing fluids and pressure, increasing the intensity of hydraulic fracturing in each segment. Fractured stages are separated by cement plugs drilled out after the last stage is hydraulically fractured. During drill-out, the plugs, plug debris and excessive fluid and sand left in the wellbore can be cleaned out. This may be done using a lighter rig called a workover rig or a coiled tubing unit.

Once plug drill-out and wellbore cleanup are complete, the well is ready for flowback. In most cases, the reservoir pressure, along with compressed gas and the stored energy from the fracturing fluids pumped in, is adequate to push up against the column of fluid in the wellbore and progressively “clean up” the well. Water flowing up and out of the wellbore is directed through surface flow lines to a collection or gathering point where any gas can be separated out. A water pipeline system or water disposal trucks periodically haul away collected flowback water to designated sites for recycling, injection into dedicated disposal wells, or other means of disposal that meet environmental requirements.

### *Production*

After completion, production goes into full swing. Local production tie-in lines lead to compression stations located in the production area. Excess water that is mingled with gas—a byproduct of production—is stripped out of the gas by means of dehydrators, and this “cleaner” gas is transported through a network of gathering pipelines that continually collect gas from various leases and feed it to processing plants. Gas processing plants extract natural gas liquids such as ethane, propane, butane, isobutene, and pentane for sale in their respective markets. The processing plants also extract contaminants such as hydrogen sulfide, carbon dioxide, and nitrogen contained in the natural gas itself. Dry gas then enters a pipeline for delivery to end markets such as power plants or urban distribution networks.

## **Estimating Production Profiles for Other Unconventional Gas Plays**

Estimating the outlook for production profiles for other unconventional gas plays follows the same procedure as for the shale plays discussed in the previous report. Production forecasts were developed based on detailed analyses of each play. These analyses used IHS energy databases and internal research and also considered variables such as rig counts, number of days required to drill a well, total area available to be developed, well spacing, and expected decline rates (see Appendix A).

The outlook scenarios for other unconventional gas were constrained to be consistent with IHS CERA's forecasts of natural gas demand, price, and pipeline infrastructure requirements as reported in our “North American Natural Gas Market Briefing” in September 2011. This assessment shows that other unconventional gas production is expected to grow slowly, from 5.5 Tcf in 2010 to 5.9 Tcf in 2035, as its share of total gas production declines from 26 percent in 2010 to 19 percent by 2035<sup>8</sup>.

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<sup>8</sup> Note, however, that total production will continue to increase, albeit slightly, even as drilling declines due to the continued output by wells drilled in previous years.

**US Lower 48 Annual Natural Gas Production and Well Completions: Other Unconventional Gas\* vs. Total Gas**

	2010	2015	2020	2025	2030	2035
<b>PRODUCTION</b>						
Other Uncon. Gas (Mcf)	5,512,297,522	5,528,478,777	5,458,495,669	5,572,393,935	5,704,099,381	5,925,977,626
Tight Sands	3,919,979,770	4,189,135,644	4,345,136,944	4,567,079,807	4,744,306,084	4,968,805,590
Coal Bed Methane	1,592,317,752	1,339,343,133	1,113,358,725	1,005,314,129	959,793,297	957,172,036
<b>Total Gas (Mcf)</b>	<b>21,229,024,284</b>	<b>23,276,996,872</b>	<b>26,000,032,080</b>	<b>27,769,207,506</b>	<b>29,114,085,717</b>	<b>31,263,775,082</b>
Other Uncon. Share of Total	26%	24%	21%	20%	20%	19%
<b>WELL COMPLETIONS</b>						
Other Uncon. Gas	1,597	2,356	2,587	2,318	2,234	2,198
Tight Sands	1,163	1,899	1,925	1,683	1,623	1,599
Coal Bed Methane	434	457	662	635	611	600
<b>Total Gas</b>	<b>17,858</b>	<b>18,344</b>	<b>19,532</b>	<b>17,355</b>	<b>16,213</b>	<b>16,224</b>
Other Unconventional Share of Total	9%	13%	13%	13%	14%	14%
Henry Hub Price	4.38	4.77	4.57	4.84	4.91	5.15
(Constant 2010 \$US per MMBtu)						

Source: IHS CERA and EIA

NOTE: \*Other unconventional gas includes gas from tight sands and coal bed methane.

## Drilling Costs and Expenditures

An unconventional gas well in a shale or tight sand target can cost anywhere between \$3.5 million and \$12 million to drill and prepare for production, while a well targeting CBM costs less than \$1.5 million. Well costs depend on several physical factors, including the vertical depth of the gas reservoir, length of the lateral pipe, reservoir pressure, rock characteristics, number of fracture stages, as well as commercial factors such as ease of access to materials and services, and the price and supply of water, fluid, sand, drilling and completion services. Capital expenditures are categorized in this study by lease acquisitions, drilling, completion, facilities, gathering, processing, and compression. In addition, the development of a major play requires additional pipeline capacity to get the gas to market.

IHS CERA estimated the costs associated with the production outlook for other unconventional gas based on data and analysis from IHS databases and proprietary models (these are discussed further in Appendix A). This analysis found that nearly \$1.3 trillion in capital expenditures will take place between 2010 and 2035 for other unconventional gas development. These expenditures will clearly have a significant economic impact, in terms of jobs creation, value added to GDP, labor income, and tax revenues. These effects are discussed in the following sections.



## US Annual Capital Expenditure by Type: Other Unconventional Gas\*

(\$M)

	2010	2015	2020	2025	2030	2035	Total 2010-2035**
<b>Drilling Capital Expenditure</b>	<b>7,046</b>	<b>13,278</b>	<b>17,281</b>	<b>20,708</b>	<b>23,615</b>	<b>26,837</b>	<b>476,363</b>
Drilling	4,721	8,896	11,578	13,874	15,822	17,981	319,163
Support Services	2,325	4,382	5,703	6,834	7,793	8,856	157,200
<b>Completion Capital Expenditure</b>	<b>8,807</b>	<b>16,597</b>	<b>21,601</b>	<b>25,885</b>	<b>29,519</b>	<b>33,547</b>	<b>595,454</b>
Hydraulic Fracturing	7,046	13,278	17,281	20,708	23,615	26,837	476,363
Other	1,761	3,319	4,320	5,177	5,904	6,709	119,091
<b>Facilities Capital Expenditure</b>	<b>1,761</b>	<b>3,319</b>	<b>4,320</b>	<b>5,177</b>	<b>5,904</b>	<b>6,709</b>	<b>119,091</b>
Material	1,057	1,992	2,592	3,106	3,542	4,026	71,454
Fabricaton	440	830	1,080	1,294	1,476	1,677	29,773
Project Management	88	166	216	259	295	335	5,955
Other	176	332	432	518	590	671	11,909
<b>TOTAL Upstream Capital Expenditure</b>	<b>17,614</b>	<b>33,195</b>	<b>43,202</b>	<b>51,770</b>	<b>59,037</b>	<b>67,093</b>	<b>1,190,908</b>
<b>Infrastructure Capital Expenditure</b>	<b>1,630</b>	<b>2,903</b>	<b>3,890</b>	<b>4,659</b>	<b>5,307</b>	<b>6,010</b>	<b>106,605</b>
Gathering and Processing	1,630	2,903	3,890	4,659	5,307	6,010	106,605
<b>TOTAL CAPITAL EXPENDITURE</b>	<b>19,244</b>	<b>36,097</b>	<b>47,092</b>	<b>56,429</b>	<b>64,344</b>	<b>73,104</b>	<b>1,297,513</b>

Source: IHS CERA

NOTES: \*Other unconventional gas includes gas from tight sands and coal bed methane.

\*\*Total 2010-2035 represents the total for all years including those years not reported.

## 4. Economic Contribution Assessment

### Approach and Methodology

#### *How to Define the Economic Contribution*

The objective of measuring the economic contribution of future production of other unconventional gas—or any economic activity—is to capture *all* of the multitude of that activity’s effects on the broader US economy. First, this analysis requires an integration of the capital expenditure forecast and the natural gas production forecast presented in Section 3 into the IMPLAN and IHS Global Insight’s proprietary macroeconomic modeling systems. Such a framework and forecasts form the foundation for any economic contribution assessment.

A second step in an economic contribution assessment is an assessment of each individual component of commercial activity within an industry and, equally important, its impacts on other industries—in this study, these are the diverse suppliers required for other unconventional gas activity. To estimate the net impact of other unconventional gas activity as it feeds these complex commercial interactions, economic activity was divided into three stages: the “direct,” “indirect” and “induced” contributions on the broader economy. The direct, indirect and induced contributions are defined as follows:

- The **direct contribution** is the effect of other unconventional gas development and production on output, employment, and income. For example, direct impacts are generated by the exploration, production, transport, and delivery of unconventional gas and by purchases of critical on-site services. Spending and investments in these activities also have a direct impact on production levels, the number of workers employed, and how much those workers are paid and otherwise compensated—these are the direct contributions to US economic activity.
- Changes in the direct purchasing activities as a result of other unconventional gas production also create **indirect contributions**, which are felt by all of the suppliers. Changes in demand (from the direct industries) lead to corresponding changes in output, employment, and income throughout the supply chains, as well as supplier’s interindustry linkages. Suppliers who support other unconventional gas activity affected by such changes span the majority of industries in the US economy.
- Finally, workers and their families in both the direct and indirect industries spend their income on food, housing, leisure, autos, household items, clothing, and other consumer goods. The additional output, employment, and other income effects that result from these consumer spending activities are categorized as the **induced contribution**.

#### *Modeling the Economic Contribution*

The approach used for assessing the economic contribution of other unconventional gas follows the same logic and process explained in the previous report, “The Economic and Employment Contributions of Shale Gas Industry in United States.” Each of the three distinct levels of economic contribution—direct, indirect, and induced—were quantified in terms of their contribution on employment, value added to GDP, and labor income. Estimates of federal, state, and local tax revenues were also calculated to assess the contribution on the public sector.

The outlooks for US production and capital expenditures for other unconventional gas were developed in the same fashion as in the shale gas analysis. The production profile was compiled from expected production of other unconventional gas for each year of the forecast time horizon, 2010 through 2035. Similarly, the capital expenditure profile was estimated using the anticipated annual investment in drilling, completion, facilities, and infrastructure. The production and capital outlooks were developed in nominal US dollars to capture the effects of price and quantity increases.

IHS Global Insight then used the capital expenditure outlook to modify and customize the production function for unconventional gas. The process used to transform the subcategories of capital expenditures into a set of sector-

level transactions for industry investments, purchases and services was the same as the process applied in the shale gas report. This focused approach provided an appropriate set of capital expenditure estimates for other unconventional gas activity, which was then used to exercise the IMPLAN model (a detailed explanation and table in Appendix C of the shale gas industry report exhibits the industry model sectors for each of the broad capital expenditure categories).

The modeling process used was the same as for the shale gas industry analysis: the IMPLAN model quantified the direct and indirect contributions of other unconventional gas activity, and the US Macroeconomic model enhanced IMPLAN's standard methodology by measuring the induced economic contribution.

## Measuring the Economic Contributions

Similar to the report on the shale gas industry's economic contribution, IHS' US macroeconomic forecast provided the baseline upon which to evaluate and assess the contributions to economic growth and tax revenues of other unconventional gas over the next 25 years.

The findings of our study indicate that other unconventional gas production will undergo a strong initial expansion during the initial 10 years of the forecast period, followed by a slower and flatter growth path toward the middle and end of the 25-year forecast period. The initial ramp up of investment and production will trigger economic ripples that will make a positive contribution to the growth of the US economy. The growth in investment and production will moderate after the first decade but will continue to generate more modest economic and employment contributions.

This section presents snapshots of the economic contribution of other unconventional gas activity in five-year increments, from 2010 to 2035. As in the companion report, we present a summary of the economic contribution in four key dimensions: employment, value added to GDP, labor income, and government tax revenues.

For the contribution on employment, value added to GDP, labor income and tax revenues, we show the results in two ways: the contribution of "other" unconventional gas activity on the economy and the contribution of "total" unconventional gas activity, which includes the previously reported contribution of shale gas. For the contribution on value added to GDP per employee and labor income per employee, we show results only for other unconventional gas.

US Economic Contribution Summary: Other Unconventional Gas*						
Employment						
(Number of workers)						
	2010	2015	2020	2025	2030	2035
Direct	89,824	135,781	154,752	159,234	156,665	179,063
Indirect	133,289	196,297	223,936	230,063	226,179	259,704
Induced	184,195	261,687	292,746	300,280	295,130	340,021
<b>Total</b>	<b>407,30</b>	<b>593,765</b>	<b>671,434</b>	<b>689,577</b>	<b>677,974</b>	<b>778,787</b>

Value Added						
(\$M)						
	2010	2015	2020	2025	2030	2035
Direct	22,822	29,944	32,135	32,827	32,236	37,477
Indirect	15,885	22,940	25,940	26,625	26,170	30,112
Induced	17,818	25,418	28,486	29,225	28,725	33,079
<b>Total</b>	<b>56,525</b>	<b>78,302</b>	<b>86,561</b>	<b>88,677</b>	<b>87,131</b>	<b>100,667</b>

## US Economic Contribution Summary: Other Unconventional Gas\* (Continued)

## Labor Income

(\$M)

	2010	2015	2020	2025	2030	2035
Direct	10,315	14,302	15,749	16,137	15,858	18,308
Indirect	9,286	13,628	15,533	15,955	15,685	18,019
Induced	10,062	14,354	16,086	16,503	16,221	18,680
<b>Total</b>	<b>29,662</b>	<b>42,284</b>	<b>47,368</b>	<b>48,595</b>	<b>47,764</b>	<b>55,007</b>

Source: IHS Global Insight

NOTE: \*Other unconventional gas includes gas from tight sands and coal bed methane.

## US Economic Contribution Summary: Total Unconventional Gas\*

## Employment

(Number of workers)

	2010	2015	2020	2025	2030	2035
Direct	237,968	333,780	403,473	400,959	435,046	539,398
Indirect	326,999	479,487	583,817	598,495	644,444	806,810
Induced	443,690	650,182	797,484	812,501	871,325	1,092,669
<b>Total</b>	<b>1,008,657</b>	<b>1,463,449</b>	<b>1,794,775</b>	<b>1,811,954</b>	<b>1,950,815</b>	<b>2,438,877</b>

## Value Added

(\$M)

	2010	2015	2020	2025	2030	2035
Direct	52,004	77,007	93,261	97,518	103,505	130,52
Indirect	38,301	56,441	69,779	70,793	76,021	95,346
Induced	43,101	63,069	77,363	78,706	84,456	105,862
<b>Total</b>	<b>133,405</b>	<b>196,516</b>	<b>240,403</b>	<b>247,017</b>	<b>263,982</b>	<b>331,728</b>

## Labor Income

(\$M)

	2010	2015	2020	2025	2030	2035
Direct	24,755	36,028	43,717	44,834	47,974	60,162
Indirect	22,633	33,309	41,307	41,695	44,865	56,212
Induced	24,339	35,615	43,687	44,445	47,692	59,780
<b>Total</b>	<b>71,727</b>	<b>104,951</b>	<b>128,711</b>	<b>130,974</b>	<b>140,531</b>	<b>176,154</b>

Source: IHS Global Insight

NOTE: \*Other unconventional gas includes gas from tight sands and coal bed methane.

*Employment Contribution*

IHS Global Insight estimates that other unconventional gas activity contributed more than 407,000 jobs in 2010. That will surge to 594,000 by 2015 and to 779,000 by 2035. A 7.8 percent annual growth rate]] during the early years of the forecast horizon will result from large capital investments in gas development that will spread throughout the broader US economy.

In contrast to the shale gas industry, which exhibits a prolonged expansion that will boost the economy over the 25-year forecast, other unconventional gas activity shows a stronger ramp up during the initial decade, followed by slower growth in 2020 through 2035, which will nevertheless provide a stable contribution to the US economy.

This initial surge in direct economic activity in the mining, construction, and manufacturing industries will require support from the other unconventional gas supplier chain, which will generate jobs and incomes for workers, thereby inducing impacts in manufacturing and services jobs, as well as retail and wholesale trade. The fact that a limited number of jobs will be in the mining sector (where natural gas extraction jobs are categorized) illustrates that the disproportionate contribution of this industry extends far beyond the industry itself (additional industry-level detail is provided in Appendix B).

*Value Added to GDP and Labor Income Contributions*

The often cited US GDP is simply the summation of value added across all products and services produced in the United States. GDP is generally considered the broadest measure of the health of the US economy. Value added is the difference between the production cost of the products or services and the sales price (in other words, total value added is revenue less purchases of material and services). Thus, assessing the value added contribution of other unconventional gas activity demonstrates the vital role it plays in the overall US economy.

Also discussed in the December 2011 report on shale gas, a common measure of the relative contribution of an industry to the overall economy is the value added per worker. The higher the ratio, the greater the contribution to GDP made by each worker. In 2010, the average employee who participates directly in production of other unconventional gas contributed just over \$254,000. The contribution stays high, at nearly \$221,000 in 2015 and just about \$210,000 in 2035 due to the ongoing flow of capital expenditures associated with unconventional gas development. This contribution is dramatically higher than for the average workers in the US economy overall: the national average “value added” per employee in 2010 was \$112,000 and is projected to be \$118,000 in 2015. The higher value added nature of the jobs attributable to this sector indicates this sector is a potential growth engine of the US economy over the forecast period. Note that there is a modest downward trend in direct value added and labor income per employee. This is due to a small shift in the mix of capital expenditures over the period from more labor intensive activity to less labor intensive activity.

*Government Revenues and Taxes*

Increased commercial activity associated with other unconventional gas will increase government taxes paid by natural gas and oil producers, their employees, and the extensive supply chain and ancillary industries. As depicted in the table below, IHS Global Insight estimates that annual government revenues from other unconventional gas activity will be just over \$15 billion in 2010 alone, comprising nearly half of the taxes paid as a result of commercial activity associated with total unconventional gas. Taxes paid as a result of activity associated with other unconventional gas will rise to nearly \$23 billion in 2020 and just about \$28 billion

**An Economic Growth Engine**

In 2010, the average direct employee in the other unconventional gas industry contributed \$254,000 in “value added” contributions to the US economy. By 2015, this contribution will continue to outpace economy-wide growth. The relatively higher average “value added” nature of the jobs attributable to this sector indicates this sector is a potential growth engine of the US economy over the forecast period.

**US Contribution Per Employee: Other Unconventional Gas\***

Value Added			
(\$)			
	2010	2015	2035
Direct	254,073	220,531	209,295
Indirect	119,178	116,862	115,946
Induced	96,734	97,133	97,284
<b>Total</b>	<b>138,777</b>	<b>131,873</b>	<b>129,262</b>

Labor Income			
(\$)			
	2010	2015	2035
Direct	114,833	105,334	102,246
Indirect	69,666	69,425	69,382
Induced	54,625	54,851	54,937
<b>Total</b>	<b>72,825</b>	<b>71,213</b>	<b>70,631</b>

Source: IHS Global Insight

NOTES: Figures in the table are average ratios by category and are not intended to sum to the total.

\*Other unconventional gas includes gas from tight sands and coal bed methane.

by 2035; it will become a smaller share of unconventional gas total payments as tax payments resulting from shale gas activity increase due to rapid growth.

With respect to the federal royalty payments, it should be noted that the share of federal government land leased by the operators for other unconventional gas activity is greater than for shale gas. Between 32 percent and 40 percent of other unconventional gas production is subject to federal royalty payments; in dollar terms, they were about \$700 million in 2010 and will grow to \$952 million in 2020 and to \$1.5 billion in 2035. Royalty payments to the federal government also indirectly support state budgets, which will benefit based on each state's participation in the production of natural gas on federal land and offshore areas.

Other unconventional gas producers also pay lease payments to private landowners, which were forecast to reach \$239 million in 2015 and more than \$484 million by 2035. While these payments were considered for their impact on government revenues, they were excluded in IHS Global Insight's estimates of economic impacts.

Contribution to US Government Revenue and Private Lease Payments: Other Unconventional Gas*							
(\$M)							
	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>6,888</b>	<b>9,733</b>	<b>10,862</b>	<b>11,138</b>	<b>10,946</b>	<b>12,619</b>	<b>262,165</b>
Personal Taxes	5,266	7,557	8,494	8,717	8,568	9,861	204,498
Corporate Taxes	1,623	2,176	2,368	2,421	2,378	2,758	57,667
<b>State and Local Taxes</b>	<b>7,597</b>	<b>10,121</b>	<b>10,897</b>	<b>11,608</b>	<b>11,930</b>	<b>13,690</b>	<b>276,003</b>
Personal Taxes	906	1,292	1,448	1,486	1,460	1,681	34,897
Corporate Taxes	4,568	6,126	6,665	6,816	6,695	7,763	162,342
Severance Taxes	1,403	1,728	1,749	2,038	2,293	2,566	48,956
Ad Valorem Taxes	720	975	1,036	1,269	1,482	1,679	29,808
<b>Federal Royalty Payments</b>	<b>700</b>	<b>916</b>	<b>952</b>	<b>1,159</b>	<b>1,359</b>	<b>1,539</b>	<b>27,524</b>
<b>Total Government Revenue</b>	<b>15,185</b>	<b>20,770</b>	<b>22,711</b>	<b>23,906</b>	<b>24,236</b>	<b>27,847</b>	<b>565,692</b>
<b>Lease Payments to Private Landowners</b>	<b>127</b>	<b>239</b>	<b>311</b>	<b>372</b>	<b>425</b>	<b>484</b>	<b>8,263</b>

Source: IHS Global Insight  
 NOTE: \*Other unconventional gas includes gas from tight sands and coal bed methane.

Contribution to US Government Revenue and Private Lease Payments: Total Unconventional Gas*							
(\$M)							
	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>16,509</b>	<b>24,231</b>	<b>29,712</b>	<b>30,329</b>	<b>32,499</b>	<b>40,776</b>	<b>727,067</b>
Personal Taxes	12,779	18,699	22,966	23,321	25,043	31,382	560,548
Corporate Taxes	3,731	5,533	6,746	7,008	7,455	9,394	166,519
<b>State and Local Taxes</b>	<b>16,422</b>	<b>23,948</b>	<b>28,829</b>	<b>31,068</b>	<b>33,952</b>	<b>42,226</b>	<b>735,607</b>
Personal Taxes	2,191	3,206	3,933	4,001	4,293	5,381	96,093
Corporate Taxes	10,540	15,586	18,978	19,707	20,971	26,411	468,584
Severance Taxes	2,578	3,555	4,078	5,038	5,927	7,136	117,277
Ad Valorem Taxes	1,112	1,601	1,841	2,323	2,761	3,298	53,653
<b>Federal Royalty Payments</b>	<b>861</b>	<b>1,155</b>	<b>1,245</b>	<b>1,522</b>	<b>1,799</b>	<b>2,122</b>	<b>36,057</b>
<b>Total Government Revenue</b>	<b>33,792</b>	<b>49,335</b>	<b>59,786</b>	<b>62,918</b>	<b>68,250</b>	<b>85,123</b>	<b>1,498,731</b>
<b>Lease Payments to Private Landowners</b>	<b>306</b>	<b>525</b>	<b>741</b>	<b>825</b>	<b>1,049</b>	<b>1,325</b>	<b>19,777</b>

Source: IHS Global Insight  
 NOTE: \*Other unconventional gas includes gas from tight sands and coal bed methane.

## **5. Conclusion**

The same technologies that have expanded the development of the nation's shale gas fields have led to the development of other, non-shale types of unconventional gas. This study forecasts steady production of other unconventional gas—tight sands and CBM—during the next 25 years and the economic benefits of this growth throughout the US economy. IHS Global Insight has found that these benefits include increases in investment, more job opportunities, and higher economic productivity.

In 2010, unconventional gas activity (shale and other) represented 53 percent of US natural gas production. By 2035, the unconventional gas share of total natural production will be 79 percent. The industry's increased importance to the economy will be driven by strong growth in shale gas production, but it will be supported by a stable foundation of other unconventional gas production.

The following is an inventory of the economic and government revenue contributions resulting from the continued development of other unconventional gas:

- A total of \$1.3 trillion in capital investments are expected during the 25-year period 2010 through 2035.
- In 2010, other unconventional gas activity supported 407,000 jobs; by 2015 this will grow to nearly 594,000 and, by 2035, to nearly 779,000. Given that overall unconventional gas activity supported more than 1 million jobs in 2010, 1.5 million jobs in 2015, and 2.4 million jobs in 2035, other unconventional gas represents 40 percent, 41 percent, and 32 percent of the overall unconventional gas industry's employment contributions respectively over the forecast horizon.
- The other unconventional gas contribution to GDP exceeded \$57 billion in 2010. This will surge to \$78 billion by 2015 and to \$101 billion in 2035.
- In 2010, other unconventional gas production added just over \$15 billion in government tax receipts, and this will approach \$28 billion in 2035. Over the entire 25-year forecast period, other unconventional gas will generate nearly \$566 billion in government tax revenues.

At a time that the US economy is struggling to pull out of the Great Recession and create enough jobs to reduce the high US unemployment rate, a thriving natural gas industry based on strong production of other unconventional sources of gas will be a contributor to future employment prospects and the health of the US economy.

## **Appendix A. Future Production and Capital Expenditure Outlook: Other Unconventional Gas**

IHS CERA's estimates for production outlooks for non-shale, or "other," unconventional gas plays, shown in detail in this appendix, followed the same procedure as for the shale plays discussed in the previous report. Play-level production profiles and well construction costs were developed from IHS CERA's proprietary databases and internal research. Estimates of play-level productive capacity were constrained to ensure consistency with IHS CERA's outlook for natural gas demand, price, and infrastructure as reported in its September 2011 report, "North American Natural Gas Market Briefing."

### **Production Profiles**

The variables used to derive production profiles for each play were obtained from IHS databases and internal research. These variables include:

1. Rig count (including ramp up, maximum rigs, time at plateau, ramp down)
2. Number of days to drill a well
3. Type curves showing production decline rates over time
4. Acreage (total area to be developed)
5. Well spacing
6. Likelihood of geologic success.

The number of possible locations to be developed was derived from the last three items. Type curves were derived for each play using the IHS databases (Enerdeq, Power Tools, and ArcGIS) and are based on actual well data. The three driving variables in a type curve are initial production, estimated ultimate recovery per well, and the rate of decline of the well.

Number of days to drill a well (including mobilization and demobilization of the rigs) was obtained from well data available in IHS databases. IHS CERA developed rig forecasts for each play based on historic rig counts and rig counts for 2011, as well as per-well economics of each individual play.

### **Well Capital Expenditures**

Capital expenditures associated with unconventional gas depend on well costs, which were estimated using IHS CERA proprietary databases. Well capital expenditures were divided into the following three main categories, each of which was further subdivided as detailed below:

Drilling	40%
Completions	50%
Facilities	10%

Drilling Capital Expenditure was further subdivided into the following categories:

Steel	21%	Lining, casing, tubing
Consumables	21%	Bits, rig consumables (mud etc.)
Rigs	21%	Rig rental
Site Preparation	12%	
Cement	9%	
Rig Labor	7%	Rig crew
Other*	9%	



\* Other” drilling capital expenditures are further divided into the following subcategories:

Insurance	40%
Land Lease	20%
Finding and Development (including seismic)	20%
Other Drilling Contingencies	20%

Completions capital expenditures were further subdivided into the following categories:

Hydraulic Fracturing Materials	38%	Proppants, fluids
Hydraulic Fracturing Rentals*	25%	Equipment, rig rentals
Equipment	15%	Xmas trees, well heads, sleeves, packers
Labor	8%	Well testing crew
Hydraulic Fracturing Other	5%	Generators, catering, onsite containers
Other	9%	Contingency and insurance

\*Hydraulic fracturing related rentals are further divided into the following subcategories:

Equipment	80%
Labor	20%

Facilities capital expenditures were further subdivided into the following categories:

Materials and Equipment	60%	
Fabrication	25%	
Project Management	5%	
Other*	10%	Fuel, insurance, permits etc.

Capital expenditures for mid-stream gathering infrastructure were assumed to be \$500,000 per well and this includes capital for separators, dehydrators, headers and flares, battery compression, and main compression. It was assumed that 12 wells were drilled per pad with battery compression and that 10 batteries were connected to each main compression with additional pipelines to the central processing facility. Gathering lines of 1.5 miles of 8 inch diameter were assumed from the well pad to main compression, with another 10 miles of 12-inch diameter lines to the central processing at the tie in to the interstate pipeline system.

This midstream capital expenditure is broken down as follows, on a per-well basis:

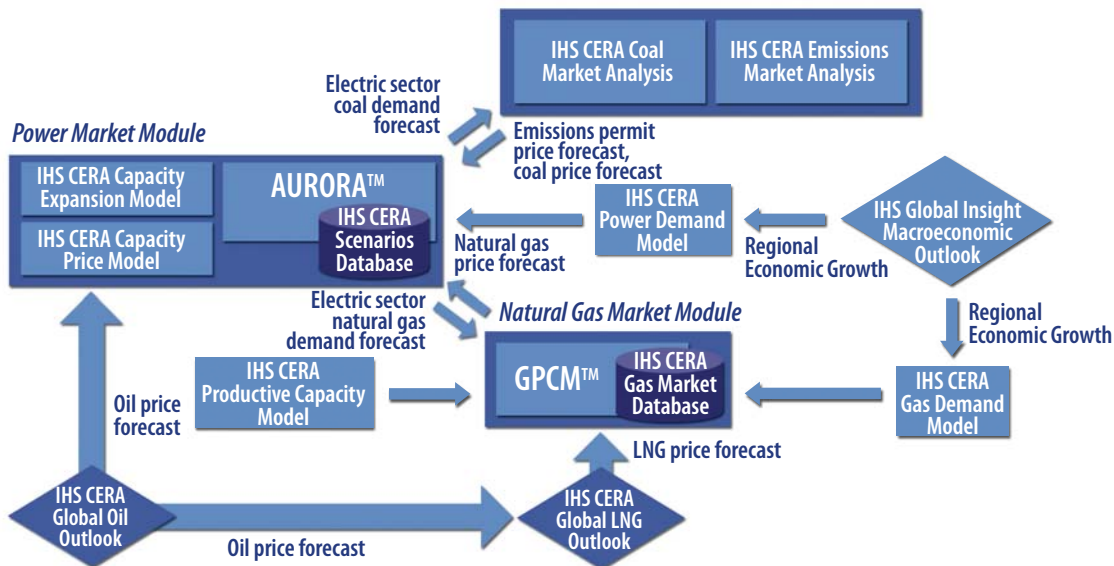
Component	Cost/Well	Allocation	Assumptions
Separators/dehydrators/motor control center/headers & flares	\$28,000	5.6%	
Battery compression	\$219,000	43.8%	Based on compression costs of \$2,189/installed hp and 100 hp/mmcf/d of production, average production of 1 mmcf/d/well
Main compression	\$109,000	21.8%	Based on compression costs of \$2,189/installed hp and 50 hp/mmcf/d of production
Pipelines	\$54,000	10.8%	Gathering lines of 8" (@ \$201k/mi) for 1.5 miles from pad to central compression and 12" (@ \$241k/mi) for 10 miles to gas processing plant
Processing	\$90,000	18.0%	\$8.9 MM per plant
<b>Total</b>	<b>\$500,000</b>	<b>100%</b>	

All capital costs were escalated using a normalized version of the Upstream Capital Costs Index developed by IHS CERA to reflect projected cost increases for the inputs to oil and gas development.

### North American Modeling Methodology and Process Description

IHS CERA developed the outlook in this study for the US natural gas market using its Integrated Modeling System. This approach was required in order to assess the production outlook in the context of overall market supply and demand. In other words, when potential supply greatly exceeds demand, as is the case today, simply having the capability to understand the geologic potential of the various natural gas plays is insufficient to predict production capacity. A prediction of operator behavior must be tested against what the market can bear using system-wide modeling of the entire North American market, which refers to the integrated markets in the United States, Canada, and Mexico.

IHS CERA’s Integrated Modeling System for North America employs a number of analytical models: the AURORA™ power market simulation model and the Gas Pipeline Competition Model (GPCM™), both using proprietary IHS CERA inputs; as well as our expert analysis of environmental policies and markets. IHS CERA also incorporates its upstream and downstream oil analytical frameworks. These models and analyses are used as a basis for IHS CERA’s own gas, power and oil services, and they are regularly maintained by a team of qualified researchers.



#### North American Gas Modeling Methodology

IHS CERA’s natural gas projections are developed based upon several detailed analytical models as well as judgments formed by IHS CERA’s research. The projections cover the integrated North America market.

Natural gas supply estimates are stated in terms of productive capacity at the wellhead, as opposed to production. These estimates are developed at a play level. The basic approach is to assess the geologic potential of the producing area, projects known to be under development, the potential results of new development activity, and anticipated changes in the investment behavior of major producers. Assessments of geological potential take into consideration both oil and gas reserves. New development activity is projected by using trends in initial production rates, decline rates, and reserve amounts associated with each completion. The investment behavior of major producers is a major factor in the projection of productive capacity. IHS CERA estimates this effect based on its conversations with various companies as well as on its observations of behavior by the same companies.

The methodology IHS CERA employs to develop its supply forecast has been enhanced by its completion of several multi-client studies including: “Diminishing Returns: The Cost of North American Gas Supply in an Unconventional Era” (February 2007); “Rising to the Challenge” (February 2009); “Fueling North America’s Energy Future” (January 2010); and “Cream of the Crop” (February 2010). These studies made extensive use of the IHS well and production database to develop an understanding of the resource base and cost picture for North American gas supply. It is important to note that costs were calculated utilizing the entire IHS catalogue of North American well and production information, rather than from a subset of wells or from a collection of publications. Selected third-party rig and cost information was purchased to augment the IHS databases. Finally, IHS CERA made several benchmarking efforts to check calculated estimates. The result is a productive capacity outlook for 284 individual plays, which were then consolidated into 130 basins or sub-basins. The analysis has produced, among other insights, a detailed understanding of initial production rates and decline curves by play, and is used to estimate rig activity on a localized basis.

IHS CERA’s North American Natural Gas and Global LNG groups develop the LNG import outlook jointly within the context of a global supply/demand balance for LNG. These projections take into consideration price, regulatory hurdles, and conditions in the global LNG market that may impose constraints on LNG import levels.

Residential and commercial demand is forecast based on weather normalized to a rolling 15-year historical period and then projected to the state level. The demand forecast is influenced by several other variables including GDP growth, efficiency gains, and market penetration by gas, as opposed to other fuels.

Industrial demand is developed on a state basis by examining the economic role played by gas in key industrial sectors, as well as through regression analyses. Projections of future gas use are made based on numerous factors, including GDP growth, projected growth by industry sector, the impact of gas prices on margins in the sector, fuel switching potential and activity, and plant closures. In this effort, IHS CERA makes use of detailed macroeconomic forecasts produced by IHS Global Insight.

Gas burned in the generation of electricity is estimated based on a dispatch model (Aurora) maintained by the North American Electric Power Team. The dispatch model analyzes North America’s power industry by assessing future activity in local markets.

In certain states, such as those with large metropolitan areas or significant gas transmission constraints, demand and supply projections are broken down geographically below the state level. This process involves allocations that take into account historical activity levels, population trends, manufacturing employment, local seasonality, and the addition or retirement of industrial or generation facilities.

The projected figures are reviewed on a continental basis to assess the reasonableness of the overall supply/demand balance. Upon completion of this review, one or more of the preceding steps may be revisited. Detailed analysis follows satisfactory balancing of the continental aggregates.

The allocated state level detail is loaded into the RBAC’s GPCM™ (Gas Pipeline Competition Model) system. The GPCM™ system, developed in 1997, has been commercially available since 1998 and is widely used in the gas industry to assess market fundamentals, including flows and prices. A key member of IHS CERA’s North American Natural Gas team, working with the software developer, developed the specifications for the system and generated the original database for the GPCM™ system.

GPCM™ is a network linear programming system designed to optimize flows across complex systems such as pipeline networks. In addition to IHS CERA’s supply and demand projections, the system requires a model of the North American gas grid to produce results. The grid model provided by the software developer has been customized by IHS CERA based upon a variety of publicly available data, including pipeline schematics filed by interstate pipelines with the US government (now no longer publicly available), data from pipeline bulletin boards, regulatory filings, US Energy Information Administration data, federal data on storage activity, a census of storage facilities performed by Natural Gas Intelligence, the American Gas Association Survey of Underground Storage of Natural Gas, IHS CERA’s assessment of discounting behavior, and conversations with industry personnel.

The GPCM™ system develops an equilibrium set of spot prices and flows based on the specified inputs. The objective function seeks to maximize the sum of producer and consumer surpluses less transportation costs.

IHS CERA maintains a proprietary version of supply and demand projections and an outlook for infrastructure expansions that are the product of our independent research and analysis. These projections are then entered into IHS CERA's customized GPCM™ database. As of June 2011, IHS CERA's GPCM™ database included 207 North America pipelines broken into 932 pipeline segments. The model also includes 439 storage facilities. Connecting these elements are 3,688 nodes. Demand is modeled in 110 geographic areas for each of the four customer classes. Supply is forecast for 275 plays throughout North America, which are then aggregated into 178 producing regions for modeling purposes. These producing regions are spread over 130 geographic locations. Model output includes a flow and a price for each location for each month, which IHS CERA summarizes into several standard reports. However, data can be mined below the detail included in the standard reports. It is important to note that the degree to which the model can discriminate between geographic areas in terms of price or flows is limited by the level of detail specified for supply, demand, and infrastructure.

While several detailed models are used in the development of a projection, the results that IHS CERA ultimately reports to a client represent IHS CERA's best judgment informed by the analysis performed, and do not necessarily agree with model output. For example, IHS CERA may, in its judgment, adjust the output obtained to account for market conditions that differ from those that would be obtained in a purely spot market.

The tables provided on the following pages present our estimates of other unconventional gas production and its share of overall natural gas production in the US lower 48 states over the 2010-2035 period (Table A.1); snapshots of US annual capital expenditures, in five-year increments, associated with other unconventional gas development (Table A.2); and cumulative totals, over five year periods, of capital expenditures associated with other unconventional gas development (Table A.3) (please note that the sum across all of the capital expenditure columns in Table A.3 does not match the total capital expenditure for years 2010 through 2035 in Table A.2 because Table A.2 includes an extra year (2010)).

**Table A.1 US Lower 48 Annual Natural Gas Production and Well Completions: Other Unconventional Gas\* vs. Total Gas**

	2010	2015	2020	2025	2030	2035
<b>PRODUCTION</b>						
Other Uncon. Gas (Mcf)	5,512,297,522	5,528,478,777	5,458,495,669	5,572,393,935	5,704,099,381	5,925,977,626
Tight Sands	3,919,979,770	4,189,135,644	4,345,136,944	4,567,079,807	4,744,306,084	4,968,805,590
Coal Bed Methane	1,592,317,752	1,339,343,133	1,113,358,725	1,005,314,129	959,793,297	957,172,036
<b>Total Gas (Mcf)</b>	<b>21,229,024,284</b>	<b>23,276,996,872</b>	<b>26,000,032,080</b>	<b>27,769,207,506</b>	<b>29,114,085,717</b>	<b>31,263,775,082</b>
Other Uncon. Share of Total	26%	24%	21%	20%	20%	19%
<b>WELL COMPLETIONS</b>						
Other Uncon. Gas	1,597	2,356	2,587	2,318	2,234	2,198
Tight Sands	1,163	1,899	1,925	1,683	1,623	1,599
Coal Bed Methane	434	457	662	635	611	600
<b>Total Gas</b>	<b>17,858</b>	<b>18,344</b>	<b>19,532</b>	<b>17,355</b>	<b>16,213</b>	<b>16,224</b>
Other Unconventional Share of Total	9%	13%	13%	13%	14%	14%
Henry Hub Price	4.38	4.77	4.57	4.84	4.91	5.15
(Constant 2010 \$US per MMBtu)						

Source: IHS CERA and EIA

NOTE: \*Other unconventional gas includes gas from tight sands and coal bed methane.

Table A.2 US Annual Capital Expenditure by Type: Other Unconventional Gas\*

(\$M)							
	2010	2015	2020	2025	2030	2035	Total 2010-2035**
<b>Drilling Capital Expenditure</b>	<b>7,046</b>	<b>13,278</b>	<b>17,281</b>	<b>20,708</b>	<b>23,615</b>	<b>26,837</b>	<b>476,363</b>
Drilling	4,721	8,896	11,578	13,874	15,822	17,981	319,163
Support Services	2,325	4,382	5,703	6,834	7,793	8,856	157,200
<b>Completion Capital Expenditure</b>	<b>8,807</b>	<b>16,597</b>	<b>21,601</b>	<b>25,885</b>	<b>29,519</b>	<b>33,547</b>	<b>595,454</b>
Hydraulic Fracturing	7,046	13,278	17,281	20,708	23,615	26,837	476,363
Other	1,761	3,319	4,320	5,177	5,904	6,709	119,091
<b>Facilities Capital Expenditure</b>	<b>1,761</b>	<b>3,319</b>	<b>4,320</b>	<b>5,177</b>	<b>5,904</b>	<b>6,709</b>	<b>119,091</b>
Material	1,057	1,992	2,592	3,106	3,542	4,026	71,454
Fabricaton	440	830	1,080	1,294	1,476	1,677	29,773
Project Management	88	166	216	259	295	335	5,955
Other	176	332	432	518	590	671	11,909
<b>TOTAL Upstream Capital Expenditure</b>	<b>17,614</b>	<b>33,195</b>	<b>43,202</b>	<b>51,770</b>	<b>59,037</b>	<b>67,093</b>	<b>1,190,908</b>
<b>Infrastructure Capital Expenditure</b>	<b>1,630</b>	<b>2,903</b>	<b>3,890</b>	<b>4,659</b>	<b>5,307</b>	<b>6,010</b>	<b>106,605</b>
Gathering and Processing	1,630	2,903	3,890	4,659	5,307	6,010	106,605
<b>TOTAL CAPITAL EXPENDITURE</b>	<b>19,244</b>	<b>36,097</b>	<b>47,092</b>	<b>56,429</b>	<b>64,344</b>	<b>73,104</b>	<b>1,297,513</b>

Source: IHS CERA

NOTES: \*Other unconventional gas includes gas from tight sands and coal bed methane.

\*\*Total 2010-2035 represents the total for all years including those years not reported.

Table A.3 US Five Year Cumulative Totals of Capital Expenditure by Type: Other Unconventional Gas\*

(\$M)					
	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035
<b>Drilling Capital Expenditure</b>	<b>54,367</b>	<b>7,329</b>	<b>99,661</b>	<b>110,923</b>	<b>127,037</b>
Drilling	36,426	51,810	66,773	74,319	85,115
Support Services	17,941	25,519	32,888	36,605	41,922
<b>Completion Capital Expenditure</b>	<b>67,958</b>	<b>96,661</b>	<b>124,577</b>	<b>138,654</b>	<b>158,797</b>
Hydraulic Fracturing	54,367	77,329	99,661	110,923	127,037
Other	13,592	19,332	24,915	27,731	31,759
<b>Facilities Capital Expenditure</b>	<b>13,592</b>	<b>19,332</b>	<b>24,915</b>	<b>27,731</b>	<b>31,759</b>
Material	8,155	11,599	14,949	16,639	19,056
Fabricaton	3,398	4,833	6,229	6,933	7,940
Project Management	680	967	1,246	1,387	1,58
Other	1,359	1,933	2,492	2,773	3,176
<b>TOTAL Upstream Capital Expenditure</b>	<b>135,916</b>	<b>193,322</b>	<b>249,153</b>	<b>277,309</b>	<b>317,593</b>
<b>Infrastructure Capital Expenditure</b>	<b>11,979</b>	<b>17,097</b>	<b>22,285</b>	<b>25,128</b>	<b>28,484</b>
Gathering and Processing	11,979	17,097	22,285	25,128	28,484
<b>TOTAL CAPITAL EXPENDITURE</b>	<b>147,896</b>	<b>210,419</b>	<b>271,439</b>	<b>302,437</b>	<b>346,077</b>

Source: IHS CERA

NOTE: \*Other unconventional gas includes gas from tight sands and coal bed methane.

## **Appendix B. Economic Contribution Assessment Detailed Tables: Other Unconventional Gas**

Appendix B contains two summary tables showing the impact on the US economy and government revenues generated by other, non-shale, unconventional gas activity. It also contains eight tables that provide the distribution of these impacts at various levels, including industries outside of the energy industry—retail, real estate, services and others—that are slated to benefit from growth in unconventional gas activity.

Table B.1 provides an aggregate view of our findings for other non-shale unconventional gas in five-year increments over the forecast horizon (2010, 2015, 2020, 2025, 2030, and 2035) for direct, indirect and induced contributions for the following concepts: employment, value added to US GDP, and labor income. Table B.2 provides estimated tax revenues from non-shale unconventional gas activity for the same five-year increments from federal, state and local sources, and separately from lease and federal royalty sources.

Tables B.3 through B.5 present the same results for other unconventional gas—employment, value added and labor income—disaggregated by industry. Table B.3 presents estimates of employment contributions on a direct, indirect, and induced basis, by industry, for each five-year increment from 2010 through 2035. Tables B.4 and B.5 contain estimates of value added to GDP and labor income contributions, respectively, on a similar basis, that is, on a direct, indirect, and induced basis by industry for each five-year increment.

To provide some additional context, Appendix B also provides this data for total unconventional gas, specifically other unconventional gas plus shale gas.

Table B.6 provides the economic contributions of total unconventional gas activity, in five-years increments from 2010 through 2035, for direct, indirect and induced contributions for the following concepts: employment, value added to US GDP, and labor income. Table B.7 provides estimated tax revenues from total unconventional gas activity, for the same five-year increments from federal, state and local sources, and separately from lease and federal royalty sources.

Tables B.8 through B.10 present the same results for total unconventional gas—employment, value added and labor income—disaggregated by industry. Table B.8 presents estimates of employment contributions on a direct, indirect, and induced basis, by industry, for each five-year increment from 2010 through 2035. Tables B.9 and B.10 contain estimates of value added to GDP and labor income contributions, respectively, on a similar basis, that is, on a direct, indirect, and induced basis by industry for each five-year increment.

## Other Unconventional Gas

Table B.1 US Economic Contribution Summary: Other Unconventional Gas\*

## Employment

(Number of workers)

	2010	2015	2020	2025	2030	2035
Direct	89,824	135,781	154,752	159,234	156,665	179,063
Indirect	133,289	196,297	223,936	230,063	226,179	259,704
Induced	184,195	261,687	292,746	300,280	295,130	340,021
<b>Total</b>	<b>407,30</b>	<b>593,765</b>	<b>671,434</b>	<b>689,577</b>	<b>677,974</b>	<b>778,787</b>

## Value Added

(\$M)

	2010	2015	2020	2025	2030	2035
Direct	22,822	29,944	32,135	32,827	32,236	37,477
Indirect	15,885	22,940	25,940	26,625	26,170	30,112
Induced	17,818	25,418	28,486	29,225	28,725	33,079
<b>Total</b>	<b>56,525</b>	<b>78,302</b>	<b>86,561</b>	<b>88,677</b>	<b>87,131</b>	<b>100,667</b>

## Labor Income

(\$M)

	2010	2015	2020	2025	2030	2035
Direct	10,315	14,302	15,749	16,137	15,858	18,308
Indirect	9,286	13,628	15,533	15,955	15,685	18,019
Induced	10,062	14,354	16,086	16,503	16,221	18,680
<b>Total</b>	<b>29,662</b>	<b>42,284</b>	<b>47,368</b>	<b>48,595</b>	<b>47,764</b>	<b>55,007</b>

Source: IHS Global Insight

NOTE: \*Other unconventional gas includes gas from tight sands and coal bed methane.

Table B.2 Contribution to US Government Revenue and Private Lease Payments: Other Unconventional Gas\*

(\$M)

	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>6,888</b>	<b>9,733</b>	<b>10,862</b>	<b>11,138</b>	<b>10,946</b>	<b>12,619</b>	<b>262,165</b>
Personal Taxes	5,266	7,557	8,494	8,717	8,568	9,861	204,498
Corporate Taxes	1,623	2,176	2,368	2,421	2,378	2,758	57,667
<b>State and Local Taxes</b>	<b>7,597</b>	<b>10,121</b>	<b>10,897</b>	<b>11,608</b>	<b>11,930</b>	<b>13,690</b>	<b>276,003</b>
Personal Taxes	906	1,292	1,448	1,486	1,460	1,681	34,897
Corporate Taxes	4,568	6,126	6,665	6,816	6,695	7,763	162,342
Severance Taxes	1,403	1,728	1,749	2,038	2,293	2,566	48,956
Ad Valorem Taxes	720	975	1,036	1,269	1,482	1,679	29,808
<b>Federal Royalty Payments</b>	<b>700</b>	<b>916</b>	<b>952</b>	<b>1,159</b>	<b>1,359</b>	<b>1,539</b>	<b>27,524</b>
<b>Total Government Revenue</b>	<b>15,185</b>	<b>20,770</b>	<b>22,711</b>	<b>23,906</b>	<b>24,236</b>	<b>27,847</b>	<b>565,692</b>
<b>Lease Payments to Private Landowners</b>	<b>127</b>	<b>239</b>	<b>311</b>	<b>372</b>	<b>425</b>	<b>484</b>	<b>8,263</b>

Source: IHS Global Insight

NOTE: \*Other unconventional gas includes gas from tight sands and coal bed methane.



**Table B.3 US Employment Contribution by Industry: Other Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	983	4,224	5,496
Mining	42,689	3,894	483	43,846
Construction	16,303	11,127	1,803	27,466
Manufacturing	23,921	20,279	9,923	51,870
Transportation and Utilities	4,650	12,628	10,247	27,184
Retail And Wholesale Trade	0	11,378	36,889	50,598
Service	2,261	71,148	118,150	196,438
Government	0	1,851	2,478	4,409
<b>Total</b>	<b>89,824</b>	<b>133,289</b>	<b>184,195</b>	<b>407,308</b>
<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1,540	6,014	7,980
Mining	59,840	5,343	687	61,368
Construction	24,280	13,298	2,561	37,736
Manufacturing	40,312	31,689	14,112	82,325
Transportation and Utilities	7,891	19,351	14,563	41,193
Retail And Wholesale Trade	0	17,388	52,375	73,198
Service	3,458	104,896	167,852	283,531
Government	0	2,793	3,522	6,433
<b>Total</b>	<b>135,781</b>	<b>196,297</b>	<b>261,687</b>	<b>593,765</b>
<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1,797	6,736	9,017
Mining	68,043	5,840	770	69,551
Construction	25,779	13,509	2,865	39,661
Manufacturing	48,027	36,985	15,794	96,286
Transportation and Utilities	9,249	22,467	16,295	47,267
Retail And Wholesale Trade	0	20,203	58,573	82,665
Service	3,653	119,917	187,772	319,695
Government	0	3,219	3,942	7,292
<b>Total</b>	<b>154,752</b>	<b>223,936</b>	<b>292,746</b>	<b>671,434</b>



**Table B.3 US Employment Contribution by Industry: Other Unconventional Gas\* (Continued)**

(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1,851	6,910	9,258
Mining	69,672	5,981	789	71,218
Construction	26,594	13,721	2,938	40,698
Manufacturing	49,630	38,100	16,202	99,261
Transportation and Utilities	9,561	23,119	16,715	48,624
Retail And Wholesale Trade	0	20,789	60,078	84,864
Service	3,776	123,193	192,605	328,165
Government	0	3,310	4,043	7,489
<b>Total</b>	<b>159,234</b>	<b>230,063</b>	<b>300,280</b>	<b>689,577</b>
<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	1,821	6,791	9,102
Mining	68,425	5,876	776	69,946
Construction	26,280	13,457	2,888	40,106
Manufacturing	48,841	37,479	15,924	97,647
Transportation and Utilities	9,405	22,734	16,428	47,809
Retail And Wholesale Trade	0	20,446	59,048	83,424
Service	3,715	121,112	189,301	322,579
Government	0	3,255	3,974	7,361
<b>Total</b>	<b>156,665</b>	<b>226,179</b>	<b>295,130</b>	<b>677,974</b>
<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2,079	7,823	10,463
Mining	79,268	6,797	894	81,014
Construction	29,488	15,839	3,327	45,781
Manufacturing	55,398	42,762	18,344	111,289
Transportation and Utilities	10,689	26,022	18,926	54,777
Retail And Wholesale Trade	0	23,386	68,033	95,927
Service	4,222	139,089	218,095	371,075
Government	0	3,731	4,578	8,461
<b>Total</b>	<b>179,063</b>	<b>259,704</b>	<b>340,021</b>	<b>778,787</b>

Source: IHS Global Insight

NOTE: \*Other unconventional gas includes gas from tight sands and coal bed methane.

**Table B.4 US Value Added Contribution by Industry: Other Unconventional Gas\***

(\$)				
<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	48,542,195	217,760,891	266,303,086
Mining	18,271,829,931	1,296,287,157	261,976,768	19,830,093,855
Construction	950,560,357	702,369,854	136,393,430	1,789,323,640
Manufacturing	2,766,792,181	2,476,174,373	1,460,574,995	6,703,541,549
Transportation and Utilities	596,966,723	2,161,377,776	1,759,381,935	4,517,726,434
Retail And Wholesale Trade	0	1,248,774,750	2,735,147,021	3,983,921,771
Service	235,782,618	7,799,349,498	11,019,933,973	19,055,066,088
Government	0	152,230,882	226,743,657	378,974,539
<b>Total</b>	<b>22,821,931,810</b>	<b>15,885,106,483</b>	<b>17,817,912,670</b>	<b>56,524,950,963</b>
<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	75,901,344	311,223,920	387,125,264
Mining	22,512,982,852	1,745,751,364	374,209,062	24,632,943,278
Construction	1,415,701,333	839,346,650	194,426,885	2,449,474,869
Manufacturing	4,646,802,514	3,863,140,242	2,086,353,155	10,596,295,911
Transportation and Utilities	1,011,219,449	3,210,465,247	2,511,456,596	6,733,141,291
Retail And Wholesale Trade	0	1,951,687,417	3,900,661,780	5,852,349,197
Service	357,245,581	11,026,227,578	15,716,412,530	27,099,885,688
Government	0	227,052,019	323,596,010	550,648,029
<b>Total</b>	<b>29,943,951,729</b>	<b>22,939,571,860</b>	<b>25,418,339,937</b>	<b>78,301,863,526</b>
<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	88,644,235	349,106,453	437,750,688
Mining	23,558,605,354	1,892,274,010	419,641,297	25,870,520,661
Construction	1,503,089,239	852,636,017	217,807,764	2,573,533,020
Manufacturing	5,516,697,261	4,515,546,705	2,339,687,144	12,371,931,110
Transportation and Utilities	1,182,976,993	3,673,058,545	2,815,437,347	7,671,472,885
Retail And Wholesale Trade	0	2,296,188,993	4,370,718,174	6,666,907,168
Service	374,125,990	12,361,415,937	17,610,713,801	30,346,255,728
Government	0	260,042,703	362,722,474	622,765,178
<b>Total</b>	<b>32,135,494,836</b>	<b>25,939,807,145</b>	<b>28,485,834,455</b>	<b>86,561,136,437</b>

Table B.4 US Value Added Contribution by Industry: Other Unconventional Gas\* (Continued)

(\$)

2025	Direct	Indirect	Induced	Total
Agriculture	0	91,293,351	358,194,332	449,487,683
Mining	23,965,971,791	1,935,897,267	430,554,324	26,332,423,383
Construction	1,550,630,379	866,012,017	223,450,960	2,640,093,356
Manufacturing	5,700,766,578	4,650,832,482	2,400,535,282	12,752,134,341
Transportation and Utilities	1,222,821,387	3,774,847,312	2,888,567,141	7,886,235,840
Retail And Wholesale Trade	0	2,364,591,686	4,484,052,225	6,848,643,911
Service	386,727,081	12,674,712,432	18,067,395,377	31,128,834,890
Government	0	267,302,687	372,140,219	639,442,907
<b>Total</b>	<b>32,826,917,216</b>	<b>26,625,489,235</b>	<b>29,224,889,860</b>	<b>88,677,296,312</b>

2030	Direct	Indirect	Induced	Total
Agriculture	0	89,817,911	352,074,117	441,892,028
Mining	23,510,263,420	1,901,592,460	423,195,689	25,835,051,570
Construction	1,532,295,610	849,389,537	219,628,079	2,601,313,226
Manufacturing	5,609,982,815	4,574,724,642	2,359,508,376	12,544,215,834
Transportation and Utilities	1,202,893,732	3,710,912,258	2,839,182,689	7,752,988,678
Retail And Wholesale Trade	0	2,325,690,320	4,407,354,738	6,733,045,058
Service	380,424,870	12,455,468,878	17,758,368,427	30,594,262,176
Government	0	262,779,181	365,777,191	628,556,372
<b>Total</b>	<b>32,235,860,447</b>	<b>26,170,375,187</b>	<b>28,725,089,307</b>	<b>87,131,324,941</b>

2035	Direct	Indirect	Induced	Total
Agriculture	0	102,539,749	405,361,518	507,901,266
Mining	27,595,365,782	2,203,925,100	487,273,776	30,286,564,657
Construction	1,719,329,744	999,696,889	252,933,218	2,971,959,852
Manufacturing	6,363,000,776	5,222,529,158	2,716,765,485	14,302,295,419
Transportation and Utilities	1,367,038,087	4,259,930,211	3,269,285,615	8,896,253,914
Retail And Wholesale Trade	0	2,656,637,478	5,075,479,228	7,732,116,706
Service	432,336,871	14,364,856,081	20,450,340,457	35,247,533,409
Government	0	301,550,960	421,197,333	722,748,293
<b>Total</b>	<b>37,477,071,260</b>	<b>30,111,665,624</b>	<b>33,078,636,630</b>	<b>100,667,373,515</b>

Source: IHS Global Insight

NOTE: \*Other unconventional gas includes gas from tight sands and coal bed methane.

**Table B.5 US Labor Income Contribution by Industry: Other Unconventional Gas\***

(\$)				
<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	26,657,954	94,706,258	121,364,212
Mining	6,935,569,911	526,077,426	99,109,217	7,560,756,555
Construction	899,018,752	667,802,312	111,695,308	1,678,516,371
Manufacturing	1,930,947,063	1,594,941,536	868,419,360	4,394,307,959
Transportation and Utilities	368,331,900	1,061,807,586	916,501,047	2,346,640,533
Retail And Wholesale Trade	0	730,659,428	1,635,186,806	2,365,846,233
Service	180,983,614	4,535,204,214	6,119,808,593	10,835,996,421
Government	0	142,472,789	216,269,385	358,742,174
<b>Total</b>	<b>10,314,851,241</b>	<b>9,285,623,245</b>	<b>10,061,695,974</b>	<b>29,662,170,460</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	41,585,217	135,323,250	176,908,467
Mining	8,803,897,677	709,639,304	141,569,230	9,655,106,211
Construction	1,338,938,701	797,847,983	159,263,912	2,296,050,596
Manufacturing	3,258,800,709	2,499,484,742	1,239,902,098	6,998,187,549
Transportation and Utilities	624,209,739	1,591,147,932	1,307,757,927	3,523,115,599
Retail And Wholesale Trade	0	1,141,120,817	2,331,894,011	3,473,014,828
Service	276,511,687	6,632,585,522	8,729,432,356	15,638,529,566
Government	0	214,521,148	308,604,395	523,125,543
<b>Total</b>	<b>14,302,358,513</b>	<b>13,627,932,667</b>	<b>14,353,747,180</b>	<b>42,284,038,360</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	48,512,336	151,777,555	200,289,891
Mining	9,417,563,660	770,224,602	158,757,570	10,346,545,832
Construction	1,421,588,232	810,350,193	178,440,979	2,410,379,404
Manufacturing	3,887,042,139	2,925,524,826	1,390,125,055	8,202,692,019
Transportation and Utilities	730,564,205	1,828,930,809	1,465,755,468	4,025,250,481
Retail And Wholesale Trade	0	1,342,021,434	2,612,854,223	3,954,875,657
Service	291,974,726	7,560,756,889	9,782,427,413	17,635,159,028
Government	0	246,909,515	345,893,793	592,803,308
<b>Total</b>	<b>15,748,732,962</b>	<b>15,533,230,604</b>	<b>16,086,032,056</b>	<b>47,367,995,621</b>

Table B.5 US Labor Income Contribution by Industry: Other Unconventional Gas\* (Continued)

(\$)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	49,958,531	155,726,961	205,685,493
Mining	9,596,254,073	788,030,340	162,886,214	10,547,170,627
Construction	1,466,551,576	823,049,601	183,066,534	2,472,667,711
Manufacturing	4,016,953,382	3,013,806,744	1,426,246,914	8,457,007,040
Transportation and Utilities	755,170,673	1,880,298,853	1,503,800,597	4,139,270,123
Retail And Wholesale Trade	0	1,381,966,676	2,680,601,729	4,062,568,405
Service	301,808,847	7,764,237,826	10,036,183,977	18,102,230,651
Government	0	253,901,925	354,872,311	608,774,236
<b>Total</b>	<b>16,136,738,552</b>	<b>15,955,250,496</b>	<b>16,503,385,237</b>	<b>48,595,374,285</b>

<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	49,154,668	153,065,864	202,220,532
Mining	9,416,500,002	774,080,775	160,102,325	10,350,683,102
Construction	1,449,210,957	807,249,136	179,934,996	2,436,395,089
Manufacturing	3,952,538,185	2,964,568,431	1,401,865,583	8,318,972,199
Transportation and Utilities	742,864,059	1,848,603,592	1,478,085,795	4,069,553,446
Retail And Wholesale Trade	0	1,359,229,740	2,634,750,506	3,993,980,245
Service	296,890,476	7,632,355,472	9,864,538,196	17,793,784,145
Government	0	249,624,671	348,804,121	598,428,792
<b>Total</b>	<b>15,858,003,680</b>	<b>15,684,866,485</b>	<b>16,221,147,387</b>	<b>47,764,017,551</b>

<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	56,108,974	176,236,705	232,345,680
Mining	11,016,025,604	897,016,627	184,344,050	12,097,386,282
Construction	1,626,103,675	950,131,821	207,215,395	2,783,450,891
Manufacturing	4,484,631,086	3,382,930,609	1,614,198,565	9,481,760,260
Transportation and Utilities	844,233,760	2,120,312,133	1,702,063,605	4,666,609,497
Retail And Wholesale Trade	0	1,552,711,053	3,034,171,468	4,586,882,522
Service	337,403,547	8,773,407,213	11,359,705,152	20,470,515,912
Government	0	286,205,704	401,658,088	687,863,793
<b>Total</b>	<b>18,308,397,672</b>	<b>18,018,824,135</b>	<b>18,679,593,028</b>	<b>55,006,814,835</b>

Source: IHS Global Insight

NOTE: \*Other unconventional gas includes gas from tight sands and coal bed methane.

## Total Unconventional Gas

Table B.6 US Economic Contribution Summary: Total Unconventional Gas\*

Employment						
(Number of workers)						
	2010	2015	2020	2025	2030	2035
Direct	237,968	333,780	403,473	400,959	435,046	539,398
Indirect	326,999	479,487	583,817	598,495	644,444	806,810
Induced	443,690	650,182	797,484	812,501	871,325	1,092,669
<b>Total</b>	<b>1,008,657</b>	<b>1,463,449</b>	<b>1,794,775</b>	<b>1,811,954</b>	<b>1,950,815</b>	<b>2,438,877</b>

## Value Added

(\$M)						
	2010	2015	2020	2025	2030	2035
Direct	52,004	77,007	93,261	97,518	103,505	130,52
Indirect	38,301	56,441	69,779	70,793	76,021	95,346
Induced	43,101	63,069	77,363	78,706	84,456	105,862
<b>Total</b>	<b>133,405</b>	<b>196,516</b>	<b>240,403</b>	<b>247,017</b>	<b>263,982</b>	<b>331,728</b>

## Labor Income

(\$M)						
	2010	2015	2020	2025	2030	2035
Direct	24,755	36,028	43,717	44,834	47,974	60,162
Indirect	22,633	33,309	41,307	41,695	44,865	56,212
Induced	24,339	35,615	43,687	44,445	47,692	59,780
<b>Total</b>	<b>71,727</b>	<b>104,951</b>	<b>128,711</b>	<b>130,974</b>	<b>140,531</b>	<b>176,154</b>

Source: IHS Global Insight

NOTE: \*Other unconventional gas includes gas from tight sands and coal bed methane.

Table B.7 Contribution to US Government Revenue and Private Lease Payments: Total Unconventional Gas\*

(\$M)							
	2010	2015	2020	2025	2030	2035	2010-2035
<b>Federal Taxes</b>	<b>16,509</b>	<b>24,231</b>	<b>29,712</b>	<b>30,329</b>	<b>32,499</b>	<b>40,776</b>	<b>727,067</b>
Personal Taxes	12,779	18,699	22,966	23,321	25,043	31,382	560,548
Corporate Taxes	3,731	5,533	6,746	7,008	7,455	9,394	166,519
<b>State and Local Taxes</b>	<b>16,422</b>	<b>23,948</b>	<b>28,829</b>	<b>31,068</b>	<b>33,952</b>	<b>42,226</b>	<b>735,607</b>
Personal Taxes	2,191	3,206	3,933	4,001	4,293	5,381	96,093
Corporate Taxes	10,540	15,586	18,978	19,707	20,971	26,411	468,584
Severance Taxes	2,578	3,555	4,078	5,038	5,927	7,136	117,277
Ad Valorem Taxes	1,112	1,601	1,841	2,323	2,761	3,298	53,653
<b>Federal Royalty Payments</b>	<b>861</b>	<b>1,155</b>	<b>1,245</b>	<b>1,522</b>	<b>1,799</b>	<b>2,122</b>	<b>36,057</b>
<b>Total Government Revenue</b>	<b>33,792</b>	<b>49,335</b>	<b>59,786</b>	<b>62,918</b>	<b>68,250</b>	<b>85,123</b>	<b>1,498,731</b>
<b>Lease Payments to Private Landowners</b>	<b>306</b>	<b>525</b>	<b>741</b>	<b>825</b>	<b>1,049</b>	<b>1,325</b>	<b>19,777</b>

Source: IHS Global Insight

NOTE: \*Other unconventional gas includes gas from tight sands and coal bed methane.

**Table B.8 US Employment Contribution by Industry: Total Unconventional Gas\***

(Number of workers)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	2,559	10,186	13,034
Mining	94,223	9,059	1,165	101,227
Construction	64,220	23,941	4,343	90,736
Manufacturing	62,867	52,525	23,915	137,053
Transportation and Utilities	11,207	31,267	24,688	66,822
Retail And WholesaleTrade	0	29,046	88,829	120,206
Services	5,451	174,090	284,595	469,015
Government	0	4,512	5,970	10,563
<b>Total</b>	<b>237,968</b>	<b>326,999</b>	<b>443,690</b>	<b>1,008,657</b>
<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	3,699	14,927	19,052
Mining	148,625	13,414	1,707	159,244
Construction	68,919	35,659	6,364	108,539
Manufacturing	91,318	75,432	35,045	198,008
Transportation and Utilities	17,326	46,240	36,177	99,130
Retail And WholesaleTrade	0	42,008	130,169	175,612
Services	7,591	256,334	417,046	688,297
Government	0	6,701	8,749	15,567
<b>Total</b>	<b>333,780</b>	<b>479,487</b>	<b>650,182</b>	<b>1,463,449</b>
<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4,593	18,318	23,395
Mining	190,114	16,341	2,094	203,448
Construction	67,909	42,447	7,805	115,670
Manufacturing	114,706	93,507	42,994	246,687
Transportation and Utilities	22,039	57,940	44,377	123,612
Retail And WholesaleTrade	0	52,175	159,636	215,701
Services	8,705	318,431	511,527	847,016
Government	0	8,383	10,732	19,246
<b>Total</b>	<b>403,473</b>	<b>593,817</b>	<b>797,484</b>	<b>1,794,775</b>

**Table B.8 US Employment Contribution by Industry: Total Unconventional Gas\* (Continued)**  
(Number of workers)

<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4,535	18,650	23,682
Mining	196,314	16,837	2,132	210,060
Construction	64,768	45,752	7,953	115,918
Manufacturing	110,315	92,287	43,790	241,721
Transportation and Utilities	21,191	57,722	45,207	123,350
Retail And WholesaleTrade	0	51,944	162,674	218,615
Services	8,370	321,025	521,163	859,149
Government	0	8,393	10,932	19,460
<b>Total</b>	<b>400,959</b>	<b>598,495</b>	<b>812,501</b>	<b>1,811,954</b>
<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	4,929	20,005	25,423
Mining	209,150	17,973	2,287	224,280
Construction	72,574	47,983	8,528	126,566
Manufacturing	120,950	100,211	46,966	263,531
Transportation and Utilities	23,205	62,420	48,483	133,350
Retail And WholesaleTrade	0	56,222	174,438	234,591
Services	9,166	345,649	558,893	922,160
Government	0	9,056	11,724	20,914
<b>Total</b>	<b>435,046</b>	<b>644,444</b>	<b>871,325</b>	<b>1,950,815</b>
<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	6,135	25,085	31,781
Mining	265,089	22,633	2,868	284,647
Construction	82,946	60,846	10,695	151,615
Manufacturing	150,494	124,680	58,894	328,854
Transportation and Utilities	29,297	78,142	60,798	167,376
Retail And WholesaleTrade	0	70,064	218,757	293,330
Services	11,572	432,953	700,870	1,155,063
Government	0	11,357	14,702	26,211
<b>Total</b>	<b>539,398</b>	<b>806,810</b>	<b>1,092,669</b>	<b>2,438,877</b>

Source: IHS Global Insight

NOTE: \*Total unconventional gas includes gas from shale, tight sands, and coal bed methane.



Table B.9 US Value Added Contribution: Total Unconventional Gas\*

(\$)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	127,150,503	527,272,610	654,423,113
Mining	38,990,821,746	2,996,071,128	634,146,322	42,621,039,196
Construction	3,744,446,981	1,511,158,988	329,797,458	5,585,403,427
Manufacturing	7,261,356,459	6,362,682,461	3,535,551,577	17,159,590,497
Transportation and Utilities	1,438,871,864	5,228,579,332	4,257,303,191	10,924,754,387
Retail And WholesaleTrade	0	3,175,044,400	6,615,137,812	9,790,182,212
Services	568,308,023	18,531,923,644	26,652,953,214	45,753,184,881
Government	0	368,115,842	548,602,250	916,718,091
<b>Total</b>	<b>52,003,805,073</b>	<b>38,300,726,298</b>	<b>43,100,764,434</b>	<b>133,405,295,805</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	183,130,931	771,556,551	954,687,482
Mining	59,470,411,909	4,426,886,284	927,941,672	64,825,239,865
Construction	4,018,461,358	2,250,758,829	482,584,599	6,751,804,786
Manufacturing	10,513,494,519	9,203,773,792	5,173,547,532	24,890,815,842
Transportation and Utilities	2,220,225,211	7,763,526,485	6,229,657,535	16,213,409,231
Retail And WholesaleTrade	0	4,647,192,273	9,679,774,945	14,326,967,218
Services	784,365,505	27,418,406,380	39,000,729,435	67,203,501,320
Government	0	547,172,139	802,761,935	1,349,934,074
<b>Total</b>	<b>77,006,958,502</b>	<b>56,440,847,113</b>	<b>63,068,554,203</b>	<b>196,516,359,818</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	227,137,324	946,816,861	1,173,954,185
Mining	72,432,526,708	5,372,023,635	1,138,583,031	78,943,133,374
Construction	3,959,547,776	2,679,192,351	591,858,198	7,230,598,325
Manufacturing	13,159,089,496	11,457,734,252	6,347,975,078	30,964,798,827
Transportation and Utilities	2,818,731,108	9,677,192,749	7,642,649,607	20,138,573,464
Retail And WholesaleTrade	0	5,841,719,616	11,872,782,050	17,714,501,667
Services	891,446,371	33,841,672,100	47,837,067,348	82,570,185,819
Government	0	682,611,238	984,792,399	1,667,403,637
<b>Total</b>	<b>93,261,341,459</b>	<b>69,779,283,266</b>	<b>77,362,524,572</b>	<b>240,403,149,297</b>

**Table B.9 US Value Added Contribution: Total Unconventional Gas\* (Continued)**

(\$)				
<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	224,387,631	962,703,133	1,187,090,763
Mining	77,516,670,263	5,567,252,082	1,157,886,991	84,241,809,337
Construction	3,776,455,561	2,887,849,629	602,275,840	7,266,581,031
Manufacturing	12,657,278,520	11,327,321,399	6,455,543,536	30,440,143,455
Transportation and Utilities	2,710,271,477	9,735,494,438	7,773,816,671	20,219,582,585
Retail And WholesaleTrade	0	5,784,567,079	12,080,071,510	17,864,638,588
Services	857,145,096	34,580,740,614	48,671,698,284	84,109,583,994
Government	0	685,807,914	1,001,763,959	1,687,571,873
<b>Total</b>	<b>97,517,820,918</b>	<b>70,793,420,785</b>	<b>78,705,759,923</b>	<b>247,017,001,625</b>
<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	243,857,218	1,033,269,337	1,277,126,556
Mining	81,493,122,682	5,929,782,003	1,242,676,371	88,665,581,056
Construction	4,231,574,269	3,028,688,687	646,219,014	7,906,481,971
Manufacturing	13,874,267,025	12,290,792,903	6,928,292,919	33,093,352,847
Transportation and Utilities	2,967,873,930	10,486,166,804	8,342,411,299	21,796,452,032
Retail And WholesaleTrade	0	6,271,344,361	12,962,163,383	19,233,507,744
Services	938,614,138	37,031,040,581	52,225,962,132	90,195,616,851
Government	0	739,005,474	1,075,005,947	1,814,011,421
<b>Total</b>	<b>103,505,452,045</b>	<b>76,020,678,030</b>	<b>84,456,000,403</b>	<b>263,982,130,478</b>
<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	303,283,129	1,295,044,785	1,598,327,914
Mining	103,488,880,543	7,469,699,469	1,557,544,359	112,516,124,371
Construction	4,836,342,782	3,840,561,623	810,033,260	9,486,937,665
Manufacturing	17,263,093,619	15,309,207,272	8,683,764,061	41,256,064,952
Transportation and Utilities	3,746,955,549	13,157,495,447	10,456,517,757	27,360,968,753
Retail And WholesaleTrade	0	7,824,369,987	16,247,687,988	24,072,057,975
Services	1,185,005,035	46,514,006,556	65,463,599,336	113,162,610,927
Government	0	927,467,930	1,347,444,390	2,274,912,320
<b>Total</b>	<b>130,520,277,529</b>	<b>95,346,091,414</b>	<b>105,861,635,935</b>	<b>331,728,004,878</b>

Source: IHS Global Insight

NOTE: \*Total unconventional gas includes gas from shale, tight sands, and coal bed methane.

Table B.10 US Labor Income Contribution: Total Unconventional Gas\*

(\$)

<b>2010</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	70,592,935	229,287,878	299,880,813
Mining	14,905,390,828	1,217,548,501	239,906,766	16,362,846,094
Construction	3,541,414,304	1,436,602,317	270,117,288	5,248,133,910
Manufacturing	4,983,920,674	4,106,089,651	2,101,615,154	11,191,625,479
Transportation and Utilities	887,792,227	2,587,096,068	2,217,258,606	5,692,146,902
Retail And WholesaleTrade	0	1,857,966,198	3,954,731,220	5,812,697,419
Services	436,225,714	11,010,450,407	14,802,784,290	26,249,460,411
Government	0	346,729,923	523,220,839	869,950,762
<b>Total</b>	<b>24,754,743,747</b>	<b>22,633,076,001</b>	<b>24,338,922,041</b>	<b>71,726,741,790</b>

<b>2015</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	100,880,113	335,515,888	436,396,001
Mining	22,931,629,616	1,799,223,332	351,053,834	25,081,906,782
Construction	3,800,570,997	2,139,720,020	395,256,680	6,335,547,696
Manufacturing	7,317,783,155	5,936,599,157	3,075,269,727	16,329,652,039
Transportation and Utilities	1,370,509,846	3,835,728,138	3,244,478,933	8,450,716,917
Retail And WholesaleTrade	0	2,718,390,883	5,786,863,711	8,505,254,594
Services	607,106,822	16,263,038,600	21,660,636,367	38,530,781,788
Government	0	514,956,806	765,621,087	1,280,577,892
<b>Total</b>	<b>36,027,600,436</b>	<b>33,308,537,048</b>	<b>35,614,696,226</b>	<b>104,950,833,711</b>

<b>2020</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	124,595,663	411,707,742	536,303,405
Mining	28,286,082,582	2,184,793,284	430,743,265	30,901,619,132
Construction	3,744,851,852	2,546,875,269	484,786,272	6,776,513,394
Manufacturing	9,249,868,629	7,393,715,001	3,772,972,260	20,416,555,889
Transportation and Utilities	1,740,747,316	4,789,223,006	3,980,029,034	10,509,999,356
Retail And WholesaleTrade	0	3,415,831,432	7,097,850,748	10,513,682,180
Services	695,700,951	20,208,013,203	26,569,269,606	47,472,983,760
Government	0	643,786,294	939,200,042	1,582,986,336
<b>Total</b>	<b>43,717,251,330</b>	<b>41,306,833,152</b>	<b>43,686,558,968</b>	<b>128,710,643,451</b>

**Table B.10 US Labor Income Contribution: Total Unconventional Gas\* (Continued)**

(\$)				
<b>2025</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	123,100,696	418,645,380	541,746,076
Mining	30,021,188,680	2,263,241,325	438,045,212	32,722,475,217
Construction	3,571,687,313	2,745,436,901	493,277,038	6,810,401,252
Manufacturing	8,898,795,254	7,297,769,809	3,837,472,274	20,034,037,337
Transportation and Utilities	1,673,766,564	4,804,978,208	4,048,832,355	10,527,577,128
Retail And WholesaleTrade	0	3,382,988,747	7,221,857,445	10,604,846,193
Services	668,931,623	20,432,109,872	27,031,406,201	48,132,447,697
Government	0	644,933,956	955,427,580	1,600,361,536
<b>Total</b>	<b>44,834,369,435</b>	<b>41,694,559,516</b>	<b>44,444,963,485</b>	<b>130,973,892,436</b>
<b>2030</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	133,821,493	449,319,669	583,141,163
Mining	31,658,120,250	2,411,077,470	470,122,682	34,539,320,402
Construction	4,002,128,411	2,879,246,754	529,285,097	7,410,660,262
Manufacturing	9,748,602,036	7,923,072,571	4,118,259,696	21,789,934,303
Transportation and Utilities	1,832,852,591	5,181,182,916	4,344,765,788	11,358,801,295
Retail And WholesaleTrade	0	3,667,478,556	7,749,165,447	11,416,644,002
Services	732,511,517	21,973,061,031	29,005,977,469	51,711,550,017
Government	0	695,747,082	1,025,264,338	1,721,011,420
<b>Total</b>	<b>47,974,214,805</b>	<b>44,864,687,874</b>	<b>47,692,160,186</b>	<b>140,531,062,865</b>
<b>2035</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture	0	166,161,555	563,159,258	729,320,812
Mining	40,184,983,926	3,036,749,571	589,241,648	43,810,975,145
Construction	4,574,104,979	3,651,106,261	663,448,631	8,888,659,871
Manufacturing	12,164,036,621	9,867,740,597	5,161,845,050	27,193,622,267
Transportation and Utilities	2,313,985,491	6,496,171,815	5,445,900,634	14,256,057,941
Retail And WholesaleTrade	0	4,575,521,115	9,713,366,077	14,288,887,192
Services	924,799,454	27,546,379,045	36,357,794,816	64,828,973,315
Government	0	872,626,544	1,285,105,074	2,157,731,618
<b>Total</b>	<b>60,161,910,471</b>	<b>56,212,456,503</b>	<b>59,779,861,187</b>	<b>176,154,228,161</b>

Source: IHS Global Insight

NOTE: \*Total unconventional gas includes gas from shale, tight sands, and coal bed methane.

## **Appendix C: IHS Global Insight Economic Contribution Assessment: Other Unconventional Gas**

### **Data Requirements and Assumptions**

IHS Global Insight, with support from IHS CERA, compiled the data required to undertake an economic contribution analysis of unconventional gas in the United States. Upstream unconventional gas was segmented to distinguish the economic activity for shale gas versus other unconventional gas in the United States. Other unconventional gas is comprised of coal bed methane and gas from tight sands formations. Both production and capital expenditure requirements were summed to undertake the economic contribution analysis.

Similar to the shale gas sector, the following sector activities were determined to be the major, direct contributors for other unconventional gas:

- Oil and natural gas extraction
- Oil and natural gas drilling
- Support activities for oil and natural gas
- Construction of facilities, related materials and machinery for hydraulic fracturing and completions, and construction of natural gas pipeline

For the IMPLAN model, forecasts of other unconventional gas production were transformed into the value of output using the corresponding Henry Hub price and conversion factor. Drilling capital expenditure and support services for gas operations directly correspond to sectors within the model. The breakdown of completion, facilities, gathering and processing, and pipeline construction were mapped to the detailed categories of the IMPLAN model. The final set of transformed capital expenditures for the IMPLAN model sectors are presented in Table C.2.

For the US Macro model, production forecasts were transformed into quadrillion Btus by using corresponding conversion ratios. Drilling, completion, facilities, gathering and processing, and pipeline construction were summed to represent total investment in nonresidential structures for the mining and petroleum sector. This sector is a stand-alone investment category in the US Macro Model. All dollar estimates were transformed to 2005-based estimates and input into the US Macro Model (see Table C.3).

To provide some context, the three tables described above are repeated for total unconventional gas. Table C.4 presents production, price and value for total unconventional gas. Table C.5 presents capital expenditures input to the IMPLAN model for total unconventional gas. Table C.6 presents inputs to the US Macro Model for total unconventional gas.

This integrated approach methodology was used to undertake the economic contribution analysis for other unconventional gas. IMPLAN and the US Macro Model were used to arrive at the economic contributions and the process followed the same steps described in Appendix C of the shale gas report.

## Other Unconventional Gas

Table C.1 US Production, Price and Value: Other Unconventional Gas\*

	2010	2015	2020	2025	2030	2035
<b>Production (Mcf)</b>	<b>5,512,297,522</b>	<b>5,528,478,777</b>	<b>5,458,495,669</b>	<b>5,572,393,935</b>	<b>5,704,099,381</b>	<b>5,925,977,626</b>
Tight Sands	3,919,979,770	4,189,135,644	4,345,136,944	4,567,079,807	4,744,306,084	4,968,805,590
Coal Bed Methane	1,592,317,752	1,339,343,133	1,113,358,725	1,005,314,129	959,793,297	957,172,036
<b>Henry Hub Price (Nominal US\$)</b>	<b>4.38</b>	<b>5.18</b>	<b>5.42</b>	<b>6.21</b>	<b>6.89</b>	<b>7.90</b>
<b>Value of Production (\$)</b>	<b>24,766,904,691</b>	<b>29,353,983,019</b>	<b>30,335,287,344</b>	<b>35,519,374,808</b>	<b>40,342,909,571</b>	<b>48,038,587,174</b>

Source: IHS CERA and EIA

NOTE: \*Other Unconventional gas includes gas from tight sands and coal bed methane.

Table C.2 US Capital Expenditure Input to the IMPLAN Model: Other Unconventional Gas\*

IMPLAN Sector	Description	2010 Capital Expenditure (\$)
<b>DRILLING CAPEX</b>		
28	Drilling oil and gas wells	493,195,766
29	Support activities for oil and gas operations	1,542,998,181
36	Construction of other new nonresidential structures	1,479,587,297
160	Cement manufacturing	63,410,884
171	Steel product manufacturing from purchased steel	1,479,587,297
220	Cutting tool and machine tool accessory manufacturing	1,479,587,297
357	Insurance carriers	253,643,537
369	Architectural, engineering, and related services	126,821,768
<b>COMPLETIONS CAPEX</b>		
26	Sand, gravel, clay, and ceramic and refractory minerals mining and quarrying	1,271,740,510
28	Drilling oil and gas wells	1,144,918,742
29	Support activities for oil and gas operations	1,232,989,414
33	Water, sewage and other systems	635,870,255
36	Construction of other new nonresidential structures	462,371,030
121	Industrial gas manufacturing	635,870,255
125	All other basic inorganic chemical manufacturing	635,870,255
201	Fabricated pipe and pipe fitting manufacturing	99,079,506
206	Mining and oil and gas field machinery manufacturing	1,255,007,082
226	Pump and pumping equipment manufacturing	638,512,375
227	Air and gas compressor manufacturing	539,432,869
335	Truck transportation	255,404,950
<b>FACILITIES CAPEX</b>		
36	Construction of other new nonresidential structures	268,615,543
188	Power boiler and heat exchanger manufacturing	28,622,968
189	Metal tank (heavy gauge) manufacturing	431,546,283
201	Fabricated pipe and pipe fitting manufacturing	308,247,345
206	Mining and oil and gas field machinery manufacturing	145,316,605
222	Turbine and turbine generator set units manufacturing	28,622,968
226	Pump and pumping equipment manufacturing	63,851,236
227	Air and gas compressor manufacturing	28,622,968
247	Other electronic component manufacturing	184,948,407
251	Industrial process variable instruments manufacturing	123,298,938
256	Other measuring and controlling device manufacturing	61,649,469
369	Architectural, engineering, and related services	88,070,670
<b>GATHERING CAPEX</b>		
201	Fabricated pipe and pipe fitting manufacturing	176,072,752
206	Mining and oil and gas field machinery manufacturing	384,751,568
227	Air and gas compressor manufacturing	1,069,478,936
<b>PIPELINE INFRASTRUCTURE</b>		
36	Construction of other new nonresidential structures	210,433,758
201	Fabricated pipe and pipe fitting manufacturing	90,185,896
<b>PRODUCTION</b>		
20	Extraction of Oil and Gas	24,766,904,691

Source: IHS CERA and IHS Global Insight

NOTE: \*Other unconventional gas includes gas from tight sands and coal bed methane.

**Table C.3 Inputs to the US Macro Model: Other Unconventional Gas\***

	2010	2015	2020	2025	2030	2035
Production (Quadrillion Btu)	5.65562	5.67222	5.60042	5.71728	5.85241	6.08005
Mining & Petroleum Nonresidential Structures Investment (\$M)	19,244	36,097	47,092	56,429	64,344	73,104

Source: IHS CERA and IHS Global Insight

NOTE: \*Other unconventional gas includes gas from tight sands and coal bed methane.

## Total Unconventional Gas

**Table C.4 US Production, Price and Value: Total Unconventional Gas\***

	2010	2015	2020	2025	2030	2035
<b>Production (Mcf)</b>	<b>11,283,859,513</b>	<b>15,427,348,660</b>	<b>18,457,307,340</b>	<b>20,598,479,016</b>	<b>22,368,861,678</b>	<b>24,825,154,416</b>
Shale Gas	5,771,561,991	9,898,869,883	12,998,811,671	15,026,085,081	16,664,762,297	18,899,176,790
Tight Sands	3,919,979,770	4,189,135,644	4,345,136,944	4,567,079,807	4,744,306,084	4,968,805,590
Coal Bed Methane	1,592,317,752	1,339,343,133	1,113,358,725	1,005,314,129	959,793,297	957,172,036
<b>Henry Hub Price (Nominal US \$)</b>	<b>4.38</b>	<b>5.18</b>	<b>5.42</b>	<b>6.21</b>	<b>6.89</b>	<b>7.90</b>
<b>Value of Production (\$)</b>	<b>50,698,691,786</b>	<b>81,912,972,600</b>	<b>102,575,463,223</b>	<b>131,298,164,693</b>	<b>158,206,388,705</b>	<b>201,243,646,150</b>

Source: IHS CERA and EIA

NOTE: \*Total unconventional gas includes gas from shale, tight sands, and coal bed methane.



Table C.5 US Capital Expenditure Input to the IMPLAN Model: Total Unconventional Gas\*

IMPLAN Sector	Description	2010 Capital Expenditure (\$)
<b>DRILLING CAPEX</b>		
28	Drilling oil and gas wells	1,188,752,201
29	Support activities for oil and gas operations	3,719,096,173
36	Construction of other new nonresidential structures	3,566,256,604
160	Cement manufacturing	152,839,569
171	Steel product manufacturing from purchased steel	3,566,256,604
220	Cutting tool and machine tool accessory manufacturing	3,566,256,604
357	Insurance carriers	611,358,275
369	Architectural, engineering, and related services	305,679,137
<b>COMPLETIONS CAPEX</b>		
26	Sand, gravel, clay, and ceramic and refractory minerals mining and quarrying	3,065,282,462
28	Drilling oil and gas wells	2,759,603,325
29	Support activities for oil and gas operations	2,971,880,503
33	Water, sewage and other systems	1,532,641,231
36	Construction of other new nonresidential structures	1,114,455,189
121	Industrial gas manufacturing	1,532,641,231
125	All other basic inorganic chemical manufacturing	1,532,641,231
201	Fabricated pipe and pipe fitting manufacturing	238,811,826
206	Mining and oil and gas field machinery manufacturing	3,024,949,798
226	Pump and pumping equipment manufacturing	1,539,009,546
227	Air and gas compressor manufacturing	1,300,197,720
335	Truck transportation	615,603,819
<b>FACILITIES CAPEX</b>		
36	Construction of other new nonresidential structures	647,445,377
188	Power boiler and heat exchanger manufacturing	68,990,081
189	Metal tank (heavy gauge) manufacturing	1,040,158,147
201	Fabricated pipe and pipe fitting manufacturing	742,970,105
206	Mining and oil and gas field machinery manufacturing	350,257,335
222	Turbine and turbine generator set units manufacturing	68,990,081
226	Pump and pumping equipment manufacturing	153,900,950
227	Air and gas compressor manufacturing	68,990,081
247	Other electronic component manufacturing	445,782,063
251	Industrial process variable instruments manufacturing	297,188,042
256	Other measuring and controlling device manufacturing	148,594,021
369	Architectural, engineering, and related services	212,277,173
<b>GATHERING CAPEX</b>		
201	Fabricated pipe and pipe fitting manufacturing	435,995,056
206	Mining and oil and gas field machinery manufacturing	952,729,938
227	Air and gas compressor manufacturing	2,648,266,269
<b>PIPELINE INFRASTRUCTURE</b>		
36	Construction of other new nonresidential structures	4,208,675,164
201	Fabricated pipe and pipe fitting manufacturing	1,803,717,928
<b>PRODUCTION</b>		
20	Extraction of Oil and Gas	50,698,691,786

Source: IHS CERA and IHS Global Insight

NOTE: \*Total unconventional gas includes gas from shale, tight sands, and coal bed methane.

**Table C.6 Inputs to the US Macro Model: Total Unconventional Gas\***

	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>
Production (Quadrillion Btu)	11.5772	15.8285	18.9372	21.1340	22.9505	25.4706
Mining and Petroleum Nonresidential Structures Investment (\$M)	52,505	84,804	114,683	126,590	161,172	199,695

Source: IHS CERA and IHS Global Insight

NOTE: \*Other unconventional gas includes gas from tight sands and coal bed methane.